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TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, January 4, 1913 | Number 630

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Drawn Expressly for Montgomery Ward & Co. By Dan Sayre Groesbeck

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Prattle of the Youngsters

A little girl but 2½ years old gazed intently at her first caterpillar.

"Muvver, muvver," she cried, at last, "come an' see your muff's little girl taking a walk."

A Concession

A little girl, now a famous artist, long ago was caught using her crayons on Sunday. As the forbidden joys were taken from her she sobbed out:

"Mamma, do let me have them. I'll draw a church an'—a—a—graveyard if you will!"

Wasn't Particular

"Mary, Mary!" cried a shocked mother, noticing her little daughter feeding her pet dog at table, and with her own spoon. "What are you thinking of to feed Fido from the spoon you are using yourself?"

The child looked up, innocently smiling:

"Oh, mother, dear, he doesn't mind a bit."

A Political Speech

"What did the minister preach about today, children?" asked papa, who had been kept home from church by a cold.

"Thou shalt not steal," answered thoughtful Annie.

Quick Richard, breaking into the conversation in characteristic manner, cried:

"But why do they talk politics in church?"

Little Brother Speaks

Florence, who was an ardent admirer of her own vocal qualities, had been selected to sing a solo at a church entertainment. The following morning at the breakfast table she remarked to her younger brother

"Well, I never thought my voice would fill that large hall."

"Neither did I," answered her brother unfeelingly. "I thought it would empty it."—Lippincott's.

A Question of Quality

The grown folks were admiring Helen's pretty hair, and one visitor sighed softly.

"I had just such hair when I was her age!"

"So had I," said Helen's mother, who believes in assisting nature when necessary, but hopes nobody else knows it.

"Well, I think your hair's pretty now," cried Helen, who adores mamma. "Anyway, your own hair is lots prettier than that you bought at the store."

The Wrong Man

A small girl whose education in American history far surpassed her Biblical knowledge, went to Sunday school for the first time not long ago and was much surprised to hear the teacher refer familiarly to Abraham and his nephew Lot. The clergyman, noticing she was a new pupil, inquired:

"Ada, what was your Sunday school lesson about this morning?"

"Well, really, Mr. Wilson, we didn't have any Bible lesson this morning. The teacher took up all the time talking about Mr. Lincoln and his nephew, Mr. Lott."

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Handling the Soil for Production

IN THE next week's issue The Twentieth Century Farmer will begin a series of articles on the subject here set forth. These will include a detailed statement with reference to the soil necessities for plant life and of the manner in which these necessities may be supplied. They will be set forth in a simple and direct manner, the fundamental laws governing plant growth, and will recommend a method of operation by which the tiller of the soil may work in co-opeation with these laws and receive the help they furnish instead of working in opposition to them, with the consequent loss involved in trying to antagonize nature.

They will try to bring together facts which have been widely separated in previous publications and will endeavor to co-ordinate them in such a way as to be of help to everyone. Natural laws are constant. The conditions under which they operate are various, but with a full understanding of the laws concerned in agricultural production every farmer, whether in the humid, semi-humid, arid or semi-arid districts, may be enabled to conduct his operations in such a way as to conform to nature's requirements.

The opening article of the series will be entitled, "Soil Necessities for Plant Growth," and other articles of the series will be published week by week until the subject has been entirely gone over. It is to be hoped that these articles will be of material help to every man that derives an income from the soil.

Bright and Breezy

She—What's your opinion of the coming woman?

He—I can't tell, but I suspect she will keep us waiting just like the others.

The Play He Liked

Edith—That Mr. Phan is conversationally impossible.

Ethel—Why so?

Edith—We were talking about the theater, and when I inquired what was his favorite play he said if he had any favorite it was seeing a man steal second.

Still Safer

In his first curacy a clergyman found the women of the parish entirely too helpful. Such a storm of petty squabbles arose from their overeagerness to help that in despair he gave up the place. Not long afterward he met his successor.

"How are you getting on with the women?" asked the escaped curate.

"Oh, very well," was the answer. "There's safety in numbers."

"I found it in Exodus," was the quick reply.

He Held the Trophies

It was dinner time and the conversation turned to sport.

"Did I ever tell you about me brother Tom winning the cup in the marathon race?" said Terence to his mate.

"One cup! Why, that's nothin'," said Mike. "My Uncle Dennis has cups for swimming and running, medals for wrestling and watches for foot ball."

"Bedad, an' he must be a real athlete," said Terence.

"Begorra, an' ye're wrong," replied Mike. "He's a pawnbroker."

Cheeky Indeed

"I hear," said Lou to his friend Dick, whom he happened to meet one morning, "that Maude has broken her engagement with you."

"Yes," answered Dick; "it's true."

"Well, I'm sorry, old man. Why did she break it?"

"Why, merely because I stole a kiss," said Dick.

"What!" cried Lou. "Why, she must be crazy to object to having her fiance steal a kiss from her."

"Well," explained Dick, "the trouble was, I didn't steal it from her."—Lippincott's.

Feared the Worst

A woman in one of the wards in the Rhode Island hospital was informed she had appendicitis and would have to be operated on at once. Much frightened, she reluctantly consented and was conveyed to the operating room. One of the doctors had commenced to administer the ether and her eyes were closing languidly, when he discovered he had forgotten to inquire if she had false teeth. He quickly removed the rubber cap and, shaking her slightly, said:

"Have you anything loose in your mouth?"

Then, as he made a move to put his hand in her mouth, she opened her eyes widely and exclaimed:

"Nothing but my tongue, doctor, and for God's sake don't cut that out, too!"

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Stop for Refreshments

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Farmers' Congress Takes Up Vital Issues

With Rural Life Commission, It is Studying Individual and Community Conditions and Requirements

THE Nebraska Farmers' Congress and the Nebraska Rural Life Commission are two of the live, active associations of the state that are doing a great work in encouraging the spirit of co-operation and association influence among our rural population. It is not necessary, nor should it be expected, that great results be at once prominent in the purposes and intentions of such organizations. The world was not made in a day, neither will there be miracles performed in this life to satisfy the impatient seeker for light. It takes time to bring around a change where the very being of man seems to stand in the way of reform. These two associations are working hand in hand in their study of individual and community conditions and requirements; there are necessities in the planning and devising of courses of study and methods of operation. The undesirable features that have been growing for a generation or more cannot be pulled up by the root; they must be cautiously treated until they can be supplanted by better things and better methods.

Things Most Urgently Needed

Ex-President L. C. Lawson, one of the most public-spirited men in the state, has given his time and untiring efforts in building up the foundation principles, upon which these reformatory and educational helps are based. Mr. Lawson and his co-workers are laboring to bring to the attention of the people the needs most urgent for the betterment of the state at large, and communities and individuals in particular. Mr. Lawson in his annual address at the Omaha convention called attention to many things; among others were the need of farmers' banks, farmers' land and real estate offices—both of these for the purpose of lending money to farmers at reasonable rates of interest; the advantages accruing from the adoption of the parcels post, the organization of a commercial club in every town of sufficient population, a close relationship of farmers' clubs and commercial clubs and a national organization of all farmers' clubs and associations.

It was cited that in Germany over 19,000,000 farmers are banded together in one big organization of producers. In this association money is loaned to farmers by farmers at a reasonable rate of interest. In this country, where every farmer acts for himself and deals with the loan companies or banks, the average rate of interest is 8½ per cent, in Germany 3½ to 5 per cent.

Importance and Need of the Grange

J. D. Ream of Broken Bow, Neb., president of The Grange, delivered an address on the importance and need of the grange as a factor in solving the need of better co-operative system of protection against the impositions of trade as they now exist in business. He answered many questions and made quite clear that the grange of today is the same in principle and of results as the grange of forty years ago, but much more effective in operation and influence for the benefit of its members.

O. F. Dornblaser of Brunswick, Knox county, Nebraska, a national organizer for the Farmers' Co-Operative Educational Union of America, delivered one of the most interesting and taking addresses of the entire convention, clinching every expression with a humorous illustration, given in a spirit of burlesque on the innocent, helpless farmers. Mr. Dornblaser kept his audience in a continual expectancy of Scotch-Irish wit that was refreshing from the standpoint of humor and at the same time driving home solid facts with an argument and sentimentality that could not be answered or refuted by the most skillful debater. Mr. Dornblaser announced his pedigree on taking the rostrum to be Pennsylvania Dutch crossed onto Scotch-Irish and his bringing up from early boyhood on a Texas sheep ranch. Mr. Dornblaser is a born entertainer and a man of brilliant thought and ability to present his ideas in a most convincing line of argument. Nebraska communities everyhere should profit by this attractive speaker's presentation of the relation between "the producer and the middle man" or "the producer and the business and professional world." His text, when defined, is "Everybody that has anything to sell makes his price but the farmer; he lets everyone fix the price for him and he takes just what he is offered."

Social and Moral Life

Miles K. Culver of Iowa read a paper on "Sin and Society." His discourse was ably prepared and defined the social and moral life of the farmer as a class, treating it very prudently and understandingly from the point of view of one who has traveled and observed. Such lectures deserve the ears of the farmer and his family. It is unfortunate that the well prepared discourses at such conventions are not furnished the agricultural press that they may go before the hundreds of thousands of homes that they represent, just the kind of audience that from one cause or another do not attend these large conventions. The holding out of these papers and addresses by the association secretaries for annual reports is practically consigning them to the literary tomb, where they lie, moulder and decay and pass out of existence, except for the few intimate friends of the family, the membership who possibly receive a bound copy as a memento of the occasion when and where delivered.

Conservation of Water Power

Conservation of the water power of the state was discussed by R. B. Howell before the Farmers' Congress. He said that the water power of Nebraska streams is practically its only natural resource aside from its soil not now developed. In this work of development hundreds of years to come should be considered as well as the sixty years that are past and present. This power, Mr. Howell asserts, is about 150,000 horse power, and that the present administration has approved the water rights of individuals and corporations of 122,000 horse power, thus leaving approximately 28,000 to be disposed of. Mr. Howell suggests that the state should reserve and develop what is left as a state asset for the upbuilding of state interests, selling it to cities and manufacturing enterprises. He suggests that there be legislative action taken at once for the placing of this in the hands of a commission to investigate and handle for the advantage of the public.

Prof. C. W. Pugsley of Nebraska university addressed the Farmers' Congress on "Agriculture, College and Farm Economics." He urged the plan of university extension work and spoke of the bill that has passed the house and is now before the senate, providing for an appropriation for its extension in the diferent states. He emphasized the necessity of young men specializing in agriculture and being taught the business end of the farm, as well as the educational. He wanted to see the farm economics and farm management given more attention. Farm waste was another problem that he wanted taken up and the boys taught the best methods for production and distribution of the products of the farm.

Money for Extension Work

Chancellor Avery of the university spoke of the extension of university work so as to be of more direct benefit to the farmer in its agricultural and chemical laboratory work. He said it was recognized as a part of the work of the university, but there was not the means at hand to properly carry it on. The talk of Chancellor Avery was followed by the enthusiastic demand from many persons present that university instructors be paid better salaries in order that the best men may be retained in the faculty, as it is a matter of general remark that the best men are induced to accept positions in other states where higher salaries are being paid. During the last year it is said that fully a dozen of the best instructors have left the state because of better offers.

Miss Faye M. Hartley of Lincoln, who won national fame as a representative of the Nebraska Farmers' Congress at the Academy of Political and Social Science at Philadelphia last spring, gave an interesting report of the Philadelphia meeting. The most important thing in her speech was the establishment of a permanent commission to which any ten voters could complain of a business and have that business thoroughly investigated. That plan, said Miss Hartley, has proved a success in Canada. At the close of her speech Miss Hartley was given a bouquet of roses. Vice President Grinnell made the presentation speech.

Co-Operative Creameries

The Nebraska State Association of Co-Operative Creameries had its part in the big mass con-

(CONTINUED ON PAGE TWENTY-SIX)

Modern Road Laws in the Western States

Many Legislatures Will Consider This Important Subject During the Coming Few Months

By John N. Edy

DURING the early months of the new year legislators in nearly every state in the union will be considering the matter of a modern road law. I know of no subject so intensely acute as this question of good roads. And, notwithstanding the apparent independence of some of our law-makers, it is a pretty safe bet that the people of the several states will get the kind of road law they want; that is, they will if they make their wants known with sufficient force and persistence.

There is no use delaying matters, because modern highway legislation must come to the western and middle-western states as it has come to many of the eastern commonwealths. Once let the people get a taste of real road building and the benefits of real roads and there is almost no limit to the improvement they will undertake.

Among the states that will consider this important subject of highway legislation during the present winter is the state of Montana. It is hard to find a community that really needs road betterment as does this immense territory. Not that the roads are so much worse than those of other states, but that the roads are wholly inadequate and insufficient for transporting the great volume of produce that yearly must find its way to market. In other words, the state's roads have not kept up with its progress in other directions.

In this respect Montana is in much the same condition as other communities, so that the problem may be considered of general interest. The writer has recently had occasion to suggest, briefly, some of the more important provisions that he thinks should be incorporated in the proposed highway law. Because of their general interest they are here presented. Remember, however, that these are but a few of the more important clauses; others will occur to the interested reader.

Purpose of a Highway Law

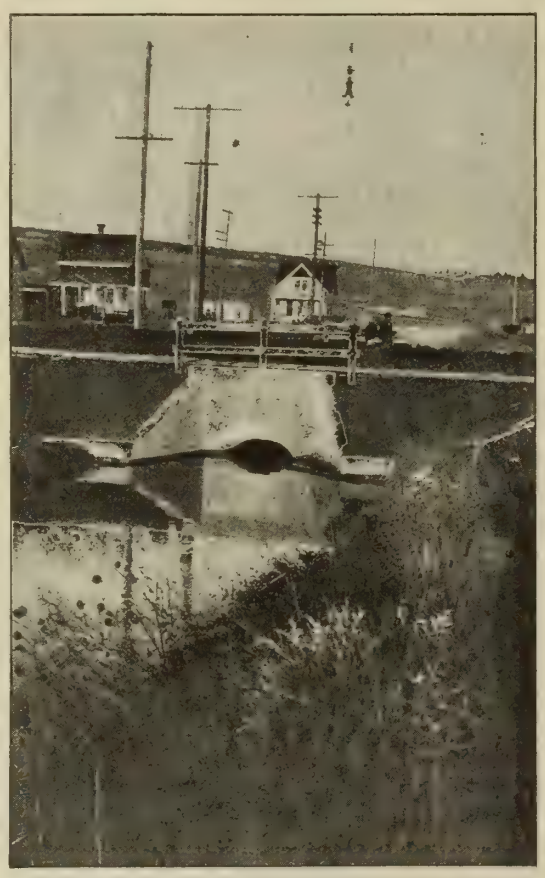
The purpose of a highway law is to provide for the proper administration of the highway business of the state. This business includes the economical location of the highway and the improvement and maintenance of its surface, and the construction of the necessary bridges, culverts, drains, retaining walls, etc., appurtenant thereto.

For carrying out the provisions of any modern road law two things are essential—first, money, and second, competent supervision. Common sense and abundant experience indicate that legislation failing to provide for these essentials fails in its primary purpose.

The usual objection to a state aid law is based on the assumption that the state cannot afford the expenditure incident to carrying out the provisions of the law. This brings us to the very bottom of the question. It seems to have been demonstrated not only that the state can afford good roads, but that the state cannot afford bad roads. And in this connection it is well to remember that certain forms of state aid do not require a great deal of money. For instance, the creation of the office of state highway engineer in the state of Montana will cost the taxpayers practically nothing, for the reason that the savings effected will, I am certain, more than offset the expense of the office. I believe that state supervision of bridge lettings will save many thousands of dollars for the several counties. In like manner, constant and competent supervision of county road and bridge matters will not only result in better roads, but will also result in an actual saving of money. These statements are based upon the experience of a great many different states.

As to the methods of raising money for extensive highway improvement, I believe there should be some provision for issuing bonds, either county or special road district, or both. The question of a special state tax is covered in the suggested state aid bill noted above.

A Permanent Culvert. Note the Continuous Roadway



This Culvert Was Not Built by a Political Supervisor. It Shows What Can Be Accomplished Under Competent Supervision

In view of the present discussion of this matter, I take the liberty of submitting some of my ideas as to certain provisions of a road law for Montana. Briefly, the following should be provided for:

First—A state highway commission practically as outlined in the suggested bill, including one man from the University of Montana (probably the professor of civil engineering), one man from the Agricultural college at Bozeman and one civilian to be appointed by the governor. The state engineer (I mean the present official, and not the state highway engineer) should not be a member of this commission. The commission to serve without pay, but to be allowed expenses, etc.

Second—A state highway engineer, to be appointed by the state highway commission for a period of six years (or until removed for cause) at a salary of not less than $4,000 per year. This engineer to be not less than 30 years of age, thoroughly capable, a graduate of some reputable school of engineering and having had previous experience in highway engineering. His duties substantially as outlined in the suggested bill.

When it is Possible for a Supervisor to Build Such a Makeshift as This Box Culvert, Isn't There Need for a Modern Road Law?

Third—A deputy state highway engineer, who shall serve under the state highway engineer and who shall be a capable and experienced bridge engineer. Other deputies and assistants as required.

Qualification of County Superintendent

Fourth—A county superintendent in each county, to be appointed by the board of county commisisoners from a list of competent engineers to be furnished by the State Highway commission. This road superintendent may or may not be the county surveyor, the question of his appointment being determined solely by his ability. He shall be a civil engineer of not less than five years' actual experience, and he shall satisfy the State Highway commission of his fitness to perform the duties of the office. Evidence of his having passed the civil service examination for highway engineer in the United States office of public roads shall entitle him to a place on the list of eligible applicants, providing he possesses the other necessary qualifications. His salary shall be fixed by the commissioners at not more than $3,000 nor less than $1,800, and he shall be allowed such assistants as may be deemed necessary by the commissioners. The county road superintendent shall have charge of all county road and bridge matters not properly under the supervision of the state highway engineer. The district overseers or foremen shall report to him and be subject to his orders only. He shall examine and approve all road and bridge bills against the county or district. He shall make all plans and draw all specifications for road and bridge improvement in the county, except as follows: He shall not have supervision over state highways and their improvement; and in the case of bridges or culverts costing more than $1,000, the plans for the same shall be submitted to the state highway engineer for approval.

Superintendent Can Keep Busy

The county road superintendent shall hold office for a period of four years, or until his successor is appointed and qualified, except that he may be reappointed, and may be removed from office by the commissioners for cause. He shall report to the commissioners and shall act as their superintendent. He shall devote his entire time to the duties of the office and shall not engage in private practice. He shall be allowed his actual expenses and the county shall furnish him a conveyance for traveling from place to place throughout the county in the performance of his duties. The road superintendent shall direct and supervise the work of the road overseers or foremen and shall instruct them in correct methods of road building. He shall call at least one meeting in each

This Road Cost About $4,000 Per Mile. Lack of Proper Supervision, which Means No Maintenance, Has Practically Ruined It

month, to be held at the county seat, at which meeting all overseers shall attend.

It shall be the duty of the county superintendent, among other things, to make an accurate map of the county showing the location and nature of all roads and bridges, all road district boundaries, etc.; he shall secure samples of all road and bridge material in the county and submit same to the state highway engineer for inspection and testing; he shall plan a system of highways within the county after having determined the relative importance of each road.

Fifth—The road overseers, supervisors or foremen shall be appointed by the commissioners upon the recommendation of the county superintendent, who may suspend them for cause.

Sixth—The county commissioners shall have the power to purchase road building machinery and equipment at their discretion.

It is not my purpose to here present specific arguments in behalf of these suggested provisvions. To those citizens who have informed themselves on the subject no arguments are necessary. I suggest, however, that the reader purchase a copy of "The Good Roads Year Book," published by the Association for Highway Improvement. This volume covers the subject of highway legislation in detail, and the

A Beautiful Example of How Not to Build a Bridge

suggested state aid bill is worthy of careful consideration.

The point is just this: Those states that are handicapped by having to operate under a worn-out and out-of-date road law must come out of the rut and demand modern highway legislation. And, as I have said before, if the demand is sufficiently persistent, the progressive good road boosters will win out.

Educational Policy for State Universities

Difference of Aim Should Be Taken Into Account in Arranging the Work and Courses of Study

STATE universities are designed solely for the purpose of serving the state in matters of higher education. The state pays the money to support them and consequently has the right, not only to service in return for the money paid, but to the kind of service demanded by the payer, which is the state. Whether a state university is fulfilling its mission or not is determined in a very simple manner. If it can give the affirmative answer to the questions, "Does this university furnish to the people of this state the kind of education that it needs, the kind that it wants and the kind that it has the right to demand, and does demand?" then the university may be said to be fulfilling the mission for which it was created; otherwise the university is off the track and should be put back upon it.

Herein lies a broad distinction, too often completely lost sight of in these days, between a state university and an endowed university. Men that endow institutions of learning have a right to say what policy of education such endowed institutions shall follow; they have the right to determine what curriculum of studies shall be adopted and whether the culture promoted by the endowed institutions shall be general or specific, symmetrical or amorphic; whether the institution shall have for its aim the general scholastic culture of the young men and young women who attend it; whether it shall be devoted exclusively to technical specialties of instruction and training for the development of specialists in the several walks of life. The purpose of the state university is something entirely different from this. The state university, it is repeated, is founded for the purpose of furnishing to the state the kind of education that the state wants and pays for.

Difference in Aims of Universities

Bearing in mind this broad distinction between endowed universities and state universities, it follows as a matter of course that state universities should not be compared with endowed universities, since their aims are so different; that state universities should not endeavor to compete with endowed universities on the same plane for scholastic rank or honors; that state universities should not attempt to imitate endowed institutions either in methods or in subjects in which instruction is given.

The state university is organized and founded for a specific purpose, viz., to serve in education the specific educational needs of the state in which it is organized and which it is supposed to serve. The educatonal needs of no two states are exactly the same. The chief interests of one state may lie entirely within the agricultural field, and of still others in different degrees in all of these fields.

Accordingly, it is not logical or reasonable to compare state universities with each other, or for one state university to imitate another state university, since the demands made upon each, demands which each should strive fully to fulfill, are different in the nature of things from the demands made upon the others.

Should Study Needs of Territory

It is the business of every state university to study the specific educational needs of the territory which it serves, giving its exclusive attention to this one matter, without regard to what other similar institutions are doing. In arranging its curriculum the sole question with reference to any particular subject for study should be, "Does the state need, does it demand, that instruction be given in this subject?" If it is decided that such instruction should be given, the sole remaining question should be, "To what extent does the state need, or does the state demand, that instruction in this particular study shall be given?"

Now it is needless to say that state universities, or at least some of them, ignore the purpose for which they were established. It is necessary in the interest of every state that they be brought back to the original purpose for which they were created; that the first ideal be recreated and that they give their exclusive effort to accomplishing the purpose for which they were intended.

Whose Fault is It?

The chief executive officer of a state university recently stated in a public address that higher institutions of learning were beginning to be regarded as more or less of a pleasure winter resort by the young women and young men of wealthy families. Without doubt this describes the condition of affairs in some of our state universities. But whose fault is it? Unquestionably it is the fault of the universities themselves. As a result of the partial abandonment of the purpose for which they were organized, and as a result of the relaxation of proper discipline; as a result of the lack of co-ordination of the various departments and subordination on their part to the specific purposes for which they were established, this state of affairs has come to pass. In order to remedy it it is necessary to go back to the fundamental purpost of education, to re-establish it firmly in the minds of all concerned and to see that it is not again lost sight of. It is not the number of students, but the quality of students, that affords any university opportunity for proper work. Students that will not submit to regulations required for the accomplishment of the purpose of the institution should be rigorously barred from the privileges it offers. Everything should be made to subserve the supreme end to be sought.

To Make Useful Citizens

The chief work of a state university, considered in the light of what is most important to the state, is to take the young men and young women of the state and make useful citizens of them. The technical end of education is to prove to the students what intellectual tools they have and show them how to use them. The utilitarian purpose of education is to equip students with the means of making their way in life wholly dependent upon their own resources. These three objects, by the right kind of administration, maybe accomplished at one and the same time. Herein lies the difference between education and learning. Learning consists in gathering information; education consists in developing and strengthening all the powers of the student. State universities should educate their students. It is not enough that a degree should represent a certain amount of learning; it should represent a certain amount of capacity.

Now in order to bring about this state of affairs it is necessary that every department be subordinate to the governing authority in educational policy, or, in other words, to the chief executive officer of the institution. No wise man in endowing a university would say, "Here, take this money and do with it what you please." Neither does the state say any such thing.

A Record of Formative Period

Unfortunately, as a relic of the formative period in the development of state universities, heads of departments claim the right to administer their departments in the way that seems best to them, and regard any attempt on the part of others to direct or control their activi-

(CONTINUED ON PAGE FOURTEEN)

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This paper, which aims at being the inspiration of youth and the solace of age. is in receipt of a couple of letters that seem to be lacking in optimism. It believes that more flies may be caught with sugar than with vinegar, and therefore does not feel like saturating its pages with acid.

The Missouri Farmers' week will be held at the Agricultural college in Columbia, Mo., January 13 to 17, 1913, under the auspices of the Missouri State Board of Agriculture. The program indicates that the meeting will be profitable and inspiring. It is a good thing for Missouri that it has a State Board of Agriculture instead of a mere state fair board.

They are beginning to use the calorimeter to test the actual nutritive value of feeds for animals. They are now getting ready to try the same apparatus on human beings. But what has the calorimeter to say in the case of two persons that consume exactly the same food in exactly the same quantities and yet derive different results from it?

In this day of labor-saving devices nothing will be better than to have a farm water supply, such that water may be secured for all purposes with the least labor. The women of the farm should have water in the kitchen. It is an indictment of the humanity of a farmer for his women folk to be obliged to pump and carry water for house use.

Proper Aim in Breeding

Breeders seem to be satisfied with producing animals of individual merit; they seem to reach their goal with an individual that answers to the requirements of the score card. But to secure individual merit in breeding is a comparatively unimportant matter as compared with the chief aim, which should be in the mind of every breeder. It is not enough to produce animals with striking individual merit, to breed occasionally an animal that answers to the requirements of the score card. The thing most to be desired is the capacity uniformly to beget animals of high individual merit. The capacity for meritorious production is worth infinitely more than individual merit.

The breeders of dairy cattle have begun to recognize this fact and have developed certain families of uniformly high capacity for milk production. Members of these families command the highest price in the market. It would be absurd to award the highest premium to a dairy cow on the sole ground that she conformed to the requirements of the score card, without any regard to her capacity for milk production. The highest awards should go to the greatest uniform producers without regard to their conformity to score card standards.

It is freely admitted that a high rate of production is usually found in animals that most nearly conform to the requirements of the score card, but this is not always the case. Sometimes the animal that is marked lowest when judged by the score card is entitled to first place when judged by the quality and amount of production. The score card is valuable merely as a means to an end. Producers should put it where it logically belongs, in a secondary place, and award high honors to the capacity for production, which the score card does not always indicate. It is time to begin to award honors to what attains to the supreme end of breeding rather than to what is merely indicatory of it.

What has been said with reference to dairy cattle applies with equal force to the breeding of horses, beef cattle, sheep and hogs. The capacity to produce get of uniformly high individual merit should always receive the highest awards. A good animal of high individual merit is valuable, but if in addition to its individual merit it has the capacity uniformly to produce animals of equal or greater merit its value becomes multiplied manyfold.

The awards at the recent International Stock Show were in the main given upon the basis of individual merit alone. There were a few classes in which small awards were made to animals possessing the capacity to produce animals of great merit. Stock shows will never accomplish the end for which they are designed until the highest honors they bestow are awarded to the sire and dam showing the best get of 1, 2 and 3 years of age. Such a principle as this adopted as a basis of awards would lead all exhibitors to try to achieve the supreme end of all breeding by producing families of merit instead of individuals of merit. What the world needs is not so much better individuals as animals with the capacity to produce better individuals. Let awards be so made as to lead to the accomplishment of the supreme end of all breeding, to the satisfying of the great need of the world.

Iowa Beef Producers

The Iowa Beef Producers' association is an example of effect in the improvement of the beef quality of the cattle of their state that might with profit be taken up by every state in the union, especially the corn-growing states. The states of large feed-producing capacity are the states that will naturally turn their attention to the production of beef when the evidences of cattle scarcity becomes so pronounced as to demand an increased breeding and feeding effort.

Iowa is now calling the attention of its farmers to the fact that its high-priced lands can be profitably employed in raising corn and hay for the growing and fattening of cattle, and that it can be profitably employed in the keeping of good quality of beef-bred cows for the producing of calves, from which these good beef cattle develop. In order to get good beef cattle there must be good sires and dams as the foundation stock. The Iowa Beef Producers' association suggests that the highest possible attainments in the line of heredity is the basis for acquiring this end, therefore in order to make the highest possible profit in the feeding industry the best type of breeding animal must be had.

Pure-bred beef cattle stand at the top of the beef-producing industry. The keeping of more pure-bred cattle and the developing of beef quality in the grade cattle of the country is the announced system of beef reform that the Iowa Beef Producers' association is proclaiming to the farmers and feeders of that state. There is money in raising calves; this is the assertion of the Iowa cattlemen, and they are organizing a sentiment which means that more cattle are to be produced in the state, and better quality of cattle than have heretofore occupied their feed yards.

This is simply business sense being put into action; there is no wild-eyed fanatical assertion in this statement; it is what all other cattle-producing districts must come to sooner or later. There will be, of course, good beef and bad beef, fat beef and poor beef, as long as men and cattle exist, and some men will grow rich in making good fat beef, while others will grow poor in making bad, poor quality beef. There never will be a better time to organize than now. Cattle breeders, cattle feeders and cattle handlers all over the corn-growing states should get together on this proposition of making the most out of the cow and her calf.

If the readers of this valuable family paper wish to improve the quality of their "ham and," they can find out at the Missouri Farmers' Week what is good ham and how to produce and cure it.

Save the Hogs

This is the sentiment of every citizen in every state where the ravages of hog cholera are felt. Never in the history of this country has this disease been so widespread and so fatal in results as at the present time. During the last year it has been reported from practically every corn and hog-growing state in the central west corn belt. It has taken hogs by the hundreds and thousands from leading swine-growing districts; it has in most instances made no discrimination as to breed, color or previous condition of the hog, but has taken large and small, old and young, fat and lean from the old hog breeder as well as from the beginner; it knows no bounds and recognizes no help except the serum treatment introduced a few years ago through the bureau of animal industry, Department of Agriculture, Washington, D. C.

This well known preventive of hog cholera, though having been before the people for years and been tested and experimented with all over the hog-raising states, apparently to the satisfaction and endorsement of veterinary science, has not been provided in quantities sufficient to satisfy the demand. There has not been such provision for its supply and distribution as to materially check the rapid death rate that has taken such large numbers of swine during the season of 1912.

There is an emergency existing now demanding a provision for the checking of this disease. The country cannot afford to permit such a damaging influence to exist. This persistent cutting down of the meat-producing industry does not stop with the hog raiser, as some persons seem to regard it. While there is a direct business loss that the farmer and hog grower sustains, this loss is also indirectly felt by the meat trade of the country and extends down to the consumer in lessening the supply of meat, therefore increasing prices under the common principle of supply and demand. The less pork there is produced the fewer people it will supply. The consuming public is increasing very rapidly. There are millions more people in America to be fed than there were last year, and this rate of increase cannot be checked so long as industrial conditions continue prosperous.

The farmer is the only class of persons in this country that are prepared and equipped to raise the meat-producing animals. This work must be left to him to supervise and manage, but the balance of the people can assist the producer by helping to provide protection from disease and pestilence that threaten his industry, in which we all share. Have we an interest in the big crops of wheat and corn? Of course, everyone concedes this; we need them for food, and good crops make good times, and everybody gets a share through increased business which big crops seem to supply. Just so with the big crop of hogs. We need this crop for food, and any influence that shortens it or cuts it down interferes directly with our food supply and increases its cost to us. This

is true outside of any trade or speculative manipulation.

The farmer needs your help in influencing the law-makers of Nebraska and other hog cholera-afflicted states in making liberal appropriations that will enable the state serum plants to manufacture a supply that will at all times be equal to the emergency in checking any outbreak of cholera. This is a good investment for every citizen of the state. Nebraska's loss in hogs in 1912 from cholera is estimated to be approximately $5,000,000. The farmer who owned these hogs lost that amount and the consumers of pork lost to the extent that this amount of pork would have on increasing prices.

The legislature of each state should study all economical questions as they relate to the interest of all the people, and production of food products is always in order for their attention. The $30,000,000 worth of hogs that the four corn states—Nebraska, Iowa, Missouri and Kansas—are credited with losing within the last year would have added greatly to the supply of pork and is a factor in higher pork prices for the consumer.

The twenty-eighth annual meeting of the Dairymen's association will be held in the New Plant Industry building at the University farm, Lincoln, January 22 to 24, 1913. A very interesting program has been prepared. Among the celebrities that will address the meeting are Robert W. McGinnis of the Northwestern railway system, A. J. Glover, editor of Hoard's Dairymen, and Prof. G. S. McKay, secretary of the National Dairymen's association. The meeting bids fair to be very instructive and profitable. The dairy industry in Nebraska is rapidly forging to the front. In a few years it will be the leading industry in the state. This association is leading in the development of that industry. Its veteran secretary, S. C. Bassett of Gibbon, Neb., will be glad to furnish all inquirers with information regarding the meeting.

The winter meetings in Kansas are held under the auspices of the Kansas State Board of Agriculture, which in that state is entirely dissociated from the state fair board. The forty-second annual meeting will be held at Topeka January 8 to 19, 1913. Chancellor Avery of the Nebraska State university, Prof. Detlefsen of the University of Illinois, Director Wilson of the Agricultural Experiment station, Brookings, S. D.; Prof. W. P. Snyder of the experiment substation, North Platte, Neb., and D. A. Wallace, editor of the Farmer, St. Paul, Minn., discuss important subjects at the meeting. The program is of such a nature as to command a large attendance.

The United States Department of Agriculture has amended its rules regarding the importation of breeding animals so as to make them more stringent. If it will only extend its quarantine regulations so as to include unsoundness and bad conformation in breeding stallions as sufficient reason for exclusion it will bestow a lasting benefit on the breeding industry of the country.

Virulent Blood with Serum

As has been before stated in The Twentieth Century Farmer, the use of virulent blood with hog cholera serum is demanded by two of the three known methods of administering the serum treatment for immunizing hogs against cholera. In what is known as the double method and also in the simultaneous method, one c. c. of virulent blood is injected hypodermically into the hog in connection with the serum.

The reason why this use of virulent blood is made is that the treated hog may with certainty be exposed to cholera in order that the serum may establish a longer period of immunity. The immunity conferred by the use of serum alone is temporary, lasting on the average only about thirty days, unless the treated hog, at or near the time of treatment, is with certainty exposed to cholera.

Now unless there happens to be cholera in the herd to be treated, or in the immediate vicinity, it is impossible to expose the treated hog to the disease in any other way than by the administration of virulent blood. For this reason a large number of the men employed in the war against cholera strenuously urge the use of it. It seems to be the only means, under certain conditions, of exposing the treated hogs with certainty to the disease, and this exposure is necessary in order to confer a lasting immunity.

But virulent blood is a very dangerous material to handle. Unless the most scrupulous care is used in handling it one might about as well play with nitroglycerin. A single drop upon the ground from a syringe may prove a focus of infection for years to come. A single drop exuding from the surface where the hypodermic injection is made, and rubbed off upon the ground, or upon a tree, or upon any other object, affords for years to come the possibility of starting an epidemic of hog cholera.

For this reason the heads of the live stock sanitary boards in two states assert that they will not permit, under any circumstances, the use of virulent blood within their respective jurisdictions. They prophesy that all users of virulent blood are planting the germs for future epidemics of hog cholera that will be more disastrous than any yet experienced.

The Twentieth Century Farmer believes that it is possible to use virulent blood in such a way that all danger from future infection may be avoided. It is also of the opinion that as at present administered by careless and professionally inaccurate men there is great danger to be apprehended from the use of it. This paper, therefore, advises that unless it can be used in such a way as to eliminate all danger of future infection the use of it be definitely abandoned.

Virulent blood is dangerous; it contains within itself the possibility of limitless disaster to the hog industry. Unless it is administered in such a way as to destroy this possibility it should not be administered at all.

The one way in which to meet conditions as they exist and to provide the most lasting immunity to the largest number of swine is to safeguard the administration of virulent blood, and to see to it that in all cases it is administered in such a way as to make future infection from the use of it absolutely impossible.

National Wool Growers

The announcement of the annual meeting of the National Wool Growers' association for 1913, to be held at Cheyenne, Wyo., January 9, 10 and 11, will be found on the market page of this issue of The Twentieth Century Farmer. The notice indicates that there is anticipated a lively discussion on the wool tariff question, which is still a matter of contention among the politicians of the country, as well as the interested wool grower and manufacturer.

The sheep interests of the United States have many features of business influence to consider at their annual meeting. The sheep industry at the present time presents a very encouraging outlook for development. The demand for more mutton seems quite probable and increased prices for next year is not only a possibility, but a very strong probability. Mutton must be substituted to some extent for the shortage in beef, which will be more sensitively felt next year than now.

The sheep as a meat producer has become an important factor. The prejudice against mutton has practically died out with the passing of the last generation of people. Lamb is a recognized delicacy in the line of desirable meats. The production of sheep is not necessarily expensive or difficult. Sheep can be produced on any kind of cheap, rough grazing lands when other kinds of stock could not exist. Their adaptation to the surroundings, so long as they are given liberty to roam and graze, is a feature in their makeup that makes them an easy animal to produce, either in large or small flocks.

The Cheyenne meeting will have a large patronage of the range flock owners from all the western sheep states. It is conceded in advance that the general situation of the sheep industry of the country will be canvassed at this meeting from the standpoint of the flock owner. It will be a sort of experience meeting and much practical information will be available for the visitor.

Is the city of Lincoln going to permit the university to be despoiled of one of the most valuable adjuncts of university education? This is what will happen if the collections of the State Historical society are moved away from the university campus. These collections are constantly studied by students at the university, who will be deprived of a valuable source of information if they are removed. The subject is a painful one, but it seems necessary to get rid of the pain in order to utilize fully the work of the society.

There are now within the United States fifty-six bird reservations to prevent the extermination of bird life to foster the development of various useful birds. Inspectors see to it that there is no poaching on the reservations.

Does Hay-Feeding Cattle Pay?

This is a question that should need no argument on the affirmative side, yet we find that through the western country, where this may be applied in its fullest literal sense, there is a great deal that may be said on both sides. In very open, mild winters there have been thousands of cattle wintered without being provided feed of any kind except the grass that grows and cures on the ground, affording a very good quality of feed, a sort of pasture-cured hay which the grazing animal gathers at its own will and convenience. This, however, is confined to certain districts and to certain varieties of wild grasses and does not apply to the general winter conditions to be found in all cattle-growing or sheep-growing districts.

In the buffalo grass and gramma grass sections of the west it is not an uncommon thing to find cattle running on winter pastures through the greater part of the winter season, and maintaining their thrift and flesh remarkably well, without the aid or assistance of any prepared feed. This year, at this closing of the first month of winter, there has been practically no hay or prepared forage feeds given the cattle west of the Missouri river, unless where fall pastures have been overstocked, and that is a rare condition to find on farm or range this year.

The hay-feeding idea is spreading westward and early feeding and continuous feeding, as the demands seem to require, in order to keep up the thrift and summer acquired flesh and growth of the animal is the prevailing sentiment now with all good stock raisers in the west, as well as on the farm in the farming districts. The cutting of hay on the range and bunching it, where cut, for the stock to feed on at will is a custom with some cattle raisers that is practiced, and to good effect and very light cost. There is no waste in this process, unless the consuming of more hay by the cattle than is necessary to keep them alive should be called a waste. Cattle running to this "free lunch counter" do not eat more than what they want nor more than is good for them. This is a good quality of feed, cut in haying season and carried forward to the period when the grazing is shortening up, both in quantity and quality, and the introduction of the bunched grass or hay comes in to help make up for deficiency in pasture conditions.

The hay feeding through the winter is often the result of pretty good quality of beef coming to market in May and June produced without grain or other feed. The holding of the steer cattle in good, thrifty condition that are carried over winter, ready to start off immediately on the opening up of the spring grass and making rapid gains and early beef, is sufficient inducement for the cattle owner to make this provision for winter hay feeding. The securing of gains in flesh to be starved off the following winter has no argument, and high-priced beef is teaching this lesson with emphasis to many formerly careless and indifferent cattle handlers.

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CONDITIONS point to another prosperous year in 1913. To obtain good seed is an importrnt point to consider now. The best seed is, after all, the cheapest. Never before in the 29 years of our business have we had such an immense stock of high grade seed of all kinds. Our 29 years of study and experience in growing and selling seeds adapted to northwestern conditions together with our reputation for square dealing give you assurance that seeds bearing our name and trade mark are the best obtainable.

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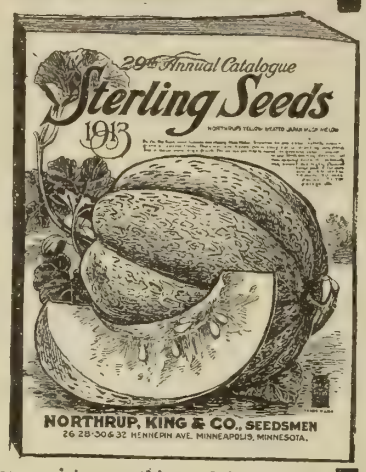

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Box 18 Established 1880 Fairbury, Neb.

Work and Development of the Omaha Fruit Growers' Association

THE fruit growers of Omaha and adjacent districts of Douglas county, Nebraska, decided three years ago that they could more effectively secure the advantages of trade in selling their crops of fruit through an agent employed for the purpose. This sentiment led to the organization of an association, as above named, which was incorporated under the laws of the state, with a capital of $10,000, divided into 1,000 shares of $10 each. There has been added to this association about 200 members; the greater portion of these have availed themselves of the advantages of the sales department of the organization in disposing of their fruit.

This is one of the most active, interested, wide-awake associations in the state, due to its success in organization and its ability to profitably handle the fruit grown by its members. There is no trouble to get members of an association interested and a good attendance at its annual meetings if there is a money incentive in the work that the association is doing. In this instance the membership seem highly pleased with the principle of marketing their fruits. They have no business problems to worry them; they leave that all with the sales agent, who arranges for the carring and shipping of all fruits, taking 8 per cent commission out of the proceeds of sales from each member's consignment.

The sales are mostly made outside of the state. A great many carloads of grapes are sold in central Iowa, Colorado and various states to the west and south. The Missouri valley Concord grape finds but few really competing districts in quality of fruit. The Michigan grape districts come into market at the same time and prove the strongest competitor with the Omaha Concord grape. The suggestion that the Omaha grape is destined to cut considerable figure in the grape markets of the country within the next five years may be guessed at from the present output of the members of this association for the season of 1912—eighty-two carloads of grapes. These were loaded at Omaha, Florence and Debolt, three shipping points. There were ninety carloads of fruit in all handled by the association this year, which netted the members $61,241.44.

There are many more fruit growers who will soon become members now that the association has proven its ability to handle the trade and to save the fruit grower both trouble and money. There were thirty-one new members added to the association in 1912. The grape acreage in this locality is increasing more rapidly than any other fruit, and yet there are thousands of acres of the Missouri river hill lands, most admirably fitted for grape culture and that are within easy reach of Omaha, standing idle for want of the hand of labor to turn them into vineyards and receive their bounteous yields and rich returns that challenge economical production with any fruit lands on the continent.

This association has passed the experimental stage; it is well organized; it has an energetic, active, interested board of directors and officers who are conservatively supervising its interests. It has a sales manager who thoroughly understands his part of the work and who is striving for an association that will soon be shipping hundreds of cars of fruit each season, which is within the possibility of effort, at no far-off date.

There is some discussion on the introduction of the smudge pot as a means of frost protection. There seems to be a climatic influence that, in the belief of some of the observing fruit growers, has defined the usual frost period of this locality from the 20th to the 28th of April, and another the 10th to the 15th of May, which latter date catches the strawberry bloom. While the frost danger is not regarded as a serious liability, it has been the means of damage occasionally and should be provided for where the fruit crop is the sole dependence with the grower.

How the Prize Wheat Was Grown

JOSEPH P. NASH of Clyde Park, Mont., who raised the $5,000 prize wheat exhibited at the Mineapolis Land Show and received therefor the Big Four "30" gas tractor, tells in the following words how he did it. His account will be especially interesting and helpful to the farmers in the semi-arid district:

"The five bushels which won the prize was grown at an altitude of 4,900 feet, where the rainfall does not exceed from seventeen to eighteen inches. One crop had been produced on the land before we seeded it to this Turkey Red wheat, the seed for which came from the Galatin valley," said Mr. Nash.

"We summer-fallowed the land in 1911 by plowing with a mould-board plow not less than six inches deep in the last part of May and first of June. We dragged it down as soon as possible after plowing, the idea being to preserve the moisture by dragging within two days after plowing, or sooner. After any rainfall of consequence the ground was dragged as soon as it was possible to get onto it with a team.

"About the first of July we double-disked the field. The last of August and first week of September it was dragged and then the seed was planted by drilling with a double-disk Kentucky drill, which put it down at least four inches. Forty pounds of seed was used to the acre and we prefer less rather than more of this amount. If the land is strong and clean it will not require this amount.

"With such methods of farming moisture is preserved sufficient to start the seed to germinate immediately whether there is rain or not.

"In the spring of 1912 the field

was harrowed or dragged as soon as the land was dry enough to permit it Once or twice later we dragged it; this is done to keep a mulch on the land and keep it from baking or drying out.

"The soil of our ranch is a dark mountain loam, beneath which is a limestone clay subsoil. The wheat was produced without any artificial means or subirrigation, though we have considerable winter snow which helps preserve the wheat through the winter. Wheat in this section seldom or never winter kills and never heaves out by frost. The character of the soil is similar to that in all of central Montana, particularly in the Judith basin, the Crow Creek, Smith river and Musselshell valleys. There are hundreds of acres of similar land open to homesteady entry in Montana."

Iowa Beef Producers' Association

THE Iowa Beef Producers' association is of recent origin, but the first association of this kind organized in the United States. It is also the first association to plan and put into operation a traveling educational lecture course for the special benefit of the farmer and feeder of cattle. This association conceived the idea of running trains over the various lines of railroad in the state, equipped with suitable cars, manned by expert cattle feeders and lecturers, carrying with them types of the perfect beef animal; representatives of the four leading beef breeds, purebreds and high grades, that the cattle feeder might more clearly understand the advantage in quality of animal as well as the profit in feeding the best.

Two years ago its legislative committee went before the legislature of their state asking for an appropriation, making it possible for this work to be accomplished, and were awarded $7,500 as a biennium appropriation for the accomplishing of this ambition of the association and the maintenance of the office of manager or supervisor of the organization. The railroads volunteered to furnish the trains fully equipped for taking care of the lecture force and the cattle carried for demonstration purposes. This consists of two lecture cars, a sleeper and diner and a large car for the cattle, suitable for the visitors to occupy while short lectures on the cattle were being given. These animals consisted of some of the finest specimens of beef cattle breeds ever produced, and aroused much enthusiasm.

This train started at Glenwood, Ia., December 10, 1912, and continued to December 21, making an average of ten stops per day at the leading points for the concentration of farmers and cattle feeders throughout the districts of the state traversed by the Burlington and Chicago & Northwestern railroads.

The meetings were a great success in point of numbers attending and the interest manifest among the audience. More than 1,000 real, practical feeders and contemplated feeders were present each day. The encouragement of beef production and promotion of the beef cattle industry which will develop from this enterprise that has been introduced by the Iowa Beef Producers' association cannot now be estimated, so far-reaching will be its influence. From a sectional point of view it is a great stroke of advertising for the state of Iowa and is worth to that state already many times its cost.

The cattle carried on this train from which the excellencies of beef type were analyzed and explained to the visitors were one Shorthorn steer, 21 months old, weighing 1,350 pounds, owned by the Iowa Agricultural college; one Hereford steer, 12 months old, weighing 1,100 pounds, was the second prize in class at the International Show, owned by Cyrus Tow of Norway, Ia.; one 2-year-old Angus steer, weighing 1,500 pounds, was first in class at the International, owned by the Iowa Agricultural college; two Galloway heifers, one a 2-year-old, weight 1,400 pounds, first in class at the International; one yearling, weight 1,250 pounds, third in class at the International, both owned by C. H. Hechtner of Chariton, Ia.

The lecturers and feeders who accompanied and assisted in this work were Dean C. F. Curtiss, Iowa Agricultural college; Prof. W. J. Kennedy, Agricultural college, extension department; W. H. Pew, animal husbandry department, Agricultural college; J. M. Evard, experimentalist, Chicago; Prof. T. G. King, Purdue university, Indiana; Fred McCullough, Hartwick, Ia.; George Burge, secretary, Mount Vernon, Ia.; Howard Vaughn, extension department, Iowa college; Abe Rennick, general manager, American Shorthorn Breeders' association, Chicago; John Goslin and John Lampson of Chicago; Rex Beresford of Ames, Ia., manager Beef Producers' association, and Charles Escher, jr., of Botna, Ia.

Mr. Escher was one of the prime movers in the organization of this association and is a recognized leader in the beef production movement in Iowa. He is conceded the largest breeder in the United States of registered Angus cattle, having more than 700 in his registered herd. As a cattle breeder and successful feeder Mr. Escher stands at the head of the list today. He also breeds and feeds high grade Angus, thus through his high quality steers to select from and his proficiency in fitting exhibition cattle he practically is a world beater and so recognized in his recent year exhibits at the International in carlot display. The skill of this young man as a breeder, his proficiency as a feeder and fitter and his well-balanced judgment and integrity as an expert judge in the show ring has distinguished him as a cattle authority that not only Iowa, but the entire country, has reason to feel proud.

There is great credit due the Iowa Beef Producers' association in securing so able and energetic a manager as Mr. Beresford to direct the interests of this new and worthy enterprise in the upbuilding of beef cattle reform.

Sherman Says: "IT'S A MONEY MAKER"

HERE'S a letter of more than usual interest. It is written by a well-to-do farmer in the Corn Belt—Mr. Henry A. Sherman, Leland, Ill.

He tells how he cuts down his farming costs and shows why a **Hart-Parr Oil Tractor** is a money maker on Corn Belt farms. But you must read the letter to learn why you ought to apply his methods to your particular power problems.

"Leland, Ill., Nov. 21, 1912.

Hart-Parr Co., Charles City, Iowa
Dear Sirs:—My Hart-Parr Oil Tractor is the best piece of machinery I have on the farm.

A General Purpose Outfit I use it for plowing, threshing, shelling corn, hulling clover, grinding feed and grading roads. I plowed 150 acres in 10 days, but could have done it in half the time had my plows been larger. I used a 5 bottom plow, but could easily pull a 10 bottom plow.

Furnishes Handy Power I pulled a Sandwich No. 7 sheller and shelled a 60 bushel box of corn in a minute and a half, running on one cylinder only. My thresher is a 36x56. I threshed 3,000 bushels of oats a day, working the tractor on only one cylinder.

It's a One-Man Outfit Hulling clover is no work at all for the tractor. I ran both machines at this work. My grinder will grind 60 bushels of feed per hour, yet this is easy for the tractor.

Operates Road Graders When grading roads, I drew 2 Concord horse, graders at one time. I graded 1½ miles of road and raised the pike 4½ feet in 4 days.

Just Eats Up Work Here's a table of the work I did with my Hart-Parr Tractor the past year:

Plowed 90 acres	Threshed 500 bu. of wheat
Shelled 2,000 bu. of corn	Hulled 600 bu. of clover
Threshed 42,000 bu. of oats	Graded 1½ miles of road

I ground very little feed with it, but expect to do a lot of grinding this winter.

Repairs Cost Almost Nothing My repair bill for the entire season's work amounted to only 95 cents.

Uses Cheapest Kerosene For the hardest day's work I used only 40 gallons of kerosene at all loads."

And Now, after you have read this letter, if you want some literature on the subject of power farming with a Hart-Parr Oil Tractor which will prove of interest, write today for our catalog, testimonial folder and Plowing and Tilling booklet.

HART-PARR CO. **254 Lawler St., Charles City, Iowa**

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Send me your name and address *quick* for my 1913 proposition and price on a Galloway Bath-in-Oil Cream Separator. Get my catalog describing its remarkable construction—its low tank and high crank—round corners, easy to clean—close skimming device that brings you big extra profits from its service alone, and then on its purchase—

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Wm. Galloway, Pres.,

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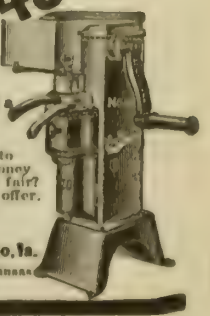

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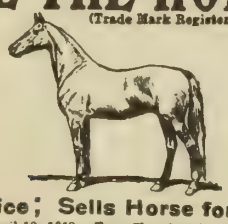

Gets Advice; Sells Horse for $800.

Ogden, Ia., April 18, 1912. Troy Chemical Co., Binghamton, N. Y. Gentlemen—I have used Save-The-Horse for years, and I never found any case but it would do just what you claim for it. I have a horse I want to race and want your advice and another book. I lost or mislaid mine. The last time I bothered you your advice and treatment did the work. I sold the horse for $800.
Yours truly, H. S. HELPHRY.

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Ruins of the Oldest City in Spanish America

By Frank G. Carpenter

ANTIGUA, Guatemala — You have probably never heard of Antigua. Nevertheless, it was long one of the great cities of the North American continent. It was famous a hundred years before any settlement in the United States began to be; it had its tens of thousands when our Dutch ancestors landed on Manhattan island, and its colleges and its cathedral when the boys of the Pilgrims were first trotting the cowpaths which formed the streets of old Boston; it had palaces and public buildings when we had only log cabins, and its ruins show that it far surpassed any other city of North America for 200 or more years after the continent was discovered.

Old Capital of Spanish-America

I have seen all the ruined cities of the world, but I know none more interesting than those of this old capital of Spanish-America. I have tramped through the streets of Pompeii and have explored the remains of Zimbabwe in northern Rhodesia; I have explored Timgad, the once buried capital which is now being excavated on the edge of the Sahara, and have wandered about over the site of old Carthage. A few years ago I was in Baalbek, that old ruin in the mountains of Lebanon, and it is only a few weeks since I wrote to you about Quirigua, the city of the Mayans in the Motagua valley, not far from here.

The ruins of Antigua lie at the foot of two mighty volcanoes; they represent a metropolis which was destroyed again and again by earthquake and eruptions, until the people of Guatemala gave up in despair and moved their capital to where it is now.

The site of the city is thirty miles from the railroad, and it took me ten hours of hard riding on the back of a mule to reach it; it was situated here in the mountains on the slopes of the Volcano de Agua and of the Volcano de Fuego, which, translated into English, mean the mountains of fire and of water.

These mountains are symmetrical volcanoes; each is as beautiful as Fujiyama in Japan, or the Moyon volcano of southern Luzon. Fuego now and then rumbles and it is said that it may at any time break out in eruption. The Volcano de Agua is now quiet, but fourteen years after the old city was started it burst forth in a deluge of water and reduced it to ruins. Some think the water came from a lake in the volcano, which the eruption threw out like a mighty cloudburst, and others say that it came from torrential rains, which had been pouring for seven days and which rolled down the mountains, bearing forests, rocks and earth in their floods.

That first city was founded by Pedro Alvarado only thirty-two years after Columbus first crossed the Atlantic. Alvarado was an officer of Cortez and he was sent with an army of 250 Spaniards to conquer the countries of Central America; he enlisted great hordes of Indians, subduing the natives; he reduced tribe after tribe to slavery, branding them and selling them in the public markets; he chose this place as his capital and architects came over from Spain to lay out the city. It was just about the time of his death that the town was destroyed and the Indians here believe that it was largely done as a judgment upon his wife, who had complained to the Lord because she had lost her husband.

Seat of Culture and Learning

In rebuilding the city the Spaniards chose a site about two miles away and there erected their capital; this remained in existence for 230 years, when it was again destroyed by the same volcano which had brought on the flood. The new capital was laid out with the idea that it would be the metropolis of North America and for generations it was the center of culture and learning of southern North America; it was destroyed in 1773 by earthquakes and at that time it had 120,000 people. In 1800 Boston had only 24,000, and it was a city of wood.

This old capital of Guatemala was a city of stone and stucco; its streets were paved with stones and it had buildings which covered acres; it had forty-nine churches, whose priests were under the government, and the others had been established by the Spaniards, who built them in gratitude for the prosperity given by the Lord. There were also eight great monasteries, five convents, two big hospitals and three massive jails; there were palaces galore, and outside the city were seventy Indian villages surrounding it like the setting of a diamond.

In the center of the city was a great plaza, upon which faced the cathedral, 300 feet long and 120 feet deep; this was lighted by fifty windows, and over its grand altar was a dome seventy feet high, supported by sixteen columns of stone faced with tortoise shell and adorned by bronze medallions of wonderful beauty.

The monastery of San Francisco had more than 3,000 people within its walls, and the College of the Jesuits was even more beautiful. Further on I describe the ruins of these and other buildings, which give some idea of the magnificence of the capital.

It was a wealthy city; its white inhabitants had thousands of slaves and gold and silver were brought in from the mountains and sent from here by the shipload to Spain. The land about was cultivated and everything was prosperous beyond the dreams of avarice.

Destroyed by Earthquakes

Then came the earthquakes and eruptions. In 1558 there was a plague, and in 1586 there was a great earthquake, which destroyed a large part of the city. In 1601 there was another plague, and fifty years later the earth trembled again, and masses of rock rolled down the mountain slopes into the city.

About a generation later the plague came for a third time, and then after a respite of thirty years the volcano had another eruption, during which the earth shook and the thick walls of the churches cracked like egg shells. The last earthquakes were those of 1773. At that time the mountains seemed to be on a continuous shake, the tiles flew from the roofs of the houses like straws blown about in a gale of wind and the bells rung as the earth trembled; the domes of the churches were split, the roofs of the monasteries fell in and many monks at prayer were buried in the debris. At last the final earthquake was on December 13, 1773; this destroyed so much of the city that the people decided to move. The king of Spain took it up and sent out his orders that the site of the capital be changed; he was obeyed and the Guatemala city of today lies on a little plateau thirty miles away; it is so surrounded by ravines and gorges that the earthquakes do not trouble it. It was laid out on the plans of the old city, but it has never reached its magnificence, and the population now is at least 20,000 less than was that of the old capital at the time of the removal, now more than 139 years ago.

I wish I could show you the An-

A Street in Antigua. The Volcano de Agua is Seen Through the Arch

tigua of today as it lies about me; some of the old buildings have been repaired and new ones erected, so that we have now here a population of perhaps 5,000, made up of Indians and whites. The most of these people live in low one-storied buildings of brick, covered with stucco and roofed with red tiles; much of the material has come from the old city and the windows have antiquated balconies which extend out over the street and which are barred with wrought iron, torn from the ruins. Some of the carved wood of Moorish design has been kept and not a few of the doors are quaint and antique; many of them have door knockers of iron, silver and brass and some have a lattice work over the windows which reminds one of the Moors. There is still a plaza in the center of the city, upon which stand the government buildings and the ruined cathedral. The houses are painted all the colors of the rainbow; they stand close to the streets and are entered by great doors, which are sometimes heavily barred.

From the Top of the Cathedral

But come with me and let us take a look at the ruins. I have met here Father Rossbach, a delightful priest, who has charge of the old Church of La Merced; he is an American who is doing missionary work among the people of his faith in Central America, and he has provided a guide for us in the person of a Grand Rapids boy who has come here for his health; the boy's name is Lawrence Henner; he speaks Spanish and he can show us about.

We go to the plaza and, entering the cathedral, wind our way around and around up the narrow, dark steps of the tower until we come out on the mighty roof of the structure; it is formed by fourteen great domes, which make one think of the buildings of Egypt; back of these is the court, now in ruins, the walls and roof having been torn away and only the great columns, with their carved capitals, still intact. This building covers over an acre and it was full of worshipers when we had only log churches.

The view from the roof is magnificent; we can see how the city lies in a circular nest in the mountains. Outside the basin is covered with coffee plantations and within the buildings have patios whose gardens and orchards make the setting beautifully green. It is a town built in a forest and garden, with these mighty ruins rising out of the green.

Just next the cathedral is the old university. We enter the court, which is surrounded by arcades where walked the students of 200 years ago. A part of the building is now used as a college and in the court the school boys were drilling. The teacher, with two whips in his hands, is directing the marching, and I photographed the boys as they tramped.

Convent of San Francisco

We take a carriage and drive to the Convent of San Francisco; here are the ruins of a mighty church and monastery which in their prime must have been of great beauty. The entrance gates had statues of marble and above them are the coats-of-arms of the king of Spain. We pass in through great pillars beautifully carved, enter a courtyard and thence go on to the body of the church. This is one mass of ruins, but the Indians have made homes in the walls, and they have carpenter shops and blacksmith shops where the monks once muttered their prayers. Right over the arched door is a beautiful statue of the Madonna, and in the niches on the church front are fourteen statues of saints. The decoration within is wonderfully beautiful, but there are trees now growing in the main hall and moss and bushes cover the walls. Right in the main body of the building the Indians have erected an oven, where they cook, on the site of the ancient confessionals.

There is only one part of the old church which is still intact; this is a little sacristy at the left of the main entrance, where mass is regularly said. This sacristy has what I suppose are many of the ornaments of the old church; its walls are covered with carvings, oil paintings and statues painted with gold. A statue of Christ, with a cross on his back, stands in front of the altar; it is robed in purple, embroidered with gold and bands of gold lace; at the right, protected by bars of iron, is a recess in the wall which is said to contain the body of a famous priest, who was so noted for his friendship for the poor that if he found a sick man on the street he would put him on his back and carry him to the hospital. There are numerous wax images hung to the walls of this grating; some are of the Madonna and others are of legs and arms sent in by the sick, who hope to be cured. There are candles burning in front of this recess. Some of the oil paintings from the old church are beautiful, as are also two benches of mosaic wood inlaid with ivory.

Monastery Owned by Americans

My next visit was to a Michigan institution; this was the College and Monastery of Recollection, the estate of which has been bought by Grand Rapids people and turned into a coffee plantation. I am told that they have also about 3,000 acrces on the sides of the Volcano de Agua, and they expect to plant this to corn.

The ruins of Recollection are about 300 years old; they are among the largest of the ancient capital, covering several acres; the walls are from two to four feet in thickness, but, nothwithstanding that, the earthquakes reduced them to ruins.

The buildings were erected as a monastery and college, but the monastery is now used as a candle factory and a place to dry hides. I found a mill for grinding tallow, much like one of the old tan bark mills which were formerly common in the United States, in the sacristy, and under the dome a lot of green hides were stretched; near by was an oven, used for cooking tallow, and the burning wood was smoking the altar and discoloring the ancient walls. In the patio of the College for Girls is now a cattle corral and Berkshire pigs are rooting among the debris. The estate which belonged to these buildings is now growing coffee and fruits.

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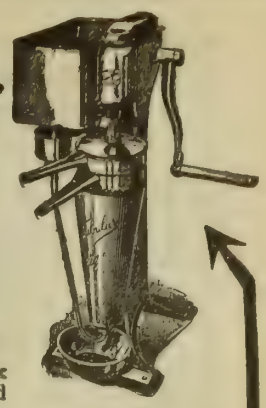

Many of them who formerly shipped their milk are now selling the cream and feeding the skimmed milk to the calves, pigs and chickens.

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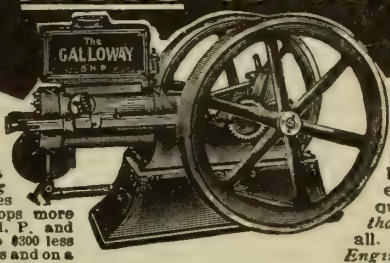

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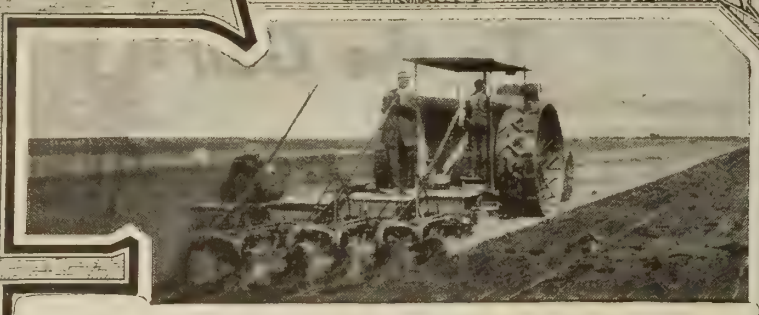

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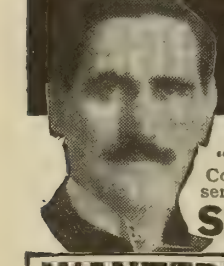

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Educational Policy for State Universities

(CONTINUED FROM PAGE SEVEN.)

ties as an infringement upon their exclusive professional privilege. The sooner that this state of affairs is entirely abolished and each department is thoroughly subordinated to the purpose of the institution as a whole the sooner will state universities begin to do the precise work demanded of them.

Now it is almost universally admitted that one of the chief forces in proper education is the stimulus and inspiration that the students receive from their personal contact with their master teachers. Eliminate this and the principal motive power in student life is dissipated. Now, as a mater of fact, the heads of departments in state universities come very little into personal contact with the students. They met only the select few who are taking only the higher studies in the department, what might be called the exotics of education, and leave the work of inspiring and stimulating students by personal contact to their subordinates, who are generally young men or young women incapable by reason of their immaturity of exerting upon the students this mightiest and most formative influence in student life.

This state of affairs should be directly reversed. It is at the beginning of one's course that impressions are formed that are not easily obliterated. The man of authority and power in the department should take personally into his charge the initiation of the students into the proper spirit of university life. Here his greatest and most lasting work will be done for the mass. To fail here is permanently to weaken the influence of a university career.

The decorations in education furnished by the department might easily be added for the few that require them by subordinates engaged for the purpose. Upon the head of the department should rest the chief work of education.

Of course, this will not be as pleasant, will not be quite so exclusive, will take a little more work for the money paid and will take the departmental head out from behind a roll top desk and stand him up on his feet before a crowded class room, which may seem too plebian for aristocratic tastes, but this is precisely the work that the head of any department which undertakes to serve the state in the best way possible must personally undertake.

Reversing the Order of Things

It is unfortunately the fact in some cases that heads of departments instead of attempting to serve the state as herein set forth, are engaged principally in attempting to build up a department that shall win high honor in the scholastic world and surpass similar departments in other institutions. In doing this they seem to adopt to a greater or less degree the watchword, "Everything for the department; let the students look out for themselves." Now unless heads of departments are willing to reverse this watchword and make it read, "Everything for the student; let the department look out for itself," they should be at once dismissed and successors secured more in sympathy with the true aim of state universities. The state is not asking to have the university built upon into an institution that shall be greater than any other of its kind, or that any of its departments shall rival in reputation similar departments in other institutions; it is asking, it is earnestly demanding, that the institution do for its children the best that can be done.

When state universities square themselves with this idea of state education, and not until then, will they find the purse strings of the state relaxed and the funds of the state freely at their disposal. Not until this state of affairs comes to pass will there cease to be suspicion and unrest and regret whenever the state university is thought of; not until then will the state cease to feel that it does not get adequate returns for the money it expends. Let us abandon some of our fine-spun theories of education, some of our absurd educational psychology, and in a common sense way regard as important, as supremely important, the common sense demand of the state.

Plant Lice on Oregon Fruits

In the first of his series of ten lectures on "Oregon Crop Pests in the Farmers' Program" Prof. H. F. Wilson of the Oregon Agricultural college spoke of the various forms of plant lice known to be working on the orchard and bush fruits.

"No other one species of aphis causes anything like the amount of damage in all sections of the state that the brown apple aphis does," said Prof. Wilson. "In some few sections the woolly apple aphis is quite bad, but where thorough spraying is carried on for San Jose scale and other insects this species is of minor importance. On young nursery stock the green apple aphis frequently becomes bad, and the trees must be sprayed or they sometimes die as a result.

The egg is the stage in which most of the plant lice spend the winter, attached to twigs, under bud scales, pieces of bark or on the open surface of the young shoots of such shrubs or trees as serve for the over-winter host plant."

College Man Tells all About Clubroot

In a talk to visiting farmers at the Oregon Agricultural college Floyd D. Bailey of the plant pathology department advised lime as a treatment for clubroot on cabbage, cauliflower and turnips.

"Clubroot is known in England as 'fingers and toes' because of the appearance it gives the root of the plant. It retards the growth of the plant," said Mr. Bailey, "and sometimes even kills it before the head is formed.

"This disease attacks the cauliflower and turnips as well as the cabbage. It is also found on the native hedge mustard and wild shepherds purse, and is often spread from these plants to the garden.

"It has been successfully treated with lime, the amount applied varying according to the acidity of the soil."

Fashions : Norfolk and Russsian Blouse Styles

THE busy housewife "making auld claes look amaist as weel's the new" was immortalized by Burns in "The Cotter's Saturday Night," and most people think of no other way of achieving this result except by mending and making over, but there is another way that is not so common, and that is by cleaning and dyeing.

Our grandmothers knew the value of the dye pot and the secrets of the dyer's art, but we of this age have "let out" this work, as well as many others, to factories. Not only do the manufacturers dye our clothing, but there are manufacturers who make dyes, so that we do not have to go to the trouble of compounding the various ingredients needed to produce the results we seek.

However, this is another story. Mine is that we can certainly have "new" clothes at a trifling expense if we will take advantage of the ready-made dyes that are on the market, their color cards enabling the purchaser to select the one wanted, and there is no experimenting which might fail as well as succeed at times.

It is not only old clothes that are saved for further wear by freshening up with dye, but often different materials that have been found to be poor sellers on account of undesirable colors, or shop-worn and faded stuffs or articles can be bought at a fraction of their real value and may be dyed so that no one could suspect their original color. For example, we bought faded pink and blue silk gloves last summer, paying only 15 cents a pair for them, and when dyed black they were the equal of those costing 40 and 50 cents. One 10-cent package of dye colored three pairs of gloves, three pairs of silk hose—which, by the way, were nile green lavender and tan, one pair of each, and they cost only 23 cents a pair. Besides the gloves and hose a blue crepe de chine scarf was dyed and made a beautiful fancy waist.

As to making old clothes look new by cleaning, no one realizes how easily this is done unless shown. A gallon or two of gasoline set in a large vessel containing boiling water and covered till the "gas" is warm will take out every bit of dust in any garment that may be immersed in it. If the garment is very dirty, let it soak for some time and give it a rinsing in clean warm gasoline. Of course, the dirtiest spots should be rubbed well before putting the garment in the bath. Be sure to handle gasoline out of doors.

CENA S. CORNMAN.

4742-4843 4749-4845 4766-4855 4385

Description of Patterns

4742-4843—Truly smart and in the best of taste is this suit of youthful cut, consisting of a Norfolk jacket with applied plaits and a five-gored skirt that closes in front and has a wide panel back. For its development were used light brown worsted suiting with collar facing and sleeve straps of tan broadcloth. The home dressmaker will have no trouble whatever with a coat of this kind, as the fit is rather loose and the finish not so severely tailored as that of a plain coat. The skirt is 2⅛ yards wide.

Jacket No. 4742 is in sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure. Size 36 requires 3½ yards of 54-inch material, with one-half yard of contrasting fabric. Price, 15 cents. Skirt No 4843 is in sizes 21, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 26 requires 2⅝ yards of 54-inch material. Price 15 cents.

4749-4845—Russian blouse designs are again favored by fashion. This one is only slightly bloused and the peplum with rounded corners bears a close relation to the favored cutaway effects. On a simple costume like this the buttons selected play an important role as a trimming. The material used in this reproduction is tan zibeline with black braid. The four-piece skirt measures 1¾ yards around the lower edge and closes at the left side of the back panel.

Jacket No. 4749 is in sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires two yards of 54-inch material. Price, 15 cents. Skirt No. 4845 is in sizes 21, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 26 requires 2⅝ yards of 54-inch material. Price 15 cents.

4766-4855—The type of Norfolk waist portrayed here is different from the usual designs, in that the closing is not visible, being arranged under the applied plait at the left front. This detail will be found unusually becoming, as it imparts greater breadth to the figure. The skirt, a new six-gored model, has a plaited section at the center front and back, which increases the width of the lower part of the skirt without apparently disturbing the narrow outline. It closes at the left front under a plait and is 3¼ yards in width. Navy blue serge would prove an appropriate selection with collar of champagne-colored cloth.

Waist No. 4766 is in sizes 32, 34, 36, 38, 40, 42 and 44 inches. Size 36 requires three yards of 44-inch material, with one-half-yard of contrasting broadcloth. Price, 15 cents. Skirt No. 4855 is in sizes 21, 22, 24, 26, 28, 30 and 32 inches waist measure. Size 26 requires 4¼ yards of 44-inch material. Price, 15 cents.

4385—A smarter or more practical design for a long coat could not be selected than the one shown under this number. One of the strongest points in its favor is the attractively shaped collar that can be buttoned up close to the neck in severe weather. A mixed gray, reversible Scotch coating in a herring-bone weave, a leading fabric for long coats, is illustrated here. The two-tone wool velours, however, are particularly handsome, as well as the heavy zibelines, ratine effects and the large black and white checks, all of which are in high favor for these garments. Large patch pockets and a wide half belt at the back are two of the smartest features of the coat; these emphasize the mannish effect of the garment, and, while effective additions, they may be omitted without detracting from the style of the coat.

Coat No. 4385 is in sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure. Size 36 requires 4¼ yards of 54-inch material. Price, 15 cents.

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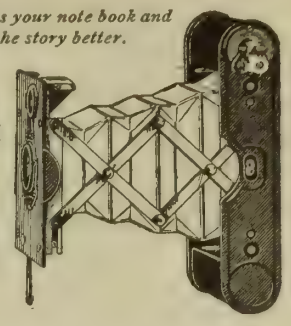

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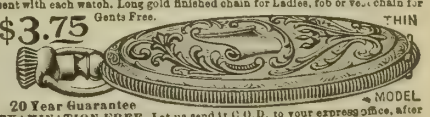

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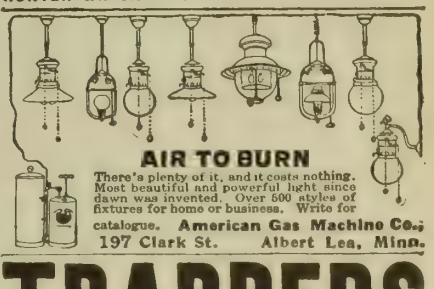

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Of Interest to Our Women Readers

Yesterday

It is not far to Yesterday,
And there we turn our eyes
To where the good, glad memories
In pleasing pictures rise.
The faded roses of today
Grow red and rich with dew,
And where gray clouds are spreading now
We see the skies of blue.

Just down the way is Yesterday—
There sunshine always beams;
Today we close our eyes and see
Our Yesterday in dreams;
Today we hear the long-dead song,
And now we understand
Its cadence, and know why it made
Our Yesterday all grand.

A little way to Yesterday—
Today may have its fears,
Yet Yesterday is filled with smiles,
Tomorrow has its tears—
Today—Tomorrow—what of them,
When we can find the way
That leads us to the golden land—
The land of Yesterday?

It is not far to Yesterday,
With glamor of the rose;
With haunting echo of the song
That thrilled us to the close.
Tomorrow and Today will lose
Their darkness and their gloom.
And each will soon be Yesterday
With melody and bloom.

—Wilbur D. Nesbit.

Our Home Chat

What mother hasn't been mortified by the manners of the children when company was present, or they were away visiting? If ever they seem to take a notion to misbehave it seems to be at such a time. A young mother who has had this experience was telling about a good time she had had at a little social gathering to which she had taken her little son.

"And he actually behaved!,' she remarked.

"How did that happen?" I asked.

"I don't know," she replied. "I am afraid he isn't well."

That may be the secret of it. Children who are active, interested and inquiring get into all sorts of mischief when they find themselves under new surroundings. Mothers are apt to be overcritical at such times and the children are quick to feel and resent this attitude. Antagonism only makes them worse; they become angry and really unruly.

"Mother," remarked a little boy, very gravely, "why don't you kiss me when I'm bad, instead of whipping me? That only makes me mad and I just go and be naughty again, because I am mad."

There is some good, hard pedagogy in that remark. The punishment should be corrective, not of a kind to produce that condition of mind which you especially wish to avoid. Children have a greater sense of justice than they are given credit for, and if this be outraged, any self-respecting child will resent it. A teacher who has been very successful not only in her teaching, but in the ease with which she maintains discipline, was asked how she managed.

"I just treat the children with as much courtesy and respect as I require from them."

There are few children who will not respond to such treatment, which appeals to their idea of fair play.

THE EDITOR.

Music in the Home

"Nothing that we can give our children is too good for them" is the splendid self-sacrificing thought of many parents. It may be that this thought does not always find definite expression, but its effect is shown by the loving care with which things are provided to help the children and to make home attractive.

In helping children one of the most important things is the refining influence of music. The need of music in the home is more and more being realized, and the children in our rural homes are to a greater extent being provided with good music. Good music is not a luxury; it is an essential thing in the proper training of a child. Music is much more than a source of entertainment; it is also a means of inspiration, and the time when the power to feel this inspiration may best be cultivated is in childhood. Just as good food and exercise are necessary to develop the child's body, and books and schooling are required to develop his mind, so the surest possible means must be provided to make him grow up with a healthy moral and emotional nature—and an influential thing for this is good music.

It is usually found that the chief fascination of city life for the boy is due to the city's variety, its liveliness, its opportunities for entertainment. All these are closely connected with music. At churches, at concert halls, at theaters—everywhere music, music, music. While the lad may not realize that he is music-hungry, his thoughts nevertheless turn longingly to the glittering opportunities of city life, most of which will give him music or song.

Should Boys Learn Housework?

Many people think that for boys or men to do any kind of housework is girlish and not to be thought of; that boys were made to live outdoors and had no right in the house but to eat and sleep. When they do come in there is not a room in the house they can call their own or a place to put their things except the storeroom, where there is a bed in which they sleep. They are scolded for bringing in dirt and throwing things about, when, if they had been taught to help about the house and had an interest there, they would be more careful.

In many families there are no girls, hired help is high and not always to be had, so if a husband or son can do the cooking and housework it is often a big help when mother is sick or called away from home. It is not only an advantage in such cases for them to know how to do such work, but it gives them more respect for the opposite sex and their duties as housewives. Then, in case they want to go out on a claim or to work their way through school, it is valuable experience.

We have only one 6-year-old boy in our family, whom we are bringing up to know that he has a place and interest in the house, and when occasion demands to work indoors as well as out. He already helps a great deal and saves many steps. You wonder what a boy so young could do to help in the house? He can set or clear the table, brush up and put the dishes away; when the rugs are to be cleaned gathers the small ones up and puts them outside; he dusts the mopboards, window sills and doors, as high as his arms can reach. With his wagon or sled he brings coal and wood and with a small basket carries potatoes and vegetables from the cellar. He plays "delivery boy," when he carries away all empty cans and bottles. He has a room of his own and is very proud of it, trying to keep it neat and clean. I often tell him that soldiers and sailors have to learn to keep their camps clean, to cook and to wash, make beds and sweep, and that all boys should learn to do these things right so that if they are ever needed for soldiers or sailors they will know, and it will be so much easier.

I try never to forget to say "Please" and "Thank you and to praise him when he does things well. Of course, a boy's place is not in the house altogether; nature never meant it to be so; but they should be able to get a good meal and to keep a house in order when necessary, besides helping mother.

South Dakota. MRS. R. V.

Practical Dishwashing

If I may speak in Our Home Chat column, I should like to pass onward a few helpful hints on practical dishwashing. A dessert spoonful of borax in a gallon of dishwater polishes the china so well, without harm to the hands. My best "dishrags" are made of half an old flour sack basted double, making a double soft cloth a foot square. A metal kettle scraper, consisting of an iron dishwasher, with the rings removed from the handle, is something I should not try to do without for common, every-day dishwashing. A meat rind kept handy with which to go over all bottoms of kettles, pans, etc., that may be set next the blaze will make it easy to rub off the black with a paper, using a little soda. I keep papers in the kettle cupboard.

A cotton mit to wear while brushing off the range with a dusky cloth will save the hands, and one can then wash a cotton mit once a week instead of scrubbing a live "mit" twenty-one times a week.

MRS. WILBUR KRISTENSON.

Worth Knowing

When running curtain rods through thin curtains place a thimble on the end of the rod to prevent it from catching in the material.

Every kitchen should have strips of carpet placed on the floor. Rag rugs are the very best to buy, as these wash well and last for years.

Maud Muller

Maud Muller on a summer's day
Out in the meadows raked away.

The Judge came by, just as of yore,
But when he gazed the meadows o'er

In search of Maud, so sweetly fair,
Was not aware that she was there.

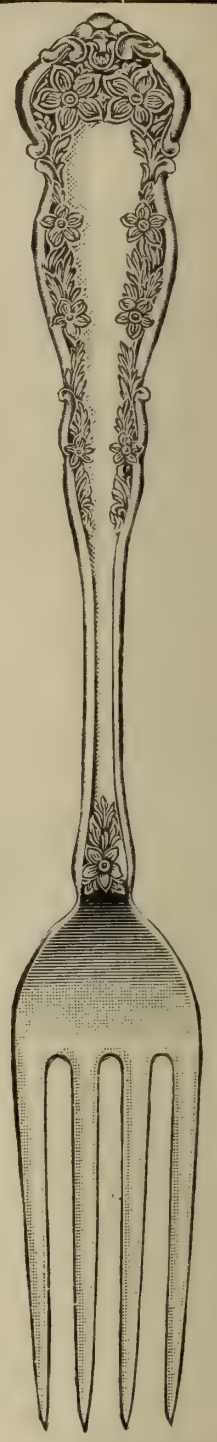
And so with spirits much cast down
Kept sadly on his way to town.

The trouble was that Maud's new hat
She wore that day out on the flat

Loomed up so large, both front and back,
The Judge mistook it for a stack,

And never knew the maid so gay
Was not another load of hay!
—A. Sufferan Mann in Harper's Weekly.

You have the spoons; now get the forks!



The Twentieth Century Farmer has been giving away handsome Wm. Rogers & Sons silver teaspoons. Forks of the same pattern have now been obtained. Because of the extra expense in handling the forks, and in getting the designs, the price for mailing is 20 cents. You may still get the spoons, each, for 10 cents. Complete your set of spoons, and also get the forks. Start now.

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Preserving Home-Produced Meat for Future Consumption

HOME production of meat is one of the greatest household economies that can be practiced on the farm, the great drawback which has always confronted the farmer being that the season when meat in the quantity can be kept successfully is generally the season when it is least needed by the majority of farm families.

In the greater number of cases the farmer pursues one of two courses—either he sells his surplus fresh meat in the fall and then pays more than double the price the following summer, or he subsists during the summer months on a diet of bacon and salt pork, which is as monotonous as it is unhealthful. So-called "meat clubs" have been successfully operated in some instances; in other neighborhoods they are a failure.

Probably the most satisfactory solution of the meat problem lies in the home preservation of meat when it is most plentiful. There are many reasons in favor of this method. It is not so difficult to do successfully as most people who have never given it a trial imagine. The work of preserving generally comes in the late fall or winter, when the country housewife has the most leisure. And, best of all, this preserved meat is so easily prepared for the table that it lightens the work during the crowded summer months just when it is most appreciated.

The proper time to preserve meat is when it is perfectly fresh. The aversion so many people have for home-preserved meats arises from the fact that they preserve it as a last resort after it has been kept to the very verge of spoiling.

Canning Meat—The same rules hold good in canning meats as in vegetables or fruits. Sterilize the cans and pack closely with the meat cut into suitable pieces; add a teaspoonful of salt to a quart can, fill with cold water and put on the cover, omitting the rubber. Have a rack of wooden slats made to fit the bottom of the boiler, or cloths may be used; never allow the cans to stand directly on the bottom. Separate the cans with cloths or papers to prevent their jarring together and cracking the glass. After arranging them in the boiler pour in cold water until it reaches about two-thirds the height of the cans and cover closely. Bring to the boiling point and boil steadly, but not violently, for two and one-half hours.

When the boiling is completed draw the boiler to the back of the stove; remove the top from each can, fill with a little hot water if the contents have shrunk, and seal. Return the cover to the boiler and let the cans remain in the water until cool enough to handle comfortably.

Canned Beef—Cut the beef into two-inch cubes and add some finely chopped suet when packing it into the cans. When cold the suet rises to the top of the can, forming a rich cake.

This beef may be served in any way that freshly boiled beef is used. It is excellent cold, cut in thin slices. It may be heated thoroughly and served with a brown gravy, or is good served hot with dumplings.

Farmer Butcher

Canned Pork—Lean portions of the fresh pork are most delicious canned. Prepare the same as beef. The meat may be eaten cold, served hot, or will form the foundation for the finest of sandwiches.

Canned Chicken—A few cans of chicken are extremely convenient for serving on emergency occasions. This work, however, generally comes during a busy season, when the young cockerels are just right for serving. For ordinary purposes leave the meat on the bones. If desired for salads or sandwiches, the meat may be removed from the bones before canning, as it then requires less space.

Canned Ham—After the ham has been cured in the usual way cut in slices, remove the rind and pack in cans. Can exactly like other meat. This is excellent for sandwiches or to eat cold.

Fried Ham—Cut the cured ham into desirable slices and remove the rind; have ready a good jar; place the ham in a frying pan over a quick fire and fry until it is heated through and slightly browned; pack the slices in the jar, pouring over it the fat from the pan. When the jar is filled take a plate that will fit inside the jar, invert it over the meat and place on it a weight so that the fat covers the meat.

To serve, reheat in the frying pan. This will keep well if set in a cool, dark place. After opening it to use, if desired to be set aside for a while, pour over the top a little fresh melted lard.

Sliced Ham—Prepare the ham as for frying, but pack without cooking in a stone jar, taking care to pack evenly and closely. Pour over it melted lard until the fat rises round a weighted plate inverted over it. If packed in this way it is advisable to use very small jars, so that only a small amount need be opened at once. If left for longer than a day or two after being opened re-cover with lard.

Baked Sausage—After mixing the new sausage, pack as much as is desired preserved at once in small jars, leaving a couple of inches space at the top; cover the jars and place in a moderately hot oven. Bake for two hours, when the fat from the meat will have risen to the top, forming a thick covering for the meat when cold. Set away in a cool, dry place and it will keep well all through the succeeding warm months. To serve, cut in slices and fry as with fresh sausage. This will not keep long after being opened unless covered each time with fresh lard.

Any of these preserved meats will keep admirably through the summer months and will help quite wonderfully toward lessening the housewife's work during a hurried season, furnishing a pleasing variety for the table and lowering the annual meat bill.

ALICE MARGARET ASHTON.

Home Helps

An egg beater should never be left to soak in water, as the oil will be washed out of the gears, making it hard to turn.

In baking bread or rolls put a saucepan of boiling water into the oven. The steam will keep the crust smooth and tender.—Racine Journal.

STEADY HAND

A Surgeon's Hand Should Be the Firmest of All.

"For fifteen years I have suffered from insomnia, indigestion and nervousness as a result of coffee drinking," said a surgeon the other day. (Tea is equally injurious because it contains caffeine, the same drug found in coffee).

"The dyspepsia became so bad that I had to limit myself to one cup at breakfast. Even this caused me to lose my food soon after I ate it.

"All the attendant symptoms of indigestion, such as heart burn, palpitation, water brash, wakefulness or disturbed sleep, bad taste in the mouth, nervousness, etc., were present to such a degree as to incapacitate me for my practice as a surgeon.

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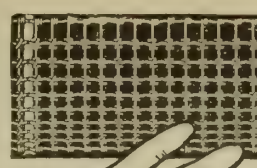

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14 CENTS A ROD for 26-in. hog fence.
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$1.55 for 80 rod spool of Ideal Barbed Wire. Large free Catalog showing 100 styles of Farm, Poultry and Lawn Fence.

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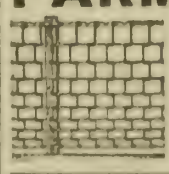

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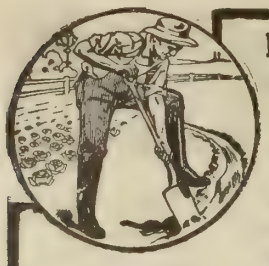

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as the perfect protection for the farmer's feet.

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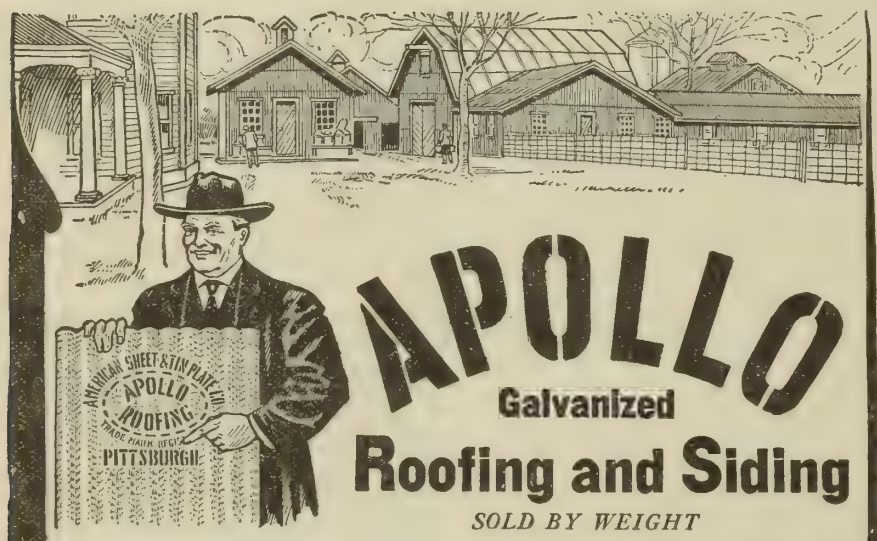

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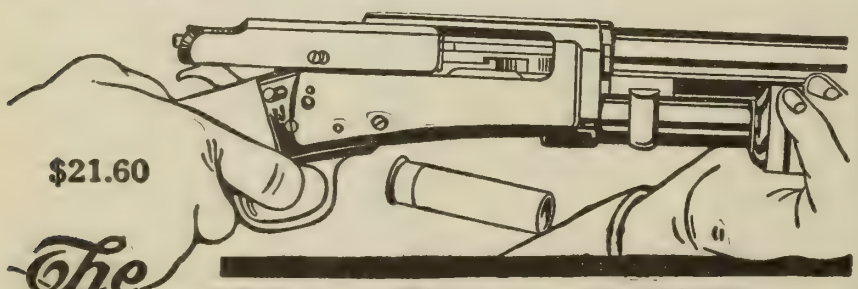

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The Marlin Firearms Co.
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Stories by Our Young People

Poor

'F I was rich I'd have a yard
Full o' roses, shoulder high,
An' a trellis for the vines
To climb up ag'in the sky;
An' I'd have a summer house
With a fountain in it, too,
An' the place all full o' paths,
Twisty till they'd puzzle you.

An' 'f there was a gate on it
When I got it I'd unscrew
All the hinges from it, an'
Take the gate off an' away—
Make the whole place free to you,
An' to all the little tads—
Make the garden just a place
Where the little kids could play.

An' I'd have it full o' nooks,
Where a babe could step aside
From a pathway anywhere
An' could find a place to hide
Where she could stay hid from you
Till she give a jump an' scared
You a'yellin' "Peek-a-boo."

That's what I'd do if I was
Rich as I would like to be;
An' I'd have a glassed-in porch,
That is how it seems to me.
Full of little cots for babes
That ain't very well er strong,
Where they could watch every game,
Where they could hear every song.

An' I'd have trained nurses, too,
Half a dozen of 'em there;
Kind that children cottons to,
With white caps an' crinkly hair,
An' with mischief in their eyes,
Showin' they was young inside,
Kind that goes to little folks
Always with their arms out wide.

Don't think I would have much else;
There is other things, I know,
But from when the sun would rise
Till at night when it got low
I would want to be right there,
With the blooms an' kids an' sich—
So that's all that I could use—
But, doggone it, I ain't rich!

—Judd Mortimer Lewis.

The Editor's Corner

With the New Year we are beginning a new contest in prize stories, and also have new leaders as captains. The Red side is the boys' side, and Paul Vail, Arlington, Neb., will be the captain. The Blue side, for which the girls write, will have as captain Nellie Snyder, Provo, Utah. During the last three months the Blue side has had the greater number of prize stories.

For the benefit of the new readers of this page, some of whom have written for information, we will say that each week a prize of a good children's book is given for the best story. THE EDITOR.

(Prize Story.)

The Homeless Kitty

By Frank Budd, Aged 11, Bonesteel, S. D. Original. Red.

My name is Tiny. I have no home and I run on the streets. I'm very thin, for I don't get enough to eat. I have been kicked around by everyone. The dogs chase me and I have to climb up a telephone pole or tree. I run in the alleys around people's houses to hunt something to eat. Sometimes I see a big dog coming and have to crawl under an old building. It is very hard for me to get my living. Today as I was on the street crying with all my might a boy came up and petted me. He knew that I did not have enough to eat because I was so thin. He carried me home with him. When he got home he put me in the barn. I found some warm hay and so I lay down and went to sleep. When he got the cow milked he gave me some nice, warm milk. It tasted very good, for I had not had any milk for a long time. I tried to tell him I was very thankful by purring as loud as I could. It is so nice to have a kind friend. I think I will make this my home.

The Children's Favorite

(Honorable Mention.)

A Very Smart Dog

By Onie Campbell, Aged 13, Hubbard, Neb. Original. Red.

Once we had a dog and his name was Major. He knew many tricks. I will tell you some of them. He would sit up on his hind legs and bark for his food; he would dance if anyone would play the fiddle for him. One day there was a man came to town and he was blind; he played the fiddle in front of our place. When he heard the music he went out and began to dance. And the men all gave him money and he brought it all home to me. When he was young I had taught him to shake hands, and when he got done dancing he went around and shook hands with them all, and that made them laugh more than ever.

The Deer Hunt

By Julia Williams, Aged 10, Granite Canyon, Wyo. Original. Blue.

One Saturday morning about two months ago my father, my two sisters and I went for a hunt. I didn't think we would get anything but jack rabbits and cottontails, but we did. As we came over a hill my father said:

"Girls, there is some beautiful country over here about a mile. Would you like to see it?"

We all agreed, so daddy took us over there. Then he said:

"This is the very spot where your daddy and Mr. La Pash killed a big buck deer."

No sooner had daddy got through talking, when out jumped five buck deer.

"Oh, girls! girls!" cried daddy, "do come and see these deer. See how gracefully they bound along."

Then daddy began to shoot. He missed three times, but the fourth shot was true and one deer fell. Then daddy quit shooting because he thought one was enough. We loaded the deer on old Charley's back and rode home. Everyone was excited and thought we were very good hunters. That night we had deer meat for supper.

The Discontented Horse

By Mamie Lang, Aged 14, Krupp, Wash. Original. Blue.

"I am tired of working; it's just haul wheat and haul wheat."

It was a large, beautiful, black

horse that spoke. A white horse was tied near by. He was old and lame; he had a buggy to pull around all day; sometimes it was very heavy and sometimes not.

"Do not be discouraged, my friend," said the lame horse, "I have worked this way all my life and I am now old and lame, but still my master works me. I know I cannot live forever, so I try to lead a happy life as long as I do live. My friend, you are young and strong; you work hard only in the fall. Why not be contented and happy? That is my motto."

Honesty

By George Marble, Aged 12, Blencoe, Ia. Original. Blue.

There once lived two boys whose names were Herman and Frank. Frank was a very good boy and always went to church and Sunday school. Herman was not a very good boy; he liked to play with boys that were not good. One day Herman and Frank went into the woods hunting; they found $5. Frank knew it would not be right to keep it, but Herman did not; he wanted to keep it. In a short time a large man came along and saw the boys talking. He was a very rich man. He had been walking in the woods that morning and lost the money. He asked the boys if they had found the money.

"Yes, sir," replied Frank. When Frank said this Herman felt very angry and left Frank. Frank felt very badly to think his friend was angry; he gave the money back to the man.

"You may have the money, Frank," replied the man, "for being so honest, and always remember that 'Honesty is the best policy.'"

Frank always remembered it and when he was tempted to do wrong he remembered, "Honesty is the best policy."

A Bad Plight

By Paul Vail, Aged 12, Arlington, Neb. Original. Blue.

I see by rule 200 words is the limit, so I will keep within the limit. A certain aviator left a small country town in his aeroplane to go home. When he went directly over the center of a lake the engine stopped. The rest of the 200 words was what the aviator said when wrestling with the waves in the center of the lake.

Additional Stories

Red Side—Corey Fichter, Randolph, Ia.; Jesse Bishop, Percival, Ia.; Francis Luse, Mapleton, Ia.; Frank King, Sturgess, Mo.; Bessie Strasser, Iowa City, Ia

Blue Side—Irene Hastings, Blair, Neb.; Cora Bishop, Percival, Ia.; Donald J. Hastings, Blair, Neb.; Gail Roberts, Sheridan, Wyo.; Donald Hastings, Blair, Neb.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

Home-Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, The Twentieth Century Farmer.

FIRST PRIZE—Jessie Hamerly, Cle Elum, Wash.—If the Waves dance will the Arctic Circle?

If the Atlantic coast is crooked, is Bering Strait?

Will Puget Sound the bugle,

Totem-pole the boat,

Siwash the linen,

And Luny line the coat?

Will the apple-sass, if the oyster stew?

If the cow-slip, will the cro-cus?

SECOND PRIZE—Fred L. Lawson, Aztec, N. M., P. O. Box 3—If mice could be caught with hooks, would the catfish?

If you should speak of bugs on a dark night, would the fire-fly?

If a little girl wished to get a letter, would the trypewriter?

If the cook was a beautiful young lady, would the potato masher?

If the bark of a blood-hound can be heard five miles on a clear, cold, quiet night, how far can you hear Hudson Bay?

If you should find the maple-syrup in the pantry, where would the honey-bee?

Clarence Jackson, North Bend, Wash.—If the wringer stayed at a restaurant, where would the wash board?

If the corn is mouldy, what will the mil-dew?

Helen Snyder, Ewing, Neb.—If Niagara Falls, where will Mary-land?

Did you ever see a horse fly or a cow hide?

Ruth Neer, Griswold, Ia.—If the potato passed the contribution box, would the onion give a scent?

Georgia Dilley, Goshen, Ore.—Why is the water soft when it rains hard?

Nellie A. Pittman, Minatare, Neb.—If the tablet were about to fall, would the pen holder?

Julia Soost, Route 2, Randolph, Neb.—If a gosling died, would the gooseberry it?

Bertha Eisenmenger, Humphrey, Neb.—If a soldier fell wounded, would a cannonade?

Fred B. Arensmeier, Keytesville, Mo.—If a cow should die, would the silo?

If there were a shooting star, would the thunder bolt?

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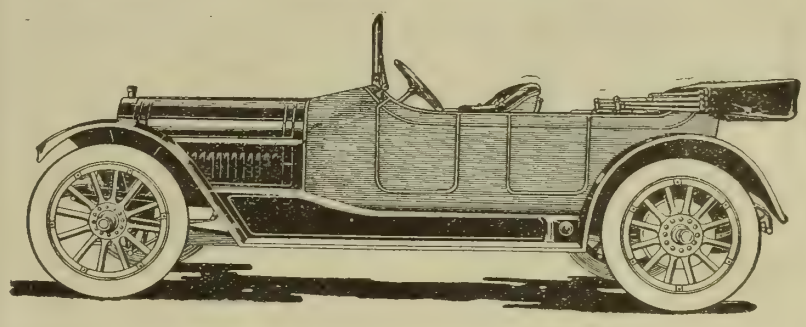

The 1913 Mitchell Automobile

is built according to those same standards. We offer it to you as the best car you can possibly buy at anywhere near its price. You live where ever-ready automobile service means everything to you. The Mitchell has been designed and built with the one idea of giving better service than any other moderate priced car.

Ask the nearest dealer to show you the 1913 Mitchell. Go into its points; the scientific manner in which weight and wearing parts have been dstributed. The more you know of its design and construction, the more you will understand its superiority. Pay special attention to the long-stroke T-head motor, there has never been a motor better proportioned for power and efficiency. Be sure and note carefully the lift drive and center control, the electric starter and electric lighting system. These new Mitchell features will be of the greatest possible convenience to you. You won't find such a combination of improvements in any other car you may be considering.

All Mitchell 1913 cars have left drive and center control; Bosch ignition; Rayfield carburetor; Firestone demountable rims; rain vision windshield; Jones speedometer; silk mohair top with dust cover; Turkish upholstered cushions; Timken front axle bearings; gauges on the dash to show air pressure and oil pressures; guage in gasoline tank showing amount of gasoline it contains; and a portable electric lamp which also illuminates the instruments on the dash.

All with T-head motor, electric self-starter, electric lighting system, and 36-inch wheels.

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2 or 5 passenger Six	50 H. P.	4 x6 in.	132 in.	1,850
2 or 5 passenger Four	40 H. P.	4¼x7 in.	120 in.	1,500

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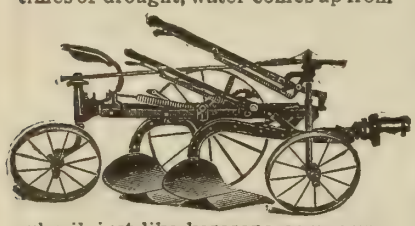

subsoil, just like kerosene comes up a lamp wick. It refreshes the roots of your plants—keeps the crop green, strong and healthy, even though the ground is parched and bone-dry on top. You see the

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has a *peculiar* bottom—*corkscrew-like* in shape. On this plow, the dirt travels *backward* and *downward, not backward and upward*, as on other plows. This makes an absolutely clean furrow, and a thoroughly pulverized soil. Saves one harrowing. And all trash covered. And each slice turned *clear over flat*. No crimping. No air spaces between topsoil and subsoil.

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Note, too, it is UNIVERSAL. Not a plow for just one or two kinds of land. Not a plow for certain soils. *It will do perfect* work *in ANY plowable field on your farm.* And at any depth down to 8 inches. *Gumbo, heavy clay, sandy loam, mixed soils, stubble fields, meadows, old cornfields, tame sod*, they all "look alike" to the Rock Island Universal. Saves buying an extra bottom or another plow.

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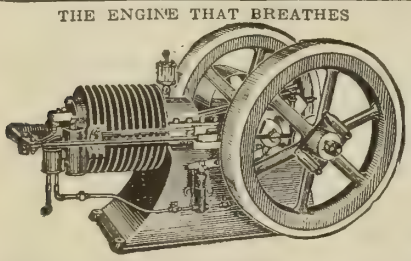

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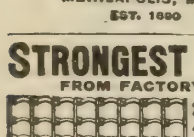

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80-rod spool Barb Wire, $1.55

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Corn Men, Attention

A. A. W., Julesburg, Colo.: Here I come with one of my fool questions. Will you have some wise guy who has been to college—is a scientific filler and knows lots of things—tell me if I will raise any corn if I plant a patch away off by itself, so that it won't be fertilized by any other field, and when the tassel is in the boot, before a single one has appeared, if I cut all off and do not have one solitary tassel appear on the whole patch, will I raise any corn? Now, everybody who reads this answer the question. Then next year go and put in a small patch away off where it won't get fertilized and try for yourselves and see if you don't get bigger and better ears than from any other patch. But don't plant any of it. Why should I have lived and had experience and not give the world the knowledge gained? In your August 24 issue, page 21, is your item, "Quack Grass and Weeds." I once had a patch of quack grass, good, strong and the pure stuff; after some years of neglect on my part of the pure stuff not a weed could grow. I want to build a fence through it. In order to do the work easier I set fire to the grass and burnt it off. Never again did a single blade of it appear. It was burnt after a long, dry spell. Along in August the land was thoroughly dry, and I think that if persons will burn the grass under similar conditions they can kill it completely. Plowing in dry weather two or three inches deep, then when thoroughly dry and dead, plow deeper, and turn up another lot of roots and maybe plow the third time, will give it a hard rub—maybe end it.

That is a funny question to ask about corn. Let someone that answers to the description set forth relieve the situation. Is there such a thing as breeding corn by the Christian Science method? If so, is not the old-fashioned way to be preferred?

Sweet Clover as a Fertilizer

R. L., Beatrice, Neb.: In your issue of December 1 I read an article on raising sweet clover. What do you think of sweet colver as a fertilizer? Is it as good as common red clover? How would it do to sow it in the spring in winter wheat? When do you think is the proper time to plow it under, the following summer, or to wait until it commences to seed, or before?

Answer—Sweet clover is a better fertilizer than common red clover, and fully as good a fertilizer as alfalfa. It would do very well when sown in the spring in winter wheat. It would be best to plow it under before it begins to go to seed the second year. We do not recommend the use of sweet clover where other legumes may be made to flourish. It is recommended only where other legumes will not be profitable. Sweet clover will grow almost anywhere; it is valuable for use where other legumes will not grow.

Another Potato Stock Food Inquiry

E. G. R., Blackfoot, Idaho: I am interested in your article regarding the potato as stock food. Where could I get information regarding what machinery is needed and what it would cost to start a plant of that kind? It certainly would be a great thing for this country, as we always have lots of potatoes that cannot be marketed and that could be worked up in this way for stock food. I will appreciate any information on the subject.

Answer—Prof. Nicholson is so overwhelmed with inquiries regarding the potato as stock food that he has furnished us a copy of a letter to an inquirer. This copy has already been published in a previous issue, to which the inquirer is referred. As soon as further information is at hand we will be glad to give it to inquirers.

Feeding Cows for Milk

J. R. N., Awatonna, Minn.: I have been feeding my cows shredded cornstalks and have the last two winters; they did well on it. This winter I feed shredded cornstalks, corn fodder and corn silage. They cough a good deal in the morning and more or less during the day. I feed about twenty pounds to a meal of silage twice a day. I have no roof on my silo. Please tell me what to do.

Answer—Your cows should receive more in the way of protein feed to balance their ration. Shredded cornstalks, corn fodder and corn silage are all carbohydrate foods; they need alfalfa or clover or bran in order to furnish the requisite protein element. The cow cannot give milk unless she is furnished something to make milk out of. An exclusive carbohydrate ration furnishes what is needed for heat and mechanical energy and butter-fat, but it cannot furnish the other elements of the milk. Of course, there is some protein in your feed, but not enough to put your cows at their best. The coughing is probably due to dust in the feed. This trouble may be obviated by wetting the feed thoroughly; that is, the feed that is fed dry.

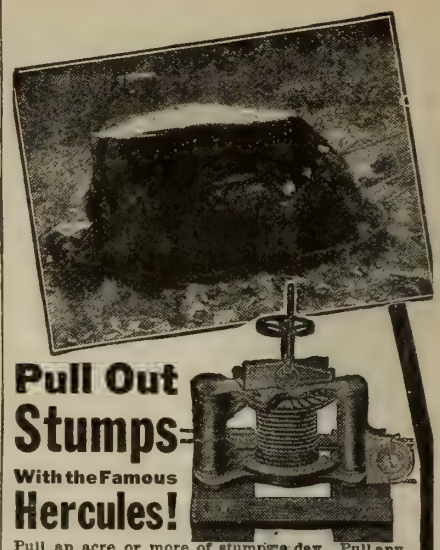
Rotation to Follow Wheat

R. D. K., Hooper, Utah: We have about fourteen acres of land that has been planted in wheat for two years. It is now too poor for wheat again. Would tomatoes do well on this land?

Answer—After land has been in wheat for two years it is best to follow the wheat with some other crop and establish a regular rotation. Tomatoes should do well under such circumstances, if properly cared for and proper varieties are used.

A Hog Inquiry

R. E. E., Tekamah, Neb.: I believe sulphuric acid, four or five drops to a sixteen-quart pail of water or slop, fed to hogs, and about one-half teacupful to the same amount of water sprayed over beds will prevent any cholera or worms and keep hogs in the best condition of anything out yet. I have used this and think it has worked miracles. Do not let a hog have any water without it. I should like to have some raisers of hogs try this for six months and write me the results. It will do no harm and will not cost



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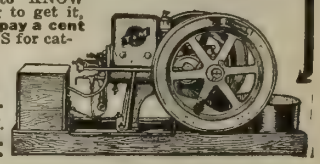

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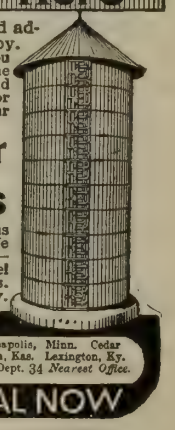

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much. To keep them free from lice I spray their beds with coal oil.

Answer—The sulphuric acid mentioned in this letter has the same effect on hogs as sulphate of iron mentioned in an earlier issue of this paper. Sulphate of iron is merely iron treated with sulphuric acid. It will not prevent or cure cholera, but will destroy worms.

Top Dressing for Alfalfa

E. A. H., Fairmont, Neb.: I have a piece of alfalfa that has been sown several years and one piece sown last fall. Would you advise putting a light coat of manure on each?

Answer—There is no place where one may use manure and receive such immediate and profitable results as from a top dressing for alfalfa. Would advise anyone, if he has sufficient manure, to top dress alfalfa every year.

Where to Get Hog Cholera Serum

H. E. C., Pender, Neb.: Can you inform a subscriber where the hog cholera serum can be obtained that was mentioned in a recent issue of your paper.

Answer—The state serum manufacturing plant is located on the state farm at Lincoln. It is in charge of Dr. J. H. Gain, animal pathologist of the experiment station. The serum may be had by addressing him.

European Crop Figures

The International Institute of Agriculture at Rome has reported to the Department of Agriculture on the year's crop figures. According to the institute the production in Germany was: Wheat, 160,227,000 bushels; rye, 456,608,000 bushels; oats, 965,999,000 bushels, and barley, 159,927,000 bushels.

Austria produced in wheat 69,640,000 bushels; rye, 117,114,000 bushels; oats, 167,423,000 bushels, and barley, 78,384,000 bushels.

In ten European countries and Canada the production of sugar beets was 126 per cent of last year's production, but although the production of cotton is estimated by the institute to be more than 9,000,000,000 pounds in the United States, India, Japan and Egypt, this amount is nearly 4 per cent less than last year's crop.

Indians Win Agricultural Prizes

Officials of the Indian bureau are much pleased because at the state fair at Muskogee, Okl., a number of fullblood Indians won prizes over their white competitors for exhibits of corn, cotton, beans and some other products.

Joe Kelly, a fullblood Mississippi Choctaw, living near Ardmore, took first and fourth prizes for his corn and a second prize for cotton; and Silas Bacon of the same tribe carried off both first and second prizes for his fine field beans. There were other scattered prizes.

"These good results we can attribute largely to the work the expert farmers have been doing," said Acting Commissioner Abbott. "We are hoping to extend the work of these experts, who are teaching the Indian how to make the best use of his land."

Making Beef Economically

The business of the steer-raising farmer is to turn feed into beef at the lowest cost and in the shortest time. But the fattening steer wastes a good portion of his ration, which is the reason why you let your hogs follow the steers to get the whole grain which they pass off as waste.

The cause of this waste is poor digestion—the inability of the animal to extract from its ration, in proportion to the large amount consumed, those nutrients which make for beef, blood and muscle. Tonics are needed to strengthen and invigorate the digestive organs of the steer—to sharpen its appetite and keep the system generally toned up.

DR. HESS STOCK TONIC

Prepared by Dr. Hess (M. D., D. V. S.) is a scientific preparation which will produce these results. Its actions are manifold. By acting directly on the digestive organs it helps the steer turn more food into flesh. It helps the animal to vigorous maturity and wards off disease germs. The U. S. Dispensatory remarks on the ingredients of Dr. Hess Stock Tonic, printed to the right, speak volumes for this guaranteed flesh and milk producer. Now read

Our proposition: Procure of your dealer Dr. Hess Stock Tonic. Use it all winter and spring. 25-lb. pails at $1.60 or 100-lb. sacks $5.00. Except in Canada and extreme West and South. If it does not pay you and pay you well, get your money back. Every pound sold on this guarantee. If your dealer can't supply you, we will.

FREE. Dr. Hess (M. D., D. V. S.) will at any time prescribe for your ailing animals free of charge if you will send him full details. Mention this paper and send 2c stamp. 96-page Veterinary Book also free.

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Sulphate of Soda. Laxative and Liver Tonic.
Common Salt. Appetizer, Cleanser.
Epsom Salts. Laxative.
Nitrate of Potash. Stimulates kidneys.
Charcoal. Prevents Noxious Gases.
Fenugreek. Tonic and Aromatic.
The above is carefully compounded by Dr. Hess (M.D., D.V.S.), with just enough cereal meal to make a perfect mixture.

DR. HESS POULTRY PAN-A-CE-A makes busy hens in January. It tones up the dormant egg organs, brings back the scratch and cackle, takes the hens out of the loafer and puts them into the layer class, and you will plainly see the results of feeding Pan-a-ce-a in the egg basket. The cost is hardly worth considering—a penny's worth feeds thirty fowls. Sold on the same money-back guarantee as Dr. Hess Stock Tonic. 1½ lbs. 25c (mail or express 40c); 5 lbs. 60c; 12 lbs. $1.25; 25-lb. pail $2.50 (except in Canada and extreme West). If your dealer cannot supply you, we will.
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IN THE FIELD MAKING MONEY—

or in the Barn Wasting It

Whether your horses work or not, their feed costs you big money. When a horse is laid up you not only lose the cost of *feed*, but also the profit that the horse would have paid if *able* to work in the field

Since there is no way to *prevent* spavin, curb, splint, ringbone, sprains and lameness, your thought should be given to the quickest, surest and most economical *cure*. And for over 35 years, thousands of horsemen have depended on Kendall's Spavin Cure. It's the old, reliable, *safe* remedy that has saved thousands of dollars' worth of *horse flesh*, to say nothing of the *worry*, *time* and *trouble* it has saved horse owners. *You* should get and keep a bottle of—

Kendall's Spavin Cure

for emergencies. You never can tell when you'll need it, and when the time does come, you'll be mighty glad you had the foresight to prepare. Here are samples of the thousands of letters we receive from grateful horse owners every year. Mr. J. J. Sandlin, New Hope, Ala., writes: "I am a great believer in Kendall's Spavin Cure. A few applications have just taken an unnatural growth off my horse's back, thereby increasing his value $25.00 at least." Mr. J. B. McCullors, Haleysville, Ala., writes:—"Last July I bought a mule for $65.00. He had a bad Spavin and was unable to work but after using three bottles of your Spavin Cure, I cured it and he was sold in March for $180.00. I advise all horse owners to use Kendall's Spavin Cure." And Mr. Wm. Booth, of Grovette, Ark., writes:—"I have cured both Blood and Bone Spavins, taking the bunch all off and leaving the horse as sound as he ever was. The horse does not need entire rest while using Kendall's Spavin Cure. Light work and careful handling are better than standing in the barn. If the horse was in the pasture not many people would take proper care of him. I use the Spavin Cure a week at least, sometimes three, according to the severity of the trouble. There is enough in one bottle to cure three large Spavins if used according to directions. It is excellent for bruises, both for man and beast. Your Spavin Cure will cure Thoropin in a hurry. With over twenty years' experience with this remedy I know what I say to be true. If one doubts my my word he may bring me a horse with a Blood Spavin on one leg, Bone Spavin on the other and Thoropin on both and I can make him a sound horse in six months. What I have done I can do again and what I have done others can do."

Why experiment with other remedies—when you know what Kendall's has done and can do. You can get Kendall's Spavin Cure at any druggist's, $1.00 per bottle, 6 for $5.00. Ask for free book. "Treatise on the Horse," or write direct to

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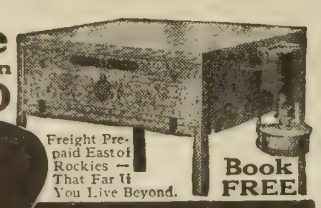

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Answers to Some of the Common Poultry Questions

A Reader: I have the pure-bred white Leghorns, Rhode Island Reds and Barred Rocks. Up to this—middle of December—am not getting an egg. What is the reason?

Answer—It would be impossible for anyone to give you a reason. Not one hint in explanation. Perhaps they are all too old to begin laying early in winter, perhaps too young; perhaps they are not through molting. Hens may lay at the beginning of the three-month molt, but it is a rare kind of a hen that would lay at the last half of it. The White Leghorns, if fed right—that is, the pullets—should be laying by the middle of December. The Barred Rocks, unless especially fed and bred to winter laying, usually put off this work until March. The Rhode Island Red pullets should be laying by the first of January, and a few should have made a beginning before this time. You must expect a rest for the hens in some part of the year.

Hatching Question

A. L., Illinois: Is there really any test by which one may know infertile eggs before setting? Does it hurt hens to give them red pepper? I see an advertisement that tells you how to know the fertile eggs for so much money.

Answer—There is nothing in it beyond your own common sense and experience. There is no way devised yet that you may know a fertile egg while it is yet fresh enough to put in for incubation. Some persons can tell by the aid of a microscope after an egg is broken, but what good is that beyond this: If you know the hen laying this fertile egg you may feel that it is safe to set other of her eggs laid near the time this egg was laid. Don't waste good money on such ads. We can, with practice of the eye and candling, make a tolerably good guess that certain eggs are likely to be fertile. The candling shows us the good shelled egg. No use to set an egg that has thin places in the shell; neither does a certain specific gravity—talked of by some people—have anything to do with an egg's fertility. Don't give too much red pepper. A pinch per hen now and then in the mash will do.

Food Mixtures

Nebraskan: Will you give me a good scratching and mash mixture? I live in town and must buy my feed, so might as well buy it in right proportions. I had some chickens with roup or cold, scarcely know which. I cured them finally by syringing 50 per cent peroxide of hydrogen in their nostrils and throat. Could I have cured them sooner and easier some other way?

Answer—A good scratching mixture is: 100 pounds corn, whole or cracked; 100 pounds wheat; oats, sixty pounds; twenty pounds barley, from twenty to thirty pounds Kaffir corn or buckwheat. And you could add to this fifteen or twenty pounds coarse beef or fish scrap.

Mash mixture could be in this proportion: 100 pounds cornmeal, 100 pounds bran, 100 pounds ground oats, 80 pounds glutenmeal or coarse middling, 25 pounds meat scrap of some kind, preferably beef scrap. And if your hens will not flourish on this and lay eggs, then the hens are surely a poorly selected flock.

The fowls were quite likely sick with influenza, and there was nothing better than the peroxide except, with it, some quinine to give them strength.

Ptomaine Poison

Interested Nebraskan: What is ptomaine poison in chickens, and how does it affect them? I have some chickens dying in an odd way; they throw their heads in a peculiar way, stagger to one side, or stop short and fall back as though trying to sit down like a person sits. I have been pushing them to laying. Have fed lots of beef scrap. Could they be getting too much of this? Would boiling it over help it if it contains any poison? It does not smell good, especially when heated.

Answer—You have described the symptoms of this poison, and no doubt but you are feeding spoiled beef scraps. These scraps are often made of spoiled meat to begin with. You must demand a reliable brand of your dealer. Cooking over will do no good. The poison comes from dead matter, not living germs, and this dead matter is not made any deader by putting through extreme heat; it must take on something akin to the property of poisonous substances like arsenic, strychnine, etc. No doubt but that all of us who keep chickens at least kill off two every year, if not more, by carelessly throwing out table scraps that have taken on this poison by being kept lying around in the heat until whatever bits of flesh was left in them has become tainted.

Belgian Hares

I. A. G.: Is there anything in keeping Belgian hares? Can you give me some pointers on their life history and how they are kept?

Answer—A few years ago you heard so much about the keeping of Belgian hares. You do not hear so much of late, although yet they are bred to success. There is not a great lot to learn about their care, but what there is to learn must be learned correctly, and it would be well to buy some small treatise on the main facts of this industry whether you merely want to raise a few for your own table or in numbers for market. In buying breeding stock don't get too young. Either sex should not be under 8 months of age for the first breeding. It is best to not allow the doe to bring off more than four, and at the most five, litters a year. There may be some trouble in getting a first litter, after which the trouble is over. The does and their mates must be kept in separate cages. Thirty days is the time for gestation. The rabbits then should be about 60 days old when weaned and another litter looked for. IDA M. SHEPLER.

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Requires Only One Filling of Lamp

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Built Different From Other Machines

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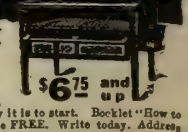

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is just the kind he says to use. Best materials, well built, low priced and guaranteed for 5 years. Send for our big free catalog. **FREIGHT PAID**

SURE HATCH INCUBATOR CO., Box 15, Fremont, Neb. 60 Days Free Trial

Keeping Flock in Corn-Belt States
Why More Sheep Are Not Kept

IT IS regarded a question of consideration by some farmers whether or not the sheep, especially the breeding flock, will succeed in the corn belt country. There is no question but sheep can be grown successfully all over the corn belt states. Of course, all kinds of lands and soils are not agreeably suited to the successful growing of sheep. Sheep are naturally a dry-soiled animal and will thrive and do better where the lands are high and rolling, not because, as some have argued, that sheep are adapted particularly to hilly lands or that hilly lands are particularly adapted to sheep. The sheep, however, without question is by nature and inclination a dry land animal.

The grasses that grow on the dry lands, and this includes especially the high hill lands, is a shorter and better quality of grass for the close grazing inclinations of the sheep. The sheep can utilize these grasses to much better advantage than the cow beast. The cow inclines more to the longer grasses of the valleys and lower lands, while the sheep will seldom be seen grazing on the low-lands when it can have access to higher and drier lands. It is always content on the hills, even where the grass is quite short.

The sheep is averse to wet and mud; it will keep away from the soft, marshy places in the pasture, and when confined to soft lands is very liable to contract "foot scald," sometimes called "fouls," or sore feet, which not infrequently develops the contagious form of "foot rot," a very difficult disease to get rid of, and dry, hard soil becomes necessary almost in its eradication.

The heavy, black soils that are easily softened up and turned to mud are not by any means the ideal lands upon which to keep sheep as a permanent farm industry, though they may be very profitably employed in the winter feeding of sheep, since the feed yard may be kept well bedded and comparatively dry. The making of good blue grass sod pastures for the sheep is important where sheep are kept. Blue grass and white clover pastures seem to follow the introduction of sheep on the farm. While the sheep can be kept on the richer, heavier soils of the corn belt country, the best results are had on the hillier, rougher, better drained lands. These can be utilized by the sheep to better advantage than by cattle or horses, as the sheep is a persistent traveler over the pasture where confined, and their active, restless disposition encourages them to keep moving and grazing as they go.

There will be easy money made in keeping a few sheep on the farm, in the corn belt or out of it, for several years to come, owing to the scarcity of meat-producing animals for the markets. It is an easy matter to raise a few lambs for the mutton trade, and prices are always high for this class of early lambs, dropped in March or February and crowded as strongly as feed and care will force them until 3 or 4 months old.

The corn belt country, with its abundance of feed, grain, hay, root and forage crops, cannot be excelled in this line of sheep husbandry. A good, heavy shearing bunch of ewes that will produce 100 per cent of lambs and raise them for the market will justify the care and attention bestowed in carrying them for this purpose alone. The fleece of the ewe should approximate its ordinary expense, outside the period she devotes to suckling and raising the lamb from birth to period of marketing. The early lamb industry or mutton lamb industry demands close, warm stables and some extra feed and care. The lamb must be kept growing every day from the time it comes into the world until it is sold for the slaughter.

Why More Sheep Are Not Kept

The main reason why there are not more sheep kept on the farms of Nebraska, Kansas, Missouri and Iowa is because the farms are not suitably fenced to inclose sheep. It will not pay to keep sheep unless they are fenced in securely. The sheep is a most persistent trespasser on grain fields, meadows and forbidden crops when not properly restrained by fence. The herding of the little farm flock of sheep off of crops is one of the impossible things, besides, the flock will do no good when herded or constantly annoyed by the boy or dog.

When the woven wire fence is built around a few pasture fields on the farm, then is the time to commence talking sheep on the farm, but not until the fence matter has been decided upon. The sheep is not a hard animal to fence in. The woven wire at the bottom two or three feet wide will make a very good basis for the sheep fence; then above this there should be at least three barb wires. A barb wire at the bottom, on the ground, is a good plan and prevents dogs or wolves digging under the fence. Such a fence will insure the flock reasonably safe in the pasture at night. Sheep, like cattle, never do well when corralled at night; they need this time to graze, and the clean, open pasture to rest on at will.

The hog pasture and the sheep pasture should be separate fields. The hog pasture should be alfalfa, but the sheep are not safe on alfalfa pasture because of their susceptibility to bloat on clover or alfalfa. Besides, the hog is one of the enemies of the sheep, not so common and dangerous as the dog or wolf, but often become very destructive when they get started to killing young lambs. They are not reliable associates for the same pasture or barnyard.

Do not be deterred from keeping sheep by these little irregularities, but fence off the sheep pasture and start the farm flock. It will pay if properly managed. Begin with a small flock and increase as the demands seem to suggest.

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A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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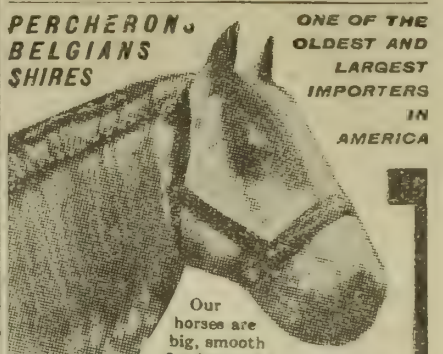

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250 matured cows, very heavy producers, springing up ready to freshen soon, most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

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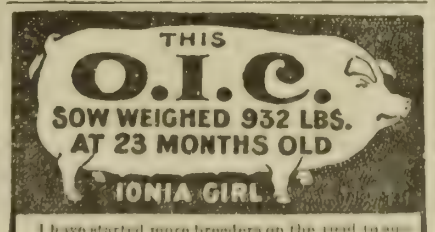
O. I. C. HOGS



I have started more breeders on the road to success than any man I ever knew. I have the largest and best herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan "How to Make Money from Hogs." C. S. BENJAMIN, R.F.D.79 Portland, Mich.

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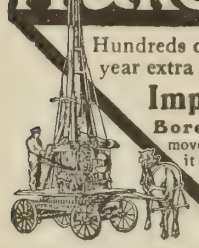

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The Twentieth Century Farmer

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Would you like a steady job selling my goods, starting right away, earning $30 a week, with a chance to be promoted to a position paying $3,000 yearly. No experience is required. My agents have steady employment the year round. I am ready to give you a position right now where you can make **big money quick.** Just write me a letter or postal today sure and say: "*Mail particulars about the position you offer*" and mark the address

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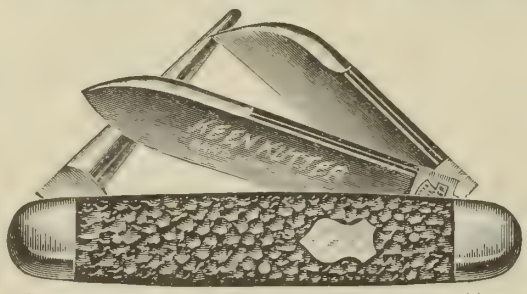

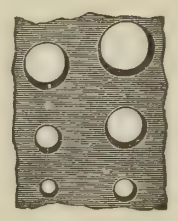

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THE TWENTIETH CENTURY FARMER, Omaha, Neb.

Review of Live Stock Market

By A. C. Davenport

HOLIDAY week in the live stock trade is always the most uninteresting period of the year. Total volume of business is invariably small and the trade in all kinds of live stock is usually without interest and entirely devoid of new features. It is the season of the year when the consumption of beef, pork and mutton is at the lowest point and poultry at the highest. The country learned long ago from experience that shipping stock to market during the holiday season is a most hazardous undertaking for the reason that the usual buying demand is not there. Thus it has come to pass that the big live stock markets of the country begin to feel the holiday influence several days in advance of the arrival of Christmas and continue to feel it until after New Year's day.

Business in live stock circles during the last week furnished no exception to the general rule of dullness prevailing every year during the holiday period. Receipts were everywhere light and the markets more or less of an indifferent character. Wherever cattle receipts were especially light prices showed improvement over the low range of values prevailing the week before Christmas, but wherever such advances took place they were due entirely to extremely light runs and not to any improvement in the demand.

In reality the cattle market is still suffering from the overwhelming receipts the week before Christmas, and it is more than likely that it will continue to feel the effects for some little time to come. The enormous receipts gave buyers an exaggerated idea of the number of cattle in the country, and one hears on every side such remarks as "Cattle are in the country and they must come." Buyers almost without exception are in consequence of this feeling looking for and talking lower prices on beef steers, and they may be expected to pound the market every time receipts show any appreciable increase.

Country Has Remedy It Can Use

So long as this continues to be the feeling among the buying crowd, so long bear markets may be anticipated. The country, however, has in its hand the remedy for this feeling if it cares to make use of it. There is no question but what moderate shipments of cattle for the next few weeks to come would have a most powerful influence in changing the sentiment at present prevailing among buyers, but it remains to be seen whether the country is sufficiently bullish to follow such a policy.

At the big markets the selling contingent is still made up largely of bulls. Sellers still claim that all their advices go to show a very moderate supply of cattle on feed. This is especially true of the transmissouri country, and if there is any surplus of cattle it must be farther east, but there are no advices to show that such is the case.

Sellers explain the big glut of cattle just previous to Christmas as due to a foolish haste on the part of the country to realize profits from shortfed cattle, which were at that time selling at extravagantly high prices. Sellers further figure that shippers will not soon forget the lesson that cost them so dearly and that it will be a long time before the markets are again flooded with shortfed cattle. Of course, it all depends upon how the country feels, but with feed cheap and plentiful it would seem as if there was every reason why feeders should take their time about disposing of their cattle instead of engaging in a race to see who could first land their stock on the market.

Consolation for Bulls

The bulls are drawing consolation from the recent break, arguing that the thousands of unfinished bullocks that came to market during the second and third weeks in December and that smashed prices as they have not been smashed in years means just that many thousand fewer cattle to come after the first of the year. In other words, that December's overmarketing will mean reduced marketing in January or February, which, if true, will be a big help toward placing values on a higher level.

Hogs throughout the last week have been as uninteresting as fat cattle. Receipts for this season of the year have been fair and prices, while fluctuating somewhat, have shown no very marked change in either direction. The bulls in the hog trade still insist that the market is occupying a strong position, but as a rule neither bears nor bulls are predicting any very marked change in values for the very near future. It is generally conceded that present prices are very satisfactory; in fact, high for this season of the year, and especially high when the cost of production is taken into consideration.

Sheep and lambs varied the usual monotony of the holiday week by indulging in a sharp advance, due to very moderate supplies at leading market points. The advance, in fact, has been large enough to carry prices up to the highest point reached since May or June. It goes without saying that the market has been very satisfactory to the selling interests, but it is a question if prices have not been going up most too rapidly to be permanent. Still, the bulls have been predicting very good prices for January, and it is possible to find plenty of operators on the market who believe that the top has not been touched at present writing.

National Wool Growers' Meeting

President F. R. Gooding of the National Wool Growers' association has issued a call for the forty-ninth annual convention of this association, to be held at Cheyenne, Wyo., January 9, 10 and 11, 1913. This is the first time that the national wool growers have ever held a meeting in Cheyenne, and for that reason the residents of that metropolitan city are making elaborate preparations for the entertainment of the delegates and guests at that time. Cheyenne has ample accommodations for all who desire to attend and expects to take care of a larger crowd than has ever gathered together in the interests of the sheepmen.

The date of the convention immediately precedes the convening of the Wyoming legislature at Cheyenne and immediately follows the meeting of the Wyoming Wool Growers' association, which is on Wednesday, January 8, 1913, and for these reasons, also, more sheepmen will be in attendance than at any previous meeting.

Owing to the change in the political situation and of the ascendency of the democratic party, the sheepmen are deeply interested in the tariff action of the next congress, and it is expected that a hot fight will be started at Cheyenne for the establishment of a settled and constructive policy.

Cheyenne is easily accessible from all points of the United States, being on the main line of the Union Pacific railroad and on the recently constructed Galveston-to-Seattle Burlington line. Cheyenne is the capital of Wyoming and is only about 100 miles north of Denver.

It Happened in Boston

"Seems funny what a fuss they make over these foot ball heroes," said the fat man with the whiskers.

"Oh, I don't know," replied the other man. "It is a form of fame that must cling to a man for many years."

"Do you think so?" said the fat man. "Well, my name is Grabstock. Does that suggest anything to you?"

"N-no."

"And yet," said the fat man, "I'm the phenomenon who ran the whole length of the field for a touchdown in 1903—the most brilliant foot ball feat of all times. What?"—Cleveland Plain Dealer.

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PARTRIDGE COCHINS FOR SALE—pure bred. Mrs. C. E. Wonderly, Benedict, Neb.

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ROSE-COMB BROWN LEGHORN cockerels, $1. Otto Frahm, Fort Calhoun, Neb.

ROSE COMB WHITE LEGHORN cockerels, $1.00 each. Kaveney Bros., Linwood, Neb.

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BLACK LANGSHAN COCKERELS cheap. Jake Hetrick, Wahoo, Neb.

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FOR SALE—THOROUGHBRED Black Minorca cockerels; price, $1.50. The V. J. Mills, Humphrey, Neb.

Orpingtons

FOR SALE—SINGLE COMB, BUFF Orpingtons, Toulouse geese, Indian Runner ducks. Peter Brehm, Harvard, Neb.

SINGLE COMB BUFF ORPINGTONS, reasonable. Mrs. Cook, Eddyville, Neb.

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100 WHITE WYANDOTTES - THEY are beauties. Write me about them. W. Harr, Riverside, Iowa.

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WANTED TO BUY—A LARGE NUMber of Indian Runner ducks, both fawn and white; also large Toulouse geese. Matthew Mertz, 907 W. 15th St., Des Moines, Ia.

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FOR SALE—HIGH-CLASS HUNTING, sporting, watch and pet dogs; puppies of all varieties a specialty. On receipt of 10 cents we mail highly descriptive illustrated catalogue, which gives full information of 49 breeds of dogs; several breeds of cattle, sheep, swine, rabbits, ferrets; price list of poultry and pigeons. Chas. Landis, Dept. 161, Reading, Pa.

HELP WANTED—MALE

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

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YOUNG MAN, WOULD YOU ACCEPT and wear a fine tailor-made suit just for showing it to your friends? Or a Slip on Raincoat Free? Could you use $5 a day for a little spare time? Perhaps we can offer you a steady job? Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Company, Dept. 82, Chicago.

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430 A. DARK LOAM LAND, 120 CULtivated, balance timbered; level, no rocks, 1 mile Ry.; $12 A. Terms. Robt. Sessions, Winthrop, Ark.

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OFFER MY 160-ACRE IRRIGATED ranch in San Luis valley, near Monta Vista, Colo. Best water right warranted; hog-tight fenced; all under cultivation; best potato, grain, pea, sugar beet, stock-feeding land; near sugar factory and railroad; only $100 per acre if sold quickly. Write for full description. Owner, Chas. S. Onderdonk, 811 Ideal Bldg., Denver, Colo.

California

THE TEMPERATURE IN THE Sacramento valley is now 55 degrees above zero; plowing has commenced, alfalfa is green and trees are in blossom. Buy a farm now; you will never regret it. Our land is splendidly located, with or without irrigation. You can raise the same crops that you do here; you can have fruit if you wish, all kinds; corn yields 60 bushels, wheat 40 bushels, alfalfa 7 tons; one acre supports one cow, six hogs. Next excursion January 7th and 21st. Better go; low fares. All particulars on application. W. T. Smith Company, 815-16 City Natoinal Bank Bldg., Omaha, Neb.

GET YOUR CALIFORNIA FARM now—The famous Spanish land grants in California contained some of the richest and most productive soils in all the world. Some of the choicest of these great ranches are now being cut up into small farms and put under irrigation. The profits obtained from these small farms under intense cultivation is often almost beyond belief. At the present low price of these lands two crops will often pay for it. Terms so easy can be arranged that almost anyone can buy. The most marvelous development ever recorded is just taking place in these valleys of California and land values are rapidly advancing. For complete and reliable information regarding irrigated fruit and alfalfa lands in California address Gerrit Fort, P. T. M., Union Pacific Railroad Co., 1520 Dodge St., Omaha, Neb.

Canada

320 ACRES 9 MILES FROM DONALDA, Alberta; 60 acres broken; black loam, clay subsoil; good well; fenced and cross-fenced; 100 yards church and school, mile to postoffice; 2-story frame house, six rooms; stable for 20; granary, hen house, sheds, etc.; half-mile Buffalo Lake. Open homestead here; six open sections alongside for range; splendid ranching proposition; $17 per acre; $2,000 cash, balance very easy. About this and other bargains write George Grant, Herald Blk., Calgary, Alberta.

Florida

HOW ABOUT YOUR BOYS? YOU got your farm when lands were comparatively cheap. Where are your boys and your boys' boys going to get theirs? We believe our Rice Creek tract in Putnam county, Florida, is the best farm land investment in America today. Three crops, such as oats, rice or Irish potatoes, as a winter crop, corn as a summer crop and hay as a fall crop, can be grown on the same land the same year, and by this rotation the land is improved and not impoverished. Climatic health conditions and transportation are unexcelled. We offer in tracts of 40 acres and up at $20 to $30 per acre. We have a few pieces well located, lying outside of our main body, ranging in size from 80 to 400 acres, that we will offer at special bargains. If you want land for use or for investment you can't afford to pass this by without investigation. Cheap round trip railroad rates. For full information, write Benson & Carmichael, 642 Paxton Blk., Omaha, Neb. References: Omaha National bank, City National bank of Omaha.

FOR SALE EIGHT-ACRE BEARING grapefruit and orange grove and thirty-eight acres of cultivable land, house, bungalow and other improvements; seven miles from Leesburg; 6 acres in cultivable timber; 2 acres set to peaches, oranges, trees, flowers, $15 per acre. Geary, Leesburg, Fla.

Farms Wanted

SELL YOUR PROPERTY QUICKLY for cash no matter where located. Particulars free. Real Estate Salesman Co Dept 29 Lincoln, Neb.

CASH FOR YOUR FARM BUSINESS or property. I bring buyers and sellers together. No matter where located, if you want to buy, sell or trade any kind of business or property, write me. Established 1881. Frank P. Cleveland Real Estate Expert 1315 Adams Express Bldg. Chicago, Ill.

TWENTIETH CENTURY FARMER Market Place brings results that count. Have you tried it?

LANDS

Iowa

FINE IMPROVED 100-ACRE FARM for sale or rent, 2½ miles south; level, all tilled, deep, black soil, $130; 160 acres at $110; 320 acres at $95. G. A. Romey, Owner, Melvin (Osceola county), Ia.

Minnesota

IMMIGRATION COMMISSION, Northern Minnesota Development Association; thirty-three counties organized for development; the country where drouths are unknown. State whether you want prairie or cut-over timber land. Permanent exhibit room, 39 South 3rd St., Minneapolis, Minn. We have no land for sale; free information. Write W. R. Mackenzie, Immigration Commissioner, Minneapolis, Minn., Dept. A.

IT'S SO EASY! YOU'LL BUY A FARM of our company when you see our prices and terms. Write Land Com'r., D. & I. R. R., 198 Wolvin Bldg., Duluth, Minn.

Missouri

$200 BUYS 10-ACRE POULTRY FARM, with bungalow; $10 down, $5 a month. Minton Land Co., Sheidley Bldg., Kansas City, Mo

8,000-ACRE STOCK RANCH FOR half its value for quick sale. For further information address owner, A. J. Johnston, Merchants Nat'l Bank, Springfield, Mo.

IF YOU WOULD ENJOY A PROSperous new year, advertise in The Market Place of The Twentieth Century Farmer.

Nebraska

ALFALFA LAND—1,243-ACRE RANCH, half-mile from R. R.; 3 and 4 cuttings per year; 5 to 8 bushels seed; in sugar beet district. Sell all or part. Take small farm in exchange. J. D. Stevenson, Benkelman, Neb.

DUNDY COUNTY, NEBRASKA—FOUR quarters good grazing land offered at $5 per acre for investment. Part of each quarter can be farmed. The Chas. E. Gibson Co., First National Bank Bldg., Denver, Colo.

DAIRY FARM LOCATION—640 ACRES, Kieth county, Nebraska, one mile from station, five miles from county seat; 200 acres produced good corn last season, 400 acres alfalfa land; $20 per acre, easy terms. A. D. Marriott, 732 Brandeis Bldg., Omaha.

FOR SALE—80 ACRES OF RICH farming land, well improved; will sell all or part; terms to suit; soil is black, heavy loam and lays as level as a floor. Address Freeman Bros. (Owners), Neligh, Neb.

Oregon

OREGON ALMANAC FREE—110 pages, official publication of the Oregon State Immigration Commission; complete and authentic information on every county in Oregon, its farms, climate and opportunities. Special questions answered with painstaking detail. Portland Commercial Club, Room 702, Portland, Ore.

Texas

TEXAS GULF COAST LANDS FOR sale in the famous El Campo (Wharton county) district. Write for free illustrated booklet. W. L. Frazier & Co., El Campo, Tex.

Virginia

VIRGINIA RIVER FARM 75 ACRES 100 rich bottoms, 8-room house, good barn, one mile of electric line, 3 miles of Richmond; only $3,500 terms. Send for free list; 700 farm bargains. Casselman & Co., Richmond, Virginia.

Wisconsin

GREAT CHANCE FOR POOR MAN 5 acres with new house, barn and well on easy terms; also nice home and residence lots for sale; 2 miles to town; fine soil and location; 2 miles to Lake Beulah; 45 miles to Chicago. Address [illegible]

KEEP YOUR EYE ON THE MARKET Place [illegible] if you want to buy [illegible] to exchange [illegible] the Market Place [illegible] and we will [illegible] from a [illegible] to dispose [illegible]

CLAIM SALE DATES

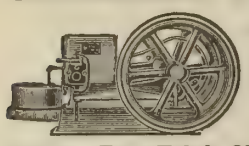
Percheron, Belgian and Shire Horses

Jan. [illegible] to 31. Breeders' horse sale, 250 head, imported and home bred, all breeds, at Bloomington, Ill. C. W. Hurt, manager, Arrangements [illegible]

Holstein Cattle

Feb. 1. Dispersion sale, Henry C. Glissmann, Bartlett, B. Omaha, Neb., at South Omaha.

Gasoline Engines



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We cut out all dealers—their profits go to you. You also get the full benefit of our low factory cost. We have no power expense at our plant, as we own our gas well; testing, heating, lighting fuel, all free. Take a 60 day trial. Five year guarantee. Write for book, "How to Judge a Gasoline Engine," and complete catalog. Our wholesale factory prices will interest you mightily. Write NOW, telling us size engine you need.

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YOUR OPPORTUNITY

is NOW In the Province of

SASKATCHEWAN
Western Canada

160-ACRE FARMS IN WESTERN CANADA FREE

Do you desire to get a Free Homestead of 160 Acres of that well known Wheat Land? The area is becoming more limited but no less valuable.

New Districts have recently been opened up for settlement, and into these railroads are now being built. The day will soon come when there will be no Free Homesteading land left.

A Swift Current, Saskatchewan farmer writes:—"I came here on my homestead, March, 1906, with about $1000 worth of horses and machinery, and just $35 in cash. Today I have 900 acres of wheat, 300 acres of oats, and 50 acres of flax." Not bad for six years, but only an instance of what may be done in Western Canada, in Manitoba, Saskatchewan or Alberta.

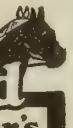
Send at once for Literature, Maps, Railway Rates, etc., to

W. V. BENNETT,
Bee Bldg., Omaha, Neb.

or Address, Superintendent of Immigration Ottawa, Ont., Canada

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento, **CALIFORNIA**

SHORES-MUELLER CO.
Shores REMEDIES
EXTRACTS SPICES



Wanted

Farmer or Farmer's Son

with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made $90 one week. We mean business and want a man in your County. Write us.

Shores-Mueller Co., Dept. 68, Cedar Rapids, Iowa

PATENTS GET LIST OF FACTORIES who could use your Patent. FREE Manufacturing and Patent advice.
SUES & CO., Att'ys, 539 7th St., Washington, D. C.

Free land information

You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

Land Information Bureau

Twentieth Century Farmer

Omaha, Nebraska.

Over 100,000 farm families read it.

Farmers' Congress Takes Up Vital Issues

(CONTINUED FROM PAGE FIVE.)

vention and was represented on the program by Prof. Frandsen of the dairy department of the university. "The Co-Operative Creamery" was his subject. He urged co-operation in this line of work and pointed out the benefits in higher prices for butter that would follow the establishment of creameries under this plan. The farmers' creamery owned and operated by themselves is the basis of the co-operative system. A pretty full discussion was had on the main features of the operation and management of the co-operative creamery.

Mr. Hampton of Texas advocated organization by the farmers; that all other features of business are organized; the farmer alone stands by himself, the prey of organized capital and organized graft. Mr. Hampton is a member of the National Farmers' Congress and says Texas is benefiting by organized farmers' clubs. He emphasized the speech and advice of Dornblaser of Nebraska, "The farmer must set the price of his own produce and do this by organization."

The treasurer's report showed that there is on hand at present $91.16, the receipts for the year being $955.54 and the expenditures 864.38.

The place of holding the next congress was not touched upon, this being a matter wholly within the province of the executive committee.

By resolution the executive committe was instructed to confer with the other farm organizations in the state with a view to bringing all under one federation.

Newly Elected Officers

President—George W. Coupland, Elgin.

First Vice President—Frank Tannehill, Norfolk.

Second Vice President—J. B. Grinnell, Papillion.

Third Vice President—E. M. Pollard, Nehawka.

Secretary-Treasurer—W. S. Delano, Lincoln.

Delegates to National Farmers' Congress, 1913—Andrew Young, Craig; W. H. Campbell, Clarks.

Legislative Committee—Frank G. Odell, Lincoln; J. A. Yager, Fremont; A. M. Templin, Palmer; W. E. Straub, Lincoln; E. M Pollard, Nehawka.

The co-operative grain shippers re-elected these officers: President, J. S. Canady, Minden; vice president, E. P. Hubbard, Juniata; secretary and treasurer, J. W. Shorthill, Hampton; directors, A. J. McLain, Sprague, and S. H. Riker, Stockholm.

The annual dues were doubled to $20 for grainmen and $10 to stock associations to put J. W. Shorthill in office as a paid secretary.

Alfalfa Meadow Herd of Durocs

Nebraska is up among the leaders with regard to the number of thoroughly high-class hog breeders in the state and one of the best known herds in Nebraska is the Alfalfa Meadow herd of Duroc Jerseys owned by F. Alldritt of Lincoln, who is starting an ad with this issue of The Twentieth Century Farmer. We certainly are free to recommend to our readers the animals of genuine quality he is offering. The prices he is placing on his Durocs are such as will interest every prospective purchaser. Mr. Alldritt writes he has forty tried sows, thirty fall yearlings and sixty spring gilts. He is using two boars by King The Col., one out of a C. H.'s special sow and the other out of a La Follette sow, an especially good one. Also using Crimson Wonder, Jr., Count Medoc and a son of Crimson Wonder, Jr. Give Mr. Alldritt an opportunity to write you fully about his herd, mentioning this paper when you communicate with him.

Up-to-Date Wisdom

William H. Wood, the head of the Woolen trust, said at a dinner in Boston:

"I have always been against speculation. To try to get rich by stock fluctuations instead of by honest work for the common good is to be an undesirable citizen.

"Besides, these fluctuating investments are very risky and uncertain. It's a wise stock, you see, that knows its own par."—Boston Globe.

General Farming with Cattle and Hogs make highest, surest profits

If you want to make money, or if you want to give your boy a start in the world, investigate the possibilities offered ambitious workers on the fertile acres of the Texas Panhandle and South Plains.

Here is a wide diversity of soil and a splendid climate. The normal rainfall ranges from 22 to 24 inches a year — ample for crop purposes if intelligent tillage is practiced. Wheat this year averaged a little over 15 bushels. One small field ran 37½ bushels, machine measure. Every acre should have done as well.

There is no more gamble in farming in the Panhandle than elsewhere, if proper cultivation is practiced. You must have some capital to work on after the initial payment on your land is made. Then it is a matter of intelligent work. You can grow wheat, oats, barley, emmer, feed crops, peanuts, silage and live stock. You can raise as much of each as you can in Illinois, and your local market is just as good.

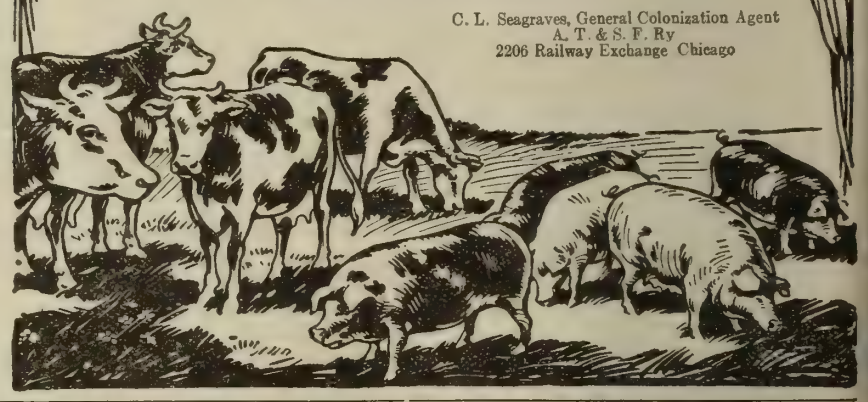
The Santa Fe is so anxious that every man who moves into the country shall succeed that they have engaged a staff of scientific agriculturists to work with the settlers and show them how best to meet the new conditions. This aid is given free, and it is just one more reason for going to this new *good* country.

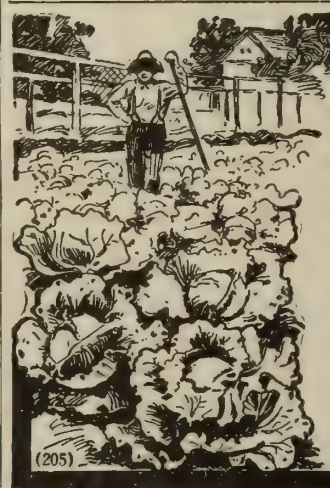
In a few years the Panhandle of Texas will be crowding Kansas as a wheat producer, and people will wonder why they did not buy at $15 to $25 an acre, the prices now asked.

But get and read our new book on the Panhandle and South Plains. It's interesting, authoritative, informing and free. It tells you about the topography, soil, rainfall, possibilities for irrigation, cultural methods, crops, markets, transportation, taxes, living conditions, roads, schools, churches, and other subjects of vital importance to you. Also a series of letters from farmers who have lived here from two to eleven years. These letters tell what has been accomplished, how it was done and how you may do as well when you come.

We would like to have you join one of the Homeseekers' Excursions on the first and third Tuesday of each month, and see the opportunities for yourself. For full information without obligation, write

C. L. Seagraves, General Colonization Agent
A. T. & S. F. Ry
2206 Railway Exchange Chicago





Cabbage Weighing 24 Pounds in March

raised in Southern Alabama, Western Florida and along the Gulf Coast, with shipping season commencing early in March, and commanding from $2.00 to $2.50 per crate at shipping point.

This same land then planted in sweet potatoes will yield $100 to $150 per acre, and, in addition, an excellent forage crop, making

3 Crops a Season From Same Land

No long winters, but an average of 312 working days a year. Stock needs little protection and thrives on grazing alone and with an abundance of good water. Send for our booklets and read of the actual experiences of former Northern and Western farmers who are rapidly becoming rich off the fertile lands of Alabama, Georgia, Tennessee, Mississippi and Western Florida.

LOW ROUND-TRIP RATES 1st AND 3d TUESDAYS EACH MONTH

G. A. PARK, Gen'l Immigration and Industrial Agent
Louisville & Nashville R. R. Room 309 Louisville, Ky.

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All Castings Warranted Free from Flaws.

"Even Sowing Means Even Growing."

Superior Drills sow all known seeds—none too large; none too small.

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You run no risk in buying a SUPERIOR Drill. Strongest Warranty ever placed on a grain drill. **The Superior will do your work the way you want it done.** The Superior is made in every size and every style. Send for the Superior Catalogue. Read it and then go to your local dealer and insist on seeing the Superior—"The Name Tells a True Story."

THE AMERICAN SEEDING MACHINE CO. INCORPORATED
SPRINGFIELD, OHIO, U.S.A.

TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, January 11, 1913 | Number 631

Childish Sympathy

Little Katherine's father was very tired and essayed a nap on the library sofa. Katherine, unusued to his presence in the daytime, was interested and sympathetic. Just as her father drifted happily into the land of dreams the child stood beside him, calling sharply:

"Father! Father!"

Father stirred and moaned without wholly waking. The cry came again:

"Father! Father!"

When it had been many times repeated the weary sleeper aroused himself with a great effort. He opened his heavy eyelids to meet the devoted smile of his little daughter.

"Father! Father!"

"Well, my dear, what is it?"

"Father, dear, are you having a nice nap?"

Overdoing It

Four-year-old Barbara was having her first experience with tunnels, and papa amused himself by making her believe that at a snap of his fingers the light would go out and return. This was all very well for the first two or three tunnels, rather short and soon over, but when it came to the long tunnel Barbara was frightened at her father's magic.

"My gracious, papa," she cried when several minutes of darkness had elapsed, "now just look what you've done!"

Prattle of the Youngsters

Johnnie Goes Up Head

"Johnnie," asked his teacher, "can you give us a sentence, using the word 'income' in it?"

Johnnie hesitated a moment; then replied:

"Yes'm; "'The boy opened the door, and in come a cat.'"

Thoughtful Jane

"Twenty minutes for refreshments!" bawled the conductor as he passed down the aisle. A little girl with raspberry jam on her chin plucked him by the sleeve.

"You needn't stop the train on our account," she said timidly. "We're going to eat ours right here in the car."

Frenzied Arithmetic

Three-year-old Amy, who had a very lively little brother, was being put through a lesson in arithmetic by her uncle. She had successfully added one and one, but stuck at two and one.

"Your mamma," said her uncle, "has two children. If she had one more, what would that make?"

"Oh," cried Amy, "that would make my mamma ewazy!"

Hit the Nail on the Head

"What," asked the Sunday school teacher, "is meant by bearing false witnes against one's neighbor?"

"It's telling falsehoods about them," said one small maid.

"Partly right and partly wrong," said the teacher.

"I know," said another little girl, holding her hand high in the air. "It's when nobody did anything and somebody went and told about it."

Naming the Cat

One evening last summer my neighbor's bright little son, aged 4, took dinner with us. After we had finished Clyde became a little hilarious, and in order to quiet him I said:

"Go and call the kitty in out of the yard."

He immediately went to the door, and at the top of his voice began calling:

'Come, kitty! Come, kitty! Come, kitty!"

"Oh," I said, "call her gently, then she'll come."

Then he yelled:

"Come, Gently! Come, Gently! Come, Gently!"

Rebert's Observation

The family was at the dinner table one evening, when a man, a friend, dropped in. He had been moving and his appearance was not of the neatest. He excused himself for looking as he did, and then, turning to the yongest of the family, a boy of 5, said:

"I look just like a tramp, don't I, Robert?"

"Yes," promptly answered the youngster.

The mother, trying to set matters aright, said:

"Why, Robert doesn't know what a tramp is."

"Yes, I do," the little fellow cried out. "I seen one on a movin' picture once. He stole a pie off the window sill.'

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The Real "Progressive"

WHO are the world's real "progressives"? We have read and heard about progressive parties and the like until it would seem that a few active politicians here and there have a monopoly on progressiveness; but upon reflection we know that that is not true. Instead, we know that anyone endowed with even ordinary push and vigor who reads, thinks and observes is a progressive in some way or other.

As to those who have the greatest opportunities to apply progressiveness, we believe all will agree that the farmer comes first. Progressiveness knows no limit in the science of agriculture.

But the question is, Are we taking advantage of those things that help us to be progressive? Are we utilizing the ideas of others? Are we keeping posted as to what is new in methods, machinery, supplies, etc. To get ahead we must keep in thorough touch with what sicence is doing and with what the manufacturer and his inventors are building for our uses.

There are many ways for the farmer to secure such information, but the most convenient one is the reliable farm journal. Both its editorial and advertising columns stand for progressiveness. The editorial columns tell us about the most up-to-date methods of tilling the soil, live stock raising, etc. The advertising columns contain the announcements of the world's biggest and most progressive merchants and manufacturers. In reality the farm paper is an encyclopedia of progressiveness and progressive things, and is issued fifty-two times each year.

Moral: Read regularly both its editorial and advertising columns. You cannot help being benefited thereby.

Bright and Breezy

The Same Old Story

Aviator (to young assistant, who has begun to be frightened)—Well, what do you want now?

Assistant (whimpering)—I want the earth.—Lippincott's.

A Woman of Her Word

Mr. Pfusser—Aren't you most ready?

Mrs. Pfusser—I wish you'd stop asking me that question. I've been telling you for the last hour that I'd be ready in a minute.

Significant

"Albert, what did your sister say when you told her I was in the parlor waiting??" inquired the hopeful young man.

"Nothin'. But she took a ring off one finger an' put it on another."—Lippincott's.

Inconsistent

B. Ginner—These editors think they're smart, but they don't practice what they preach.

Jenks—Indeed! In what particular?

B. Ginner—Why, they insist on your writing on one side of the paper only, but they print on both sides.

Her Perfect Work

The pretty trained nurse bent over her patient, a young man who was beginning to get better.

"Shall I turn your head, sir?" she asked, in her low, kind voice.

"No, thank you, Miss Angel," returned the convalescent. "You have turned it already."—Youth's Companion.

Power of Suggestion

An old negro entered a drug store the other day and looked about him doubtfully.

"Something you want, old man?" inquired the clerk, stepping up.

"Yais, sah; yais, sah," was his reply, as he scratched his chin; "but I disremembahs 'zactly whut—"

"Forgot what you came for?" broke in the clerk.

"Das des edzackly hit, sah; dass des hit!" exclaimed the old negro, his face lighting up with relief. "Er nickul's wuth, sar."

The clerk stared for a moment, then grinned understandingly, and handed the old negro his desired 5 cents' worth of "camphor."

He Was All Ready

A banker in central Kentucky was in the habit of wearing his hat a good deal in business hours, as in summer the flies used his bald pate for a parade ground, and in winter the cold breezes swept over its polished surface.

A negro watchman on the railroad each week presented a check and drew his wages, and one day as he put his money in a greasy wallet the banker said:

"Look here, Mose, why don't you let some of that money stay in the bank and keep an account with me?"

The darkey leaned toward him and with a quizzical look at the derby the banker wore, answered confidentially:

"Boss, I'ze jes' afeared. You look like you was always ready to start somewhere."

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Fair Managers Uncork Their Pent-Up Fury

Lively Discussion at Meeting of the National Fair Association Ends in a Set of Resolutions

War to the death between the American Association of Fairs and Expositions and farm journals was declared at the last day of the twenty-second convention of the association at the Hotel Sherman. After a bitter debate, in which G. W. Hervey, associate editor of The Twentieth Century Farmer of Omaha, Neb., defended the journals against the attacks of the delegates, a resolution which will have the effect of excluding all representatives of farm journals from fair grounds was adopted by a bare majority. Some of the delegates declared that they had not been fairly treated by the journals.—From a Chicago daily.

OWING to a slight misunderstanding of the real gravity of the situation by a newspaper reporter who was present, the above article, which received publication in several Chicago papers, has brought numerous inquiries from farm journals and other publication interests as to the real status of the resolution adopted by the National Association of State Fair Managers at its annual meeting held at Chicago December 2, necessitating a little explanation in order that the State Fair association and the agricultural newspapers be fairly treated, and neither unjustly censured for any attempt at taking advantage of each other's business interests and privileges.

Pent-Up Fury Uncorked

The resolution we believe was introduced in good faith and with no intention of bringing about a war or wordy conflict between the state fair managers and the agricultural papers. The annoyance that pick-up and unreliable newspaper solicitors have caused on state fair grounds, practically all over the country, has brought about unlimited worry and threats of vengeance from fair managers. The introduction of this resolution seemed to offer the opportunity to uncork the pent-up fury that had been gathering for years, and use this occasion for a little Fourth of July celebration at the expense of the agricultural journals.

In the midst of the fireworks that followed President Cameron, out of the goodness of his heart and his love for fair play, called upon G. W. Hervey as a representative of the agricultural press to help untangle what seemed to be, at times, a hopeless conflict of interest of the long-suffering state fair manager and the so-called unworthy publisher and circulation manager of the agricultural press.

All the agrieved members of this convention had their say and opportunity was given for grilling the agricultural paper representative and making suggestions as to how the business end of these publications should be run. The dynamite having been exploded, the temper of the outraged fair managers somewhat worked off, and the discussion of the resolution was again taken up and it was passed with some minor amendments.

The resolution adopted, to be made a part of the general rules governing on state fair grounds, was as follows:

WHEREAS, One of the most annoying features at large fairs is the constant hectoring of patrons by newspaper solicitors using articles of merchandise as inducements to secure subscribers; therefore, be it

RESOLVED, That no concession, booth or privilege be granted for newspaper solicitors except on request of its publisher or manager mailed to the secretary ten days prior to the opening of the fair, which request must contain name of publication, privilege desired and name of such persons as solicitors (who have been continuously employed for a period of three months preceding date of application).

That such solicitors must be gentlemanly, courteous and honest in dealing with the public, and are absolutely prohibited from using any form of merchandise, animal, article or tickets for future drawings as gift or sale to influence subscribtions, under penalty of expulsion from grounds.

That all solicitors must purchase season tickets good for entire week.

And that solicitors in soliciting subscriptions shall confine their operations to the space or booth assigned them by the management of the fair.

Would Put Papers Out of Business

The sentiment expressed was practically all in the interest of barring the agricultural paper from the fair grounds or putting it under very strict surveillance as a guarantee of good behavior. Some suggestions were that the newspaper be sold booth space on same terms as other concessions and that the solicitors be restricted to the inside of the booth in soliciting. This, in the light of a solicitor, would be prohibtory in the prosecution of his work. From the standpoint of the publisher it would mean the discontinuance of fair grounds soliciting and merely the maintenance of an office where an agent would take renewals, answer questions pertaining to complaints in delivery, etc., and hand out samples of the publication. This is possibly the drift toward a solution of the problem of the newspaper repudiation on the fair grounds; pay for what you get and charge advertising rates for the space used in publication of state fair news, etc.

It will be observed from the accompanying resolution that the restrictions are not so sweeping as the discussion at this convention seemed at first to indicate as the prevailing sentiment. The facts are that all state fairs are not seriously annoyed from this kind of concession, but have been able to hold the circulation manager, present on the fair grounds and in charge of the solicitors, responsible for the action and methods of soliciting practiced.

There is but one way to regulate this business, and that is for the fair managers to adopt a plan or system of their own for the regulation of this kind of concession that will protect fair visitors from any special annoyance by the solicitor. If it seems desirable to put the newspaper solicitor upon the same basis as other concessions of a commercial or sales character, then rent them booth space on same terms and conditions, with same privileges and restrictions, and enforce the rules governing the same. Ther is no reason why the newspaper should pay admission for its operators unless other concessions of a like nature are required to pay; there is no reason why their representatives be admitted on a bond orsurety of honesty, gentlemanly deportment and good behavior unless other concessioners are put under the same ban of restrictions.

Hervey's Argument

The line of argument adhered to by The Twentieth Century Farmer representative in this discussion was that there would be no need of restrictions were it not for the managers of circulation departments picking up new men for state fair occasions. It is this pick-up class of irresponsible solicitors that become a nuisance on the fair grounds by their dishonest methods in dealing with fair visitors. This class of persons may have been in the county jail the day before they were given employment and appear on the fair grounds as solicitors.

The regular solicitor desires to elevate his position above that of the swindler and fraud, who robs his victims on the fair grounds and misrepresents his employer. The idea is to assist in bringing this work of newspaper solicitation up to a profession and thus assist the honest solicitor, the publisher and the fair management, each in his responsibility with the public. The permission to solicit to none but respectable, honest, genteel solicitors on the fair grounds takes away all liability of imposition on patrons and guarantees respectability and clean dealing from this class of concession. It also keeps down unlimited numbers of solicitors. A restriction of employment immediately preceeding the state fair will limit papers generally to three or four solicitors, which is enough, and these will be of such character as not to need police surveillance.

As to the matter of charge or no charge for booth space for newspapers, this should be left for each fair management to settle. Most fairs will contribute the space and some will find it not objectionable to locate solicitors over the grounds at stated points.

It matters not what action is taken or what restrictions are made on the agricultural paper, The Twentieth Century Farmer intends to advocate state fairs and all reasonable means and influences instrumental in the promotion and advancement of the general agricultural development of the country.

A Twentieth Century Farmer Suggestion

The Twentieth Century Farmer has realized for some time need for the adoption of some uniform, reasonable system for the regulation of the farm paper concession on the state fair grounds. With a view to bettering the interests of all parties concerned it was willing to recommend and endorse. Prompted by witnessing an unorganized condition of solicitors on the Nebraska State fair grounds at their

(CONTINUED ON PAGE TWENTY FIVE)

The Cutting of Seed Potatoes for Planting

Size of Seed Piece, Number of Eyes Per Piece, Vigor on Different Parts of Tuber and Cutting Methods

THE question of cutting seed potatoes for planting seems to be a more or less endless one. With it are associated the questions of size of seed piece, number of eyes per piece, vigor of eyes on different parts of tubers, the different methods of cutting by hand, whether to cut by machine or hand, etc.

The number of eyes on a seed piece is not of so much importance as some people suppose. If there is one good eye on a piece it will yield as large a quantity of potatoes as two or three eyes on a piece of the same size. Where there are more eyes there are likely to be more sprouts, and more tubers set, but the tubers will not average as large in size.

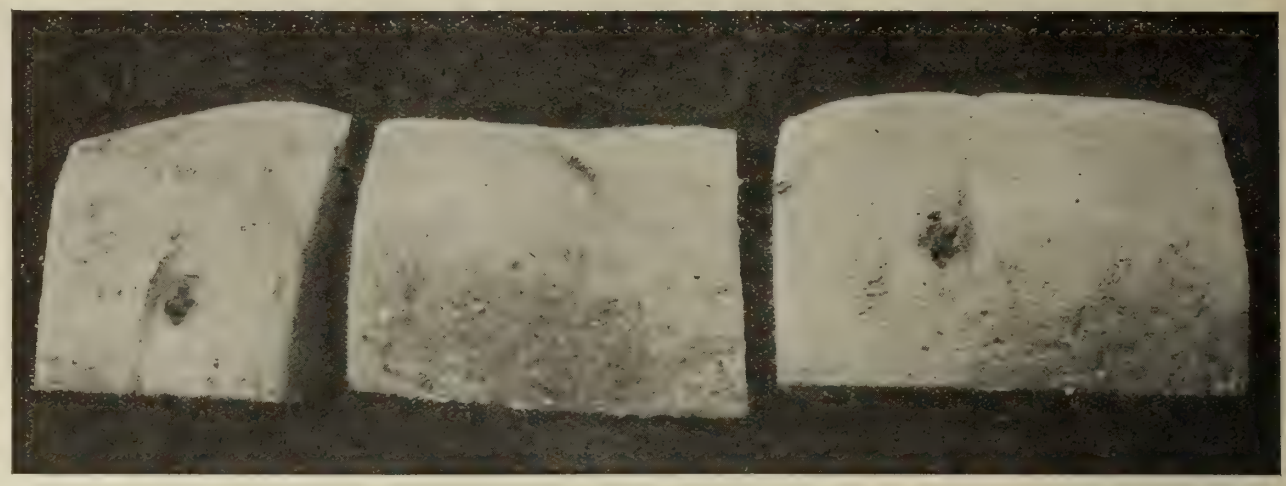

Figure I—Pieces Weighing 1, 1½ and 2 Ounces, Respectively. Actual Size of Pieces Shown. The Potato Had Been Quartered Lengthwise Before Cross-cuts Were Made to Get Different Sizes Shown

It is undesirable to have too many eyes on a piece because of the tendency to produce a large number of small tubers. One good eye is all that is necessary provided that the piece is of good size, but two or three are not objectionable. The seed end of a potato should always be cut in two so as not to have all of the eyes on that end left on one piece. By some methods of cutting the seed end of large tubers can be quartered, which is still better than merely cutting it in half. On small potatoes, just large enough to make one piece, when it can be avoided, it is a practice among some—and apparently a good one—to cut off a thin slice at the seed end and throw it away, that being the easiest way to reduce the number of eyes on the piece.

There seems to be very little difference in the vigor of eyes on different parts of the tuber. Some years pieces from the seed will produce the largest yields and other years the opposite will be true.

The most important thing in cutting seed potatoes is the size of the seed piece without regard to the number of eyes except that there must not be too many on a piece, as previously stated. The size of the seed piece is important, because it is upon this factor that the amount of plant food that the new plant will get from the seed piece depends. A potato plant grown from a seed piece of good size will have more plant food than from a small piece; will grow much more rapidly while young, thus getting a much better start, and will on account of this better start produce a larger yield.

Figure III—Making the Second Crosswise Cut of the Potato Shown in Figure II. Ordinarily the first four pieces would be dropped into the bucket in front when the first crosswise cut was made

When seed potatoes are cheap it pays to cut the pieces quite large, up to an ounc , ounce and a half or two ounces in weight. When they are expensive it does not pay to cut such large pieces. Three-quarter-ounce pieces, or twenty to the pound, is a good size for early potatoes, and sixteen to the pound for late varieties. At the ordinary distance apart of planting potatoes in drills this requires nine or ten bushels of seed potatoes per acre. When planted in check rows three feet apart each way the quantity required is considerably less, and the pieces should probably average a little larger to advantage. The actual size of pieces weig' ing 1, 1½ and 2 ounces, respectively, is shown in Figure I.

Machine cutting is, as a rule, undesirable. There are usually many small pieces, and pieces of irregular size when cut by machine, and with varieties which have few eyes, such as those of the Rural New Yorker type, there are very likely to be many pieces with no eyes on them.

The usual method of cutting by hand is to

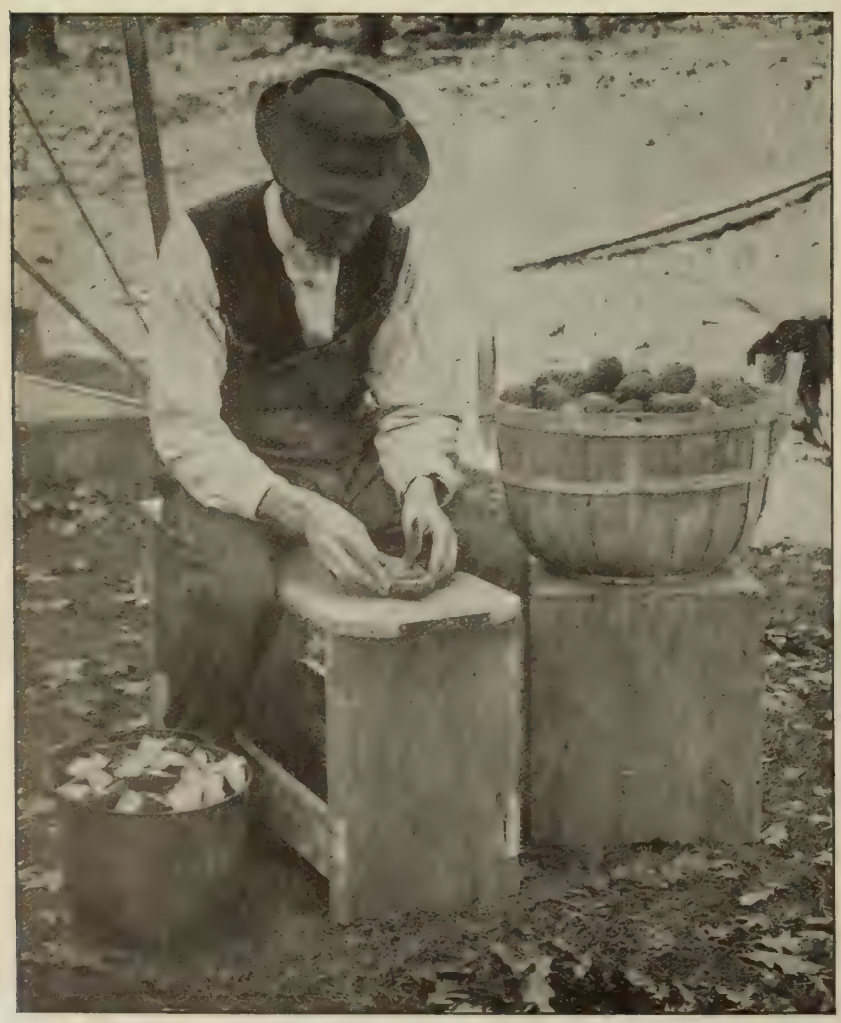

Figure II—Bench with Stationary Knife for Cutting Potatoes by Hand. The Second Lengthwise Cut Being Made

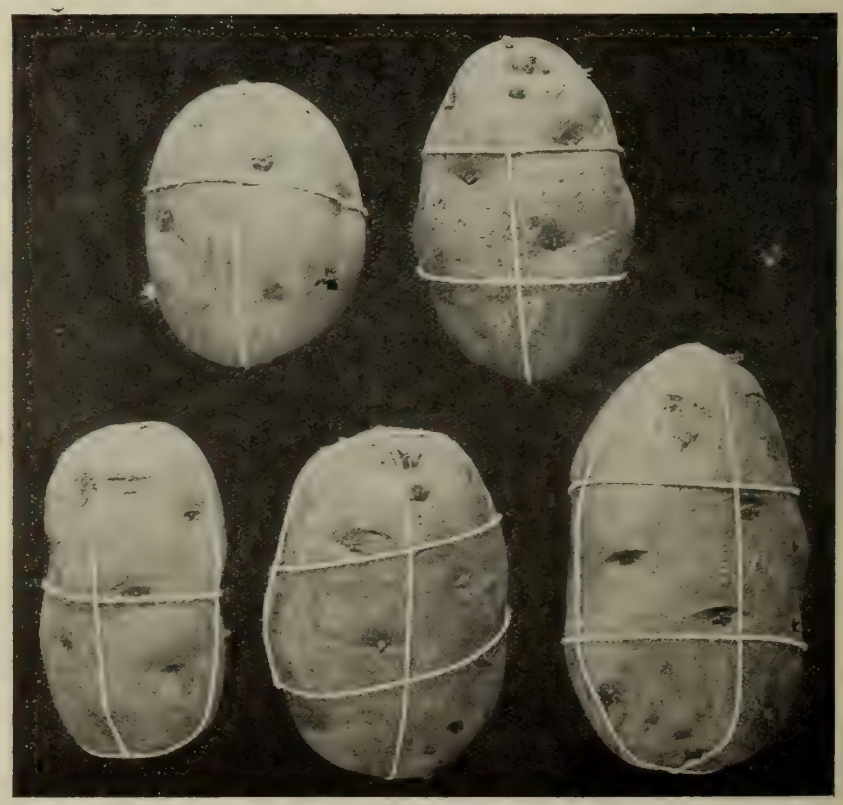

Figure IV—Showing Tubers of Different Sizes, Marked for Cutting Them Into 4, 6, 8, 10 and 12 Pieces Respectively

cut off a piece at a time with a caseknife, or some knife of that type. This method is slow and laborious, which is the principal reason for the demand for some machine method. A much more rapid method of cutting by hand is shown in the accompanying illustrations. It is based on the principle of having the knife in some convenient stationary position and using both hands for handling the potatoes. It is considerably faster than holding the potato in one hand and the knife in the other.

Figure II shows a home-made arrangement for cutting potatoes according to the method advocated. It consists merely of a board with two braced pieces under it, making a sort of bench on which the man sits and in which the knife is held. An ordinary kitchen knife is best. It is held in place by sticking the blade through a narrow slit from below. If some other sort of knife is used it is important to have a thin-bladed one. A basket placed in front to receive cut potatoes would be handier than as shown in illustration. The illustration shows the second lengthwise cut being made in potatoes without the two halves resulting from the first lengthwise cut having been separated.

Figure III shows the second crosswise cut being made on the same potato shown in Figure II. With the first crosswise cut on that tuber four finished pieces were ready to drop into the basket of cut potatoes in front, and with the second crosswise cut the remaining eight were ready to drop. As each crosswise cut is made the finished pieces are dropped into the basket instead of keeping the entire tuber together until the last cut is made as here shown. By means of four cuts the tuber shown in Figures II and III was cut into twelve pieces, instead of requiring eleven cuts, as would have been necessary by the other method.

The different tubers in Figure IV show how different sized potatoes can be cut into four, six, eight, ten or twelve pieces. To cut a tuber into four pieces, cut lengthwise once and crosswise once. See upper left hand tuber. If it is a very short tuber it may be cut lengthwise twice. The aim in all cutting must be to get the blockiest-formed pieces possible. First must be decided how many pieces a tuber should be cut into, and then the method must be varied accordingly. To cut short tubers into six pieces, cut lengthwise once, then crosswise once, taking off two pieces at one end, then the balance lengthwise again. To cut long tubers into six pieces, cut lengthwise once and crosswise twice. See second tuber in upper row of illustration. To cut into eight pieces, cut lengthwise twice and crosswise once. See left hand tuber in lower row. Only very long tubers could be cut lengthwise once and crosswise three times. To cut tubers into ten pieces, cut lengthwise once, then crosswise once, taking off two pieces at one end, then the balance lengthwise once more and crosswise once. See the middle tuber in the lower row. To cut into twelve pieces, cut lengthwise twice and crosswise twice. See right hand tuber in lower row. For fourteen pieces cut lengthwise once, then crosswise once, taking off two pieces at one end, then lengthwise once and crosswise twice.

An odd number of pieces can be cut by the above method by first cutting off a piece of the desired size at the stem end and then cutting into an even number of pieces as above directed.

Use and Abuse of the Country Roads

How the Man Who Travels Public Highway Either Adds to Its Life or Materially Shortens It

By John N. Edy

EVERY man who travels the public highway has it in his power to do either of two things:

First—He may use the road in such a manner as to add to its life and usefulness, thereby increasing the value of the investment; or,

Second—He may misuse or abuse the road to such an extent that its life will be materially shortened, premature repairs made necessary and its value as an investment decreased.

In considering these points bear in mind that the traveler or property owner is the investor; it is his own money that he saves or wastes.

If we discuss the second proposition, the first has been answered. We will see then how our roads are abused and misused.

First, in the case of all roads, we misuse them when we

Use narrow-tired wagons.

Drive in one track, following the ruts.

Ride or drive, or drive stock up or down the side of road embankments.

Obstruct the side ditches by throwing into them brush, old fence posts, field stone, etc.

Ride or drive, or drive stock across wooden and steel bridges faster than a walk.

Obstruct the road by permitting fences to remain on the right-of-way.

Misusing Earth Roads

Second, in the case of earth roads, in addition to the foregoing, we misuse them when we

Attempt heavy hauling immeditely after a soaking rain.

"Skid" logs in the roadway or side ditches.

Furthermore, we may abuse our road—and so our road funds—by

Moving a mass of earth to the center of the roadway and leaving it there loose and unpacked.

Making excavations in the fall.

Leaving a windrow of loose earth in the roadway after dragging.

Throwing rock into mud holes.

Failure to keep the weeds cut and ditches and drains open.

Failure to report damaged or dangerous condition of a bridge, culvert or road.

No doubt there are others, but this list will do for the present. You will see that the road user is able to injure his road by acts of commission and of omission. You may say that your supervisor is supposed to attend to the cleaning of ditches, proper grading of the road, etc. But does he do it? If not, and you know of it, you should stir up such a fuss that the man would do his duty or resign. If you do not do this, then you are abusing the road.

Use of Narrow-Tired Wagons

Probably the most pronounced of the above items is the use of narrow-tired wagons. It ought to be prohibited by law, and in some states, I believe, it is. These narrow tires work exceptional damage to earth roads. No matter what care you give the road as to construction and maintenance, the tires cut through to the bottom, especially after a rain. The same condition of the soil that will pack and improve under a four-inch tire will cut into ribbons under a narrow one. It's just the very simple proposition of distributing the load over a greater area.

Everyone knows how easy it is to drive in the rut; the horses just naturally follow the beaten paths of those before them, and it would require undue exertion to turn them out. But you may say that even if you do turn out of one rut, you will make a new one. Then you are misusing the road by hauling too great a load for the condition of the earth. Contrary as it may be to practice, there is a time when the earth road should be used and when it should be let alone. No doubt you have observed that before.

I knew of a community where the timber industry thrived. Many men made a business of working in the woods; others did so at odd times. But invariably when it rained and they could not work in the fields or elsewhere, these noble taxpayers would hook up to a load of logs and start to town to the mill. I have seen damage to the extent of at least $100 done by two teams in one day. Is that fair to the road and to the other men who helped pay for it? I know of one teamster who put six mules to a load of logs and literally ruined a newly-built dump immediately after the first rain, that should have packed it; and nothing was ever done about it, although if that man had gone to the treasurer's office and stolen $10 he'd have been jailed for it.

Riding and driving down the side of an embankment is in the same class. The first time may not hurt the road, but soon a path is formed; then water begins to cut and pretty soon an expenditure of good money is required to "fix" it. Throwing brush and other refuse in the side ditches, obstructing the road or ditches with fences, etc., is ordinarily contrary to statute. The trouble is that we dislike to "raise a row" and prosecute the offender. Would you be such a "good fellow" if this man stole ten bushels of potatoes from you? The principle is exactly the same.

When you trot your team across a bridge you risk your life, which is probably more important to you than risking the bridge. The vibration thus caused strains the bridge much more than the load itself. I saw a picture of a steel bridge that went down under a milk wagon. No doubt the bridge was too light in the first place, but the vibration of the fast-moving wagon probably caused its failure.

Best Time to Do Earthwork

Unquestionably, earthwork should be done in the spring and summer. Even though the material is rolled and apparently solid, it requires the travel and the wetting of occasional rains before it is ready to go through the winter. Moving loose earth to the roadway and leaving it in that condition not only obstructs travel, but it wastes money. After dragging a road, and when the material has been brought to the center of the roadway, the drag should be hitched square across the road and the material spread in a thin layer over the surface. A man expert in the use of a drag will not take all the earth to the center and have to spread it again. He will leave it where he wants it at one operation.

It costs money to throw rock into mud holes, and the disappointing feature about it is that it never helps the mudholes. Such places have an unbelievable capacity for swallowing stone. Follow the method previously suggested, or some other that will drain the road and remove the cause of the mudhole.

It is certainly some man's duty to inspect bridges and culverts, but it is every man's duty to report any damaged or dangerous condition that he may happen to observe. There is more reason for doing so than for reporting a fire you may discover in your neighbor's buildings.

Weeds left to grow in the road not only obstruct the drainage and injure the roadway but they breed disease, are often the cause of poor health and, therefore, doctors' bills. There's something about every item and feature of this road problem that hits a man's pocketbook.

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

Never before in the memory of the oldest inhabitant has winter delayed its coming so long. Never before has the season remained open so constantly and for so long a period.

It is not what falls on the back of animals, whether snow or rain, that hurts them, but what goes against their sides. Wind hurts them more than rain or snow. Protect them from the wind.

It will be a big thing for national agriculture if the Lever agricultural extension bill becomes a law. It will be the greatest step in advance that has ever been taken in the interest of increased agricultural production.

The total value of dairy products of farms in the United States in 1909, exclusive of milk and cream consumed on the farm, was reported as $596,413,000. This is more than three-fourths of the value of the total wheat crop for the same year.

The prophets of evil are again abroad. Some farmers, who always get scared before they are hurt, may listen to them. This time they foretell that the dry fall has worked irreparable damage to the winter wheat crop. Sensible men will take care of their wheat during March and April so that its roots are not dried out by the winds of that period, and will then laugh at earlier stories of doom.

A Suggestion

The annual meetings of Organized Agriculture at Lincoln have not been serving the purpose for which they were intended as efficiently as might be desired. This lack of efficiency has been largely due to the fact that the committee having them in charge has been crippled by a lack of adequate funds. What money has been had has been furnished in the main by the Lincoln Commercial club. This has sufficed for printing and clerk hire, and there has not been a sufficient fund for securing speakers of such note as would make the meetings as attractive and profitable as they might be made.

It is suggested that the scope of these meetings be broadened. They are not merely a Lincoln institution and Lincoln should not be asked to bear the whole burden. Neither are they merely an advertising adjunct of the agricultural school and should not be used as such. The school is best advertised by the work it does, not by the noise it makes, and in the end the state will judge it by that alone.

These meetings should be given a statewide significance. The purpose they are intended to subserve is the development of the agricultural resources of the state and the increase of its agricultural production. This, if accomplished, will benefit every corner of the state, and the state can well afford to share in the expense. Every locality, every city, will be benefited.

As the end to be gained has a statewide significance, let the organization having the matter in charge become a statewide organization, and let the burden fall upon the state. The Twentieth Century Farmer feels assured that the state will gladly assume it as soon as a statewide organization takes the matter in hand.

Then there will be funds sufficient to secure speakers of national or international reputation, who will make the gathering notable in the annals of agriculture. Crowds of people will be drawn to Lincoln from all over the state and will be well paid for coming. Agriculture will be benefited and the whole state will share in the reward.

Lincoln is the capital city. The people of the state feel that it belongs, not so much to itself, as to them, and the state will look out for its own.

Stock Yards Help

For a number of years, since E. Buckingham has been at South Omaha, the Union Stock Yards company has been assuming the expense of sending a judging team from Nebraska to the International Live Stock Show at Chicago with the idea of stimulating greater interest among the students in the live stock work of the school.

If The Twentieth Century Farmer is correctly informed the stock yards company has also maintained at the Nebraska School of Agriculture several scholarships for the benefit of needy students.

No one will claim for a moment that this action is purely philanthropic. That fact, however, does not detract from the value of such service to the state. Primary self-interest is generally demoralizing; secondary self-interest as a supreme motive may be highly commendable. This action on the part of the stock yards falls under the second classification. It hopes to increase its own business. The only way in which its own business may be increased is to build up and increase the live stock industry. In this case the stock yards can reap no benefit until after the stock growers have taken their benefit; it helps them in order to help itself. Such action is not only commendable, but it shows a commendable degree of economic foresight which men in other lines of business might wisely and commendably adopt.

A New Big Stock Prize

If the Royal Stock Show at Kansas City, if the International Stock Show at Chicago, if the Denver Stock Show, or if any other stock show in the country wishes to promote, in the most direct manner, the supreme end of all breeding, namely, the most rapid improvement in the quality of all the live stock raised in this country, let each offer its biggest prize, its most substantial premium, its greatest trophy, to the animals that in the show ring demonstrate the highest degree of capacity for accomplishing this supreme end.

Let the prizes for the best individuals remain as they are, but the supreme prize of all should go, not to the best individual, but to the animals proving their capacity to produce the best individuals.

It is suggested that a new premium be offered at all stock shows for the best families in each class, the families to consist of sires and dams, with the best get of 1, 2 and 3 years old. This will be offering a prize directly, instead of indirectly, as now, for the capacity to attain the supreme end of all breeding.

The premium should be substantial enough to encourage and stimulate hot competition between breeders. There should go with it a grand trophy, to be competed for annually, but to belong permanently to the breeder that succeeds in capturing it for three successive years. The grand honors of the breeders' world would go with it and the holder of it would earn, as a public benefactor, the homage of the world at large.

Such competition would help in working out the problems concerned with the slightly known operations of the laws of heredity and would be directly in line with all efforts to improve the general quality of all live stock. It would be "striking the nail squarely on the head," instead of striking it, as now, a glancing blow.

Alberta, under the direction of the provincial minister of agriculture, is importing large numbers of pure-bred dairy catttle. While the beef cattle industry in that province is growing with remarkable strides, knowing ones are of the opinion that the province will ultimately derive its greatest revenue from the dairy industry and are taking steps to accomplish this result.

Planning for Harvest Labor

North Dakota is already taking up the matter of harvest labor for 1913. The unorganized lack of system in supply that has prevailed in the getting of harvest labor into this state at the proper time, and in sufficient numbers to take care of the crops, has resulted in serious loss to farmers and special grain growers.

The very heavy loss during the grain harvest of 1912 has awakened business interests to the part that they share in getting good crops properly harvested and properly marketed. The bankers have seen fit to join in the organization of labor supply and arrange with the railroads to run in special labor trains at a low rate from eastern cities, where labor agencies will gather and ship the recruits to the harvest fields upon order and to suit the demand as to time of service. This organization is known as "The Better Farming association" and is comprised of bankers and business men of the towns of the state. This association is also interested in better farming conditions, and sees the need of crop-saving at the critical period—harvest.

It is estimated that the grain harvest of this state will require 150,000 to 200,000 harvest hands to be shipped in each season, or until this country becomes more thickly populated. The period of service will be usually from two to three months. Special through trains from the east with low transportation rates is the solution, and is the basis on which the business men have presented their claim. Other states might profit by this example and adopt some system of labor supply that could be depended upon in seasons of greatest need.

Nothing Like Advertising

There is nothing like advertising, and the Kansas City mule market is fully up to the occasion whenever an opportunity offers. On December 26 a special train carrying 400 big Missouri mules in fifteen forty-foot cars was started over the Wabash road for Fayetteville, N. C. This train, besides the usual crew equipment, had the general superintendent's private car, with six of the principal Wabash officials to conduct this train to its destination, making it one of the big advertising features for the road, the market and the district where these mules were produced.

The cars were all new and decorated with banners announcing the origin and destination of the train. The train made numerous stops that farmers might see the kind of mule that the North Carolina planters prefer. This is the largest individual shipment ever made from the market for farm sale and distribution. It is a pretty good key for the colt raiser, north or south, as to future demands for mule power for the farm.

The popularity of the mule as a team animal is daily and yearly increasing over all sections of the country. The resistance of disease common to the horse stock of the

country stands in favor of the mule. In the recent horse disease that took so many thousands of the good, serviceable horses from the Missouri valley states, the mark of death seemed to have passed by the mule. The farmer who has good, large mares cannot enter into a more profitable farm breeding industry than raising mule colts.

Seed Corn Needs Attention

Our attention has been called to present moisture conditions of the corn of the 1912 crop. It has been found that the seed corn and samples of show corn exhibited at the corn shows and the farmers' institutes, so far as held, have more moisture than is desirable at this season of the year, and would not stand hard freezing weather without great damage to its germinating qualities.

It may be observed from this report that there is need of getting the seed already selected into secure storage rooms, and under such conditions as will cure out beyond any possibility of damage from too much moisture. The fine autumn season and the mild winter which has set in has had a tendency to influence towards the belief that the corn crop, as an entirety, is cured out into seed quality condition throughout the entire corn belt district. The tests so far made in Nebraska do not warrant expert judgment in placing the present germinating quality up to that of normal years.

The finding of a large per cent of moisture in the ears now would indicate that if hard freezing weather would set in it would injure a great deal of the corn that now tests high. Proper care should be taken at once in handling all corn intended for seed, that it may be made free from liability of freezing and that the present excess of moisture be reduced as rapidly as possible. It is not only important to get rid of the moisture, but to keep clear of moisture-accumulating influences.

Last year's experience should have taught the importance of energetic work in the early securing of seed corn, and the affording of proper means of curing the ears before the freezing period arrives. It is not enough to go into the field early in the fall season, in advance of the freezing, and gather the choice ears, but these ears must be systematically and properly looked after until the kernels are matured, cured out and in every respect safe from damage or injury by moisture, freezing or other deteriorating influence. There cannot be too much streess put on the importance of seed corn selection and seed testing. The farmer who grows ten acres of corn cannot afford to plant untested seed. Seed selection and seed testing is not alone for the scarce years, the years when some great calamity, like an early freeze, has spread over the land; it is for every year.

A new and active co-operative association of local butter and cheese manufacturers was formed in Minnesota recently. Nearly 100 factories responded to the call and sent delegates to St. Paul for the purpose of forming the association

Against Tuberculin Test

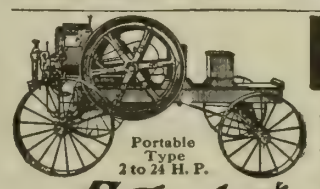
Every little while, first from one direction and then from another, comes a vociferous roar against the employment of the tuberculin test for tuberculosis in cattle. Generally the complaint is based upon misapprehension; sometimes it is based solely upon self-interest.

The state of Illinois, apparently for political purposes only, made it impossible for the Chicago Board of Health to insist that all cows furnishing milk to the city of Chicago be subjected to the test. At the hearing over the proposed bill large numbers of dairy cattlemen insisted that the application of the tuberculin test infected cattle with tuberculosis. Nothing could be more utterly absurd than this assertion, for the reason that tuberculin contains no tubercular bacilli, and consequently cannot produce infection. The protesting owners of cattle wished merely to protect themselves against the expense involved in administering the test, and against the loss involved in the slaughter of infected animals.

But sometimes there is a protest from another class of men. These are the men that have sent cattle, condemned by the test, to the packing houses in which government inspectors failed to find and indications of tuberculosis. From this failure they have assumed that in such cases there was actually no tuberculosis.

This assumption begs the whole question. It is well known that cattle that are only in the first stages of infection ordinarily show a violent reaction, while cattle in the advanced stages of generalized tuberculosis may show only a very slight reaction. The government inspection at the packing houses is, in a scientific sense, merely superficial. It takes cognizance only of such lesions as are readily apparent to the unaided eye. The hidden glands of the body, the hidden joints, the deeper recesses of the body, where the colonies of bacilli love to hide, are not closely examined. It is, therefore, impossible to say from such examination that an animal is not infected with tuberculosis. Nothing short of microscopic examination of every gland, every joint, every tissue that might afford a refuge for the bacillus, will justify the assertion that the animal is free from tuberculosis. For this reason many complainers who threaten damage suits against the proper authorities for condemning their cattle have been advised by their attorneys that they could not prove their cattle free from tuberculosis.

The Twentieth Century Farmer assures its readers that, where it is properly administered, the tuberculin test is reliable in ninety-eight cases out of a possible one hundred. If, therefore, the government inspection of condemned cattle at the slaughter house fails to show tuberculosis it is probably because the infection was slight, and only in its first stages, and that for this reason the reaction against tuberculin was more violent. It is wise for owners, regardless of apearances, to accept the tuberculin test as reliable in nearly all cases.



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Famous New Superior GRAIN GRADER
Unheard-of Offer!

$2.50 sliced right off the price of the great New Superior Grain Grader—if you'll present the coupon below to your dealer *at once!*

Think of it! The genuine New Superior—the grader and cleaner that is in use on thousands of American farms—the machine that has piled up hundreds of thousands of dollars profits for the owners—now offered at a lower price than ever. We want every farmer to know the New Superior. We want to give this machine more publicity than it has ever had before. To make farmers and dealers talk about it and investigate it, we're offering this $2.50 coupon.

This is only the beginning of your saving and earning by the use of this machine.

You'll get the best seed you ever had—sifted right out of your own crop and cleaned all ready for use. Wheat or oats, flax, barley, rye, timothy, clover—all cleaned and graded by one machine at one operation. *Big crops at low cost for seed.*

You'll have only *clean grain* to sell to your elevator man. That means *highest prices* and *no dockage*. And you'll *save the screenings* for feed instead of giving them to the elevator man and then *buying them back*.

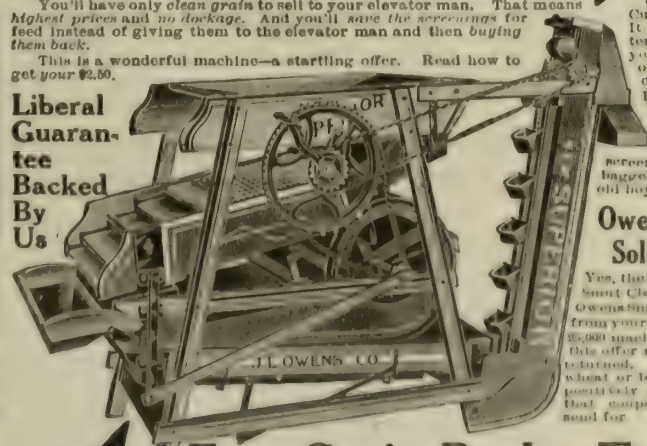
This is a wonderful machine—a startling offer. Read how to get *your* $2.50.

$2.50 At Your Dealer's for Coupon

The coupon below is good for $2.50 at your dealer's on a purchase of a New Superior Grain Grader and Cleaner. Cut out that coupon *this minute*. It's just that much money better than money because it starts you on the road to extra profits of hundreds—even thousands—of dollars yearly.

Remember this is the genuine New Superior—the machine you've heard of so often. The machine with the automatic, adjustable feed, 12 sieves and screens, big capacity hopper, double bagger—the machine a twelve-year-old boy can run.

Liberal Guarantee Backed By Us



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Yes, the coupon is good on the Owens Smut Cleaner too. We guarantee the Owens Smut Cleaner to eliminate smut from your crops or your money back. 25,000 machines have been sold on this offer and not one has been returned. Stinking smut in wheat or loose smut in oats positively ended. Cut out that coupon *now*—and send for

Free Grain Books, Too

"How to Increase Your Profits" and "Facts about Smut" should be in your library and they're yours for the asking. Let us send a postal. When you consider what these books are worth to you in dollars and cents you'll see no time. Write today for them—and don't forget to clip this coupon to take to your dealer. Address for books.

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City ..... State .....

Get 20% More Profits from Grain

Nebraska Organized Agricultural Meetings at Lincoln January 20

THE following index will show our readers what different meetings will be held in Lincoln during the week of January 20 to 24:

Monday, January 20

Corn Improvers' association; Fruit, Flower and Corn Show, city Auditorium, all week.

Tuesday, January 21

Corn Improvers' association; State Board of Agriculture; Improved Live Stock Breedrs' association, horse session; State Horticultural society; Good Roads association.

Wednesday, January 22

State Board of Agriculture; Improved Live Stock Breeders' association, swine session; State Horticultural society; Dairymen's association; Home Economics association; Bee Keepers' association; Sheep Breeders' association; Pure Grain and Seed Growers' association.

Thursday, January 23

Improved Live Stock Breeders' association, beef cattle session; State Horticultural society; Dairymen's association; Home Economics' association; Bee Keepers' association; Country Life improvement, evening session only.

Friday, January 24

Dairymen's association; Agricultural Extension Conference.

Among the celebrities from outside of the state will be Prof. Laurenz Green of Ames, Ia.; Hon C. H. Van Houten, Lenox, Ia.; J. P. Hess, Council Bluffs, Ia.; E. H. Favor, associate editor the Fruit Grower and Farmer, St. Joseph, Mo; Prof. W. M. Jardine, Agricultural Experiment station, Manhattan, Kan.; A. J. Glover, editor Hoard's Dairymen, and Prof. G. L. McKay, Chicago, Ill.

There will be banquets galore. Monday evening will be the Corn Growers' banquet at the Lincoln hotel On Tuesday evening there will be two banquets, namely, the Nebraska Fair Managers' banquet at the Commercial club rooms and the Horticultural society banquet at the Lindell hotel. On Wednesday evening there will be the Organized Agriculture banquet at the Lincoln hotel, at which Dr. Charles E. Bessey of the University of Nebraska will be the guest of honor. On Friday evening the Farmers' institute banquet will be held at the Lincoln hotel. Noonday cafeteria lunches will be served at the state farm during the week in an attractive style and at moderate prices.

A large share of the program of each of the several societies has been assigned to practical men throughout the state, who have learned what they know from actual contact with the soil and with climatic conditions, and who will give to those in attendance the benefit of their personal experience.

It is hoped that the meeting will be largely attended.

Take No Chances with Hog Disease

THERE has been so much discussion regarding the various diseases with which hogs are affected that hog owners have become confused in their notions respecting hog diseases, and this confusion has resulted in great loss. Whether hog cholera is the only fatal epidemic disease of hogs is a question not yet satisfactorily answered. It is, however, safe to assume that there may be, in all diseases, a mixed infection, and that hog cholera may, and in most cases actually does, constitute one of the elements of the mixed infection.

No one knows precisely what hog cholera is, since the cause of the disease has not yet been discovered. Even the most skillful and scientific specialists are not able to diagnose the disease with certainty. There are certain general characteristics, certain idiosyncratic lesions, that are generally found in pronounced cases of what is called cholera. These are not, however, always present. The wise grower of hogs will find it to his advantage to use as a preventive the serum treatment of cholera in order to arrest the progress of a possible cholera infection.

Certain farmers in Otoe county have been losing hogs by disease for the last two months. One farmer opened the carcass of a dead hog, found the lungs inflamed and filled with clotted blood, and decided for himself that his hogs were suffering from pneumonia, and consequently took no preventive measures against cholera. His hogs continued to die, and are dying yet. Now, pneumonia is rapid in its action and does its fatal work in a short time. It does not hang on for two or three months. This farmer should have had a post-mortem by an expert, and he would probably have learned that his hogs were suffering from mixed infection of which at least cholera constitutes one element. Cholera varies so much with different individuals in the organs attacked that no amateur judgment is worth very much.

These owners might have been saved a large percentage of their loss had they acted upon the probability that their hogs were suffering from some form of cholera and had used the serum treatment to prevent the spread of the disease.

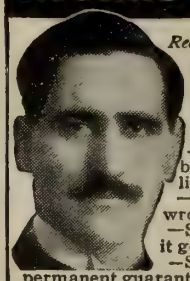
The only safe way when hogs are sick, no matter from what apparent disease, is to use the serum treatment as a preventive and thus prevent loss not only on the part of the owners of the infected herds, but also on the part of the neighbors whose hogs are as yet free from disease. This precaution cannot be too strongly urged; it involves a slight expense, but without it a much greater loss is certain to ensue.

Cornstalk Disease in Cattle

Dr. T. P. Haslam claims to have discovered the cause of cornstalk disease in cattle and to have developed a preventive vaccine that is now being used. It should be borne in mind that he does not claim this as a cure for the disease, but only as a preventive. It is claimed that cattle inoculated with this vaccine are thereby rendered immune to the disease. This puts the vaccine in the same class with blackleg vaccine and hog cholera serum, which are used not as cures for these specific diseases, but when used upon healthy animals act as a preventive of the disease. The doctor claims that healthy animals inoculated with vaccine which he prepares will not contract cornstalk disease, but how will the doctor prove this?

If the doctor's claims are ultimately thoroughly substantiated his work will be of inestimable value to all owners of cattle within the corn belt. Such claims as he puts forth seem almost too good to be true, and this paper will watch with great interest the progress of all experiments with the vaccine.

What Low Price Means To YOU



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—So simple a child can run it;
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—So efficient, a touch starts it going;
—So durable. I give you a permanent guarantee of satisfaction;
—And so positive am I that you'll buy one if I make my price low enough, that I'm going to sell my 1913 Model,

Galloway Engines
$50 To $300 Lower In Price

than asked for the next best engine on the market. You can't go wrong on a deal like this. My 30, 60, 90 days' FREE trial protects you. If you don't want the engine after the trial, send it back. I won't charge you a cent for the use you have had of it.

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of my exceptionally low prices and why I can undersell everybody on engine of equal quality. It also explains what a good engine should be and how much to pay for it. Write for book today, learn these things for yourself and get my special 1913 proposition and prices. Write NOW, before you forget it.

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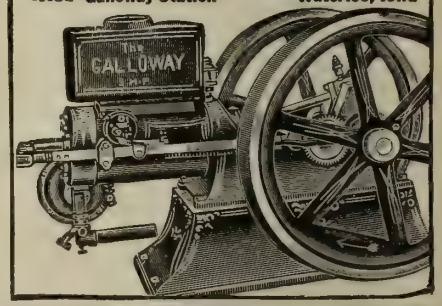

Sharpen Tools Free!

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LUTHER DIMO-GRIT GRINDER

Has metal frame, enclosed shaft-drive, dust-proof bearings, runs easy as sewing machine. 25 times faster than grindstone, 10 times better than emery Will not draw temper. Special attachments—forge, milk tester, jig saw, rip saw, lathe, drill, etc., furnished extra if desired. Fully guaranteed Write for free book on tool grinding and liberal free trial offer.

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The engine best suited to do your work is the engine you can depend upon to go with fewest repairs, to use less gasoline, and to last the longest in actual hard, every-day service.

Fuller & Johnson Gasoline Engines are built in sizes from 1 to 20 h. p. Stationary and Portable, for general work, pumping and other special requirements. Their great durability, economy in fuel, high quality and constant performance give you the utmost in farm power at lowest cost per year.

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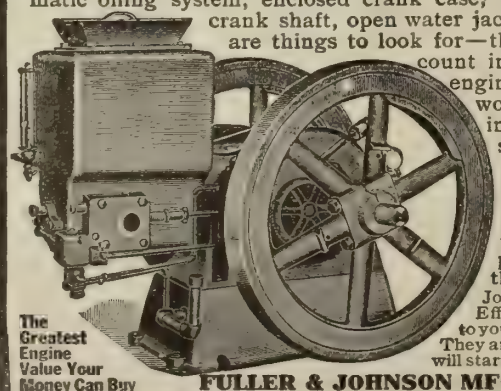
are mechanical masterpieces, built by engine specialists. We guarantee them to do the work for which they are designed with supreme satisfaction, ease and economy. They are massive, powerful, reliable and yet amazingly simple. See the heavier castings, larger bearings, automatic oiling system, enclosed crank case, extra heavy crank shaft, open water jacket. These are things to look for—things which count in buying an engine for your work, whether inside or outside. Comparison with any other engine, point by point, will prove the superiority of the Fuller & Johnson Double Efficiency Engine to your satisfaction. They are frost-proof—will start when wanted.



The Famous Fuller & Johnson Farm Pump Engine

The little labor-saving giant that does more work than a team on the farm. Pumps water, runs the corn sheller, fanning mill, washing machine, separator, churn—any and every kind of small machinery. Will pump 400 to 1,000 gallons an hour. Yet costs little. Gives certain and positive water supply, regardless of conditions.

"People's Price" Engines

Here is an engine built with the same care and embodying the principal superior features and quality of our famous Double-Efficiency line, which we have been able to make to sell at a **popular price.**

It has all the newest improvements—strictly up-to-date. You get a wonderful money's worth in the Fuller & Johnson People's Price Engine. No other engine concern in America can give you the high-standard Fuller & Johnson quality at such prices.

It will pay you to get in touch with Fuller & Johnson and learn how they can save you money on your farm power requirements. The coupon is for your convenience, or a postal will bring full information.

FULLER & JOHNSON MFG. CO. (Est. 1840), 1 Thornton St., Madison, Wis.

FREE ENGINE ADVICE COUPON

We've helped thousands of farmers decide on the size and kind of engine best suited for their *exact* needs. Our Engineering Department will help you without charge if you simply fill out and mail this coupon.

1—What size engine are you figuring on?

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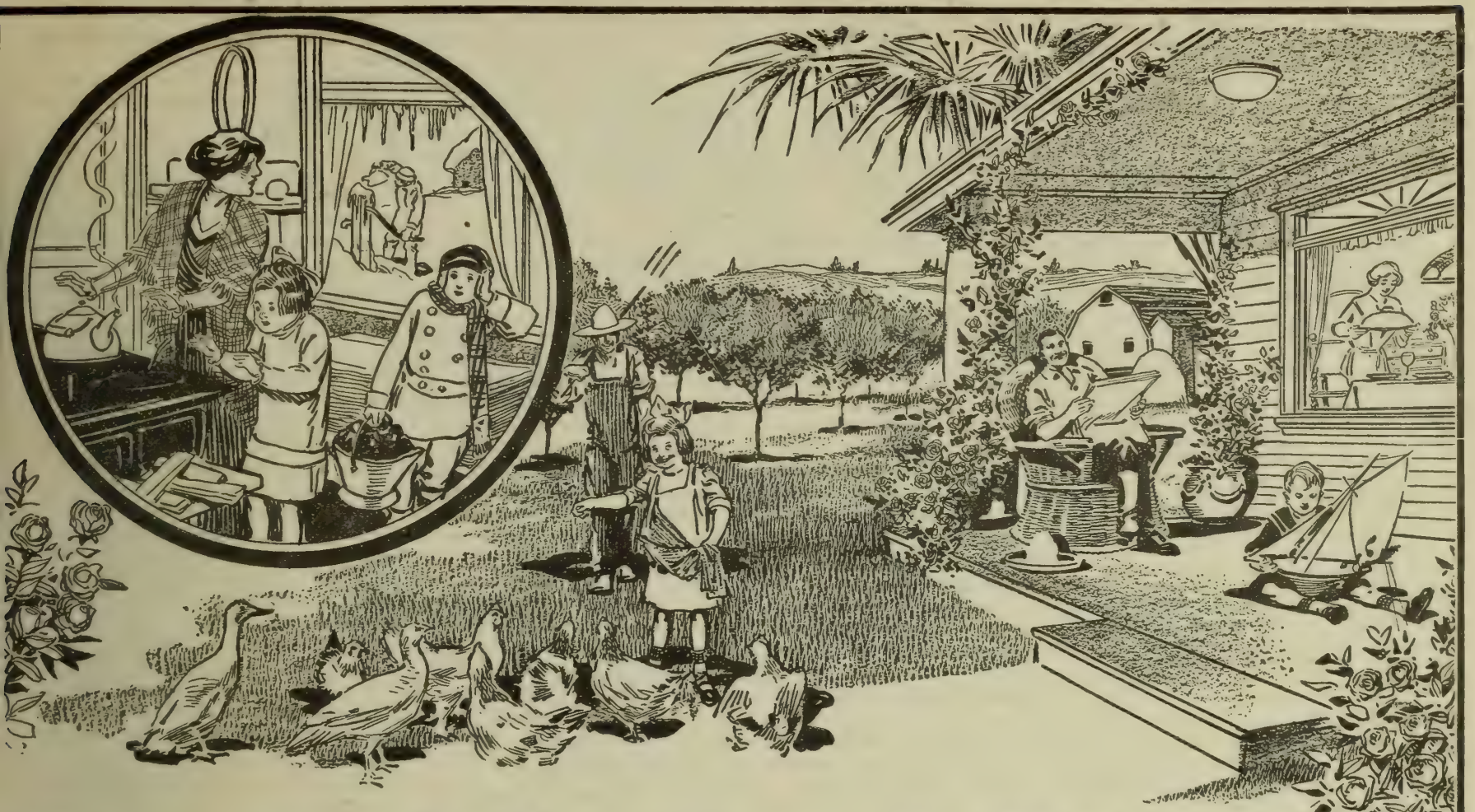


Down On the Louisiana Gulf Coast They're Harvesting Third Crops Now

While you Northern farmers are watching your corn land, valued at around $150 an acre, lie idle under its cover of snow, the Louisiana farmer, on land bought at *one-fifth the price*, is preparing to gather the final crop of the year, planted *after* the corn was harvested.

He's fattening his bank account while you are drawing on yours. Winter is an asset to him, because he grows crops that bring high prices just because your farm is idle. While your stock is housed in expensive barns and eating up the contents of the corncribs, the Gulf Coast farmer's stock is running in the pasture. Corn is a **money crop** to him, not a safeguard against cold.

Just about the time your hired man is bringing in a bucket of coal or shoveling off the snow the **Southern** farmer is gathering a few oranges for his breakfast.

The Climate is Perfect—the Soil is Deep, Rich, Inexhaustible--and There is Good Growing Weather Every Month in the Year

January and February are the **plowing** months, and the **harvest** months run from now to December.

There's a **big dividend-producing** farm for you down on the Gulf Coast of Louisiana. The land will cost you **one-fifth** what land, not so good, will cost you in the North. You can grow **all** the staple crops you now grow. Your farm implements will do all the work for you there and your horses and stock will thrive. With two or three crops a year instead of one, the bank account grows fat rapidly. There's none of the long waits between deposits; none of the heavy withdrawals for living and heat.

The few times a fire is needed there's wood for the hauling. There's none of the heavy building needed, either in the house or the barns, because they don't know what a blizzard looks like in Louisiana. The Gulf breezes take care of the North winds and drive them back.

In the summer, there's **hot, growing weather,** but the heat isn't of the withering sort, because of that same Gulf breeze. Louisiana, with its 40 to 60 inches of rain a year, knows no droughts that cut off a crop just when it looks most promising. And the soil is **your** kind—you can have **your choice of ridge, prairie or bottom land.** It's all **deep, rich, fertile,** and practically **inexhaustible.** Thousands of acres of that prairie land have never had a plow on them. Cattle have browsed there on the rich, native grass and have **done their part in enriching the fields.**

The Splendid Advantages of Louisiana

To the Farmer:

A growing season 12 months long.

Two and three crops a year instead of one.

Deep, rich, soil of the sort you are farming now, at one-fifth the price.

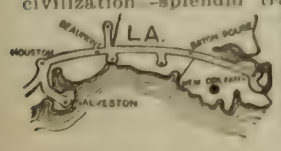
All the staple crops you now produce and **in addition** such money-makers as cotton, rice, sugar cane, lespedeza, and a score of others.

Labor at **one-half** the price you now pay.

Markets are as close or closer to you than any you now reach.

Outdoor life the year 'round.

No pioneering—**all the conveniences** of civilization—splendid transportation facilities. The opening of the Panama Canal, now but a short time off, will multiply the prosperity of the South many fold



To the Farmer's Wife:

City conveniences that make work easy.

Electricity to do the washing and ironing, the churning and end the drudgery of lamp cleaning.

Telephones that bring your neighbors always within speaking distance.

Rural free delivery to keep you advised of the world's news.

Schools and churches of the best.

More time to devote to the chickens, garden and bees — the profits from which will educate the children.

Oranges, figs, lemons and other fruits from your own trees.

A climate that means health to you and yours.

Go and See for Yourself via the Frisco Lines

FRISCO LINES

Homeseekers' Excursion at low rates from your home town on the first and third Tuesdays of each month.

Send the Coupon for full information.

Get all the figures—learn the whole truth right away. Read the experiences of hundreds of others—find out just what you can do. A superb book full of vital facts, actual photographs and just the information you want, sent free.

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I want to know ... real facts about the Louisiana Gulf Coast. Please send me your complete literature free.

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Handling Soil for Production

Article I—Necessities for Plant Growth

This begins a series of articles on the subject, "Handling the Soil for Production," which will set forth in a simple and direct manner the fundamental laws governing plant growth, and will recommend a method of operation by which the tiller of the soil may work in co-operation with these laws and receive the help they furnish instead of working in opposition to them, with the consequent loss involved in trying to antagonize nature.

They will try to bring together facts which have been widely separated in previous publications and will endeavor to co-ordinate them in such a way as to be of help to everyone. Natural laws are constant. The conditions under which they operate are various, but with a full understanding of the laws concerned in agricultural production every farmer, whether in the humid, semi-humid, arid or semi-arid districts, may be enabled to conduct his operations in such a way as to conform to nature's requirements.

PLANTS, in order to grow, must have material out of which to build plant tissue, and this material must be of a kind adapted to the use for which it is required, and it must be in a condition such as will enable the plants to make use of it.

A plant cannot make something out of nothing. If one wishes a beef steer to put on beef he must feed the steer something that it can make beef out of. The steer cannot make beef out of nothing. Just so, a plant must be furnished material out of which to build new tissue or it cannot grow. More than this, this material must be in such condition and of such a nature that plants can use it for purposes of growth. The first requisite, then, for plant growth is plant food in the soil.

Plants Derive Food from Air

It must be understood, however, that not all the food of plants comes from the soil. Part of its food the plant derives from the air through its leaves. The leaves of plants have the power to dissociate the carbon of carbon dioxide from the oxygen and to use the carbon and release oxygen into the air. The carbon for the woody fiber of plants, the sugars and starches in the tissues and juices of plants are derived in this way from the air. It may be said that all of the carbohydrate part of plants is derived from the air, and none of it from the soil. Thus the part of the plant that furnishes to animals heat, mechanical energy and fat comes entirely from the air through the leaves of plants, and none of it from the soil.

All other foods that plants use for growth are derived from the soil, and unless these exist in the soil in sufficient quantity, and in proper condition for utilization of plants, plants cannot grow.

The principal plant foods in the soil requisite for plant growth are nitrogen, phosphoric acid, potash and sulphur. There are several other elements of plant food in the soil, but they are used in such small quantities and are so generally present in all soils that explicit reference to them, for practical purposes, is not necessary.

Things That Are Not Plant Food

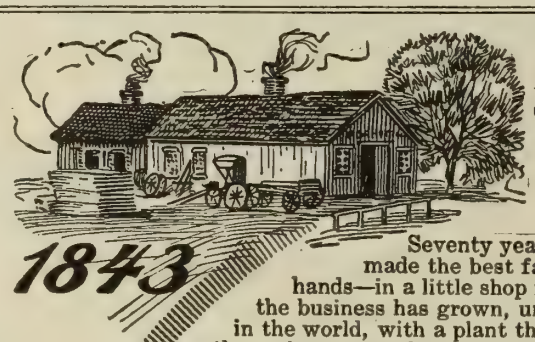
Nitrogen is that element of plant food that furnishes the materials for vigorous vegetable growth. When there is an excess of nitrogen in the soil there is a corresponding exce s in vegetable growth, which is not always desirable, especially in the case of cereal plants. Pure nitrogen, however, is not a plant food. It is not in a condition to be available by plants for purposes of growth. Before it can be used by plants it must be oxidized into a nitrate, and this nitrate is the only form in which the plants make use of it. Likewise potassium is not a plant food. Before it can become available for plants it must be oxidized into potash; then it is ready for use by the plants. So also phosphorus is not a plant food. To become a plant food it must be oxidized into phosphoric acid; then the plants can use it.

Phosphoric acid might be called the reproductive food of plants, for it is this element that governs largely tne production of seed. Whenever it is noticed that vegetation is becoming year by year less and less luxuriant in growth, it may be safely assumed that the supply of the available nitrogen in the soil is becoming less and less. Then if more luxuriant growth is to be had the soil supply of nitrogen must be increased. Whenever it is noticed that plants fail to mature a full crop of seed, and that this failure year by year becomes more and more marked, it may be safely assumed that the soil supply of phosphoric acid is being exhausted. When such is the case the supply of phosphoric acid in the soil must be increased if plants are to produce profitable crops. Potash furnishes a part of the material of which plant tissues are composed and is also supposed to act as a general stimulant to all the functional activities of plant life. Whenever plants exhibit a general debility, have not strength enough in their tissues to hold them erect, and exhibit signs of general tissue weakness, it may be safely assumed that the available supply of potash in the soil is being exhausted to such an extent as to render profitable growth impossible.

Recent Chemistry Discoveries

Recent discoveries in the field of chemistry have shown that plant tissues contain manyfold more sulphur than had at first been supposed. This sulphur is found by chemical analysis of the plant tissues. Precisely what function the sulphur plays in the development of plants is not clearly and definitely known, but it is evident that if it is found in liberal quantities in plant tissues it must serve as an Important element in plant food.

Ordinary soils, both surface soils and subsoils, contain large amounts of crude plant food in a condition that renders it unavailable for immediate plant use. This crude plant food must be oxidized before plants can use it. It is estimated that the upper six feet in the an acre of ordinary soil contains plant food in both available and unavailable condition to the value of $75,000. It frequently happens, when the surface soil of a field that has been in cultivation for a long term of years becomes exhausted, or partly exhausted, of the elements of plant food, that by plowing to a greater depth crude plant food may be turned out to the action of the elements which will oxidize it, and by this means add a sufficient supply of available plant food to restore the soil to its original condition of fertility. One of the means



The World's Greatest Wagon Factory

1843

Seventy years ago (in 1843) Peter Schuttler made the best farm wagon in the world—with his own hands—in a little shop in Chicago. From the little shop of 1843 the business has grown, until today it is the greatest wagon factory in the world, with a plant that covers over 20 acres, still owned and under the active personal management of Peter Schuttler's grandsons.

The Old Reliable Peter Schuttler Wagons are built as carefully—as honestly—and as substantially today as they were in 1843. They have stood the hard test of racking service on the plains and mountains for 70 years. During all that time they have sold at higher prices than any other wagon—yet the demand for them has steadily increased year after year—because they have always been built better and have given more satisfactory service.

No inferior materials ever enter our factory, and the Peter Schuttler Wagon is made in but "One Grade of the Highest Quality."

Our sole aim is to make the "Old Reliable" Peter Schuttler—the "One Best" wagon that can be built, regardless of expense—one that will stand the test of hard service on the roads—one that can be sold at a fair price and that we can positively guarantee to give absolute satisfaction.

Year after year we have added new improvements and perfected new inventions, and have invariably maintained the high standard of Peter Schuttler Wagons. Our latest and most remarkable invention is the

Peter Schuttler Roller Bearing

The Greatest Improvement of Farm Wagons in 50 Years

Every machine on the farm has been improved—except the farm wagon. Our latest invention will revolutionize farm wagon construction. Every good farm wagon will soon have roller bearings, because they run so much easier, and do at least one-third more work.

The Schuttler Patented Roller Bearing Construction has been perfected and made so practical that it gives absolutely satisfactory results, with but little increase in cost over the ordinary farm wagon.

Write for our Free Book which fully explains the Schuttler Patented Roller Bearing Construction, and gives official tests by U. S. Gov. Road Experts.

PETER SCHUTTLER CO.
2523 **W. 22nd Street, CHICAGO, ILL.**

1913

of restoration of fertility is to bring up new soil that has never seen the light of day, so that the crude plant food that it contains may be oxidized and made available for the use of plants.

Chief Sources of Oxygen

Oxidization consists in forming a union between the material to be oxydized and oxygen. The chief sources of oxygen for oxidization are the oxygen of the air and oxygen of water, which is a compound of oxygen and hydrogen. Soil that is thrown open to the action of the air will have its crude plant food oxidized by the action of the oxygen in the air and in the rainfall. The crude plant food that is in the subsoil, and which is occluded from the air, may be oxidized in part by the water, which soaks down into the subsoil from the surface.

Virgin soils generally contain available plant food in sufficient quantity for profitable plant growth, but if cropping of such soils is long continued it may exhaust the supply of available plant food to such an extent that profitable growth will be no longer possible. It is estimated that an ordinary crop takes from every acre of land from 60 to 100 pounds of nitrogen, from forty to sixty pounds of potash and from eighteen to twenty-four pounds of phosphoric acid. Drawing this amount of plant food year by year from the soil will in time exhaust the available supply. It will then become necessary either to replenish the supply by the use of fertilizers or to bring up from the subsoil new supplies for oxidization.

Only a part of the plant food stored in the surface soil is sufficiently oxidized to be available for the use of plants, and very little of that contained in the subsoil may be so used.

The successful grower of plants will have to bear in mind the fact that a sufficient supply of available plant food in the soil is the first requisite for the successful and profitable growth of crops.

A Model Dairy Establishment

The Millet Farming company has been organized by members of the Dowler family at Millet, Alta., to operate a model dairy establishment. The buildings to be erected next spring will contain all the most modern appliances and improvements, including a power plant, water system, milking machines and butter-maker. The plans call for a thorough, modern, sanitary steam-heated structure, with proper ventilation system and plenty of light. Every new idea will be embodied in the scheme of construction to make for the higher art of mixed farming. The company has already in stock a herd of Ayrshires, and other pure-bred animals will be added by the time the plant is in readiness for occupancy.

Arizona holds first place among the copper-producing states. The product for the year is estimated at 350,000,000 pounds, and is not only the largest output ever made by that state, but the largest ever made by any state for one year. In Montana the output will be 40,000,000 pounds less.

Each a Lucky Car

By R. E. Olds, Designer

In every make an occasional car proves almost trouble-proof. No breakdowns, no repairs.

The man who gets it tells his friends he got a lucky car.

But every buyer of Reo the Fifth gets a lucky car. This is how I insure it.

How I Do It

A lucky car means simply a car built with proper care and caution. I have spent 26 years in learning all that is necessary.

I have all of my steel made to formula. Then every lot is analyzed twice to prove its accord with the formula.

Then the finished parts are tested. In every part I require over-capacity, not less than 50 per cent.

The gears are tested in a crushing machine, to prove that each tooth will stand 75,000 pounds.

Springs are tested in another machine for 100,000 vibrations

Added Cost

I use big tires—34x4—to save you tire expense and trouble. This year, by adding 30 per cent to my tire cost, I have added 65 per cent to the average tire mileage.

I use in this car 190 drop forgings, to avoid all hidden flaws. Steel castings would cost half as much.

I use 15 roller bearings—11 of them Timken, 4 Hyatt High Duty. The usual ball bearings cost one-fifth as much, but ball bearings often break.

I use a $75 magneto to save ignition troubles.

I doubly heat my carburetor—with hot air and hot water—to deal with low-grade gasoline.

I use a centrifugal pump, instead of a syphon, to insure positive circulation.

I use 14-inch brake drums for safety. Also seven-leaf springs, two inches wide.

1,000 Tests

The various parts of this car, during the making, get a thousand tests and inspections.

Each engine, for instance, is tested 48 hours—20 hours on blocks, 28 hours in the chassis.

Fitted parts are ground over and over, until we get utter exactness.

Each body is finished with 17 coats. It is deeply upholstered with genuine leather, filled with the best curled hair.

The electric dash lights are set flush with the dashboard. Thus the car's appearance shows the care we use.

Center Control

No other car has such easy control as you find in this Reo the Fifth.

All the gear shifting is done by moving a handle only three inches in each of four directions.

Both brakes are operated by foot pedals. So the car has no levers, either side or center, to clog the way in front.

You get in this car the wanted left side drive. The driver sits close to the cars he passes. Yet you shift the gears with your right hand, just as with the old right hand drive.

Costs Me $200 Per Car

Reo the Fifth, without these precautions, could be easily built for $200 less. For the first few months you might not know the difference. But in years to come this skimping might cost you several times $200.

I know this well, for I have built cars for 26 years — over 60,000 of them. I know the cause of troubles.

I save this $200 per car by building only one model, by building all my own parts, by wonderful factory efficiency. And I put that saving into these extremes, to save you after-cost.

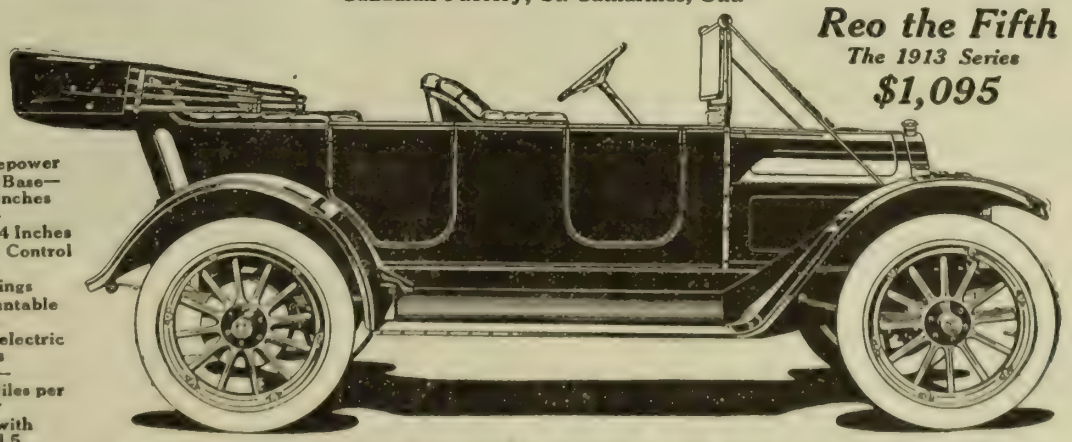
If you think that it pays to have a car like this, ask us to send you the details.

Our thousand dealers now are showing the 1913 model of Reo the Fifth. Write for our catalog and we will tell you where to see the car.

R. M. OWEN & CO. General Sales Agents for **REO MOTOR CAR CO., Lansing, Mich.**

Canadian Factory, St. Catharines, Ont.

Reo the Fifth
The 1913 Series
$1,095



30-35 Horsepower
Wheel Base—112 Inches
Tires—34 x 4 Inches
Center Control
Roller Bearings
Demountable Rims
Three electric lights
Speed—45 Miles per Hour
Made with 2 and 5 Passenger Bodies

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer, self-starter, extra rim and brackets—all for $100 extra (list price $170).

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One farmer in each community can get one for helping us introduce Trojan gates to his neighbors. Write for particulars.

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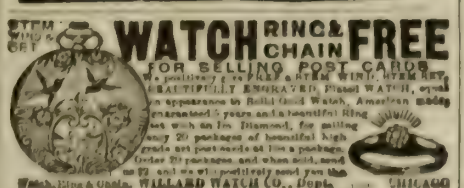

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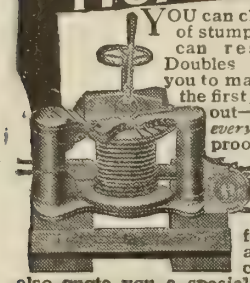

YOU can clear an acre or more of stumps a day. No stumps can resist the Hercules. Doubles land value—enables you to make $1200.00 on 40 acres the first year after stumps are out—and $750.00 in crops *every* year after. Get the proof. Why not

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Book tells all the facts—shows many photos and letters from owners—tells all about the many Hercules features. We'll also quote you a special money-saving price proposition that *will interest you.* Address

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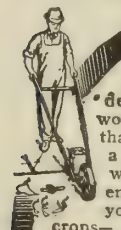

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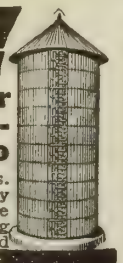

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Guatemala's Progressive System of Railways

By Frank G. Carpenter

GUATEMALA CITY.—The Pan-American railway will soon be connected with the Guatemala system. It already comes to the boundary of the republic and only twenty-five or thirty miles of track are yet to be laid to connect it with the Guatemala Central, which comprises the lines running from here to the port of San Jose, on the Pacific, and those which cover the western slope of this country. Indeed, travelers can now go to Mexico City by rail, piecing out the short break of a day's ride on mules. Moreover, extensive plans are under way to extend the Guatemalan railways into Salvador and Costa Rica, and within a comparatively short time we shall be able to reach the Panama canal by railway.

By Train to Guatemala

In this way Guatemala City is only within about four days from Mexico City. When the break is completed it will be only three days, and the time to St. Louis will be less than six days, while that to New York will be just about one week. From Guatemala City to St. Louis the distance is 2,824 miles. To New York it is 3,884 miles, or only about 700 miles less than from New York to San Francisco. It needs only an extension of a little more than fifty miles to connect the roads here with those of Salvador, and the day seems to be fast coming when the Pan-American railway from New York to Buenos Ayres will be in operation. The distance between these two points by rail will be only a little over 10,000 miles, and of this between 6,000 and 7,000 miles have already been built. Add to that an extension equal to the distance between here and New York and we shall have this great intercontinental railway with several hundred miles to spare.

New Railroads of Central America

Everywhere I go in Central America I hear the people talking of new railroads. One of the projects of Panama is to build a line from Panama City to the town of David, the largest place in the northern part of that republic. Costa Rica will eventually be connected with Panama, Nicaragua and Honduras, and the concessions for the extension of the roads here have already been granted. Both the old and new lines are practically owned by Americans, and from New York to Panama the indications are that the lines will be under American control. The president of the Pan-American extension to Guatemala is Mr. D. O. Thompson, who was formerly our minister to Mexico. The railroads of Costa Rica are owned by the Keith syndicate, and the same is true of the railroads of Guatemala. All of the lines have been planned by Americans and built by Americans, and there will probably be one American company operating the whole.

From Ocean to Ocean

Guatemala has now an intercontinental line from the Caribbean sea to the Pacific. This is, with the exception of the Panama railroad, which is about forty miles long, and the Tehuantepec line, which is 186 miles long, the shortest of all the roads which connect the Atlantic and Pacific oceans. Its total mileage is less than 270, and it runs from Puerto Barrios on the Caribbean sea to Guatemala City on the top of the pass, thence to San Jose de Guatemala, the port on the Pacific. The distance from Barrios to the capital is 195 miles, and from here to San Jose it is just under seventy-five miles.

Regular trains are running over both these roads, and when Secretary Knox was here he crossed the continent that way. He was taken from one ocean to the other on special cars with pilot engines running along in front to forestall any danger of accident, and—the unkind say—to be sure that no dynamite mines had been planted to blow up the train. The road was decorated for the occasion and was lined with palm branches, flags and school children processions from one end to the other. There were bands at all of the stations, and when the cars passed along the shores of Lake Amititlan a fleet of canoes manned by Indians went through certain maneuvers in his honor.

Native Scene on Guatemala Railroad

The Guatemala Railway

The road from Guatemala City to the Atlantic is now largely owned by Minor C. Keith and other capitalists, supposed to be associated with the United Fruit company, and I am told that they have made arrangements to acquire the other roads of Guatemala. This is the Guatemala road, which was formerly called the Northern railway. Its first section was laid out and built by an American engineer named Miller; it was begun in 1884 as a government project, and it was then provided that every Guatemalan should pay $4 a year to aid in its building. The work was started, but a war broke out and the funds for the railroad had to be used to support the president.

The year following another contract was made, and along in 1892 the work was again under way. At that time 10 per cent of the salaries of the public officials and 5 per cent of all the town revenues were ordered to be set aside for railroad construction. The contracts were let, and along about 1896 or 1897 five sections had been built, extending from the seacoast 130 miles up the mountains. At that place the road stopped. It began at the ocean and its terminus was a jungle. Many of the ties rotted and the rails rusted, until 1904, when Sir William Van Horne, Minor C. Keith and General Tom Hubbard got a new concession for it and pushed it on to its completion.

It was finished in January, 1908, and it is now one of the best roads in Central America.

This Northern railway is well built; the gauge is three feet and, with the exception of one place, the greatest grade is 3 per cent. For a short distance it is more than 4 per cent. The road has over 300 steel bridges, one of which is more than 600 feet long, and another 743 feet long; the latter bridge is 229 feet high. This road has a guaranteed income of $200,000 a year, the concession providing that the government will insure the 5 per cent dividend on the $4,000,000 invested in it. In addition to this, last year it made more than $100,000, and the traffic is steadily growing.

Port Barrios to Guatemala City

It was over this road that I came into Guatemala. I landed at Port Barrios on one of the regular steamers which call there on their way from Panama to New Orleans. The port has a wide and deep harbor and vessels of the heaviest draft can come to its docks. The railroads pass for thirty or forty miles through the rich banana plantations of the United Fruit company and carry their freight right to the steamers. While I stayed at Port Barrios about 10,000,000 bananas were loaded, and on my way over the road we were some hours passing through the plantations.

Leaving Port Barrios, the cars go right into the jungle; they wind their way through the Motagua valley, where the soil is a rich sandy loam about fifteen feet deep; here

the rainfall is abundant and nature has on her seven-league boots; palm trees 100 feet high wall the railway and the vegetation is the most luxuriant to be found in the tropics. After a few miles of such scenery you enter the great banana estates, and the cars fan the leaves of banana plants from thirty to forty feet high, many of them loaded with fruit. There is perhaps forty miles of such riding, and then you come to the mountains, where the vegetation is dryer and with many herds of cattle feeding upon it

Like Arizona

The scenery now suddenly changes; it is almost like crossing from the valley of the Nile into the desert. In the valley the rainfall is over 100 inches per year; on the highlands there is almost no rain, and as you ascend the mountains you pass through a region like the desert lands of New Mexico or Arizona; the ground is dry and cacti abound; the trees are silver gray; there does not seem to be enough moisture to color the leaves; the only green spots are along the beds of the streams. We can still see the Motagua river, but beyond its banks is the desert. In its upper course the river looks not unlike the Jordan, and the vegetation is no more luxuriant than that which lines the famed river of Paestine,

Still farther inland the mountains make one think of the Rockies; they are bare, ragged and torn by ravines upon which hang thirsty air plants, the orchids of the desert. Now and then you pass little valleys with irrigated patches along the stream running through it; here are thatched huts, the homes of the Indians. Such valleys are but a few hundred feet wide and the population is scanty.

A Ten-Dollar Breakfast

My train stopped for breakfast at Zacapa and my meal cost me $10. When I left I took a bottle of apollonaris with me, for which I was charged $4, and also a package of cigarettes which cost me $5. I gave a five-dollar fee to the parlor car porter at the close of the trip and once paid a boy a dollar to bring me a drink. All of these figures, however, represent Guatemalaa money, of which it takes $17 to make $1 of ours, so that a five-dollar bill equals just about 30 cents.

Zacapa is the biggest city between the Caribbean and the capital; it is 100 miles inland, lying at the foot of the mountains and only 600 feet above the sea. During the next ninety miles we went upward over 4,000 feet, and here at Guatemala City we are just about a mile high.

Railroad Scenes

The scenes on the Guatemalan railroad are interesting. The passengers consist of Indians, half-breeds or ladinos, and whites, who are few and far between. The cars are first and second class, and we had at the end of the train a little parlor car, the extra charge for which was about $68 per day. I spent a part of the journey in the second-class car. The seats were much like those of a street car, consisting of long benches running under the windows and a back-to-back bench in the center. Here most of the passengers were Indians or negroes; they were dressed in cotton, and the Indians had high straw hats with crowns shaped like a sugar loaf. There were many bareheaded Indian women. Both men and women were smoking cigars or cigarettes; their baggage was hung up on hooks over their heads. An Indian newsboy in his shirtsleeves passed through the car selling candy and beer.

At one of the stations a company of soldiers came in; they were barefooted and their uniform was of calico, while their hats were of straw; each man carried a gun, but this was the only sign of warfare about him. I am told they receive from 10 to 15 cents daily, and that the government is always behind in its pay. The most of the soldiers are Indians, who are forced into the army.

American Railway Men

This train had an American engineer and an American conductor, and this is the case with the other railways of Guatemala. The natives have no experience and they cannot be trusted to handle the trains The conductors receive $100 gold per month and the engineers have similar salaries. The conductors tell me that the Guatemalans are great travelers and that both the first and second-class passenger traffic is good. First-class fares are in the neighborhood of 3 cents gold per mile, and the second-class are about half the first-class. The Indians patronize the roads and the conductors say that they have to watch them carefully to collect all the fares. They are smart and will try to cheat their way from station to station.

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Crisp, sweet bits of toasted Indian Corn, to be served with cream or milk.

Always Ready to Eat Direct from Package—

Always Delicious

Sold by Grocers everywhere.

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Send for the book that tells *all the facts* about *every* part of the Spreader that stands on its record of twelve years' use; that is used and endorsed by over 100,000 progressive farmers; a spreader that has more *good advantages, simpler design* and *better construction than any other.*

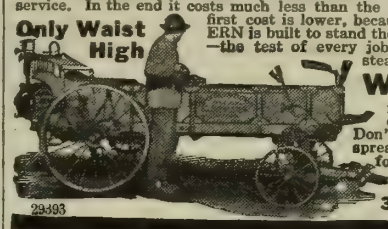
Great Western Now Made "Low Down" For Easy Loading

This is the *old reliable*—retaining all the features that have made it famous and successful—but built *low down—waist high*—with *safe clearance* from the ground. Wheels *under* the load. Buy the *best* spreader while you're buying. Avoid trouble, delays and expense.

Buy Your Last Spreader Now

It will be a GREAT WESTERN, because this is the machine for longest service. In the end it costs much less than the shoddy spreader whose first cost is lower, because the GREAT WESTERN is built to stand the strain of all conditions—the test of every job—and to give years of steady, continuous service.

Only Waist High



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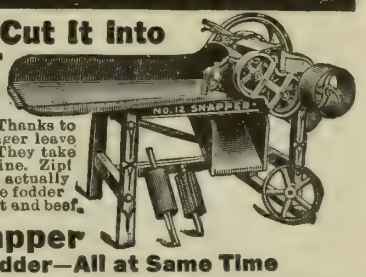
Let This Wonderful Machine Cut It into Tempting, Nourishing Food for Cows, Calves, Steers and Sheep



With milk, butter, beef and veal bringing sky-high prices you can't afford to waste one single stalk of corn fodder. Thanks to the invention of this wonderful machine, most men no longer leave cornstalks in the field to be tramped down and wasted. They take the cornstalks, ears and all, and jam them into this machine. Zip! Off come the ears (in many localities 50 per cent of them are actually husked), and at the same time sharp knives are cutting the fodder into small, choice morsels that make higher-priced butter-fat and beef.

SMALLEY Cutter and Snapper

It Snaps Off the Ears and Cuts Fodder—All at Same Time

When the weather is too cold for field husking, haul in a few loads of cornstalks and do part of your husking and fodder cutting in the barn. With this machine you will always have plenty of fresh feed that will keep your stock in first-class condition.

Capacity, 15 to 30 bushels snapped corn and 1½ to 3½ tons dry fodder; 1 to 1½ tons corn hay per hour when shredder head is used. Small gas engine furnishes ample power.

The Powerful Smalley force feed cutter will also give you fine results in dry feed cutting. You can purchase the plain machine now and the blower and trucks next fall.

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Look into this winter cutting proposition. You'll be amazed at what a money-maker the Smalley Combined Snapper and Cutter is. Just send your name on postal and by return mail you'll get our latest catalog showing the entire line of Smalley Machines. (66)

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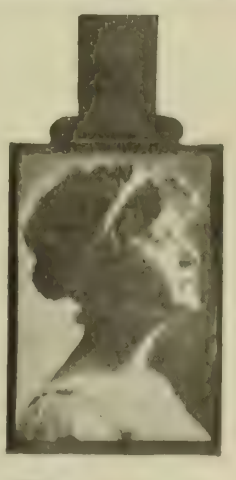

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But she can cook a dinner that would make an Indian smile;
Plain old cooking, nothing fancy, but it's honest through and through,
And you'll find no shams a-hiding to come mocking back at you.

She ne'er took domestic science and she doesn't need the same;
She learned her's in a kitchen, and she knows the little game—
Learned it in a country kitchen, where the best is always made,
And she scorns the foolish fripperies that the college cooks parade.

She's a pupil of experience and she certainly is a cook,
She doesn't have to follow what's been written in a book;
She knows each little crook and turn, she never makes a test,
But the cooking she produces is the kind that's ranked as best.

When you've tried all sorts of places, when you're sick of what they give,
When you know the pleasure's vanished and you only eat to live;
You just go until you're hungry, then you'll want real food to eat,
And you'll bank on mother's cooking, for you know it can't be beat.

—Harry M. Dean.

Our Home Chat

One of the most convenient things for use in the kitchen is a pair of scissors. These may be kept especially for kitchen use, and will prove a good investment. Celery may very quickly be cut into disks, and lettuce shredded, with scisso ' Vegetables and fruits may be quickly trimmed of roots and prepared. With the use of scissors the core is quickly removed from grapefruit. Parsley is easily minced for seasoning by their use.

Another great convenience is a scalpel, which adapts itself to so many uses that they could scarcely be enumerated. Good tools to work wit' reduce the annoyance and labor almost half, and anyone with ingenuity discovers for herself new ways of making work easier. Your editor believes in doing work the easiest possible way to get right results. Whenever a device or machine can be found that will reduce the expenditure of energy, save actual labor and make time for other more congenial things we are heartily in favor of the machine. There is abundant opportunity for exercise in the farm home, after all the labor-saving devices, which actually save labor, are installed, and no imminent danger of the farm woman lapsing into a state of innocuous desuetude from lack of occupation.

THE EDITOR.

That "Rising Question"

Mrs. Shepler struck a keynote in economy as well as efficiency in her recent article on the uses of soda; and, like her, we could not keep house without it. If a piece of tinware wants polishing, a whisk with a little soda will bring it out bright and shining, and even a silver spoon may be rubbed with it without danger of scratch. Boil the lamp burners in soda water and they will come out bright and shining with a bit of rubbing, the soda removing all traces of oil better than soap could do.

On a hot summer day, when you have reason to fear that the milk is on the verge of being sour, add a small pinch of soda. When washing milk utensils a little soda added to the water is better than soap. Just rinse off the milk and then wash thoroughly with soda water; give a dash of cold water and then scald. This applies to everything, from separator to churn, and if thoroughly done the milk products will always be sweet and of fine flavor.

Soda is a great source of economy to the farm housewife, who usually has an abundance of sour milk a' cream. It is much cheaper than baking powder, only one-third as much is required and, combined with the lactic acid of the milk, its leavening properties may always be relied upon. A teaspoonful of soda to two or three cup uls of sour milk is about the right proportion, the amount, of course, varyi g a little according to the condition of the milk. We prefer it when it has ju t reached the clabbered stage.

If you happen to run out of baking powder or cream tartar and have no sour milk, just select a plain recipe for cake, substitute soda for baking powder—using one-third the quantity—and add a teacupful of stewed rhubarb or sour apple sauce to each teaspoonful of soda. Steam or bake, and you have a most delicious pudding, light as a 'eather, and no one would mistrust the nature of the leavening used. There are all sorts of cakes and cookies which call for baking molasses, and which require no other lightening than a little soda. One of the cheapest and best is made as follows:

Soft Gingercake—Two cups baking molasses, good half-cup shortening (meat fryings or lard); melt and turn into molasses; add two teaspoonfuls dry soda, and when it foams stir in a cupful of water, a teaspoonful ginger, one of salt and three and one-half cups of flour. Bake slowly. The molasses should be as nearly like the old "New Orleans" brand as can be obtained. For variety, cinnamon or chocolate may be substituted for the ginger, and with a single frosting it makes a good "company" cake, though requiring neither butter, milk or eggs.

If the bread sponge delays coming until verging on the sour order, a pinch of soda will rectify the trouble. Even counting the saving in baking powder bill alone, economy would make a place for the soda when there is sour milk. And for quality, it comes to the front every time when in the proper hands.

BESSIE L. PUTNAM.

The Prevention of Colds

This is the season of the year when colds are taken most easily, due to carelessness more often than any cause, and so many diseases may follow in the train of what we term an ordinary cold that we need to avoid the beginning of evil; and colds, aside from the temporary discomfort, are apt to leave an enfeebled system upon which some serious disease may fasten. It is much better to take the trouble to wear extra wraps and put on good rubbers when one must be out on damp or very cold days than to suffer from neglect of such precautions. Damp feet are especially provocative of bodily chill and the ankles should always be well covered in cold weather. If the feet and legs are cold and damp, the blood flowing through them quickly becomes chilled, and the same may be said of cold hands and wrists. This may produce a serious chill in many important organs, and the slight discomfort of wearing overshoes and heavy gloves will be more than compensated by the protection from far worse ills.

In times of severe cold weather or long exposure in moderately cold weather, a good supply of nourishing food, not difficult of digestion, is very valuable in maintaining the bodily temperature and thus warding off colds. Never omit regular bathing, for unless the skin is in active condition the cold will close the pores and favor congestion or other diseases. One cause productive of harm is damp cellars and dampness of dwelling rooms, as dampness will bring on colds, rheumatism and many other ills. One of the chief causes of colds in persons living in rooms heated with stoves lies in the extreme dryness of the air. A vessel of clean water on the stove will supply moisture to the atmosphere, and this lessens the irritation in the nose and throat that is caused by the dry air. Where radiators are used a damp cloth hung near the radiator will be of help.

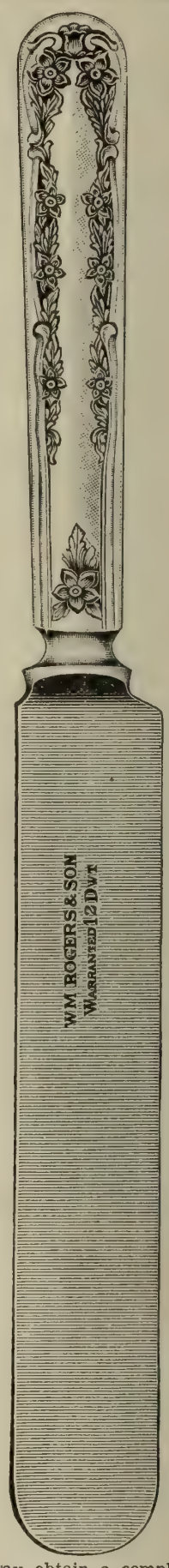
One mother says she keeps her children free from colds and other diseases by allowing them to eat freely of onions and apples all through the winter, and she has taught them to drink plenty of cold water, and especially a drink in the morning and a last one at night. Wet mittens have been the cause of many colds. Every child should have two or three pairs for everyday use, and in snow ball season they should be exchanged as often as wet. One of the best ways to prevent colds and sore throats is to use an antiseptic wash and make a practice of gargling thoroughly every night and morning. There is nothing better to use for this purpose than a borax solution prepared by dissolving a heaping tablespoonful of powdered borax in a quart of hot water, then adding a little salt and keeping in a bottle ready for use. Use a little of this borax solution as a snuff night and morning to prevent colds in the head. This preparation will almost always stop a cold if one uses it in time. There seems to be a little doubt that colds result from a disease germ, and the borax solution cleans the air passages of the nose. It is said that dust may convey the specific germ of cold, and it is wise when weeping a room or driving out in the dust to put a little vaseline in each nostril to keep the dust from finding its way to the air passages.

Last, but not least, is the subject of ventilation, as a lack of ventilation in living rooms will oftener induce a cold than too much fresh air. It is a good plan to air the sleeping rooms twice a day, early in the morning and late in the evening, and keep one window down at the top day and night.

A. M. H.

Cultivate good nature and you will not have to get to the end of a rainbow to find good fortune.

Now get the Knives



You may obtain a complete set of Wm. Rogers & Sons' Silverware. The Twentieth Century Farmer has added knives to its great offer. Spoons and forks of this pattern have been offered before. (You can still get them.) Start now with the knives. Send 20 cents for each fork and knife and 10 cents for each spoon.

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Fashions: Smart-Looking Garments for Children

COAT styles for little boys and girls are very handsome this winter. The double-breasted effects and those on the Russian blouse and Norfolk order, although of a staple character, seem to be in greater favor than ever. The new and pretty materials in which they are developed, together with the smart trimming touches and lovely color schemes, help to bring them up to a higher plane of attractiveness. A gray blue corduroy is a fashionable color and fabric this season, and when trimmed with broadcloth or satin in a self-tone proves very effective. Wool ratine in rose, gray, brown, dark-blue and beautiful mixture is one of the very latest as well as an ideal fabric for children's coats. It is soft and of a pliable nature and so adapts itself beautifully to the shirred and corded effects that are so much in vogue.

The reversible blanket cloths, chinchillas, kersey, cheviot, soft, thick Scotch and English mixtures are most practical and serviceable selections for school and every-day wear, and are made on simple tailored lines. Plush coats and those of fur, such as pony, lamb, bear, squirrel and astrachan, also lack much trimming. Large buttons of the same material or a fancy braid ornament or two at the closing sometimes form the only decorative note. Some models show a smart treatment of silk braid in self-tone which binds the collar, cuffs, the front or side closing and the bottom of the garment.

A model that was simple in line, but elaborate and striking in effect, was designed for either a girl or boy. Topaz brown velvet was the material employed with collar and cuffs of a deep turquoise blue. The double-breasted coat had flap pockets below a stitched belt of velvet and topaz crystal buttons added immensely to the richness of the color scheme. With this coat was worn a cap in Russian style, with earlaps attached and a muff to match for the little girl.

Description of Patterns

4827 A new trimming idea is the placing of a row of buttonholes directly opposite a row of buttons, as exemplified in the unique closing of this green serge frock. Plaid silk trimmings are again in high favor. The shield is removable, and the sleeves may be in shorter length. No. 4827 is in sizes 4, 6, 8, 10 and 12 years. The 8-year size requires 2¾ yards of 44-inch material. Price, 15 cents.

4837 Long-waisted effects are extremely becoming to little children, especially when bloused in this charming manner. Cream corduroy with golden brown chiffon velvet for girdle will make this a handsome frock for special occasions. Provision is made for high neck and short sleeves. No. 4837 is in sizes 4, 6, 8, 10 and 12 years. The 8-year size requires 3½ yards of 36-inch material and ¼ yards of 27-inch lining. Price, 15 cents. Braiding design No. 11507, perforated pattern, 20 cents.

4589—Serge, cheviot, worsted, shepherd checks, Scotch plaid and gray mixtures are among the serviceable woolens suggested for this little boy's suit, which features a blouse with side closing, high or square neck, long or short sleeves and knickerbocker trousers. Broadcloth or corduroy are appropriate for "best" wear. Galatea, chambray, gingham and linen are excellent wash fabrics for its development. No. 4589 is in sizes 2, 3 and 4 years. The 3-year size requires 2½ yards of 44-inch material, with one-half yard of canvas or lining for waistbands. Price, 15 cents.

4721—A smart suit in white serge is shown with sailor blouse that may be made to slip on over the head or to close in front. The deep, pointed yoke and the overlapping seam on sleeve distinguish this model from the usual type. No. 4721 is in sizes 4, 6, 8, 10, 12 and 14 years. The 8-year size requires 3¼ yards of 36-inch material, with one yard of lining or canvas for waistband. Price, 15 cents. Emblem No. 11745, perforated pattern, 15 cents; transfer pattern, 10 cents.

4840 4821 4661 4832

4827 4589

4721

4837

4832—Mothers who make their little girls' dresses will be pleased with the childish simplicity of this blue serge model, which possesses every essential of an ideal school frock. The unique side closing is made effective by the edging of silk braid. If developed in corduroy or velveteen for "Sunday best," soutache braiding or embroidered banding would be in good taste as a trimming. No. 4832 is in sizes 4, 6, 8, 10 and 12 years. The 8-year size requires 1⅞ yards of 44-inch material, with three yards of braid. Price, 15 cents.

4810—Tan chambray, trimmed with checked gingham, cut on the bias, is a practical selection for the rompers illustrated. Other fabrics that are found practical for cold weather wear are kindergarten cloth, galatea, Scotch flannel and flannelet. The neck may be finished with a band collar or in round outline, if either are preferred to the finish shown. No. 4810 is in sizes 1, 2, 3, 4 and 5 years. The 4-year size requires 2½ yards of 36-inch material, with 1¼ yards of 27-inch contrasting material. Price, 10 cents.

4821—Very simple in construction is this dress of dark serge, with yoke and belt outlined in white braid. In addition to the pretty arrangement of side plaits an inverted plait at each side seam gives increased width to the skirt. No. 4821 is in sizes 2, 4, 6 and 8 years. The 4-year size requires 2⅞ yards of 36-inch material or, if material 27 inches wide is selected, 3¾ yards will be necessary. Price, 10 cents.

4661—The closing is effectively hidden under a plait to the left of center front in this white broadcloth frock, trimmed with royal blue velvet. No. 4661 is in sizes 4, 6 and 8 years. The 6-year size requires 2¾ yards of 44-inch material, with one half yard of 18-inch contrasting material. Price, 15 cents. Braiding design, 11809, perforated stamping pattern, 20 cents.

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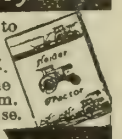

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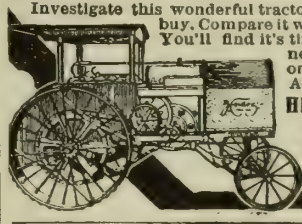

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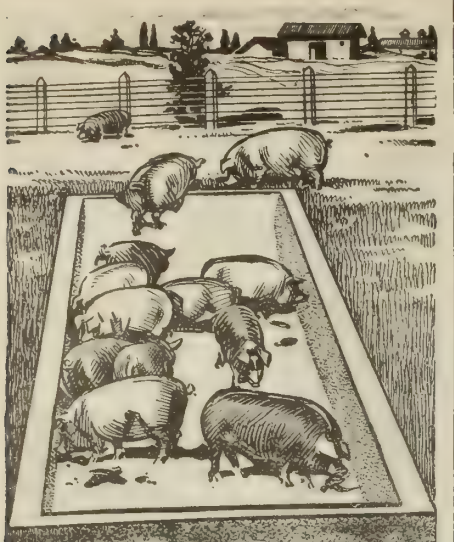

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Stories by Our Young People

The Scout's Grave

An empty shack on the mountain side
And an unmarked grave below,
Where guarding the plain stand sentinel peaks,
With helmet and shield of snow.

A "waif of nature's" last resting place,
Apart from the world's fierce strife,
Mid well loved scenes, he has "fixed his camp"
At the end of his journey of life.

Though his history's page is a trifle dim,
In the years that he called his best,
He had piloted through an adventurous crew
Who were lured to the golden west.

He saw the change creep over the wilds
That followed men's greed for gold;
The cities that rose on valley and plain
Where the buffalo ranged of old.

But gold and cities held naught for him;
Remote from the haunts of men,
His spirit set forth o'er the Great Divide,
And what was his monument then?

An empty shack 'neath the mountain pines
Chanting a requiem slow,
And the sunsets fall like a royal pall
On the lonely grave below.

—W. W. Edwards.

The Editor's Corner

Have you ever thought, girls, what you can do for your mother, how much you can help her in the care of the younger children and with the lighter housework? Do you stop to remember how mother works for you day in and day out, from early morning until late at night? Let mother see that you appreciate this. If you are old enough, get breakfast sometimes in the morning, letting her have a little more sleep. Take the responsibility of one part of the housework which you can do, if it is only keeping the sitting room straight or dusting the parlor, and take care of it so well that mother will not have to give it a thought. You who are older and clever with your needle, make mother a dainty little collar or apron occasionally. You will find that no one appreciates pretty things more than she. THE EDITOR.

(Prize Story.)

The Engine's Story

By Ytole Norris, Aged 15, Belleville, Kan. Red.

I am a gasoline engine in a runabout auto, belonging to a doctor. I am his constant companion. We go on long and short trips together. Like most engines, I have different kinds of moods, some bad and some good. When my master is called on an urgent trip, long or short, I generally make my wheels fly over the ground. But at times, feeling rather lazy, I refuse to go, and then my master takes off his coat, gets a box of tools and goes to work. After a while I relent and off we go, just as good friends as ever.

Sometimes I prove unmanageable, running into fences, trees and cutting up all sorts of capers; but in times most needed, give me proper care and management, and I prove a most true and valuable friend.

(Honorable Mention.)

A Mischievous Dog

By Bernice Eriksen, Aged 10, Erik, Neb. Original. Blue.

I am a black dog 5 years old. My name is Bob My master found me out on the prairie when I was a puppy. I suppose you think I am jealous because I fight almost every dog that comes here. There is a yellow dog here now and I don't like him very well. Shall I tell you of some of my fights?

Well, one morning that yellow dog was playing with my best friend, Trixie. I didn't like that, so I ran up to him and started to growl. Still he played with Trix, and I got so mad that I jumped at him and we started to fight. When he had enough he was willing to quit. Another of my fights was with a neighboring dog named Sport. He is a bird dog. The first time he came here we had a fight. Neither one of us would give up till our master parted us. I don't exactly know who got the worst of it. I must go now and play with Trix. Goodbye. Bob.

Additional Stories

Blue—Emma Tessmen, Rosalie, Neb.; Tena Karabel, Petersburg, Neb.; Mildred Sweney, Ohiowa, Neb.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story, your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.
BLUE—Nellie Snyder, Provo, Utah.

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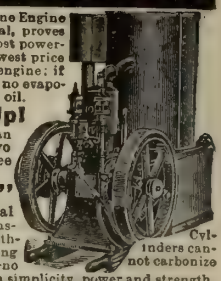

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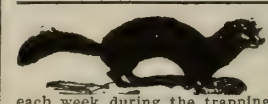

Trappers Weekly Paper
The American Trappers Weekly, known as CAMP & TRAIL, contains 24 pages each week during the trapping and raw fur season. Trapping methods, raw fur prices and stories each week. Special offer—four issues, 10c. A. R. HARDING, Publisher, Box 639, COLUMBUS, O.

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Historical Words and Sobriquets

Here are some questions which will delight those interested in history. By looking up other questions you will not only find some puzzlers for your friends, but acquire valuable information:

1. Who said, "We must burn them?"
2. Who said, "Sir, if we are interrupted again, I will make the sun shine through you in a moment?"
3. What was the "Lost Colony of America?"
4. Who said, "Friendship to all, but entangling alliance with none?"
5. Who was the "Colossus of American Independence?"
6. Who was the "Pathfinder of the Rocky mountains?"
7. Who was "Young Hickory?"
8. Who was the "Prince of American Letters?"
9. Who was the "Sage of Chapaqua?"
10. Who was the "Little Giant?"
11. Who was the "Father of Greenbacks?"
12. Who was the "Policy President?"
13. Who said, "It is finishing a noble career early. I die the victim of my ambition and the avarice of my king; but dying in the arms of honor, I have no regrets?"
14. Who was the "Lowland Beauty?"
15. Who was known as the "Hair Buyer General?"
16. Who was the "Carolina Gabe Cock?"
17. Who said, "I have laid down the law out of the books many a time in my long life, but this is the first time they have laid me down?"
18. Who said, "Here I hunted when a boy, here my father lies buried, here I wish to die?"
19. Who was "Old Bullion?"
20. Who was "Old Public Functionary?"
21. Who was justly styled the "pioneer educational woman of America?"
22. Who said, "All we ask is to be let alone?"
23. Who first used the expression, "To the victors belong the spoils?"
24. Who said, "The administration should be conducted behind glass doors?"

Answers—1, Captain Mason in the Pequod war; 2, Captain Wadsworth; 3, Roanoke colony; 4, Thomas Jefferson; 5, John Adams; 6, John C. Fremont; 7, James K. Polk; 8, Washington Irving; 9, Horace Greeley; 10, Stephen A. Douglas; 11, Salmon P. Chase; 12, R. B. Hayes; 13, Count Donap at Fort Mercer; 14, mother of Captain Henry Lee; 15, General Hamilton at Detroit; 16, Sumter of Carolina; 17, John Marshall; 18, Osecola; 19, Thomas H. Benton; 20, James Buchanan; 21, Mrs. Emma Willard, New York; 22, Jefferson Davis; 23, William M. Marcy, New York; 24, Grover Cleveland.

The Spider Book

There is a new book which will be of great interest to boys and girls who like to watch and observe spiders. The book is written by Prof. John Henry Comstock, head of the entomological department of Cornell university. Prof. Comstock has spent ten years in preparing this book, which is written with a view of being suitable to beginners.

In his chapter on the venom of spiders the author contradicts the popular belief regarding the dangerous nature of spider bites. He says: "I have given considerable attention to this question, with the result that I firmly believe that, in the north at least, there is no spider to be feared by man. * * * It often happens that a person suffering from blood poisoning produced in some unknown way infers that he has been bitten by a spider.

"The so-called Tarantula, that is frequently brought to the north in bunches of bananas, * * * although a large spider, is an inoffensive one. John T. Lloyd informs me that he has collected scores of specimens of this species in his hands in Samoa * * * and has never been bitten by it."

The Only Ones He Had

Henry Augustus was learning to dress himself; he was not as big as the name sounds. Mother, looking on, said:

"Why, my son, you have your shoes on the wrong feet!"

"Well," screamed Henry Augustus, "they're the only feet I have to put 'em on!"

Home-Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, The Twentieth Century Farmer.

FIRST PRIZE—Mrs. Verne N. Slater, Stanley, Wis.: If a Leghorn rooster had the toothache, would the Plymouth Rock pullet?

If the coffee pot is late, is the percolator?

If a hen laid an egg every day, could the egg beater?

SECOND PRIZE—Miss Minnie Thomas, Lindsay, Neb.: Did the fire escape when the chimney flue?

If a carpenter was building a house, would gim-let the wood work?

If Cock Robin were killed, did the weeping-willow and mul-berry it?

Mrs. A. M. Bottorf, Gretna, Neb.—If a Jackson, Miss., wanted a 'Mobile for Christmas, would Nan-tuck-et in her stocking?

Ruth Dryden, McClelland, Ia.—If

Madge Winterstein, Wayne, Neb.—If the stars laughed, would the moon beam?

Belva Mallory, Brewster, Kan.—If a cook made a mistake, would the meat roaster?

Eleanore Dober, Prosser, Wash.—When the trees leave do they take their trunks?

Same L. Morris, 1604 North Twenty-fourth street, Omaha, Neb.—Does the Mistletoe bough when the Holly leaves?

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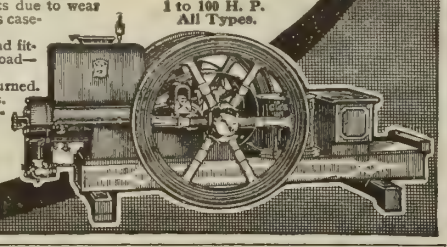

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Potatoes as Stock Food

The article published in a recent issue of The Twentieth Century Farmer, which was written by Prof. Nicholson on the subject of manufacturing food for fattening stock from potatoes, has excited widespread interest. Here are a couple of letters making inquiry with regard to the subject matter:

J. W. E., Tryon, Neb.: I was very much interested in Prof. Nicholson's article on potatoes as food for live stock in the issue of November 23' and will file it away for future reference. I believe that article contains the best and most practical suggestions as to what farmers in the sand hill country should do in order to make a great success in disposing of their potato crops, which cannot be equaled when properly planted and cultivated. McPherson county is a typical sand hill country in western Nebraska and naturally produces the best potatoes grown. There is no irrigation possible. The fact can no longer be disputed that a farmer can raise from 100 to 300 bushels of potatoes to the acre, but it is so far to a market and the season for digging and delivering is so short that the farmer is compelled to limit the amount of his potatoes to accord with the distance he is from market. You do not say in the article whether or not there is any machinery manufactured in the United States by which the potatoes may be cooked, dried and flaked, and I assume that there is no plant established in our country, or you would have mentioned that fact. McPherson county has no railroad within twenty miles of its borders, and I believe there is only one other county in the state which does not have a railroad passing through it, so that it is apparent that no other community could be more intensely interested in securing a plant which would make stock food for use the year around out of the potato crop. You are probably in a position to know whether or not there is a plant in the United States in operation; if so, I would like to be advised; if not, would you ascertain the cost of the machinery for a plant delivered here from Germany, together with the important details as to when it could be had. I believe that we might procure an appropriation from the legislature this winter to purchase the machinery and establish an experimental station in some locality where its utility could be best demonstrated, and, of course, I think that McPherson county would be the best place in the state.

A. L. R., Waverly, Wash.: At a meeting of the Farmers' union of this place on December 21, after a big dinner and before a large audience, Prof. Nicholson's article in The Twentieth Century Farmer was read and created much interest. This was the two and one-half-column article in November 23 issue. This locality is particularly suited to potato raising, 400 bushels to the acre being raised on some fields. A committee was appointed to investigate the flaked potato proposition with a view to interesting someone who would put in a factory here for flaking potatoes, or, if the cost of machinery is not too great, the farmers here will put in a plant. Would you tell us where we may get information along this line, if you have not the same by you? This is not a corn contury unless it is fed from silos.

The Twentieth Century Farmer feels that it can best subserve the interests of its subscribers by making an investigation through the proper authorities to ascertain how the requisite machinery for manufacturing potatoes into stock food may be secured; at what lowest possible price they may be delivered to the producers of the United States and in how short a time they may be secured. As the original article stated, they are being used now only on the Baltic coast, in the northern part of Germany. As soon as this information comes to hand this paper will advise its readers with reference to the matter. It is impressed with the economic importance of the industry if it may be economically organized and will do its best to serve its readers in this matter.

New Cabbage Disease and Treatment

"Blackleg of cabbage is a new disease which is becoming serious in the eastern states, especially in Ohio," said Floyd D. Bailey of the plant pathology department of the Oregon Agricultural college in a lecture recently.

"It is recognized by the girdling of the stem near the crown and cankering of the leaves in specks which are the fruiting bodies of the fungus.

"There are several methods of treatment. The easiest and most satisfactory is to keep the seed bed clean by using the new soil and sterilizing the seed. If soil is infected and must be used it may be soaked with Bordeaux mixture. Where the disease occurs in the field great care should be exercised not to let it spread. Sometimes 75 per cent to 100 per cent of the plants are lost by this disease."

No Market for Apple Roots

D. M. Elder, Eldorado, Kan.: Is there a market for apple tree wood or roots at a good price? If so, when should it be cut or grubbed, and how should it be prepared for market? If I can find a market for this wood I have considerable to sell.

Answer—There is no profitable market for apple tree wood or roots as far as The Twentieth Century Farmer can learn, but the only thing to do with it is to convert it into fuel. Very little such wood is used at present in the manufacturing of pipes.

Tenant Farming

W. H. F., Osceola, Neb.: I noticed in your paper of November 30 that you wanted farm information. I will give you some information. I notice most all the farms that are farmed by their owners are rotated in a very systematic way, but the rented farms are neglected and are in a very bad state of fertility on account of the one-year lease system. I think this one-year lease system is the cause of thousands of bushels shortage in cereals in Nebraska, as about 45 per cent of the farmers in the state are renters. I am not saying anything against the renters,

because they are the best farmers if they have a chance to lease a farm any length of time.

Answer—There is no shorter route to soil exhaustion and depletion of production than the system of renting either for cash or for grain rent when the lease is given only for one year at a time. One of the most serious problems at present confronting conservation is this matter of farm leases and tenant farming.

Some Good Road Suggestions

In your issue of December 28, under heading of "Good Roads Sentiment," you ask the questions which you will find attached.

In reply to first, "No."

As to change suggested, the reply will cover second and third.

The laws should be changed to abolish all the present lack of system.

Then the commissioners of each county should have power to appoint a county superintendent of roads and bridges, whose duty should be to have actual charge of all roads and bridges and who should give the work his personal attention.

He should oversee all work and be furnished all necessary machinery, including an oil tractor, to do the work for the entirie county.

He should give his entire time to the work, not at long range from his office, but on the ground.

The work should be all the year around.

The men would have regular employment and could make good roads at less expense than the present slack system.

The superintendent should be under bond and be subject to the county commissioners only, and his tenure of office should be as long as he makes good.

If this idea should be elaborated it would cut out the linen collar, starched shirt front, long-range state offical.

As to your fourth question, who can answer? C. M. S.

Harrowing Sprouting Grain

N. O. S., Shoshone, Idaho: I would like to know if it will do any good to continue harrowing grain in dry farming after it has begun sprouting, and, if so, how long after his operation could be done?

Answer—It is not well to stir the soil much while grain is merely sprouting. After the root system has developed so that the growing plant has a firm hold upon the soil it may prove of benefit. For this purpose a weeder is to be preferred to a harrow. The weeder is less severe and tears out or uproots fewer plants and will do service almost as effective.

Mexican Cattle Coming In

The arrival of Mexican cattle in Texas does not seem to excite much interest as a matter of cattle supply. A few hundred or a few thousand at the present time cuts but little figure in the cattle trade of the country. Quarantine restrictions and requirements are so managed at the present time that disease is not much of a liability. Cattle quality the demand and the southern land of cattle are not quite up to standard in the high-grade meat trade of the country.

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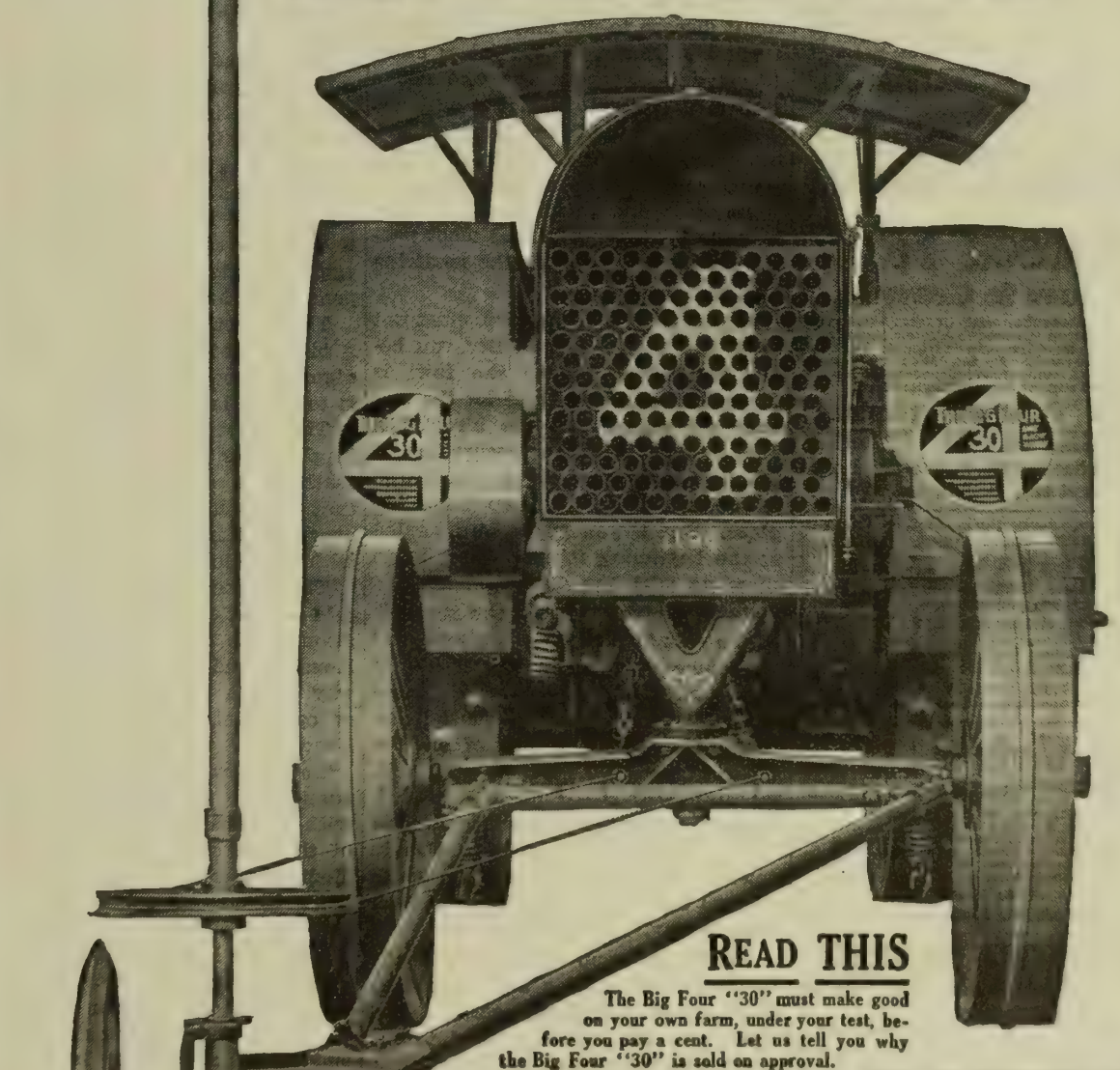

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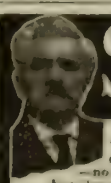

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Roup Same Disease in All Climes
Some Notes from Laying Contest

PERHAPS there is no question relative to poultry disease asked about so often as roup. Winter and all times of the year it seems to be prevalent. In cold lands, in temperate and warm you find it. It may take different names in different lands, but it is all the same old disease. It is a difficult disease to not only heal, but to eradicate from a flock. Unless birds afflicted in a severe way are really well bred and valuable, it is best not to doctor, but to kill and burn. There are many cures on the market. With home remedies, as a rule, there is some time and much trouble spent in giving the remedy, and most people prefer to rely upon the medicine put on the market.

If you treat for roup you must not delay the work. The earlier you begin the better chance the fowl is given for recovery. Once let the disease get seated and the bird, if it does not die, will have recurrence of the disease from time to time, and all of this time will keep it on the place. But if you get a bird healed at the beginning it may never again show up with the disease.

Outside of keeping up the strength of the sick birds with good, soft food and some quinine, antiseptic throat and nostril douches are best. These will kill the germs in these locations—the starting points of the disease. If you use coal oil, dilute it. To dilute with sweet oil, or even lard, is best. Peroxide of hydrogen, half diluted with water, is best. Use in sewing machine oil can or small syringe and use from three to four times a day, but never less.

How does roup come to a fowl? Usually because of a severe cold or a series of neglected colds. And while you can expose a fowl to too much cold because of lack of shelter, yet as a rule the fowl takes cold from too much crowding and breathing over and over the contaminated air of its close house. This is the first and simplest form of roup. It shows itself in sneezing, sore throat and head. This kind is not so dangerous and is not hereditary. A fowl has peculiar lungs and air tubes. Notice the lungs are not as the lungs in mammals, and the air tubes extend out into the bones and into air sacks in various parts of the body, and the fowl, carrying so many air sacks, you see, is more susceptible to respiratory disease because of this than any animal life known.

As I hinted, there are two kinds of roup, though the first described may become decidedly fatal if the diphtheria membrane forms, but it is never so generally fatal as the second form, in which the head and throat symptoms may not appear at all. In this the stuffy, heated, filthy conditions breed the germs so fast that, leaving head and throat, they pass into and disease all of the air sacks and passages throughout the body. This form produces quick and often strange deaths. It is highly contagious. Few survive, and if they do they pass the disease on down to future flocks. Plenty of pure air and clean quarters is a first preventive of both.

IDA M. SHEPLER.

Notes from a Laying Contest

That hens must be fed not only liberally, but regularly, if you want winter eggs, or even early spring eggs.

That feeding rape to chickens colors the yolk green, and fish scraps and onions, if fed in too large quantities, gives the egg a fish and onion flavor.

That hens must never be chased, but handled in a quiet way, and that it was proven hens lay a few more eggs if males are not kept in the pens with them.

That great layers are great eaters. A bird must have capacity to eat and digest a large amount of food if she is to lay a large number of eggs.

That most high layers will lay the bright color out of their legs and feathers in one year, and the hen that keeps her fine color very long over this time must be looked upon with suspicion as a poor layer.

That many large producers lay thin-shelled eggs, and this makes the germ weak and often unhatchable. Housing and feeding in the proper way have a bearing on the number of eggs laid, but breeding is most important.

That there is much improvement possible in the egg-laying line yet with all breeds. That the egg yield of the Leghorn and others of the Mediterranean breeds is affected more by severe cold weather than are the larger breeds.

That the Mediterranean breeds require and can bear more of the fattening foods than can the Asiatic, American and English classes. That sudden changes from heat to cold hurt the egg yield far more than does severe cold.

That it will pay to keep a good hen until she is 4 years old. We had several hens this age that laid 150 eggs in the last year. That a good layer molts late in the season.

That most good producers are broad-bodied and show combs large for their breed. That, talk to the contrary, a hen does relish a good mash, and what she relishes will show in the egg yield.

That some hens have a tendency to lay eggs and some a tendency to lay on fat, and that your earliest laying pullets for their age should be kept as breeders.

IDA M. SHEPLER.

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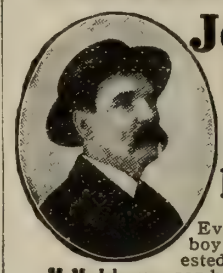

M. M. Johnson

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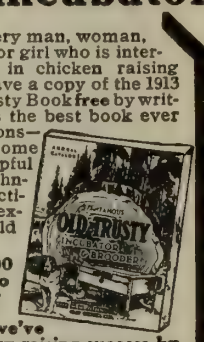

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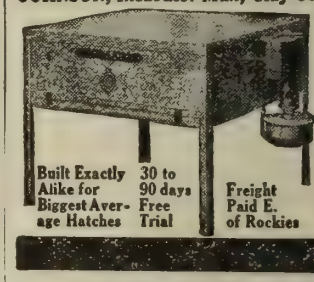

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Keep Up the Grain Feed for Lambs and Breeding Ewes

DO NOT slacken the grain feed on the lambs or the breeding ewes because the weather is mild and they seem to be gathering a fill from the pastures. Pastures at this season of the year are not generally as good as they appear to be, since the frost and freezing has greatly reduced their feed value, especially pastures that have been kept well eaten down through the summer and early fall. Sheep, however, are persistent grazers, and if given their liberty will go out on the fields when not stormy or covered with snow and gather the dried, frosted grass, even when it is of little or no feed value.

The sheep will come in toward the close of the day, often looking plump and full, when the grass they have gathered is not sufficient to keep them thriving. This is where some inexperienced sheep handlers deceive themselves by the full appearance of the sheep and cut down the grain feed as a matter of economy, thinking the mild weather and the dead pasture sufficient to carry them along. A little grain—shelled corn is really preferable to other feeds—will keep sheep under these conditions moving right along, though to get the best results a little bright, well cured hay should be placed in the racks each evening for the sheep to feed on during the open fall and winter weather.

It never pays to change the grain feed on sheep because of mild weather in the winter. Keep right on with the grain allowance, but slacken up on the hay. If sheep commence to leave some hay, then shorten down in the allowance until they clean it all up, or approximately. There is sometimes a little refuse in the hay—old stubble, weeds or coarse stubs of hay—that the sheep have refused. Take all this refuse out and use it for bedding. Never try to force sheep to eat refuse, coarse, unpalatable stuff that they have culled out in eating.

There is one great need in the care of sheep, and that is to keep their feed clean. The providing of feed troughs and hayracks that they cannot get into with their feet is a necessity, as they will very soon soil these feeds and troughs so that the other sheep will not taste them. This is an easy matter to regulate and should be observed. Sheep are often fed corn shelled or in the ear, and fed out on the ground, and this is generally successful if it is scattered on sod and scattered so it does not get soiled by the sheep as they walk over it. The flat-bottomed trough is the best style of trough to feed grain in. This should be set up six or eight inches from the ground on blocks and a 1x6-inch board set ten inches above the trough, running parallel with the trough and dividing it in the center as nearly as can be. This keeps the sheep from jumping over the trough or from getting their feet in it. A trough so fastened should be held solid at each end by a headpiece, board or stake driven in the ground and nailed to the end of the trough. These upright end pieces should have a slot sawed in the upper end for the trough division board to crop into. Where there is nothing to stop the sheep from jumping over the trough there will always be some sheep that will be in the trough.

The sheep feed yard should not be used by other stock and should be kept as dry and free from mud as possible. To have a grain feed lot is a great convenience, as the grain feed can be distributed in the troughs before the sheep are let into the yard, thus a more even chance for the sheep to get the feed properly apportioned among them.

Keep Down the Weeds

The greatest advantage in keeping a few sheep on the farm, twenty-five to fifty head, is the cleaning up of weeds, briars, volunteer grain and grass growth in the fence rows and about stack lots, feed lots, barnyards and idle places generally, where such growth gets a start in the latter part of summer and early fall season. Weeds in such places should never be permitted to go to seed, and need not if the sheep are given a chance to trim up these waste and idle places before the volunteer growths get too far advanced. It is a good plan to bring the sheep from their pasture once or twice each week through the summer and fall and give them opportunity to trim up the weeds. It is very valuable for the health and thrift of the sheep. "A change of pasture is good for sheep."

C. W. Hurt of the well known firm of Hurt & Son, Arrowsmith, Ill., announces that catalogues of the big breeders' sale he will conduct in the Colliseum at Bloomington the latter part of this month will be ready for distribution January 12. Many entries for this sale have been turned away on account of lack of barn room. However, about 350 horses will be offered, and we have Mr. Hurt's assurance that it will be the best bunch they have ever handled. The fact that Mr. Hurt has been obliged to turn away a great many entries has, of course, given him the opportunity to accept only the better animals from the better breeders. Complete announcement of this interesting sale will be found in another column of this issue.

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100 HEAD of Imported Stallions and Mares that will land by sale day.

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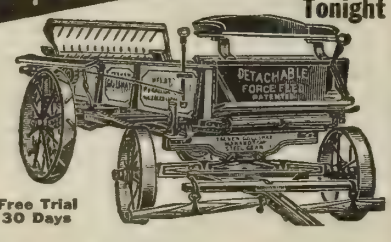

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Don't change the grain ration abruptly.

Don't keep idle horses on full feed of grain.

Don't turn horses to a straw stack and expect them to get a living, keep in condition and with certainty escape impaction of the bowels.

Don't fail to have your horse's teeth examined once a year.

Don't feed wheat or barley to horses when oats and corn are available.

Don't allow your mares or cows to deliver their young in a dirty barnyard.

Don't feed your horses when they are very tired, especially grain.

Don't wait until your mare is almost dead at time of foaling before calling a veterinarian.

Don't administer medicine to the horse, or any other animal, through the nose; nature never intended it that way.

Don't administer any drug to an animal until you are familiar with its action and the exact condition of your patient.

Don't administer medicine on the gun shot plan.

Don't be continually dosing your horse; keep him well by proper care.

Don't clip your horse and leave him unprotected while not in motion.

Don't leave the shoes on a horse longer than five or six weeks without resetting.

Don't allow the blacksmith to rasp the hoof wall and otherwise mutilate the foot in shoeing.

Don't shoe with calks unless absolutely necessary.

Don't leave the grain bin where the horse can get at it should he become untied.

Don't wash the horse's legs; curry them when dry.

Don't wait until the horse's shoulders are sore before properly fitting the collar.

Don't put chains behind the horses to keep them from backing out of the stall.

Don't feed irregularly.

Don't water horses at public watering troughs.

Don't try to doctor a glandered horse.

Don't fence your farms with barb wire if you can afford a better way.

Don't wait until the cow or bull has become ugly before dehorning; do it while they are young.

Don't feed the cows heavy just before calving time.

Don't leave poisoned meat for the rats in the day time; Rover may get it.

Don't stand the horse on an inclined plank floor.

Successful Live Stock Marketing

Several factors in marketing live stock add much to the profit column. The more important are salable condition of the stock, manner of handling in transit and selection of a favorable market day. Needless to say, no stock should be shipped in an unfinished condition. Well-fattened stock, though conspicuously inferior in quality to animals unfinished in flesh, "will sell all around them."

It is well to bear in mind that there are but two classes of stock in the yards for which there is an active, steady demand—stock fat enough for the shambles and animals belonging to the feeder class. Prices in the feeder class are always more capricious than those in fat lots, hence stock not up to the rigid requirements of the killer grades lands without argument in the feeder class. The loss thus entailed is the amount of feed used in the unsuccessful endeavor to get the herd or flock into the fat class.

Shipping stock to market with as little loss in weight as possible claims special attention. Shrinkage forms a large item in the expense of transporting cattle to market. Grass-fed cattle shrink badly, especially if the distance shipped is over 100 miles. Cattle fattened on corn or hay, or both, will reach market in much better condition than grassers and in consequence present a trim, desirable appearance in the sale pens. Cattle easily become excited and heated by the unusual exercise and alarming surroundings incident to shipment, and the voidings are frequent and watery, especially in the grasser grades.

It is a good plan to feed rations that are somewhat binding for several days previous to shipment. Corn should be discarded, for while it ultimately makes firm flesh, it is too heating for a traveling ration. Good timothy hay fed three or four days previous to shipment, cutting off the corn ration entirely, is the best check. Such a ration will considerably retard the voidings of even grass-fed cattle if fed in connection with the usual pasturage for a week before starting for market. As the draft upon hogs and sheep is much less than that upon cattle, comment is unnecessary beyond a brief warning against slopping the former or allowing the latter to have heating food for forty-eight hours before shipment.

To arrive in the full activities of a slump causes a very depressing feeling. It is never a good plan to go in on a failing market. It will cost comparatively little to remain at home at such a time, for the probabilities are always more on the side of a further decline than for a pronounced rally in prices.

The most successful live stock marketing, in my observation, is done by those who manage to have their offerings ready for the sale pens at such seasons of the year as there is a noticeable scarcity of fat grades. A safe procedure is to ship when the market is decidedly on an upward tendency and as soon as it indicates a reasonable profit for the shipper. The shipper who is always satisfied with a fair profit and who has the nerve to "let loose" regardless of future blandishments may be ranked as a successful marketer, for he is sure to make money out of every shipment.

W. H. UNDERWOOD.

Review of Live Stock Market

By A. C. Davenport

DURING the first week or two of January the statisticians are given the floor and they are now explaining what has happened during the last twelve months in the live stock world. Incidentally they are called upon to explain why some preconceived ideas did not prove to be true, why receipts increased where they were expected to show a decrease and why in other cases the reverse took place.

In the case of cattle no explanations are necessary, as the figures for the year's business show that the expected has come to pass. Predictions that the supply of cattle would prove to be short of previous years is fully borne out by the statisticians' figures. Thus the total receipts at the five big markets show a decrease of around a half-million head as compared with 1911 and of almost a million head as compared with 1910. One must go back to 1901 before finding a year when cattle receipts were as small as during 1912. During the twelve years intervening between those two dates there has been a large increase in population and a corresponding gain in the consuming demand of the country, which makes the receipts of 1912 appear still less adequate. While there are no figures to prove the assertion, it is the general opinion of cattlemen that the average weight during 1912 has run very light owing to the large proportion of yearlings and baby beef included in the receipts.

Hogs Make Better Showing

Hogs make a decidedly better showing than cattle. At the five leading markets a total of about 17,000,000 head was received during 1912, which was about a half-million head below the record of 1911, but far above the average of recent years; in fact, only four times in the last fifteen years has the record for 1912 been exceeded. In this connection the statisticians are calling attention to the very heavy consuming demand for hog products due to high price of beef and mutton, so that according to their deductions receipts of hogs during 1912 were really not so large as the totals on paper would make them appear. As in the case of cattle, they are also calling attention to the very light average weight of hogs marketed at most points.

When it comes to sheep, some explanations may be necessary. Contrary to expectations, the receipts at leading market points for 1912 proved to be the largest on record, exceeding the previous record year of 1911 by over 250,000 head at the five big markets. Heavy losses in Wyoming and other range states during the winter of 1911-12 created a firm belief in the minds of sheepmen that the shipments of 1912 would show a very considerable shortage in supplies. Two reasons are given for the unexpected increase. In the first place, shipments during the first quarter of the year proved to be large because there were more sheep and lambs in the feed lots of the country than anyone had supposed. Then again, shipments from the range, especially during the latter part of the season, proved to be heavier than expected. This was due in part to the cleaning up of flocks in some sections of the country incident to the cutting up of the range into farms, and second, to the fact that the mild weather made it possible for rangemen to continue shipping later in the winter than is ordinarily advantageous.

As regards prices 1912 was the banner year in the cattle trade. Hogs averaged higher than during 1911, and sheep prices were very satisfactory during the entire year.

Present Outlook and Prices

While figures bearing on the business of the last year are interesting to a certain extent, the greatest interest really centers in current happenings. It is an old saying, that anything happening on a live stock market previous to the current week is ancient history so far as stockmen are concerned. As to the present condition of the cattle trade, it can be said that the feeling among the buying contingent at least is decidedly weak. As noted before in these columns, the big run and the slump of $1 or more in prices at Chicago the week before Christmas changed the sentiment of a great many cattlemen from the bull to the bear side of the deal. It is very evident the way packers are feeling that anything like a big run of cattle in the next week or two will mean a sharp break in prices. The bulls, however, have not given up hope and are pointing out that the unusually mild and soft weather prevailing in all sections of the country is responsible for the decreased consumption of beef and that the cattle markets of the country are suffering from that cause rather than from any surplus of available live stock. They freely predict that a week or two of severely cold weather that is now liable to set in most any day could hardly fail to stiffen prices up even should receipts show an increase. The bulls, in fact, are depending upon weather conditions to carry them through, but with the prevailing weak feeling among buyers it might take something even more potent than cold weather to maintain prices in the face of large receipts.

Hogs have been fluctuating to a rather limited extent, but the trade as a whole has developed no especially new or interesting features. Packers the country over are evidently determined to prevent any advance in prices just as long as possible and they may be expected to deal the market hard blows whenever receipts are large enough to make such action possible.

Prices on sheep and lambs at the beginning of the new year are generally very satisfactory, showing a higher range of prices than for some time back, with the outlook favorable for the selling interests.

Fair Managers Uncork Their Pent-Up Fury

(CONTINUED FROM PAGE FIVE.)

1912 fair, G. W. Hervey, associate editor of The Twentieth Century Farmer, formulated the following as a rule to be adopted for the correction of this evil on state fair grounds (some term it nuisance) and submitted it to the Nebraska board of managers for consideration, and which proved to be the basis of the resolution presented at the National Association of State Fairs at Chicago and introduced by W. R. Mellor of Nebraska. This plan was mailed to a number of state fair boards throughout the western country and received their endorsement. The original as submitted to the secretary of the Nebraska State fair is as follows:

No concession, booth or privilege will be granted to newspaper, agricultural journal, magazine, periodical, book or publication of any nature on the state fair grounds without having an application filed with the secretary of the state fair by the publisher or business manager of such paper or publication ten days prior to the opening of the fair.

This application must state the name of the publication, place where published and the kind of privilege desired, and be signed by the publisher or manager. No charge will be made for booth space, but will be subject to location by the board of fair managers. The names of all agents, representatives or solicitors that are to be present and represent the paper must accompany the application for booth space, and all persons so named must have been in the employ of the applicant for a period not less than preceding the date of application, and must be so attested. They must also bear the reputation of being gentlemanly, courteous and honest in their dealings with the public.

No form of merchandise or article of any kind will be permitted to be used in this department as gift or sale in the influencing of subscriptions. Any person violating this restriction or attempting to take advantage of it in any way will, upon conviction, be refused further privilege and expelled from the grounds.

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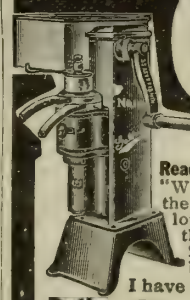

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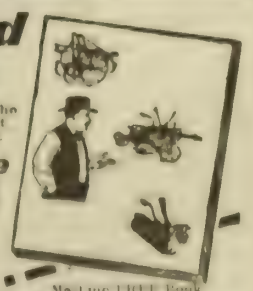

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Investments

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It is claimed for the Kansas law that while it has subjected outside investment bankers to inconvenience, it has resulted in a marked decrease in the activities of the speculative promoters within the state. Similar measures, it is expected, will be passed by a number of states this winter. It is an open question whether legislation of this character will accomplish its purpose, which is to prevent the separation of the fool and his money. It is not necessary for anyone of ordinary intelligence to be misled by the misrepresentations of the "Get-rich-quick" circulars. No one, unless unwilling to take good advice, either because of ignorance as to where good advice can be obtained or because entirely blinded by avarice, need lose any money in enterprises of this character. The average man finds it sufficiently difficult to get along in his own business. He must rise early and stay up late, and oftentimes he must eat the bread of sorrows and drink the water of disappointment in order to make a small profit at the end of the year. How much less likely, therefore, is he to succeed in making money by entrusting his savings to people concerning whom he knows nothing, to embark in doubtful enterprises, carried on under conditions with which he is entirely unfamiliar? A mere statement of the case shows the impossibility of making money out of the securities offered by these "Get-rich-quick" concerns.

There is the further consideration that the bank commissioner, or whatever official is charged with the duty of passing on securities under the Kansas plan, may be a political appointee who has his own friends and who may look with favor on the securities which they offer for his inspection. In such an event securities of doubtful merit would be hawked about through the state under the supposed guarantee and recommendation of the bank commissioner, while the investment banker might wait in vain the tardy approval of the sound securities which he offers for sale. The plan, in the opinion of the financial editor of Lippincott's Magazine, much preferable to the "Blue Sky Law" is legislation which should require all promoters of securities to take out a license which should be issued only to those of good character to provide for complete publicity of all matters bearing on the value of securities offered and to provide finally for severe penalties for fraud.

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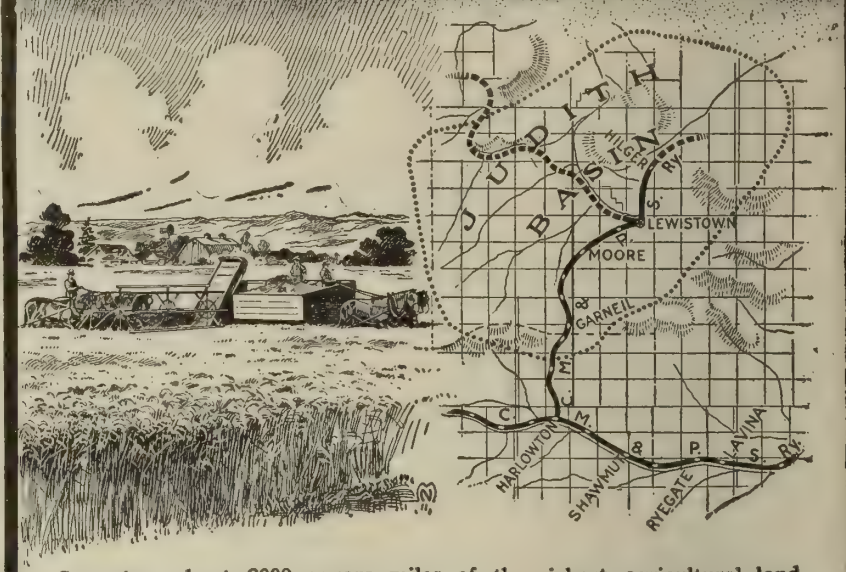

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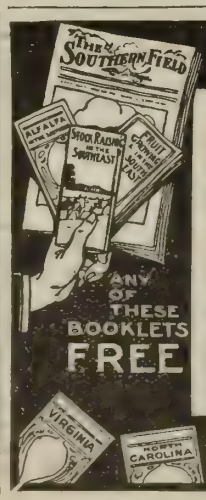

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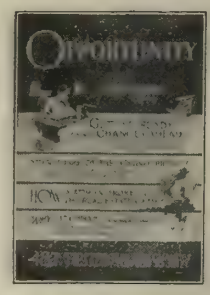

Prattle of the Youngsters

As Advertised

Teacher—What is the stuff heroes
e made of, Tommie?

Tommie—You'll have to excuse
, teacher. I don't know what
eakfast food you like best.

Knew Grammar

"Richard," asked the teacher, sud-
nly, "have you learned your his-
y lesson?"

"No'm," answered the idle boy,
wly. "I ain't had no time for
thing but my grammar lesson yet."

A Precocious Child

"Why doesn't the baby talk?" in-
ired the curious little sister.

"He can't talk yet; small babies
ver do."

"Oh, yes, they do," was the quick
swer. "Job did. Nurse read to
e out of the Bible how Job cursed
e day he was born."

The Way it Looked

A little friend of mine about 4
ars old was watching her mother
her hat on before the mirror, and
d inquiringly:

'Mamma, when I am as big as you
e will my head be soft enough to
ck hatpins through?—Sunday
ibune.

Nailing on the Feet

Little Elmer—Mamma, I saw a
n down at the blacksmith's mak-
a horse.

Mamma—Not making it, dear; a
n couldn't make a horse.

Little Elmer—But this one could,
mma. I saw him. He had the
rse nearly finished when I got
ere. He was just nailing on the
t.

Plymouth Rock

After a certain teacher had re-
ed "The Landing of the Pilgrims"
her pupils she requested each
e to draw from his or her imagina-
n a picture of Plymouth Rock.
ost of the children set to work
thely, but one little fellow raised
hesitating hand:

"Please, ma'am, is it a hen or a
oster you want us to draw?"

No Mistake

Hilma was always glad to say her
ayers, but she wanted to be sure
at she was heard in the heavens
ove as well as on the earth be-
eath. One night, after the usual
Amen," she dropped her head upon
r pillow and closed her eyes. After
moment she lifted her hand and,
aving it aloft, said:

"Oh, Lord, this prayer comes from
03 Selden avenue."

Youthful Philosophy

Three boys were resting between
ts on the tennis courts in Forest
ark.

"There goes Sadie," said one.
Betcha two to one she picks up my
t and throws it off the court.
here! Wha'd I tell you? That's
e way. If it's a fella' smaller'n
ou that does anything like that you
n lick 'im. If he's larger than you
re you can anyway kick 'im in the
ins. But if it's a girl, what kin
ou do?"

And his auditors sighed in silence
was, indeed, a hard problem.

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Does It Pay to Raise Boys on the Farm?

THE average farm paper is full of advice, suggestions and examples of how to raise all kinds of live stock and crops, but very scant attention is given to the most valuable product of the farm—the boy. It seems often that we are more concerned with the rearing of good stock than with boys, and give more attention to our granaries than to our children.

Beginning next week, we will commence the publication of a series of articles by E. F. Denison, secretary of the Young Men's Christian association of Omaha, one of the leaders in boys' work in the United States. Mr. Denison was born and reared on an Iowa farm. He grew into manhood under the same sort of environment, doing his share of the farm work, as thousands of others have done, and are doing, today. He is also a college man, with the experience of several years as a secretary of the boys' department of a metropolitan city, in which he came in personal touch with hundreds of boys in the graded and high schools.

Mr. Denison's series of articles have been written specially for The Twentieth Century Farmer. They should be read by parents. Followings are some of the topics to be discussed:

"Does It Pay to Rear Boys on the Farm?"

"Some Hints on Growing Men."

"How Much Education is Required by the Boy on the Farm?"

"The Farm Boy and His Chum."

"The Duty of the Man to the Boy."

"How Shall We Keep the Boy on the Farm?"

Bright and Breezy

A Walking Telephone

"That Dr. Schmidt is always talking about his connections with all the best people."

"Yes; he's a regular telephone, isn't he?"

Foresight

"You must believe in saving for a rainy day, Blinks?"

"Er, ah, I do; but why?"

"Nothing, only that's the second umbrella of mine you've borrowed."—Woman's Home Companion.

Revised Version

"I suppose that when you left the convention you exclaimed, 'I came, I saw, I conquered?'"

"Not exactly," replied the delegate who changed his mind. "That is what I was going to say, but I modified it to 'I came, I was seen, I concurred.'"

Those Dear Girls Again

Clara—Rose told me that you told her that secret I told you not to tell her.

Belle—She's a mean thing! I told her not to tell you.

Clara—Well, I told her I wouldn't tell you she told me, so don't tell her I did.—Lippincott's.

Tasted Better

A number of clergymen were going to a luncheon after some ecclesiastical function one day, when one of the party observed:

"Now to put a bridle on our appetites!"

"No," at once protested a witty churchman. "Rather to put a bit between our teeth."

Varied Stock

A writer of "best sellers," who has a cottage "down in Maine," once asked the man who served him with fresh vegetables how much stock he kept on his farm.

"Six cows and a bull," said the produce vender, "two yokes of oxen, a calf, a horse and three shares of Vermont Central."—Lippincott's.

Let's Have It

An early campaign orator was addressing a small crowd over on the south side the other evening.

"This high cost of living is a serious question," he bawled.

Nobody disputed that.

"It's a great question," vociferated the orator, "a very serious question, indeed."

"We know its a question'" yelled a man at this point. "What's the answer?"

Their Consolation

Quartermaster General Edwin A. Taylor of the United States Soni of Confederate Veterans told at a Memorial day banquet in Memphis this story:

"A southerner," he said, "sat in the lobby of a New York hotel discussing certain campaigns with a northerner.

"'Well,' the northerner ended, with a laugh, 'well, we licked you, anyhow.'

"'Yes, you did,' the southerner admitted, 'but it's plain, from the size of your pension list, that before we gave in we crippled every blessed one of you.'"

Pair of Shorthorn Herd Headers

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

What Are You Going to Do About It?

Many Things that Can Be Done by the Road User to Prove His Interest in Road Improvement

By John N. Edy

SUPPOSE we grant, for the sake of argument, that the readers of this magazine want good roads and want a good roads law. The question is, What are you going to do about it? You can't depend solely upon the good intentions and pre-election promises of your newly elected law-makers. The distance from the legislator's home to the state capital is usually so very great that the said legislator is likely to forget all about such min r matters as intentions and promises before he gets on his legislative job.

Briefly, then, it seems perfectly logical to suggest this assumption: The matter of highway improvement is absolutely up to the people. And again I ask, What are you going to do about it?

Now, although you may not think so, there are a great many things that can be done by the road user to prove his interest in road betterment. There are so many things, in fact, that I purpose to suggest but a few of them.

Limit to Endurance of a Road

First, consider the actual use of the road itself. I am afraid the average citizen fails utterly to realize that there is a limit to the endurance of a road, just as there is a limit to the endurance of a horse. Especially is this true of the earth road. When your horse is recovering from any illness, no matter how slight, do you not expect as good service from him as were he perfectly well. Why, then, should you expect your road to stand as rough usage when its condition will not warrant such expectations? In wet weather, and after winter thaws, it is almost sinful to go onto the earth roads with heavy loads. Failure to drag and properly maintain the dirt surface is abuse of a similar nature; and remember, that this maintenence is just as necessary in the winter as in the summer.

Likewise, the more permanent road surfaces must be cared for and treated with consideration. We can say, then, that one way to boost the road business is by properly using the roads already built. Such proper use not only works toward ultimate economy, but it indicates to the officials that the improvement is considered of value by the men who pay for it and use it.

And this, of course, leads to the favorable consideration of other projects in the vicinity.

The Matter of Taxes

Consider now the matter of taxes. Can you expect the passage of a state aid law —or any other law providing for more road revenue— when half the men won't pay the highway tax already levied? Can you appreciate the possibilities of improvement in your community if the officials had real money to work with instead of half-hearted poll tax labor? Did it ever occur to you that you can lend valuable asistance by simply considering your road as a part of your profit-producing plant, and paying for its upkeep accordingly?

It quite frequently happens that the taxpayers fail to realize the possibilities of improvement under existing laws. Or perhaps the taxpayers realize it, and the officials fail or refuse to see it. Here is an example of this condition:

In a certain state that really needs good roads the supervisors are handicapped because of a lack of proper organization and instruction. In other words, there is no real supervising head to the county road business, and yet for a number of years there has been on the statute books a law that says substantially this:

"The county commissioners may order the county surveyor to supervise all expenditures for road and bridge purposes—."

Step in the Right Direction

Obviously, if the surveyor be not competent, then the commissioners could appoint a capable deputy with the necessary powers. Now while this law is not right, in my opinion, it was at least a step in the right direction. As I have previously stated, there should be certain qualifications prescribed for the road superintendent, and the average board of commissioners is not capable of prescribing these qualifications. But there was an opportunity to secure the benefits of constant supervision of road affairs, to try it out, so to speak. As to who was at fault for failure to adopt this plan, the reader may draw his own conclusions. However, a portion of the blame rests with the taxpayers themselves; their lack of interest permitted the unsatisfactory condition.

It is gratifying to record that there is at this time an almost unanimous demand in that state for a modern highway law, a law that compels the county commissioners to adopt the plan of competent supervision of road affairs.

From what has been said the reader can conclude that permanent and economical road improvement is assured only when the state laws directly provide for such improvement; and that such desirable legislation is influenced to a large extent by the interest displayed by the road user. Let us for a moment consider the means of stimulating this interest, both in the matter of legislation and also as to actual construction.

Must Make Known Your Desire

In the first place, your desire for improved road laws must be made known to the legislature, and in no uncertain terms. It is not wise to attempt to dictate every provision of the proposed statutes, but the general ideas should be made clear. For instance, suppose you call a mass meeting of road users for the purpose of discussing this matter. It is to be assumed that copies of modern road laws, as adopted by other progressive states, will be at the disposal of those interested. After thoroughly considering the improvement and progress attained under these existing laws, it should be possible to suggest a scheme or general outline for a proposed law for your state. The United States office of public roads has suggested a state aid law, to which I have previously referred.

But the point is this: There must be a general endorsement of, and an organized effort to secure the passage of, some kind of modern legislation. This will call for not only one, but a series, of mass meetings. And it will call for a lot of persistent work on the part of a few men.

Opposition is Always Active

It is unfortunate, but it seems to be a fact, that the benefits of good roads are secured for the many through the original efforts of a few. Therefore, it behooves the progressive road user to be persistent and patient. Quite frequently the results of the first good roads meeting are disappointing in the extreme. In such instances the opposition is always out in force, while those who favor the idea may or may not be in attendance.

I recall a road meeting once held to consider ways and means for bettering the condition of county highways under an existing and perfectly reasonable law. The result was an unprovoked and overwhelming attack upon the few men who had conceived the idea. Apparently, the project was a dismal failure. But, after all, the main object was attained. Men were induced to think and talk about the matter. Subsequent developments have proved that the movement so unpleasantly inaugurated has resulted in great benefit to the community.

Another means of creating sentiment for better highway conditions, which in some states means the creation of a demand for modern highway legislation, is by means of the distribution of literature on the subject furnished by the office of public roads in the United States Department of Agriculture. State highway reports may be obtained and extracts reprinted for general distribution. When your neighbors realize what some other communities are doing along the line of road betterment they will want the benefits of such betterment for themselves. And when they realize, too, that the great progress of other states is due to the passage and reasonable interpretation of up-to-date highway legislation they will be in favor of such legislation.

Laws Do Not Build Roads

Now the mere enactment of a road law, no matter how desirable, will not build the roads. There yet remains much to be done along the lines of an educational campaign. Much of this preliminary work will naturally devolve upon the county road superintendent. It will be his business to build good roads where they

(CONTINUED ON PAGE TWENTY-FOUR)

"Good Bugs" Imported to Fight "Bad Bugs"

By R. L. Honeyman

Outdoor Establishment Near Boston for Hatching Parasites

Burning Gypsy Moth-Egg Masses Off of Stone Fences in Massachusetts

AFTER having spent over $1,200,000 in the attempt which would, without a doubt, have been successful but for a halt in the work in 1909, the state of Massachusetts and the United States has again taken up the task of combatting the pests.

There is but little use in attempting to disguise the enormity of the undertaking which those in charge have now before them.

The gypsy moth in 1909, when the state work against it came to an end, was a state issue. Now it is a New England issue. More discouraging still, it is also to be found in Rhode Island, New Hampshire, Connecticut and within the month a colony has been discovered in New York. The moth danger was once regarded, in part at least, as a creation of the scientific mind. Now the national government has realized the danger and a larger appropriation is urged in order to prevent its further spread. Furthermore—and this is the saddest part of it—the chance of actual extermination, which was promising at the time the work was stopped, has vanished now, and the best that can be hoped for is the control of the moth. Then it was a question of using ordinary means to conquor the danger; now it is appreciated that human aid alone cannot accomplish this, and for the last year the Old World has been searched for parasites to help man in his campaign against the pest.

The gypsy moth, without exaggeration, is more than a pest; it is a catastrophe. It is not a mere blemish on the countryside, it is a blight. It swarms in city parks and country pastures and it devastates all vegetation which comes in its way. It is this which makes it so dangerous, for once it gets a foothold it kills coniferous and deciduous alike. Within one season it can reduce real estate values by thousands of dollars. Its ravages may be seen all over New England, where wood lots have been stripped so that only bare trunks are left—memorials as impressive as those from forest fires. Almost as striking as the great destructiveness of the moth is the expense of ridding a territory of it. It is necessary to go over the trees by hand and kill the egg clusters, which are found high and low. In many cases wood lots have been cut and burned rather than face the expense of hand labor. But even fire, unless of an intense kind, cannot be depended on, and the ground has to be burned over with an oil torch to make the destruction complete.

The gypsy moth is an imported pest. Prof. Leopold Trouvelet imported the moth in connection with some experiments he was making with silk-producing insects. He had the caterpillars netted in on a shrub in his yard; the netting was torn during a gale of wind and the insects escaped. He realized the importance of this disaster and at once notified the public, but they failed to appreciate the possibilities of danger from the event. Thus it was not till ten years later, when the moth had become so abundant in Massachusetts that trees were stripped, that they were identified as the notorious gypsy moth by Dr. H. T. Fernald.

Last year the United States Department of Agriculture sent Dr. L. O. Howard abroad to secure parasites in the hope that the natural forces of nature may accomplish what man has failed to do. The insect in question is the Colosoma beetle, and it seems likely to prove extremely valuable, inasmuch as it is a wholesale destroyer of caterpillars of all kinds. This beautiful green beetle has already been colonized in many places in Massachusetts, where it is multiplying and spreading with gratifying rapidity.

The distributon of the species, as well as its prospect of survival, depends largely on the ability of the larva, or grub, to travel in search of food. In order to ascertain the extent of its capabilities in this line a newly hatched grub was placed on a table which had been covered with a roll of paper in such a way that the latter could be reeled back and forth across the board by turning spools at either end. Night and day shifts of scientists kept the bug under continuous observation. Escape at the sides was prevented by stiff wrapping paper, which formed a sort of walled-in kind of path that the larva travelled.

A record was made with a pencil of every movement of the grub, the experiment being carried on until it died of starvation and fatigue. Although no food or water was given it, it remained active for seventy-two hours. It traveled far more rapidly than was expected, and from time to time a fresh roll of paper had to be substituted in order to furnish a longer road for the insect to march over.

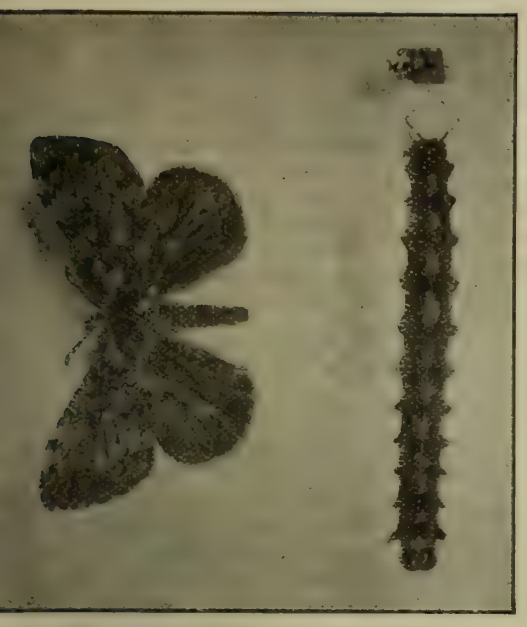
In all eleven rolls of paper were used, and careful measurements showed that the grub during its short life had traveled 10,160 feet. Its greatest speed was five feet per minute, and during the first twenty-four hours its average progress was three and two-thirds feet per minute. During the experiment it lost eleven grains, or more than one-third its original weight.

This shows the remarkable vitality possessed by the larva of the imported beetles and indicates that even under the most adverse conditions they would be able to survive several days and travel a long distance before dying of hunger and thirst.

The beetles were fetched from France and Italy in match boxes, each box containing a small quantity of wet moss and a single insect. Several hundred of these match boxes were packed in a wooden box, and in this shape they came through with but few losses, about ten days being required for the trip. Other beetles of the same species were brought from Japan in cold storage, demonstrating that artificial hibernation can be resorted to in case of

Apparatus for Rearing Parasites of the Gypsy Moth

Twigs, leaves and other such material carrying dead gypsy moth caterpillars are put into the boxes. The parasites, as they develop, crawl into the bottles, seeking light. The bottles (glass tubes) are then detached, corked and sent by mail in pasteboard cylinders.



The Gypsy Moth and Its Larva

ed. On their arrival they were packed in until delivered to the Massachusetts state oratory, at Melrose Highlands, near Boston. that place special beetle-rearing houses have en built, with breeding compartments and all e equipments necessary for the hatching and ring of the grubs. Large hibernating cages used to hold the breeding stock over the nter, so that the insects may be ready for use spring. For this purpose boxes half buried earth serve admirably, the tops and bottoms ng taken off and replaced with fine-mesh e net.

When the grubs are reared in the labora- y for distribution in "field colonies" it is irable to hasten their development as much possble. Jars of earth in which the female tles have been put to lay, and which contain ir eggs, are placed in bright sunshine on l spring days to accelerate hatching; and, en the larva appear, an abundance of food given them—not only to make them grow t, but also to prevent them from devouring h other, for they are the worst kind of nibals.

Throughout the summer the services of one man are required to collect caterpillars for beetle food. When the supply of caterpillars run low the beetles are fed on chopped beefsteak. Cold storage grubs, brought out in March or April, would starve if they had to depend upon their natural diet. But they wax fat on beefsteak, though they show a decided preference for a good, juicy caterpillar, and that is as it should be.

The best method of distributing the grubs in field colonies thus far discovered is to bore a double row of ten holes through a block of wood, the bottom of which is covered with fine-mesh copper wire to provide air, while the top has a sliding cover so arranged that the holes can be closed as soon as the larva are put into them. Thus one block will contain twenty grubs, each in a hole by itself. Ten blocks, strapped together, hold 200 grubs—enough for a good sized colony. When desired they can be set free in a moment by withdrawing the covers, inverting the blocks and knocking out the occupants.

The Colosoma beetle, together with a plague discovered recently by Dr. William Rieff of the Bussey institution of Harvard, have encouraged the moth fighters of the infected districts greatly. The disease in question is the caterpillar cholera, and is extremely infectious. A gypsy moth caterpillar suffering from it stops eating, becomes weak and lazy and usually crawls up some vertical surface, such as a tree

The Colosoma Beetle, Imported to Fight Wicked Caterpillars. Beetle Feeding

Full Grown Larva Feeding

trunk or fence, where it remains motionless. Soon it turns black and hangs there dead. The slightest touch suffices to break its skin, and a thin, dark, offensive-smelling liquid flows out.

One method of distributing the sick caterpillars among infected trees is to hang a few of them in a hammock-shaped bag between branches among the dense foliage. Under such circumstances the caterpillars could be relied upon to crawl out and communicate the infection to well insects on the tree. It was found that, following methods of the kind, such egg clusters as were deposited were comparatively small in size, containing proportionately few eggs, more than four-fifths of which were empty.

Caterpillars killed by the plague were mixed with water, and the mixture was either sprayed upon trees or painted in rings round the trunks. One or another of these methods may prove valuable as a means of spreading the infection and thereby assisting the Colosoma beetle in the good work of destroying the destroyer.

mproved Methods Needed in Farm Dairy

By M. A. Coverdell

LET the thousands of farmers who make no special effort to do a profitable dairy business during the winter months carefully consider this question: If the cows must be fed enough to keep them in moderately good flesh, anyway, uld not a little greater quantity of feedstuffs d more of a variety in their rations pay big idends in dairy products?

The fact is, too many farmers consider win- dairying as too bothersome. Outside of the gular dairymen, the farmers like to toss a le of the handiest roughage to their milkers winter, break up a few nubbins of corn for h cow, hurry through with the milking and to the house. What a world of difference ere would be in results if only a little more e, scientific feeding and milking were linked th these slip-shod methods of winter irying!

A Variety of Rations is Required

While every farmer cannot have just the ds of feed that are best adapted to winter rying, he can feed what he has more judiusly, and if more of one sort is on hand than others, a part of that can be disposed of and ested in mill feeds, which will furnish a ler variety of rations. The detrimental ef- t of feeding a cow on but one or two kinds of grain and roughage through the winter does not stop at a decrease in the milkflow at that time, but if such a course of feeding is persisted in the animals become run down in flesh, their general health will be seriously impaired and when they freshen in the spring their flow of milk will not be what it would have been if they had received proper care and feed during the winter, while their offspring will not be as strong and vigorous as they should be.

Summary of Main Points

Snug, well-bedded quarters save feed, afford a comfortable place for milking and promote milk production.

Regular, careful and systematic feeding requires a less amount of feed and returns a greater amount of dairy products than hit-or-miss methods.

By maintaining profitable dairying through the winter months the cows come through the following spring in prime condition, ready for successful calving and a heavy flow of milk through the summer.

In a nutshell, by adopting these improved methods in winter dairying, supplying as nearly as possible the succulent rations and comfort of summer time, the excellence of the herd will be raised and maintained, greater profits will be realized on the amount invested in the cows and the fertility of the land will be kept up to a higher standard of production, conditions thus established that exist today on—how many farms?

Proper Care an Important Factor

Another point the farmer does not give due consideration is that of caring for his milkers. Those cows that are furnished with shelter usually have it rough-and-tumble with all sorts of other stock, and only too often it is very scant protection they have from the severe elements. Sometimes the shelter is merely an open shed; other times it is dark, filthy stalls, where the poor, helpless creatures are forced to lie down in damp and dirty beds, the dampness and filth being tightly frozen to their skins through the whole winter, as currying and brushing never are practiced where such conditions are allowed to exist.

Such slack, careless methods do not go hand in hand with profitable dairying. With plenty of clean rations to eat and a snug, comfortable stall in which to sleep, the cow should give the maximum amount of milk through the winter. Maintaining these conditions also affords the dairy keeper comfort and cleanliness while milking, and his dairy products thus will

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There were more than 1,000,000 barrels of petroleum consumed by the world each day for 1912. Of the total amount California produced 87,000,000 gallons and Oklahoma 52,000,000 gallons. The total production of the United States was 220,000,000.

The year 1912 broke all records in the production of coal. It passed the 1911 mark by more than 50,000,000 tons. It is hard for the laymen to understand why, under these conditions, the price of coal to the consumer has not been correspondingly reduced.

To cheapen farmers' costs of marketing will result in a gain to the producer rather than to the consumer. For the consumer to get his share in this gain it will be necessary for him to take up the matter of cheapening the cost of distribution. If the consumer and the producer each does his share of the work, benefit to both will result.

It is no argument against the good roads compaign that its promotion is being aided by automobile associations and manufacturers. They will get part of the benefit, of course, and naturally should help in securing the improvement. But the man that will be most benefited by good roads is the farmer, who must haul his produce to market. To oppose the good roads movement merely because it will help automobile traffic is "to bite off one's nose to spite one's face."

Spring Care of Winter Wheat

"Winter killing" of winter wheat is generally a misnomer. Ordinarily, under the soil and climatic conditions that prevail in the west, it is not the winter that kills the wheat.

Of course, exceptional conditions during the winter may, and frequently do, kill wheat. If there should be a mid-winter rain storm changing to sleet, with freezing weather, so that the surface would become coated with ice, the wheat would die for lack of air, or be "smothered," as the ordinary farmer calls it. The same thing would happen when a firm crust forms over a fall of snow so as to exclude air. In soil of such a nature that it "heaves" on freezing, alternate freezing and thawing will kill much of the wheat.

But in a majority of cases of "winter killing" the killing is done, not by the winter, but by the March and April winds, which dry out both soil and roots so that they cannot take their nourishment from the soil. The only way to prevent this disaster is to handle the soil in such a way as to prevent this action of raw spring winds. In the opinion of The Twentieth Century Farmer the best means for doing this is, as soon as the ground is in such condition as to permit working on it, to go over it with a roller, which will pack the earth firmly about the roots and prevent the damage that otherwise would be done by the wind. A smooth roller is better than none, but the best for the purpose are the rollers that firmly pack the ground and at the same time leave an earth mulch that prevents the loss of moisture by evaporation.

In default of a roller some farmers use a harrow in order to fill the cracks in the soil and make an earth mulch to hold moisture. A weeder is to be preferred to a harrow because it is not so severe and will not uproot as many plants.

To insure the best crop possible every farmer should adopt one or the other of the foregoing methods as early in the spring as the soil is in condition to work.

Good Roads Association

The question of good roads has become a live issue in some of the western states. The Iowa Good Roads association asks for a big bond issue. At a recent meeting the Iowa association placed $25,000,000 as the amount recommended and the legislature was asked to submit the proposition to the voters of the state as early as possible. It is proposed to levy a 1-mill tax and with the proceeds pay the interest on the bonds and wipe out the indebtedness.

The road improvement proposition is quite extensive, aggregating a total of 5,000 miles of road, connecting every county seat town in the state with roads running in every direction. A state public roads commissioner will be created to have charge of the work of laying out roads and establishing a road system that will serve to the best interests the public welfare.

A system of construction will be agreed upon and a plan of roadbed maintenance that will be operative at all times, and road building will be the order; no roads allowed to get out of order, except by accident. Compulsory road dragging will be the order and the farmer will be able to take a full load to market and thus profit by the wisdom of the plan—1-mill tax.

Feed the Birds

Many states have authorized large appropriations for the securing and maintaining of game birds. Game wardens and their assitants have been given the supervision of these imported birds, which in some instances they have turned over to farmers to look after, to see that they are not hunted or destroyed by the sporting element. These birds are usually hardy and thrive for a few years, or until there are heavy snows and storms, cold weather and lack of feed; then they die of exposure and starvation.

Farmers everywhere should observe a careful supervision over the birds that frequent the farm. Call all the birds your friends and exercise a special oversight in the matter of their needs when storms are on hand. A litlte wheat, rye, barley, or any small grain or ground feed, will help to tide them over these cold storms. The bird is not often so situated that it cannot look after its own needs; just a little attention in the extremes will be sufficient. Usually they will be able to get to the feed lots and supply their needs.

Where the game birds are being protected—and they should be everywhere—it is extravagant and a loss to permit them to starve. Quail and prairie chicken should be helped in every time of need for the destructive work they are waging on the field insects. It is so universally true that each family of birds has its particular line of insects that it feeds on that to attempt to single any kind or variety of birds out as useless would be a mistake that the farmer, gardener or fruit grower could not afford to endorse.

It is best to get on the side of the bird and against the insect. The bird is your friend and partner. If it takes a little grain or a little fruit, what does all that amount to, when it works for you from early spring to late autumn in helping rid your premises of the insects, which, if it were not for its help, would utterly devastate the crops of the farm. Bird life must receive more attention or the insect injury will be so increased as to render crop-growing unprofitable.

The legislature of each state should pass very stringent laws in support of bird protection and make them operative with the least possible form, trouble or delay.

The bee keepers throughout the Missouri valley should take active measures with their several legislatures to secure a law that will assist in exterminating "foul brood," a bacterial disease that in one state alone results in a loss of a quarter of a million of dollars. In each state the state entomologist might be officially charged with the work in conformity with the system that now prevails in all the prominent honey-producing states.

"Co-Operative Finance"

The time is close at hand when the American people will take some measures through some co-operative means to secure loans for farmers at rates 50 per cent lower than they are now compelled to pay. It seems absurd that the farmer, who has the best security in the world to offer, should be compelled to pay higher rates of interest than men engaged in commercial life or in promoting industrial development. As a theory of practical finance it is said that the greater risk should command the higher rate of interest and that the lowest risk should command the lowest rate of interest. In the practice under our present banking system this rule seems to have been reversed, at least as far as the farmer is concerned.

Since this matter is bound to command public interest in the near future, and since intelligent study will be necessary for the best solution of the problem presented, it is the duty of everyone thoroughly to familiarize himself with the subject matter that will soon be under general discussion, and with the various means by which it is proposed to meet the present financial situation. Herbert Myrick has published a volume with the above title, which covers the whole subject. It is written in such a manner that what is said may be easily apprehended by any reader. It is the best text book on this subject that has yet been offered to the public. It should be in the hands of every farmer that is thinking along the lines of endeavor that most nearly concern him and his work. The book may be had from the Orange Judd company

Importance of Steer Class

The importance of the steer classes in the big live stock shows of the country is just beginning to be appreciated by the breeder and the general live stock interest. A few years ago the fat stock show seemed to be more of a fad than a matter of real educational merit. The interest seemed to center in the particular steer that was awarded first prize. The championship was greeted as a kind of individual victory for the college or feeder who happened to secure the decision, and there was not much said of the balance of the competitors; they were simply not "it," and that was about the end of the contest, so far as public interest went.

It is not so today. The public is interested now in every steer in the show ring, and the facts are that every steer in the class is a good one. The eye of the breeder and feeder is opened wide to the criticism of the steers as they are being judged, not only by the chosen experts, but by the scores of ringside critics composed of breeders, feeders, fanciers, butchers, packers and handlers of feeder and fat cattle. The bull is measured more now as a steer-getter than merely a sire of bulls to head herds. The country is full of demand for the big straight, smooth, vigorous bull that can produce steers that will top the market. This class of bulls is in demand everywhere, and the big smooth steer is in demand. It

eef that the market wants, and the ore good quality beef that can be ut into one hide the sooner the cry f high-priced beef will subside.

The carlot show of feeder and fat attle at the International and Kanas City Royal is the best illustration hat can be had of what all this exibition of breeding cattle means. he big classes of bulls and cows ake their places in the show ring or what? To entertain large auiences by their beauty of finish roduced by feed and care? No, ot exactly, but to show the desirale qualities that the beef steer hould have in order to best serve is purpose as a meat-producing nimal.

Study the breeding classes carelly as they come and go to the dging ring; then go to the carlot isplay of steers finished for slaughter, carrying in your mind a photoraph of the impression obtained at he ringside of the breeding cattle, nd you have the lesson that is being aught by all this great aggregation f animal contest. The end of all attle is the butcher's block, and eef, therefore, is the prime object view with the breeder of beef catle. It is safe to say that the beef core card is being pretty accurately udied by the breeder of the beef reeds of cattle, and his exhibition f steers in the steer classes only mphasizes his ambition to show hat he is able to do in reaching the innacle of fame in the production f the perfect beef animal.

ime to Fulfill Party Pledges

Each of the political parties in he platform adopted at the beginng of the last campaign in Neraska pledged itself to provide eans for giving Nebraska and its esources adequate publicity. It is ow time, as the legislature begins s work, for proper steps to be taken redeem these pledges. Every ember of the legislature, by the atform upon which he was elected, pledged to support such a measure. But before publicity may be proply undertaken it is necessary to ow the exact truth as soon as it n be ascertained about the state, s resources and its production. As preliminary, therefore, to the work publicity some means must be dopted for the gathering of reliable atistics. With the present mainery for the gathering of statistics that state as good work has been one as might reasonably be exected, but the machinery has been together inadequate. It will now come the duty of the legislature to ovide some means for doing this ork, such that the statistics when blished will command respect. The gislature in this respect has its ork already laid out for it in the veral party platforms, and it is ow time to do the work thoroughly d reliably.

Now is the time, while the farmrs have a chance for a little figurg, for each to figure out how much costs to keep a work horse one ar. Then it may appear to the oughtful farmer that some form traction engine is more economal than horses for doing the heavy ork upon the farm.

The Postoffice Department

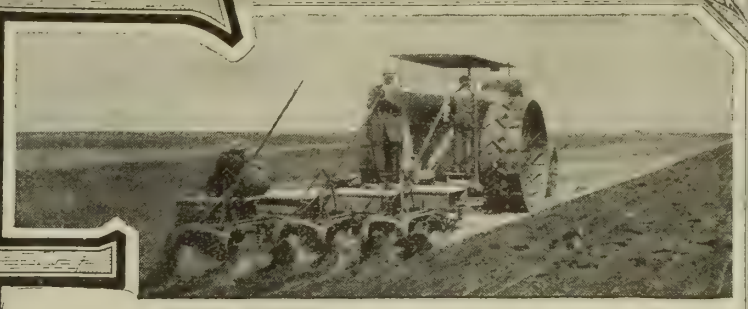
The next postmaster general will have charge of a department whose business is three times as great as at the beginning of President McKinley's first administration. In these sixteen years have been added or developed free rural delivery, postal savings and parcels post. The postoffice has always been regarded as the business department of the government, and it is distinctly so today. In addition to distributing the mail daily for 100,000,000 people, it conducts a banking business which in one year and a half has gathered deposits of $30,000,000 and increasing them at the rate of 6½ per cent a month. Through the free city and rural delivery daily mail is carried to almost every nook and corner of the continent. And now comes the parcels post, with untold possibilities.

Fifteen years ago the annual expenditures of this department were $90,000,000 and the revenue $84,000,000. Last year it required $300,000,000 to carry on the work. The department handled more than 13,000,000,000 pieces of mail, while fifteen years ago it did not handle one-tenth of that. This is the real index to the prodigious growth ensuing in this period. And to the retiring postmaster general, Frank H. Hitchcock, belongs a large measure of the credit for successfully working out new plans of gigantic proportions and bringing the department up to its present importance as the chief business institution of the government.

"The American cow" occupies a large place in Shorthorn history. The London Live Stock Journal puts forth a wabbly claim that the "American cow" has no right to the description "American," but was purely and solely a British product. There is the best of proof that this cow's maternal ancestor was imported from England as early as 1801, was subsequently returned to England to be bred and then brought back again. She was the maternal ancestor of the Cambridge Rose, Red Rose and Rose of Sharon tribes, strains of blood that have become famous in the annals of American breeding.

A special dairy train covering the lines of the Chicago & Northwestern railway in northwestern Iowa is being run on a twelve days' trip from January 13 to 25 inclusive. Besides the charts, miniature silos and testing apparatus in the lecture cars, the baggage car is equipped as a modern dairy barn. The stanchions and stalls form comfortable quarters for the most improved specimens of dairy animals, which are used for demonstration purposes.

A Grand Lodge, Mich., man has a wonderful dog with almost human intelligence, whose splendid training makes him a special object of interest. His owner when working away from home in other towns orders meals for the dog at a restaurant as carefully as he would order meals for human help. Here's to the owner of the dog. May his spirit be emulated by all owners of faithful dogs.



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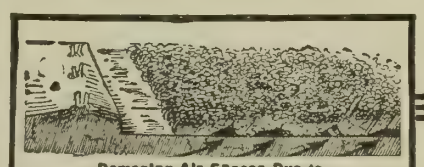
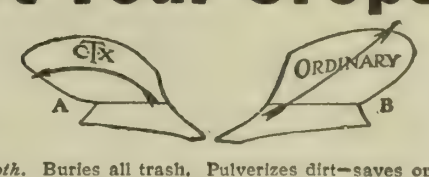


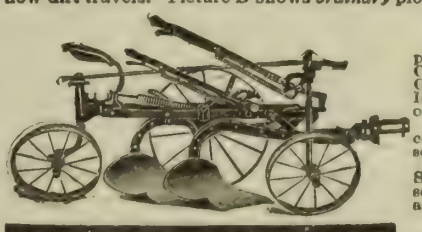
Plow Right and Protect Your Crops

The coming season may be *dry* and *hot*. Better be prepared for *drought* in case it does come. Better see that no air spaces are left between topsoil and subsoil, whoever does your plowing. For those air spaces *cut off* the moisture from below and rob you of half your crop.

You'll have no air spaces if you use a Rock Island "C.T.X." Universal Plow. It turns each slice clear over, *flat and smooth*. Buries all trash. Pulverizes dirt—saves one harrowing—leaves the topsoil in close contact with subsoil. In dry weather, moisture comes right up from below, like kerosene comes up your lamp wick. This feeds and saves your crops.

All due to the peculiar *corkscrew-like* bottom on the Rock Island "C.T.X." Universal. This patented mouldboard carries the dirt *backward* and *DOWNWARD*, not backward and UPWARD, like all other plows. A very simple invention, but one that is revolutionizing all plowing methods. (Picture A shows *Rock Island Universal* bottom, and the arrow shows how dirt travels. Picture B shows *ordinary* plow bottom, and arrow shows how dirt travels.)





Rock Island (C.T.X.) Universal Plow

A Genuine UNIVERSAL Plow

And the beauty of it is, with *this* plow you can plow up any field on your farm. Tame Sod, Heavy Clay, Sandy Loam, Mixed Soil, Stubble Fields, Old Cornfields, Meadows, etc., all look alike to the Rock Island "C.T.X." Universal. Saves buying a new plow or bottom for sod.

It's a *Universal* plow that does perfect work in all cases and *leaves no air spaces*. That's why this plow so quickly became the sensation of the farm world.

That's why you'll *want* it the minute you see it. Send a postal now, and we will tell you where you can see a "C.T.X." and price it. You can judge yourself and will realize why it's so much better.

Latest Catalog Free

It pictures and describes this most popular plow completely. Simply write those words on post card. *I am interested in plows.* Then add name and address and mail card to (113)

ROCK ISLAND PLOW CO.
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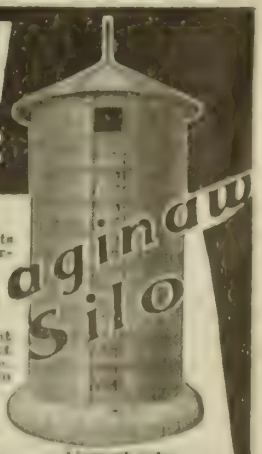
Even Better Than 1912



Another Big Silo Sensation

Experienced Dairymen and Stockmen tell us that the SAGINAW, with its ALL-Steel Door Frame, with its Base Anchor, with its Inner Anchoring Hoop, is CUTTER PERFECTION. But despite this, we promise you some hitherto startling New Feature. Our engineers have already tested the New Feature. It will soon be publicly announced.

The Favorite Silo The Saginaw is the King of Silos. Men know from experience that the Saginaw won't twist or collapse or blow down. And they know that silage stored in the Saginaw keeps clean and bright even at the edges next to the wall. Saginaw owners never have rank, sour-ed, spoiled silage. This news has spread from farm to farm, until the Saginaw has become the most popular Silo in America. Last season, in a single day, [illegible] 66 Saginaws were received. This year we fear the Saginaw [illegible] has grown until it now keeps [illegible] been done in seven years. Other silos become [illegible] outlasted twice that long. These facts you should weigh carefully.

A Fine Silo Book for You! [illegible] the Saginaw. Get also [illegible] a Wealth of Information [illegible] Dairymen or Stockmen should be without it. [illegible] for Booklet No. 62 and you will receive it BY RETURN MAIL. Address our nearest factory. (63)

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Baits and Scents for Trapping

By George J. Thiessen

PRACTICALLY speaking, every successful trapper uses baits and scents. The reason for this is apparent when one considers the scarcity of fur bearers nowadays, the great army of pelt hunters, and the fact that every farm and settlement furnishes an abundance of food for the different animals. Recognizing these conditions, many manufacturers have placed on the market compounds for attracting the fur bearers to traps, and while for the most part these are good, the amateur trapper can supply himself with all he needs, with very little labor and at a small expense, at home.

A good general decoy for all flesh-eating animals is made by chopping up fish fine and after placing them in a glass jar letting the flesh rot in the sun. No lid should cover the bait. A few drops of this scent placed near a set will never fail to draw a mink, 'coon, skunk, weasel, opossum or civet cat.

Sometimes, however, these flesh eaters may be attracted by a natural decoy—food. For the mink many pelt hunters claim that nothing is so good a bait as the flesh of a freshly killed muskrat. I will say that in my tests I have found this to be good, but that the carcass of a rabbit is also of worth, as are crawfish, frogs, minnows, etc. If a rabbit is used it should be cut into several parts. No skin ought remain on the body. If, however, the whole of the animal is employed as a "draw" it is best to rip open the belly with a knife and make the set among the entrails.

The raccoon is fond of clams, fish, honey and at times may be caught with corn as a bait. In using the first named it is a good plan to open several in very shallow water and lay them in a small circle. The best place for a set of this kind is on a stream having a sandy bottom, so that the decoy can be plainly seen. I advise the use of several traps and strongly recommend the Sargent "Leap," for the reason that it is exceptionally strong and reliable. The 'coon is a member of the bear family and, like its larger brother, has a very keen sense of smell; and, too, it always appears hungry, so a good decoy is a great aid in capturing it.

When trapping the opossum use a smoked fish for bait; this will attract it better than any other decoy that I know of—and I have tried them all, practically. The weasel will invariably examine the head of a rabbit provided it is so placed that it seems alive. Experience has taught me that under sod which has been plowed recently are ideal places for sets.

For the skunk and civet cat nothing is better than bloody meat. A large bait of this kind will draw the animals long distances. I have found that several traps can be used around a decoy of this kind to an advantage, for I have frequently taken more than one fur bearer in the same night, with one large "draw."

Many pelt hunters place small pieces of meat about dens to test them; that is, to find out whether they are used very much. This pays when care is used, but, after all, is no sure sign. Crows, hawks, etc., are too numerous in most localities.

The muskrat—called the Musquash by the Indians—feeds entirely upon vegetable matter. All kinds of fruit, practically speaking, will draw it. Among the best, however, are apples. Parsnips are a favorite bait with many experienced trappers because of their pungent odor, and carrots, turnips, beets and corn are also good. In some localities one will prove best, in another some other, due to the fact that the fur bearers get that kind of food. For instance, no thinking person would expect to take many musquash with a corn bait when there were fields of it near.

There is no question as to what is the best 'draw" for all animals, even among scent manufacturers. If the matrix of a female is secured, especially during the mating season, and dropped into a small vial of alcohol, one drop will attract every male that passes for days. I have taken as many as seven minks with a bait of this kind in one night.

A good general decoy can be made by mixing fish oil, oil of anise and oil of rhodium. (These may be obtained at any drug store by a small outlay of cash). The fish oil should be the base of the compound and the others added in very small quantities, just enough so that they can be smelled.

For the skunk and civet I have frequently employed a mixture of blood, alcohol and fish oil. This scent will also attract the fox, especially if a little assofoeta be added.

Beaver castors—these may be purchased through almost any fur firm—chopped up fine and soaked in alcohol, with a quantity of fish oil and a little ground cinnamon, is an excellent scent, especially for some of the larger animals.

Live poultry is an excellent lure for the mink and fox, but prove a great trouble for the pelt hunter. Dead chickens hung in bushes, head down, will attract the skunk, civet and weasel. In making a set with these it is a wise plan to let the animals begin gnawing at the bait before setting traps. Crows, hawks, etc., are practically worthless as "draws."

In using bait never place it on the pan of a trap, for by so doing the animal's attention is most frequently directed to the set. Even when this is not the case, the jaws are not wide enough to catch the fur bearer by the head. (I refer only to the Newhouse style and not to such as the alligator sure catch, stop thief and tree trap).

Never put a decoy on the ground; it will be effective much longer if put on grass, a stone, etc. Meat baits ought to be staked for nearly all sets.

Missouri has a state highway engineer, and is asking for an appropriation of $25,000 for road work of permanent character. The other states in the Missouri valley should follow the example of Missouri, or "see" Missouri and "go her one better."

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Fifty cents worth—five 10-cent packets free—of germination-tested seeds, true to name, sure to grow. Just send 10 cents to cover cost of packing and mailing and I will send you this famous collection: Champion Pickle Cucumbers, Matchless Tomatoes, Prizehead Lettuce, Southport white Globe Onions, Large G. B. Mixed Sweet Peas, in a large Coupon Envelope, returnable as 25c in cash on an order of $1 or more.

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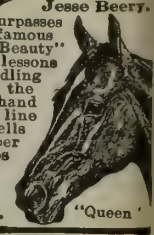

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The Monmouth has a *steel frame* with Wood Cushion. The Main Cross Piece is Heavy Angle Steel—side braces are Stiff High Carbon Steel. Square timber through the center acts as a Cushion between side braces—gives it a bit of flexibility—keeps frame from buckling under heavy strain—prevents springing out of shape. Many other features all told about in my new book. Hard Maple, Oil-Soaked Bearings easily lubricated. Forward Trucks make it as easily turned around as a plow. Scrapers held by Coil Spring in just right position to prevent clogging—occasional foot pressure cleans discs in stickiest soil. Furnished with Transport Trucks, Cutaway Discs, Plow Cut Discs—in all sizes.

No neck weight—no side draft. Discs that are *sharp* and *stay* sharp. Wood Cushion that keeps bolts from shearing—prevents frame from springing. Many other features all told about in free book—and the best bargain-price ever made on any disc that approaches the Monmouth Quality.

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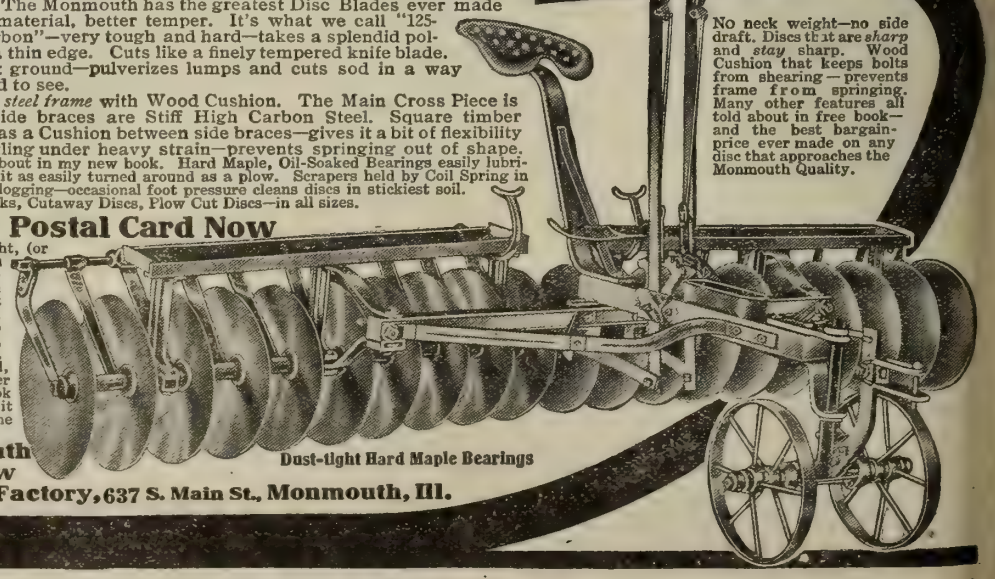

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65% go to Farmers

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Take Minnesota as one example: Minnesota is one of the nation's greatest and richest farming states. In the automobile registrations of the fiscal year Overland cars in the entire state of Minnesota show *a gain of 98 per cent.* The nearest competitor can show a gain of *only* 87 per cent. and the next *only* 55 per cent.

In Minnesota towns and villages of 1000 inhabitants, or less, Overland cars, for the year, show a gain of 136 per cent. The Overland's nearest competitor shows a gain of *only* 104 per cent. and the second nearest a gain of *only* 73 per cent. And so you find it all over the country.

The Overland has the approval of the majority of America's big farmers—the most substantial and practical class of people in America.

The 1913 Overland at $985 is the exact equal of any $1200 car manufactured. It has a powerful thirty horsepower motor. Seats five large people comfortably. This car has center control and tires of ample size. The springs are of the finest steel—three quarter elliptic in the the rear. The wheel-base is 110 inches. The rear axle is three-quarter floating, drop-forged and fitted with the famous Hyatt bearings; the front axle is an "I" beam, fitted with Timken bearings. Overland brakes are unusually large and strong. It is completely equipped with top, windshield, Warner speedometer, Prest-O-Lite tank, and the very best of everything. Nothing is lacking.

Forty thousand cars in 1913 alone make possible this big value.

Look up the nearest Overland dealer at once. Secure a demonstration. Let us prove to you that the Overland is the most economical car you can buy. A post card will bring additional information, our 1913 catalogue and the dealer's address. Please address the factory, Dept. 107

The Willys-Overland Company

Toledo, Ohio

Our Big Instruction Book---Free

For a postal card you may have our big automobile instruction book—*absolutely free.* It contains over 100 pages; each page is illustrated with simple diagrams. The language is not technical; the young people will read it with interest and can understand every word. It tells you how to purchase, operate and care for an automobile.

We want you to have this book because it will help you and because it will help us. A thorough reading will prepare you to appreciate the good and bad features of automobiles. And such knowledge will only emphasize to you the very high Overland standard. Write for this free book—today.

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Self-starter
30 Horse Power
5-Passenger Touring Car
110-inch Wheel Base
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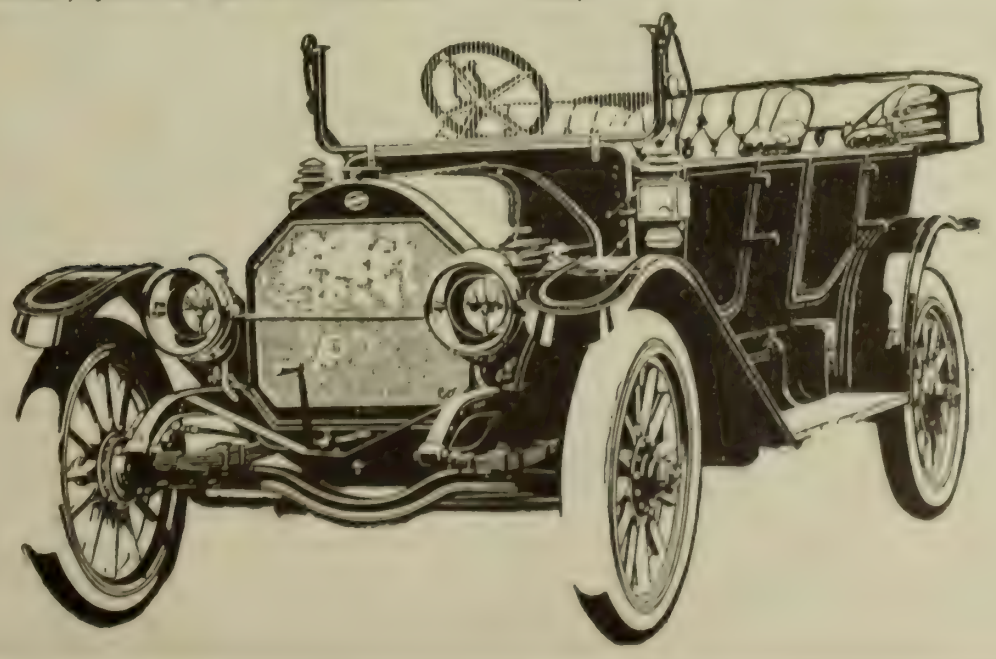

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Remy Magneto
Warner Speedometer
Mohair Top and Boot
Clear Vision, Rain Vision Wind Shield
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Felling Mahogany Trees in Guatemala

By Frank G. Carpenter

PORT BARRIOS, Guatemala—I write you from the edge of Mahogany Lane. This Motagua valley, which lies at the foot of the Guatemala mountains, back of Port Barrios, has hundreds of mahogany trees, which are being cut down by the United Fruit company, that the land may be used for banana plantations. The mahogany is so valuable that it sells by the pound, and few trees would make a good income. I have been in the mahogany country off and on ever since I left Panama, and I learn that valuable timber is being taken from the northern part of the Panama republic. I found them exploiting the forests in Costa Rica and Nicaragua, and am told that many mahogany camps are now working in both British and Spanish Honduras. There are American lumbermen sending mahogany in Panama all along the west coasts of Central America. The logs are sent over the isthmus by rail, and thence shipped to Europe or the United States. The trees they are now cutting here still lie in the clearing, but they will be taken by train to Port Barrios and thence shipped.

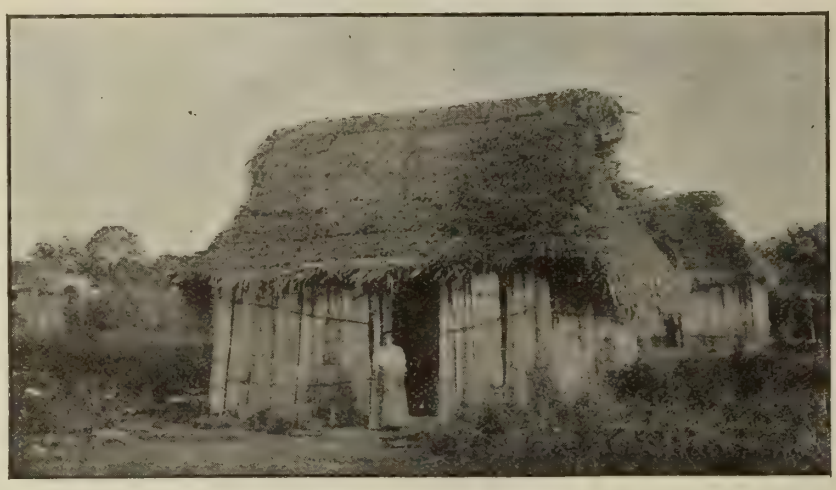
Central American Mahogany

The mahogany of this part of the world is the real article. We have a so-called mahogany in the Philippines, and there are false mahoganies in Nigeria, Ceylon, Madeira and California. The true mahogany, the wood which makes the finest furniture on earth, comes from this region; it is found in the lowlands along the east coast from Mexico to Panama, and also in Colombia and Venezuela and in the islands of the Caribbean sea. The trees are magnificent; I have seen some 100 feet high and thirty-six feet in circumference. Not a few rise sixty feet above the ground before the branches begin, and some are so large that five men, joining hands, cannot encircle them.

There is no such thing as a mahogany forest. The trees do not grow close together, but at wide distances apart, and the mahogany hunters climb the highest trees of the forest and pick out the mahoganies by their bright-colored leaves. The leaves change from season to season and at times they are as gorgeous as our leaves in autumn. The hunter marks the mahogany by the color and then leads the cutters through the jungle hacking to a road where the doomed tree stands. Often only two or three trees are found in an acre, but two trees per acre are enough to pay dividends. There is a record of one corporation which had a mahogany concession of about 25,000 acres, the total yield of which was only sixty trees, or less than two per square mile. I doubt if it paid.

How the Logging is Done

The ordinary tree ought to be at least a yard in diameter, and the average tree is usually 100 or 200 years old before it is ready for lumber. The most of the wood is cut in the rainy season, but as the trees



A Native Hut in Guatemala

are felled their limbs are cut off and the logs are then taken to the nearest stream; they are rafted down to market, or they may go to the railroad and be taken to the ports on the cars; they are put upon shipboard as soon as they reach port to prevent their being attacked by the teredo and other boring insects. The wood is so valuable that it is handled like fruit, and a close record is kept of it from the forest to the hands of the consumer. One of the chief markets is London, and others are New York and New Orleans.

In the Woods of Honduras

A great deal of our best mahogany now comes from British Honduras, and we get much also from the Honduras republic. The British Honduras timber is exported from Belize, which is not very far from Port Barrios, and I am told that the wealth of that town has largely come from this trade. The forests are exploited by lumbermen, who hire gangs of natives for the season, and have the exporting houses to advance the provisions and cash to carry on the cutting. The labor contracts are usually made during the Christmas holidays, the men being hired by the year. Six months' wages are usually paid in advance, one-half of which is in goods and the other half cash. The lumbermen are as dissipated as are those of our own and other countries, and they usually have a carouse before they leave Belize, during which time the cash disappears.

They now leave and go into the woods, where they build camps of huts thatched with palm leaves, including a larger building for the store and dwelling of the overseer. The labor is divided into gangs, each of which has a captain. The work is done by the task. The best laborers are out at daybreak, and a good man can finish his task by 11 o'clock. He can then spend the rest of his day in hunting or fishing, or he can cut out of mahogany paddles and other things for which there is a ready market. The lumber camps are not pious places; many of the laborers are roughs, and there are frequent fights and considerable drunkenness. There are also bad women who follow the camps, and the crowd is not a Sunday school one. The overseers live well; each has his own boat, with from twelve to twenty Indian rowers, and his own cook and Indian valet.

Felling Mahogany

The green mahogany is not easy to fell and the bringing of a large tree to the ground is a day's task for two men. The cutting is done about ten feet from the base on account of the wide spurs which project from the trunk and a platform or scaffold has to be erected where the sawmen and men can stand.

After the trees are felled roads have to be made to the rivers and the streams on the way must be bridged. Much of the wood is hauled upon rude trucks which have wheels of solid wood sawed from the end of a log and having iron boxes fitted into the center. Much of the work is done in the night by torchlights of pitchpine. All this is in the dry season. The rafting is done in the late summer or fall and the camps break up about the middle of December; after that the laborers return to Belize and they then receive the balance due them, which results in another great spree.

In Spanish Honduras

I understand there is a great deal of mahogany yet uncut in Spanish Honduras, or the Honduras republic. Mahogany grows in the valleys all over that country, and especially in the lowlands along the northern coast of the Caribbean sea.

It is near this coast, running inland fifty or more miles, that the chief banana plantations are, and not far from the sea, in the same region, are immense cocoanut groves with tens of thousands of bearing trees.

The most of the banana industry belongs to the United Fruit company, and that company has a line of steamers which plies regularly between Port Cortez and New Orleans, calling at Port Barrios and Belize on the way. The shipments of bananas amount to 2,000,000 bunches and upward per year, which means an aggregate of more than

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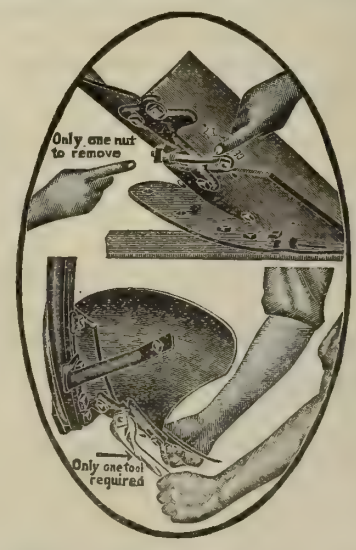

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300,000,000 bananas per annum. The business is carried on about the same as it is in Guatemala, Costa Rica and Panama. The plantations have many little railroads for carrying the fruit; they are divided into farms, and each farm is a settlement of its own. The overseers are Americans and the labor is largely done by negroes from Jamaica and the other islands of the West Indies, who come here for the purpose.

Making a Banana Plantation

The process of making the plantations is about the same everywhere. The jungle has to be cut down and this means the felling of trees from three to ten feet in diameter and the cutting out of undergrush and lianas, through which it is impossible to go without a machete or axe. As soon as the land has been cleared it is burned over and then the markers go through and stake out the holes where the plants are to be set. The banana plants come from sprouts of the older trees and they are set out about as far apart each way as the trees of the average peach orchard; they are planted among the half-burned logs and grow without cultivation; the only thing is to keep down the weeds, when the logs will soon rot away. I have seen plants growing among trees as big around as a flower barrel, and in going over the plantations have had to keep to the paths in order to make my way through upon horseback.

About a year after setting out the bananas they are twenty or thirty feet high and are ready to fruit. Each tree bears but one bunch of bananas, and when this is taken off the tree is cut down and the sprouts which have grown up about its roots are left to produce the next crop.

The cutting of the bananas is with a sharp knife on the end of a pole, the cutters catching the bunch as it falls. The bananas are carefully handled; the piles, which wait for the train, are laid on soft beds of leaves in order to keep the fruit from being bruised.

Banana Settlements

It is a big task to start a banana plantation, and the plans must be carefully made. The estate is first surveyed and paths and roads are laid out, the same being connected by tramways and railroads. And then the farm settlements have to be built, and in each there must be a store, a carpenter shop and a blacksmith shop, and also the stables and the homes of the workmen. Some of the managers and overseers bring their wives with them from the United States, and they must have comfortable homes screened with wire netting.

Some of these houses here are beautifully finished and well furnished. They have the latest magazines and papers, and in some of them you will find many novels, histories and scientic books. Many of the white employes have hobbies. One may be an ornithologist, another a bug hunter, and there are no end of collectors of orchids and other strange flowers. At the Virginia banana plantation near here they have quite an aviary, containing many of the quaint birds of Guatemala; these include the wild turkey, which has a brilliant yellow color; the tuma, with its gorgeous plumage, and the policeman-bird, which makes a terrible screeching if strangers come near the house.

I do not know just how many thousand acres are planted to bananas in Spanish Honduras, but the Guatemala estates belonging to the United Fruit company cover tens of thousands of acres, and 20,000 acres are already in bearing; this is divided up into banana farms of 1,000 acres each, each farm having sections of twenty acres each. Every farm has its own manager, the account sheets being kept separately, so that it is known just what each section costs and what it is yielding from year to year. Indeed, a cost sheet is kept of this business just as in our factories and machine shops at home. The general manager of the plantation is Mr. Victor M. Cutter, a young New Englander, who came here a few years ago, just after graduating with high honor at Dartmouth.

Landing Fruit by Machinery

I have been much interested during my stay in Central America in the handling of the banana crop, and especially in watching how the negroes transfer the fruit from the cars to the ships. At Port Limon, Costa Rica, this is done by machinery; the fruit is carried from the plantation over the railroad in leaf-lined cars to the side of the ship as it lies at the wharf; the tracks are so laid that the trainload of bananas is parallel with the steamer, and the fruit from a half dozen different cars can be transferred to the ship at the same time.

The loading is by movable carriers which run upon wheels; each carrier is a long belt about two feet in width, so aranged that one end of it rests over the opening into the hold and the other out on the wharf. This belt moves by machinery, and the bananas, thrown upon it by laborers, are carried into the hold. I have seen four rivers of bananas thus moving for hours, carrying fruit into a ship. The men are so trained that the stream of fruit is continuous, the management knowing just how many bunches one man can carry in an hour and how long it takes to unload each car.

The ship upon which I came here had in its hold 55,000 bunches of bananas bound for New Orleans; each of these bunches had at least 150 individual bananas, and altogether they were enough to have given every man, woman and child in New York, Boston, Chicago and Philadelphia one banana and still left some to spare.

At New Orleans the fruit is landed in the same way, being there transferred to cold storage cars, which take it to all parts of the Mississippi basin. The bananas for the eastern part of the United States usually go to the seaports of the Atlantic.

The Americans are introducing our farm machinery; they have American wagons and carts and also American plows and other farm tools. As to the native methods, everything is rude. I see the farmers still using the one-handled plow of the Scripture.

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A Boy Can Run It Easily

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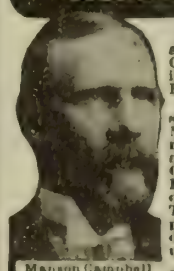

Manson Campbell

Now that farmers everywhere are cleaning and grading their Seed Grain, the question is, how to get it done *best*, *easiest* and cheapest. Here's my 1913 offer:

Send me one dollar and I will ship you, FREIGHT PAID BY MYSELF, this improved 1913 model Chatham Grain Grader and Cleaner with all equipment. Clean your Seed Wheat, Oats, Flax, Barley, Peas, Beans, Corn, Grass Seed, etc. Then PLANT those fine seed. AFTER you have harvested a bumper crop, pay me the balance of my low price. Not one penny need you pay, except the $1, until next November. And by NovemberYOUR CHATHAM WILL HAVE MORE THAN PAID ITS ENTIRE COST in INCREASED CROPS. Then you'll have a "Chatham" to work FREE for you the rest of your life.

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A Machine That Fits Your Farm

After 40 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on *your* farm. Experience has shown that a Grain Grader and Cleaner should have special equipment for the particular farming section to which it goes. For example, I send an *entirely different equipment of screens*, riddles and gangs to Maine from what I send to California. In fact, *there are scarcely 2 states in the U. S.* to which *I send the same equipment*. Thus you get the exact and proper outfit to handle the grains and weed seed that grow on your farm. You don't have to pay for a lot of extras for which you have no use.

Extra Screens and Riddles Free

In case you want more or different screens just write me and I will send them free. Not a penny would I ask for extra screens and riddles.

I also have a Free Service Department which will separate, clean and grade FREE any mixture you send in. If you've got some impurity in your grain that you cannot get rid of, don't get discouraged. Write me.

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My 1913 Chatham handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all sunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bully chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Fastest running mill on earth.

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Last year I added a Corn Sorting Attachment, which grades corn so that a round or edge drop planter drops the right number of grains in 98 out of every 100 hills on repeated tests at State Agricultural Colleges. Some planters, loaded with ungraded corn, made only about 60 perfect hills. In two months I shipped to Iowa farmers alone 4,000 machines with Corn Sorting Attachments. Try my Special Corn Sorting Attachment. *It will increase your corn crop enormously!*

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Handling Soil for Production

Article II—Necessities for Plant Growth—Water

This is the second article of the series on "Handling Soil for Production." It has been thought best to place before the reader, in the first place, all of the conditions necessary to be met in order to secure the best production, and then in later articles to show how under varying conditions these may be most successfully met. For a full understanding of the entire matter the reader should thoroughly familiarize himself with these conditions that must be met if he is to secure profitable production, and then he will be in a position to feel the force and aptness of the suggestions made for realizing these conditions.

If any reader disagrees with what is said in these articles the author will be pleased to have the benefit of his opinion.

If anything is not made fully clear, the writer will be glad to make additional efforts to clarify his thought.

WATER in the soil is as necessary for the growth of plants as plant food, for it is only through the mediumship of water in the soil that plants are enabled to take their soil food. The plant food in the soil has to be dissolved in water, and this solution is sucked up by the feeding rootlets of the plants. This is the only way in which plants can take nourishment from the soil.

But in order to serve this end the water must be in a certain condition. Water exists in the soil in three different conditions. These conditions are classified solely on the basis of the amount of water under consideration.

Free Water

First, Free Water—When the soil is thoroughly saturated so that water stands in it, filling all the pore spaces, it is called free water. The surface of free water is called the water table. If a pipe should be inserted into the ground and water poured into the pipe, this water would be free water until such time as gravity could draw it down to lower depths and distribute it through the soil. Standing water in the soil is free water. So likewise water in subterranean streams at different distances from the surface is free water. Ordinary farm plants cannot use free water and are killed by it if immersed in it for too great a length of time. There are certain other plants that cannot live without it. Certain aquatic plants, pond lilies, water cress and various other plants of like nature must have free water or they cannot thrive. But free water in the soil arrests the growth of ordinary farm plants, and in the end kills them.

Second, Capillary Water—After gravity has taken out of the upper soil all the water that it has power to draw to lower depth, there is left in the soil a certain amount of water for which the grains of soil have a more powerful attraction than gravity. This water is distributed over the grains of soil in a very thin film, and on this account is sometimes called film water. This is what, in ordinary use, is called capillary water. Perhaps film water might be regarded as a more accurate name for it. That grains of matter may have a stronger attraction for a very small amount of water than gravity is easily illustrated. If one end of a small glass tube, both ends of which are open, is inserted in water, the water within the tube will be seen to rise slightly above the level of the water outside the tube. This is due to the fact that the grains of matter composing the tube have a more powerful attraction for the small amount of water that it thus raises above the general level than gravity has. This is the case with capillary water. The grains of soil have a more powerful attraction for the thin film and holds it permanently against the attraction of gravitation.

The amount of water that any soil may be able in this way to hold against the attraction of gravitation depends upon the character of the soil. Ordinarily, the finer the soil—that is, the closer together the grains may lie, or the smaller the interstitial spaces may be—the more water it will hold. The coarser the grains and the larger the interstitial spaces the less water will it be able to hold by capillary attraction. The interstitial spaces in ordinary soil are said to constitute about 56 per cent of the bulk of the soil.

This capillary water, or film water, is the only water that ordinary farm plants can use for purposes of growth. The problem, then, for the ordinary farmer is to provide as large an amount as possible of capillary water for the use of his plants.

Hygroscopic Water

Third, Hygroscopic Water—If a thoroughly dried soil, from which all moisture has been driven, is exposed to a saturated atmosphere—that is, a damp air, from which there is no precipitation—it will absorb from the air a certain amount of water, so slight that it is not called water, but moisture. The amount of water so absorbed may be easily determined by weighing the soil before it is exposed to the air, and then weighing it again after it has been exposed for a certain length of time to damp air. The difference in weight will be the weight of the water which has been absorbed from the air. This water is called hygroscopic water. It is so slight in amount that ordinary plants can make no use of it. Some scientific men go so far as to assert that it is of no use to any plants. This is an assertion very difficult of proof. There are some indications that certain plants can and do make moderate use of this form of water. Certain plants are called "drouth-resistant" plants; this means that they can use water existing in the soil in smaller quantities than ordinary plants. It seems probable that these plants make some use of hygroscopic water. This is rendered still more probable by the fact that certain soils will take and hold a much larger percentage of hygroscopic water than other soils. In soils that have what is called a high hygroscopic co-efficient it seems probable that drouth-resistant plants may make some use of this amount of hygroscopic water.

Movement of Capillary Water

If a cube of granulated sugar is placed in a dish that contains a small amount of water the water will rise in the cube by capillary attraction until it is saturated. The water in the dish is free water, and this rise will continue within certain limts as long as there is a supply of free water. Now, because water will rise by capillary attraction in this way from free water, it has been assumed that it will rise at all times and under all circumstances when totally disconnected from free water. This assumption has proved to be erroneous and has led to the promulgation of theories regarding handling of the soil which are not based upon fact. Water will rise by capillary attraction from free water in ordinary soil in amounts sufficient to be of material use to plants, from seven to nine feet only. Theoretically it is supposed to rise indefinitely against the action of gravitation. But as a matter of fact this is about the limit to which capillary attraction can raise water against the attraction of gravitation in sufficient quantity to be of appreciable use to growing plants. In most soils where there is free water within seven to nine feet of the surface capillary attraction will raise some of the water to the surface, but beyond this limit—that is, where free water is found only at great depth—capillary attraction does not raise the water beyond the limit stated above. In such cases, below the upper twelve inches of soil, the movement of water in the soil is always downward, never upward. In the upper twelve inches of soil, possibly only in the upper six inches, there is a slight movement by capillary action upward, but not in sufficient quantity to be of material use for plants.

From this it follows that all that has been said and written on the subject of subsurface packing of the soil in order that capillary attraction may bring water up from below is based upon a false notion. If the soil is too loose for plant growth, subsurface packing will solidify it in such a way that plant roots may take hold upon it. But under any other circumstances subsurface packing is unnecessary.

The problem for the tiller of the soil, then, is to provide in the subsoil all the capillary water that the subsoil may hold, and then to handle his soil in such a way that the plants may send their roots down for the water. It will be useless for him to try to bring the water up to the plants.

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487

Fashions : Practical Garments for the Winter

SHEER shadow effects are having a tremendously successful season in veilings. The meshes are fine and dainty, while the scroll and flower designs are neat. The favored meshes are in hexagon, square and hairline effects, the patterns being scattered over the veil with careless abandon. One pretty veil charmingly illustrated this idea. It was of the shadow variety and had little leaves woven loosely and outlined in a heavier mesh. The heavy outline tended to bring the leaf out into prominence. Another veil showed large, detached flower motifs and a border of miniature flowers in one continuous line.

The Shetland wool veils are just as much favored this season as last year. Their soft, silky finish make them easier to adjust than those having plain, unfinished edges, although narrow taffeta or grograin ribbons are often stitched on to the latter in order to help them to retain their shape and prevent them from becoming frayed and straggly. This method is not only an attractive one, but practical and economical, since it undoubtedly lengthens the existence of the veil.

Chenille dots, in ring and solid effects, are again seen in a great many smart models. A dainty veil in a square mesh featured a tiny leaf outlined with chenille dots. Others show them in clusters and the plain veil with a border of these chenille dots in straight or scalloped arrangements is as effective as it can be. A distinct novelty is the vanity veil, which contains but one or two dots, placed either below the eye, on the cheek or on the chin. These are really very pretty and not a bit bold or unrefined, as may be supposed. The beauty spots are made of chenille and velvet. A black velvet dot on a white veil is exceedingly attractive.

Black, white, black and white mixtures, taupe, brown and navy blue are the strongest colors in the veiling field. In chiffon veilings the brighter hues, such as delft blue, tan, purple, violet and heliotrope, are dominant, though the larger and softer shades, of course, are also represented. There is a new way of adjusting the veil. It is brought over the back of the hat, with one end a trifle longer than the other, and is tied so that the ends overlap each other and fall gracefully below the brim of the hat. A bar pin holds the veil in position on top.

4839 4853-4737 4808-4592 4664-4855

Description of Patterns

4839—A simple, unpretentious design is illustrated here, nevertheless there is about it a suggestion of quaintness that is so much sought after at present. The model would be charming for a morning dress in challis, albatross or cashmere. Reproduced in charmeuse with velvet collar and girdle, it resembles some of the simpler designs that are noted in goodly numbers among the most recent importations. The use of the belt in these frocks is a new feature, heralding the revival of that convenient accessory. An unusual detail of the waist is the sleeve, that extends to the wrist on the inner side of the arm, but which is completed by a cuff section at the back of the arm, into which the shorted back portion of sleeve is gathered. An attached three-piece skirt, measuring two yards in width, completes the design. Costume No. 4839 is in sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 4¾ yards of 36-inch material, with ¾-yard of 18-inch velvet. Price, 15 cents.

4853-4737—A very pleasing toilette results from the combination of this natty little shirtwaist of white China silk with a skirt of plum-colored velveteen. Using the pretty suspenders with pearl buckles serves to bring the waist and skirt in closer relation, and this tends to modify the rather businesslike effect of the shirtwaist and skirt. The jaunty Byron collar shows a dainty device for lacing it closer up to the neck, in the embroidered eyelets and cord. In this instance the eyelets are worked with lavender silk, while the cord matches the color of the skirt. Amethyst crystal buttons on the waist complete the effective color scheme. The four-gored skirt measures 2½ yards around the lower edge. Waist No. 4853 is in sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure, size 36 requiring 3¼ yards of 27-inch material. Price, 15 cents. Skirt No. 4737 is in sizes 21, 22, 24, 26, 28, 30, 32 and 34 inches waist measure, size 26 requiring 4 yards of 36-inch material. Price, 15 cents.

4808-4592—Taupe-colored charmeuse with white satin for the chemisette and amber-colored crystal buttons was the modish color scheme employed in reproducing this attractive design. A model of this kind could be selected for the house, or for morning or informal afternoon wear. The waist is on the shirt blouse order, with bishop sleeves, having turned-back cuffs, and an up-to-date Robespierre collar. A feature that makes the waist becoming to a great number is the plait over each shoulder; this excellent device covers up many little defects of the figure. The cut of the skirt is marked by quite a degree of distinction. It is made up of two pieces that overlap at front and back, the three small plaits in the front producing an unstudied drapery arrangement at the overlapping of the front edges. Two yards is the width around the lower edge of skirt. Waist No. 4808 is in sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 2¼ yards of 36-inch material. Price, 15 cents. Skirt No. 4592 is in sizes 21, 22, 24, 26, 28, 30, 32 and 34 inches waist measure, size 26 requiring 3 yards of 36-inch material. Price, 15 cents.

4664-4855—One of the smartest developments for the toilette combining shirtwaist and skirt is white satin for the former and white serge for the latter. Pipings of satin, taffeta or velvet in a contrasting color, with crystal buttons to match, serve as a pleasing note of relief. The collar is so shaped as to permit its being converted into a high collar with the addition of a stiff interlining. The sleeves may be finished short, with a turn-back cuff, quite distinctive in design is the six-gored skirt, with plaited front and back section, which measures 2¾ yards around the lower edge. Waist No. 4664 is in sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure, size 36 requiring 4 yards of 36-inch material. Price, 15 cents. Skirt No. 4855 is in sizes 24, 26, 28, 30 and 32 inches waist measure, size 26 requiring 2¾ yards of 44-inch material, or 4¼ yards will be necessary if the material is 44 inches wide. Price of the pattern, 15 cents.

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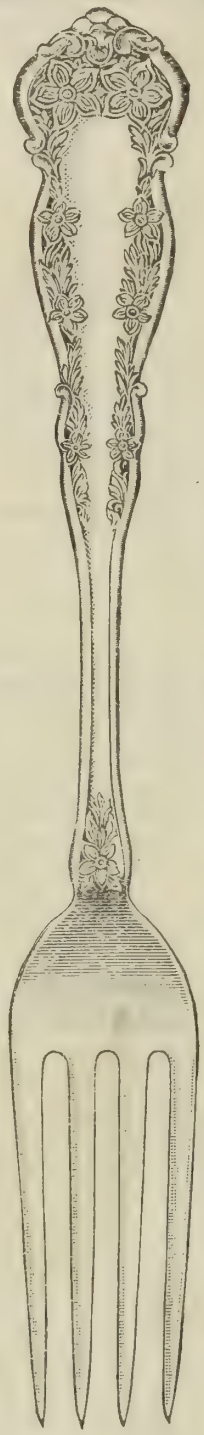

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Of Interest to Our Women

Helpful Chats for Mistress of Farm Home

The Farmer's Idle Wife

The farmer's wife is now so occupied with social affairs that she has lost the art of making butter and jam and doing the work of the farm that her grandmother did. This results in a great economic loss to the country.—The subject of a government report issued from the Agricultural Department.

The farmer's wife, in early days, got up
at half-past two,
And shined the plows and milked the
cows and put the prunes to stew.
The breakfast for the hands she'd set
upon the stroke of four,
And then she'd bake her bread and cake
and scrub the kitchen floor.
But nowadays the farmer's wife has time
to call her own.
"Good gracious!" says the Government,
"how idle she has grown!"

The farmer's wife, in times gone by,
brought up the calves and lambs,
And sacked the oats and fed the shoats
and smoked the hickory hams.
And when she'd cooked three great big
meals she cheerfully arose
And with her churn sat down to earn the
money for her clothes.
But now she often visits 'round and gossips, like as not.
"My goodness!" says the Government,
"how worthless she has got!"

The farmer's wife, some years ago, was
wholly free from nerves;
Twelve hours a day she'd slave away at
putting up preserves.
Six children dangling at her skirts, a
seventh on her arm,
She'd gamely set herself to get the mortgage off the farm.
But now she sometimes takes a rest, like
city women do.
"Great Heavens!" cries the Government,
"what is she coming to?"

The farmer's wife departed from this
vale of toil and tears
For happier climes, in those old times,
when under thirty years.
The farmer got another mate, he somehow always found
The ideal wife who toiled through life
and rested—underground.
But now sometimes her years add up
their full allotted sum.
"Great Scott!" exclaims the Government,
"how shiftless she's become!"
—James J. Montague in San Francisco Examiner.

Our Home Chat

Mrs. Nation this week makes a plea for broader cultural education and asks that this be not neglected for vocational work. We agree with Mrs. Nation that the children should be introduced to literature and art, yet there are many "frills" which do not come under the list of essentials of culture or education which might be dispensed with and vocational training be substituted in their place. It has come to be the rule that the entire educational system, from the kindergarten to high school, looks toward the entrance requirements of universities. Only a small number of pupils ever enter a college and a very large per cent go no further than eighth grade.

It would seem that provision should be made for both these classes, those who wish to reach entrance requirements in universities and those who will go no further than the eighth grade, or high school. In order to give vocational training it is not necessary to neglect literature and art. Mrs. Nation's plea for a broader elementary education is justified; it is due the boys and girls of this country. Better give them a good education than leave them a farm; they may lose or squander money, but an education cannot be taken from them, and it proves a blessing every day in the year. THE EDITOR.

Home Economics Association

The men who come to Lincoln, Neb., for the meetings of the Organized Agriculture association come back again, if possible. The ladies would make it possible to come back if they once attended the meetings of the Nebraska State Home Economics association. The programs are always good from beginning to end, and there is a wide enough range of subjects to interest everyone, whether from country, town or city.

The Nebraska State Home Economics association was formed several years ago by a few ladies who had come to Lincoln to the Organized Agriculture meetings with their husbands. Miss Bouton and some of the home economics instructors, as well as a number of Lincoln ladies who were interested in this line of work, came into the organization. The membership has greatly increased, many of the ablest women in the state being members. The meetings will be held Wednesday and Thursday, January 22 and 23, 1913. It is desired that as many as possible of the Home Economics and Farmers' institute auxiliaries be represented, an hour being set aside for reports of work done by these clubs and discussion of plans for further work. Everyone is cordially invited to attend, whether a member of such club or not.

JENNIE E. CRAIG, Secretary.

Plea for Broad Education

Not long ago, at a gathering, some ladies were complaining that our school system is faulty because children are not permitted to choose their own studies or life work at an earlier age. They cited the Gary school at Gary, Ind., as the model best for us all to follow. The prominent idea was that a child need learn one thing only, as a rule, and that thing should be according to his or her inclination, thereby being more likely prepared to do the work well.

Now, we maintain that the Gary school system is the outcome of a necessity owing to the peculiarity in circumstances. Gary is filled with a foreign population, and as such do not readily grasp many subjects as do children of national parentage. While we all wish or expect our children to have special work or calling in life, we also wish them to broaden along other lines than those pertaining to this calling; that is, if we care to have them get the best of this life. Even in professional work it does not seem right to educate in the one line only. It is sacrificing too much of what might be developed or elevated.

Such a system would certainly do much more to destroy the social side of life than it would help, as we would soon have a host of people who could talk shop only, and instead of being friendly and companionable, they would find conversation hindered where vocations differed to any extent. Specialists, even as professionals, have hobbies and, narrowed down to one line of work or knowledge, nearly always become cranks, and little else could we expect of persons so educated. Let us look for a moment at such examples as Lowell, Holmes, Webster, Clay, Longfellow and a score of statesmen and inventors of our own country who have given so much of good thought and help to the world in general. These men were educated in science, art, literature, mathematics, languages and what not? Such men were broadened in the true sense of the term. Most of them understood law, medicine, governmental affairs and were ready speakers on every and all subjects of import, consequently they were able to get more out of life than anyone who understands little besides the calling he is engaged in; then, too, new kinds of labor are demanded with new inventions and systems of work. A child of immature years is often interested in a vocation, which in later years proves unpleasant and even irksome.

We have watched a young girl at the theater for the first time, who went into raptures over the star in the play. Of course, the little girl thought being an actress was the most delightful calling of all, and clung to the idea for weeks, even months. Before she reached the eighth grade of her school work, however, the notion had left her. Many more instances could we give of children building castles which fade away with further self-development.

A child's individuality is shown when it has developed reasoning power and judgment; yet, before the high school is finished how many are capable of exercising those powers? When a pupil has finished the twelve grades afforded by our public schools and has done thorough work he is more capable of choosing a life work. Even then they often seek the advice of older heads as to their future career. It surely hurts us as a people to have the cultural elements dropped from our course of study in order that children may be started out more quickly in some vocation.

Our country has plenty of people today who get large salaries and wages and spend all as soon, or sooner, than it is earned. The get-rich-quick idea is hurting America and aiding in the clamor for a vocational life. Are we to let be thrown aside the studies recommended by our best and brightest educators as the ones calculated to aid in developing the best side of our nature, and giving an intelligence that will help us to be factors in social life fit to battle with existing conditions from day to day in our humblest walks and from year to year in our country's affairs? We are lacking men of capability for filling high places now; then why lower our standard of education? It will all the more distinctly divide us into classes of the professionals and day laborers. Please let us halt and ponder before turning our schools into a sort of workshops, although we would recognize the manual training, and such in its place.

HARRIETTE H. NATION.

Love is color blind, so don't blame the young man if he mistakes holly for mistletoe.

The Old-Time Country School

By Nancy J. Havens

I wonder if it would interest anyone to know how a typical country school was conducted during my childhood days in Louisiana, forty years ago. The one I describe is the one I knew best. We had about a three months' term during the summer, some years excepted when we had none, as the summer school interfered with the children's work at home, such as hoeing cotton, laying by potatoes, pulling fodder and corn, etc. As these tasks were of so much more value than book "larnin'" the schools were irregularly attended.

The "college" where I graduated was a long house about 16x24 feet. Ventilation and light was supplied by one door and the cracks between the logs, as the walls were never ceiled. The seats were two pine poles placed side by side near the wall. Three sides of the building were furnished with these seats, which accommodated quite a few pupils, as they ran full length, so the ends could be slipped through the cracks between the logs. The seats were strong and no breakdowns were ever heard of during school hours. The desks were plank, also as long as the house, placed in the cracks above the seats on the sides of the house and dropped from the outside at exactly the right angle to cause our ink bottles to slide off into our laps, as many a school girl can testify. Those two planks, a shelf near the door for the water bucket, and the flooring was all the lumber, or bought timber, needed when erecting the building. For steps, blocks were sawed off from logs; the rafters and ridge pole were small pine poles, with the bark taken off; the lathing was split with an ax, also the shingles for the roof. There was no porch or loft, so the rest could be easily managed. Nails were driven in the walls to hang up hats, bonnets and dinner pails; water was brought from a pine woods gulley several hundred yards away. A well was once dug near the school house, but an Angora goat, on a tour of investigation or idle curiosity, jumped into it and was never removed, for what is everybody's business is nobody's business.

We had a blackboard 3x4 feet made of lumber and painted with lamp black; it was placed in the end of the house and only used on special occasions, for we all had our slates and pencils and had little need of a blackboard; besides, chalk was scarce, as the teacher often reminded us. The hour set apart for writing was a pleasant one and the scratch of our brass school pens on our great foolscap could be plainly heard, as well as the whispered invitation to "Have a dip of my ink this time," or "Let me have another dip of your blue ink," for we prided ourselves on the many colors of ink we owned. Some of the bright-hued inks could trace their origination to a nearby pokeberry bush or box of wash blue. I never attended a school where a lesson was given in either grammar or hygiene, for the three R's were considered the only thing, or the main necessity, in an education, combined with spelling. How we did love to spell. We would line up twice a day for our spelling lesson from the old blue-back speller, and when it was closed the teacher would call out numbers, first, second and on down the line, and the one who stood ahead would bring her book for the teacher to give her a headmark. The one in each class showing the most headmarks at the end of school was always promised a prize, which was never given; but the effort was good for the children. Then those Friday evening spelling matches; will I ever forget the thrill it would cause when teacher would say:

"The one guessing nearest the page at which this book is open will have first choose."

During noon and recess we skipped the rope, played town ball, pussy wants a corner, London bridge and various other games, the teacher joining in most of them.

How different are the schools of today. Our little folks attend an up-to-date school, furnished with all up-to-date fixtures, from a woman teacher to a bored well. My husband and I sometimes bemoan our lost chance for an education and other advantages, but we are living our lives over in our children, trying to give them many things that our early surroundings made impossible

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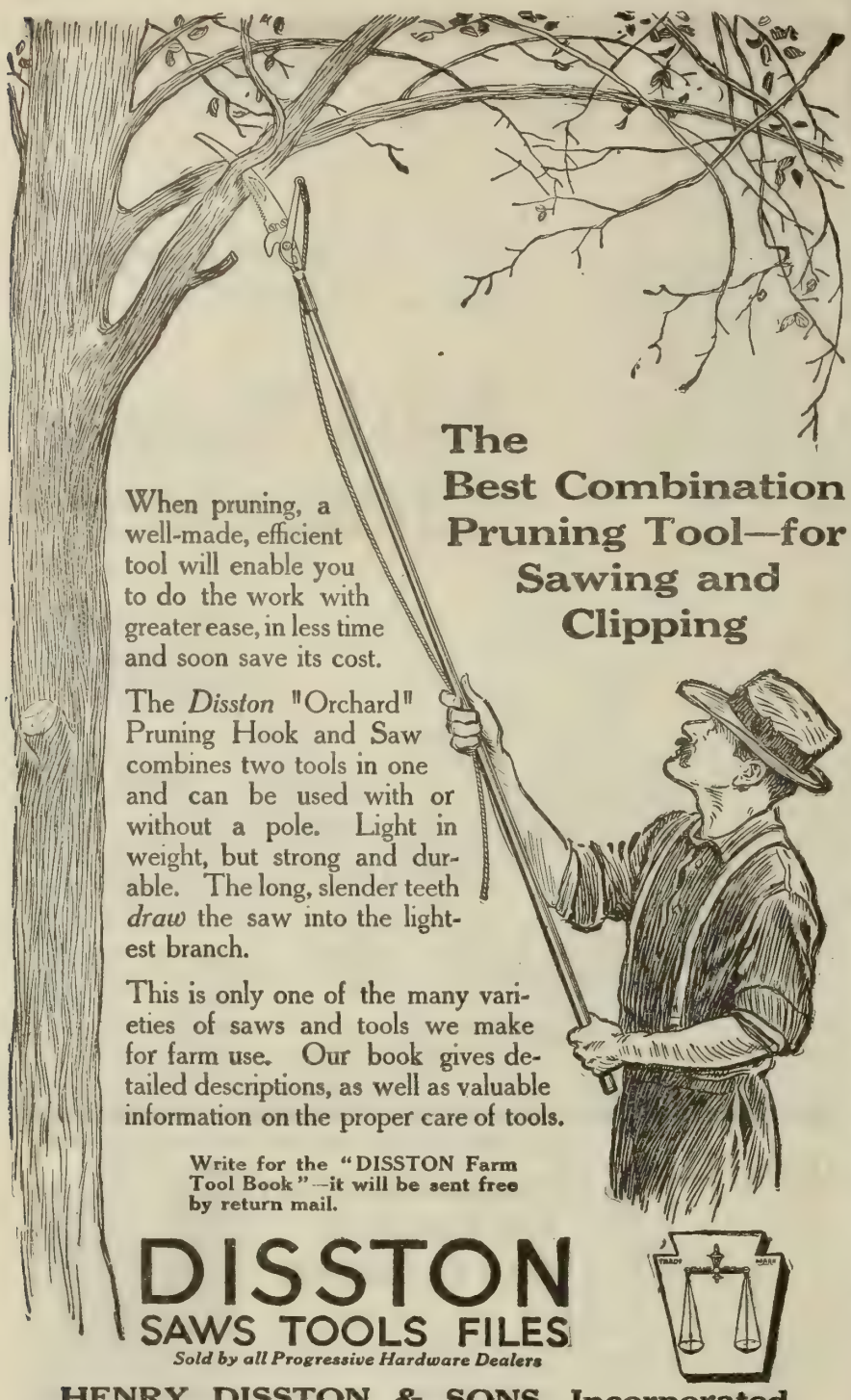

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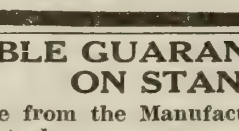

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Stories by Our Young People

The Talking Bird

My big sister said the other day—
She's twelve years old and awful wise and tall—
She said that fairy books were merely bosh,
'Bout things that couldn't ever be at all.

Witches and fairies never yet were seen;
There aren't dragons and no giants stalk;
She said that princes weren't turned to frogs;
There never was a bird or beast could talk!

That very day I went across the street
With my best doll to visit Fanny Meek;
And there I saw an awful funny bird—
Green, red and yellow, with a crooked beak!

I looked at him and he looked back at me—
I hate to tell the rest because I know
You'll think perhaps I'm telling naughty fibs—
He opened that big beak and said, "Hello!"

Well, no, I didn't wait for any more;
It scared me most to death I'll have to 'fess—
But when she says that birds don't ever talk,
Why, my big sister's wrong for once, I guess.

—Zella Slater Bissell in Woman's World.

The Editor's Corner

Dear Boys and Girls: Appreciation is a nice thing, especially when it is so nicely expressed as by some of the winners of prizes on this page. The books which are given as prizes each week are well selected and much appreciated by the winners. Margaret Hossack, who recently had a prize story, writes as follows: "I was very much pleased with the book I received and I have concluded to try again." Nellie Snyder writes: "I received the book, "The Broken Bell," and thank you very much for it; it is certainly lovely."

One book is given each month for the best prize story, and two books for those sending in the best daffydils, so three people each week are recipients of these prizes.

THE EDITOR.

(Prize Story.)
A Happy Accident

By Dola Hersh, Aged 14, Valparaiso, Neb. Red.

At 6 o'clock Jimmy closed his "Shoe Shining Parlor" and started through the snowy streets for home. Coming across Washington avenue care had to be taken on account of the many vehicles. But Jimmy thought little of this and, with all the confidence of a street urchin in his own ability, he started to cross. Half way over the icy pavement, and directly in the path of an automobile, he slipped and fell. Before the horror-stricken driver could stop it the car struck the prostrate body. At the hospital an old man sat by the cot.

"He'll live," said the doctor at last.

No one was happier than the elderly fellow. Said he:

"I'll never trust myself in the city again with my auto. I got rattled, you know. As for the boy, he goes to the farm with me, for he has no parents and we have no boy."

When two months had elapsed Jimmy was the happiest boy in the country. The simple ways and kindly interest of his benefactors made up for his injuries, none of which were lasting. He often said:

"It was like passing through death to reach heaven."

(Honorable Mention.)
The Lost Dog

By Manda Smoot, Aged 14, Blackfoot, Idaho. Original. Blue.

Uncle Weaver sat on the front porch, dreaming of Alaska and Cap, the dog, which had saved his life. Presently May came slowly up the walk, followed by Cap.

"Uncle," she said, "will you take Cap with you when you go to California?"

"Certainly, dear," answered her uncle.

"And will you go tomorrow?"

"Yes, May, I must get to my claim," answered he as he stroked Cap's furry back.

There were tears in May's eyes as she went out to her playhouse. Suddenly she had an idea. She took a roundabout way to the cave house which Cousin Hal had built. May called Cap in and shut the door. There was an air hole at the top. May knew nobody knew of the cave house except herself and Hal. For a week search was made for Cap; for a week twice a day, May slipped down to the cave house and fed him.

"I shall never leave here until I find Cap," said Uncle Weaver on the seventh day. It was then that May told him the whole story. At the close her uncle said:

"Run get him, May, and you can have him, for I see you love him more than I could."

Story of a Stove

By Edmund Kirchner, Aged 10, Herndon, Kan. Blue.

Once I lived underground, then some men came and dug me out and put me in a blast furnace. When I came out of there I was a piece of iron; then they sent me to a factory, where I was made into a beautiful stove; then I was put on a train and was carried a long way. Then the train came to a stop. Here I was taken off and a man came and got me; then I was put into a store. After a long time some nice people came and looked at me and some of my friends; then they bought me and put me in their parlor.

After supper the children gather around me and read stories, eat apples and have jolly times. I warm a little rat terrier dog which lies on the floor behind me. My master is coming to give me coal.

Additional Stories

Blue Side—Pauline Robetorye, Malta, Mont.; Margaret Hossack, Armstrong, Ia.; Mary Fuller, Gresham, Neb.; Cora Bishop, Percival, Ia.; Freda Faveluke, Dayton, Wash.; Rosie Norris, Belleville, Kan.; Nellie Bates, Lodge Pole, Neb.; Adealiah Hamm, Muscotah, Kan.; Hilda Luoma, Leo, Wyo.; Alima Luoma, Leo, Wyo.

Red Side—Gordon Boyer, Stanton, Ia.; Carol Floyd, Echeta, Wyo.; Paul Vais.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

Home-Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, The Twentieth Century Farmer.

FIRST PRIZE—Earle James, Wallowa, Ore.: If the boss had a wife, would the book-keeper?

If the ocean froze over, could the sun-fish?

If the pencil was broken, would the book-mark?

If a Turkish towel danced, could That Mysterious Rag?

If the father objected, would the Ant(aunt)-elope??

If the crew was tired, would the orchard-row?

If he knew a secret, would William Tell?

If the frost-bit, would the cat-nip?

If the ice is slick, can a roller skate?

If a man can kick, can his rubber-boot?

If the lady was lost, would the beauty-seeker?

SECOND PRIZE—Karl Hendricks, Wallowa, Ore.: If a horse can pitch, can a saw-buck?

If a cow would jump, would the pen-holder?

If a lady fell, would a safety-razor? (raise her).

If the street was slippery, would the snow fall?

If the washwomen went on a strike, would the curling-iron?

If a girl committed murder, would the paper-hanger?

If the river slipped, would the water-fall?

If the fireman was sick, would the coal-shovel?

If the convention couldn't agree, would the thunder-bolt?

If her dress was too long, would Nantucket? (Nan-tuck-it).

If a horse can jump, can a pole-vault?

If a lady got a divorce, would a hose-supporter?

A. L. Wire, Olathe, Colo.—If the maid went on a strike, would the gold-dust?

If the nurse eloped, would the cork-puller?

If the cow kicked, would the stove-hook?

If the clock stopped, would the bed-tick?

If the stenographer went wrong, would the type-writer?

If the dog howled, would the sassafras-bark?

If the axe chopped, would the buck-saw?

F. V. Thornburg, Beatrice, Neb.—If a field were bare, would the fodder be shocked?

If a sailor's cow kicked, would the salt seller?

Willard Meed, Ericson, Neb.—If January does not make February March, April May.

Ruby Markham, Riverton, Ia.—If the girl fell in the mud, would the Old Dutch Cleanser?

Geneva Jordan, Kerenx, Tex.—If the lightning is crooked, will the rainbow?

Roy Fricken, Grundy Center, Ia.—If the seats at a moving picture theater were empty, would the moving picture film?

If a shark swallowed a sturgeon, would the whale blubber?

Sidney Bartlett, Coeur d'Alene, Idaho—When dinner is ready, will the napkin ring?

If the cream puffs, will the milk shake?

If the wind soughs (sighs), will the rain patter?

DREADED TO EAT
A Quaker Couple's Experience

How many persons dread to eat their meals, although actually hungry nearly all the time!

Nature never intended this should be so, for we are given a thing called appetite that should guide us as to what the system needs at any time and can digest.

But we get in a hurry, swallow our food very much as we shovel coal into the furnace and our sense of appetite becomes unnatural and perverted. Then we eat the wrong kind of food or eat too much, and there you are—indigestion and its accompanying miseries.

A Philadelphia lady said:

"My husband and I have been sick and nervous for 15 or 20 years from drinking coffee—feverish, indigestion, totally unfit a good part of the time for work or pleasure. We actually dreaded to eat our meals. (Tea is just as injurious, because it contains caffeine, the same drug found in coffee).

"We tried doctors and patent medicines that counted up into hundreds of dollars, with little, if any, benefit.

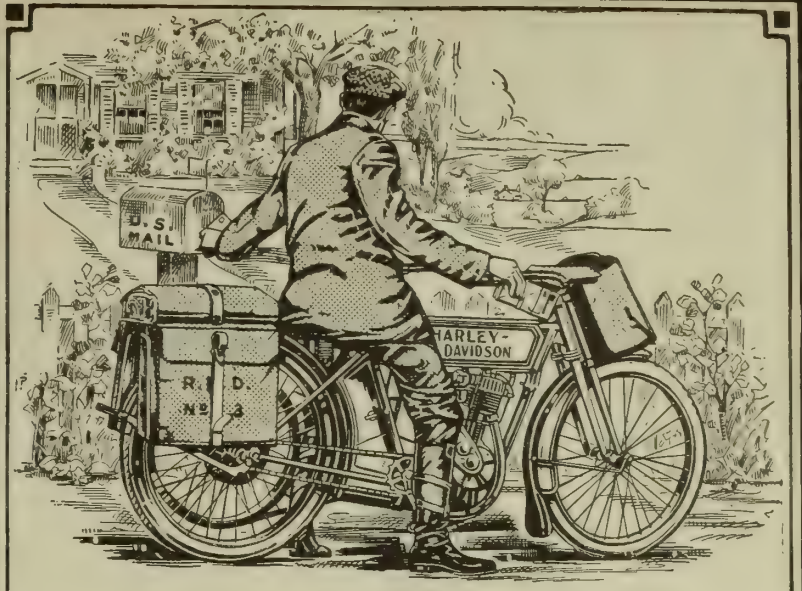
"Accidentally, a small package of Postum came into my hands. I made some according to directions, with surprising results. We both liked it and have not used any coffee since.

"The dull feeling after meals has left us and we feel better every way. We are so well satisfied with Postum that we recommend it to our friends who have been made sick and nervous and miserable by coffee." Name given upon request. Read the little book, "The Road to Wellville," in pkgs.

Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

Instant Postum is convenient; there's no waste, and the flavor is always uniform. Sold by grocers—50-cup tin 30 cents.; 100-cup tin 50 cents.

A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.—Advertisement.



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MORE pulling power at low speeds, more power on the hills, more reserve power for sand and mud. That was the demand our engineers set out to satisfy by building the

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(5 actual horse-power—35 cubic inches piston displacement). Dynamometer tests show that this motor develops 166 per cent. more power at 5 miles per hour than even the former 4 horse-power Harley-Davidson, which was the acknowledged leader in its class. 145 per cent. more power at 10 miles an hour, 80 per cent. more power at 20 miles an hour.

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You can use this tractor to better advantage than 15 to 30 sturdy horses, and at far less expense. It will do your field work—plowing, discing, harrowing, seeding and harvesting—in the shortest time; hence saves you money and swells your profits.

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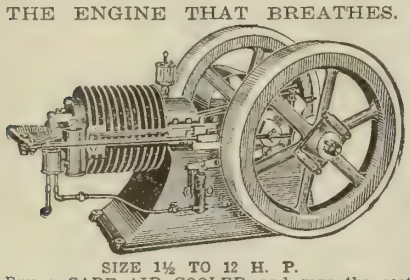

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Mention The Twentieth Century Farmer.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Cost of Keeping a Horse

How much does it cost to keep one horse a year?

This is a question that farmers in all parts of the country should ask themselves. As soon as we realize that it costs from $50 to $90 a year to keep a horse upon the farm we will make our plans to get a larger amount of work out of him. We cannot afford to have a number of horses about the place that are not turning a profit. In order to utilize each horse upon the farm it is necessary that the farm plans be well made. They should be such as to distribute the work as evenly as possible throughout the year. In this way the profits of the farm can be somewhat increased.

H. F. PATTERSON.

Aberdeen, S. D.

Woman Writes on Poultry

Your farm paper has been a regular caller at our home for some time, and I will say it is a paper that everyone that lives on a farm should read.

I want every woman reader of The Twentieth Century Farmer who lives on a farm to know how easy it is for her to have plenty of money to spend, as well as to help her husband along financially. This can be done by raising poultry. Some women admire certain breeds of poultry. I have raised nearly all kinds and I find that most any breed will pay providing they have the proper care. I think it is just as easy where one lives on a large farm to raise geese, ducks, turkeys and chickens as to raise just one of these breeds alone. I never had pure-bred fowls until this year. I bought my pure-bred stock this winter for next season's raising.

This year I raised 175 ducks, 100 of which I kept in a close pen and fed them all they could eat for six weeks; then I shipped them to Omaha, where they averaged eight pounds each, and I received 13 cents per pound, or $1.04 per duck. From these ducks I picked sixty pounds of feathers, which I sold for 70 cents per pound. I had the large Pekin Rouen ducks, crossed once. I did not have such good success with my turkeys, only having two hens, and I lost one of them after she had laid but twelve eggs, but I raised sixteen, ten of which I shipped with my ducks; that brought me $18.80. The other six I kept. I had good success with my chickens; I had only about four dozen hens, and I raised 288 chickens. I sold twelve dozen for $60 and kept twelve dozen pullets. I am certain that any woman who lives on a farm can do as well as I have. I have no children; therefore, I have no one to help me, either with my housework or with poultry raising. I advise every woman who desires to raise poultry for the largest profits and least work to raise ducks; they are the easiest of all fowls to raise, as they are different from other fowls in many respects; they are not subject to diseases, it matters not what you feed them, they are never troubled with mites and lice, and by giving them a small pond of water to paddle in they will not wander away so the coyote can catch them. A duck will furnish features to pay his feed bill. I have kept seventy-five of the Rouen ducks and three faun Indian Runners to breed from next season.

I would enjoy seeing every farmer's wife try raising a few ducks next year. I have had several years' experience with the raising of ducks and will gladly give free information as to the care and feeding of them to anyone who will write me.

Callaway, Neb. MRS. S. S.

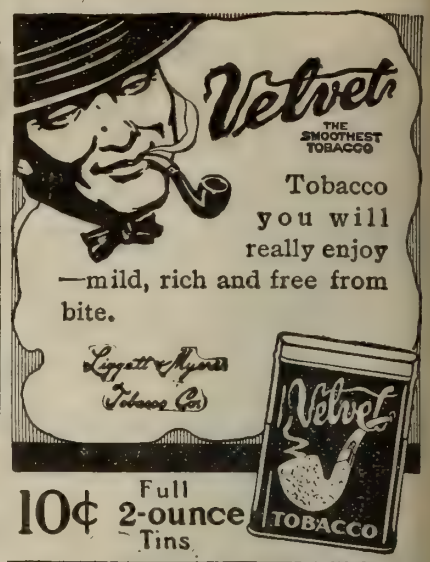
What One Farmer Did With Manure

E. L. H., Trumbull, Neb.: We notice that some people disk their alfalfa and then cross-disk it. After they are through with it it has the appearance of being about all killed, and this is about the case. We want no disking in ours. There is one thing that beats the disk for us; that is a heavy coat of stable manure. This last spring we took a spreader and went over our alfalfa three times, putting it on good and heavy. It was wonderful to see that alfalfa grow. The first cutting made over four tons per acre. Many people said it was the heaviest alfalfa they had ever seen. After a good, heavy dressing is put on give it a thorough harrowing with a heavy harrow; this not only pulverizes the dressing, but loosens the ground around the roots of the plants. This work should be done just before the alfalfa starts, or soon afterward, so that the leaves will not be buried. One need not be afraid of overdoing the matter. One cannot use the manure from the barn to better advantage. Brother farmer, try it, and let us have reports from you through this valuable paper. I am glad for this Readers' exchange. Farmers are fast getting to the front and exchanging their experiences along the line of farming. I had rather have methods from those that have had actual experience than to have all the book and paper farming on record. I like The Twentieth Century Farmer fine.

Answer — The editor endorses fully what this correspondent has to say with regard to the use of a top dressing of manure upon alfalfa. There is no place where manure may be used with quicker and more profitable results than may be obtained in this way.

Use of Lime on Soil

G. F. J., Hastings, Ia.: In past issues of The Twentieth Century Farmer I read articles suggesting liming of the soil to increase yield by neutralizing acidity and helping to unlock plant food. These articles have interested me much, as I found by several tests that there is acid in soils that otherwise seem to be all right. Where can a person, wishing to experiment with lime, get it in 1,000-pound, or larger, lots, lime that is suitable for the purpose? What is burnt lime used for? I understand it is injurious to soil. What



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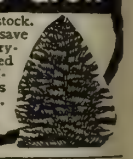

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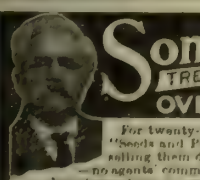

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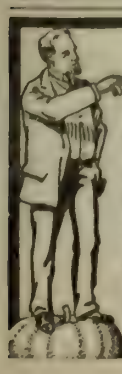
SPECIAL 10c Offer 50 pkt. Mixed Colors Petunias; 10c pkt. Ex. Fine Mixed Pansies; 10c pkt. Giant Single Pinks; 50 pkt. Finest Mixed Poppies. 30c worth for 10c, postpaid.

Remember my seeds are all Nebraska Standard. I pay freight on $10.00 orders. Send for catalog, see my prices. A postal suffices.

German Nursuries & Seed House, Box 140 Beatrice, Neb.



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For 10c we mail big packages of Speltz or famous Alfalfa Clover, Recleaned White Bonanza Oats, Silver King Barley, and many other packages fine farm seeds.

Flower seed collection—six generous packages—brilliant blossoms, 12c. Vegetable seed collection—six big packages—enough for a good garden—12c. Both collections for 25c, or send 30c and we add new Earliest Red Riding Hood Tomato Novelty, alone costing 15c.

John A. Salzer Seed Co., 1778 S. 8th St. LaCrosse, Wis.

should lime cost the farmers of Furnas county, Nebraska? I am a reader of our Readers' Exchange.

Answer—Burned lime is another name for commercial lime; that is, lime that is prepared by burning raw limestone; it is used principally for mortar in building. Ground, raw limestone rock is to be preferred for agricultural purposes. Your nearest dealer in lime can give you figures on air-slaked lime at your station. It is not probable that lime is needed in Furnas county, Nebraska, as the upland contains a liberal supply of lime, and there is probably very little acid in the valleys.

A Fresh Cow Goes Wrong

C. H., Carleton, Ore.: What is wrong with a fresh cow 6 years old that always before when fresh gave from four to four and one-half gallons of milk per day, but this time only gives one-half gallon to a milking? She has been fresh about a month. We give her good feed and she seems to be in the best of health. We have given her powdered stock food to increase her milk, but without result.

Answer—The question you raise is one that cannot be answered. This is one of the peculiar conditions that are met with in the dairy business for which there seems to be no reasonable explanation. This cow may later increase in the milk flow, or there may be no increase until she freshens again, and then she may get back to her former full flow of milk. There does not seem to be any treatment or any methods of feeding that will remedy this condition. It is just one of those peculiar things that come up in nature for which there seems to be no explanation; of course, there is a reason, but as yet it has not been discovered.

Horse Affected by Molds

W. R., Dell Rapids, S. D.: I had a fine horse colt 8 months old, color buckskin; he was never sick a day in his life, had all of the good oats he wanted from the time he was old enough to eat them, and good hay; ran in the pasture with his mother part of the time. He was weaned when 4 months old. Through corn picking he could go to a crib and eat corn whenever he wanted to. I never saw a colt grow faster. Since corn picking he has run in the cornstalks with the other colts and horses and has been fed oats and corn twice a day, all he wanted. He has always been in the barn at night and on stormy days. The other night he did not walk just right; he seemed to swing his hind parts a little, but as the snow had balled up a little on his feet I thought that was why he walked so. He ate his supper and seemed all right. In the morning he could not get up. I got help and lifted him up, but he had no use of his hind parts at all, although he could move his hind legs when lying down. We kept him warmly blanketed and he did not seem to be in any pain, was not tender to the touch no matter where or how hard we rubbed him. Some thought it was kidney trouble, so we steeped pumpkin seed and gave him the tea to drink and one dose of nitre. He ate what few oats we gave him and wanted more, and would eat a little straw from his bedding, which showed he was hungry. He lived through that day and the next night and died at 6 o'clock in the morning. He was perfectly warm till the last. About thirty minutes before he died his front legs jerked every time he breathed, otherwise he lay perfectly still. After he died we made an examination and found that there was nothing at all the matter with his kidneys and all his other organs seemed perfectly healthy. Some thought the cause of his death was paralysis, but I thought best to write and ask your opinion. Of course, it will not help him, but might save some other colt.

Answer—We would judge from the description of your horse that this trouble was brought about by mold. Horses are very susceptible to certain molds, which are sometimes found in stalk fields and upon the corn itself. Last season throughout the corn belt there was a great deal of worm-eaten corn, and this proved to be exceedingly dangerous. The loss from this cause in certain sections was considerable. There has already been some complaint this year, although the corn averages very clean from mold, yet there are certain localities where climatic conditions have favored the production of mold, and wherever there is any loss with symptoms corresponding to those above it will be well to keep other horses out of such fields and to be extremely careful as to the kind of corn fed.

Cornstalks

It is estimated that shredded cornstalks are about 24 per cent more valuable for nutritive purposes than unshredded cornstalks. It is also estimated that shocked cornstalks lose 25 per cent of their nutritive value by standing two months in the field. If the corn is not cut and shocked, but the stalks are allowed to stand in the field, more than 90 per cent of the nutritive value is lost. It pays, and pays well, to cut up corn, husk it and shred it as soon as it is dry enough. The farmers of the Missouri valley are beginning to learn this. When they get it learned thoroughly, and act upon what they have learned, one of the great wastes in this territory will have been stopped.

They have sky-farms in China and in Japan. These farms are so high upon the mountains that they are given this name. We have blue-sky farms in this country, and one may learn all about them at certain booming real estate offices.

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The above words indicate what you get when you plant Condon's "Sure Crop" Seeds. We live in the country farming our own farms and know from actual experience that without good seeds good crops can not be harvested. To get acquainted with the sower, we as growers offer the following

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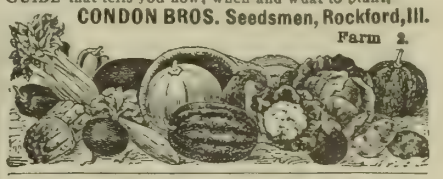

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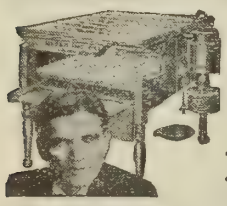

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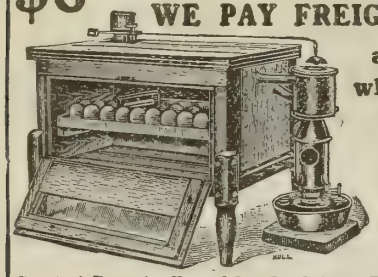

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Biggest guaranteed incubator at price—155 egg capacity. *Has hundreds of dead air cells*—only incubator with this special construction—well made—cold rolled copper tank, hot water heat, double disc regulator, deep nursery, high legs, double doors, egg tester, safety lamp. Special price $7.35. Incubator and Brooder together $9.85. Frt. pd. E. of Rockies. Order direct from this ad (money back if dissatisfied) or send today for our interesting big free book.

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Direct from factory. 18 years experience. Safe, sure, simple. Redwood, triple walls, asbestos lined. Copper hot water heating tank, self regulator, automatic ventilation, safety lamp, nursery, tested thermometer. Comes all set up, ready to start. Write for free Catalog and Poultry Book. Address

Mankato Incubator Co., Box 862, Mankato, Minn.

125 Egg Incubator and Brooder $10 BOTH FOR

If ordered together.

Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. **Free** catalog describes them. Send for it today.

Wisconsin Incubator Co.,
Box 152 Racine, Wis.

Mention The Twentieth Century Farmer.

Some General Poultry Topics Gleanings from Our Exchanges

AS A CERTAIN poultry specialist says, while dampness in the poultry house to a large extent is the cause of much weakness as well as sickness in the flock, yet there are times when the moisture in the atmosphere enters all kinds of buildings. When it enters our own dwellings we must put up with it, unless it is cold enough that we can build fires to drive it out. The poultry houses to some extent during the day, especially the sleeping quarters, may be closed against this air entering, but as the time given for this is so short it does not prove of great help. In the case of fowls, as with ourselves, they must get used to the dampness which from the outside air enters their houses at times—that is, a reasonable amount of it. It is the general conditions of floors and walls that count in hurting the fowls. If the house is leaky and moisture condenses upon walls and floor because of this, or if it is given insufficient ventilation, and the breath, not only of the fowls, but fogs from the outside, dampen the wall and wet feet dampen the litter on the floor or the floor itself, here is where the danger becomes established. Slight dampness does little or no harm, but chronic dampness must be guarded well against.

Guineas

Now days in certain fashionable cafes the waiter is not ashamed to announce the name of guinea, although there was a time when it came upon the table under the name of prairie hen, pheasant, or it may be any wild fowl of near its size. But now, owing to the scarcity of wild fowl, the demand increases for the domestic bird carrying the flavor of the wild. All who have raised guineas know the ease with which one can raise them, and their hardy quality when once given a start. As a rule they are raised simply because they are a queer-looking bird, but of late the demand calls for them as a side line for profit, not oddity. The guinea comes to us from Africa, and, domesticated, one male will mate with from two to four hens. This he will not do in the wild state. It is best to let the common hen raise the little kelts, as the young are called. It takes four weeks to hatch them; they must be guarded well from escaping when first hatched and fed from the start. The guinea is not a good mother; it is the hen that cries "Buckwheat, Buckwheat" before a storm arrives. The white is not known in the wild state; it is a sport from the domesticated Pearl guinea; they are prolific layers of finely flavored eggs.

The Turkey

Surely if there was ever a year the turkey has proved itself a profitable fowl it did in the year just past, for never did turkeys bring so much on the farms as they brought at Christmas time of this year. From $3 to $4 was common prices, summed up by the pound, paid for young toms, while the young hens followed along at an extra big profit over care and feed. There is no hit-and-miss work in raising turkeys; you must get a system here and stay right with it. You may be a successful producer of chickens, and yet utterly fail with turkeys, and especially will you fail if you try to raise the poults as you raise the chicks. The nature of the two being so different, the care, naturally, must be different. Many persons combine the raising of both, and with success, but they give to each different kind of care, and often different food at first. It is best not to bring off the poults unless one lives in a warm climate, before late May. A poult thrives best in warmth and the dry. Give it this with enough range, good food—though not too much—and keep it always looked over for lurking vermin every day, and housed where you know vermin does not lurk at night; and if your breeding stock is vigorous you should raise the larger part of each hatching.

The Hen Against the Incubator

There are poultry people who declare the sitting hen imparts something to the eggs she incubates which the incubator does not, and this something tends to a larger development of fertility. There can be no doubt of the difference, for the warm, living body close to the eggs certainly must impart at least an oily, watery substance to the eggs that in no case can they get from the incubator. Just what this does to the eggs is a question; whether it sends strength to the germ or hinders too fast evaporation, or both, I cannot say. It is the natural process, and as that must have its advantages over the artificial, but in spite of it I have never been able to strike a difference in either number of chicks hatched out of a given number of eggs, both to hens and incubator, or a difference in the power to live and thrive of the hen-hatched over the incubator-hatched, and I feel that I have given the experiment long and close trials and hope to give it a yet longer test.

The Value of a Hen Per Year

When one counts up the value of a flock of hens kept in a small inclosure and realizes how easily the flock increases beyond the bounds of house and ground, and how, despite the high cost of feed, each hen

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RAYO

The Incubator That Makes a Complete Hatch on One Filling of Oil.

Fill oil tank **once,** with **one gallon of oil,** then light lamp—the RAYO, with automatic regulator, will **complete the hatch.** The RAYO eliminates the daily morning work and dirt. **Saves big oil-money.** CENTER HEAT, directly under egg chamber, gives perfect radiation—even temperature. Turn eggs without removing egg tray. Clean lamp without removing tank or chimney. See eggs and thermometer through glass top. Regulator adjusts to fraction of degree. Double heating system saves heat. Automatic ventilation. Roomy nursery. Thick wood case, enameled steel covering. Big hatches certain. Low direct-to-you price, **freight prepaid.** We want you to send for Free Catalogue No. 12.

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LAND and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive **Poultry Book** for 1913. Write **Henry Pfile, Box 625 Freeport, Ill.**

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Uses Only 1 Gallon of Oil to a Hatch—Lamp is Filled Only Once

We place the lamp underneath, in the center. That means perfect distribution of heat throughout the egg-chamber—there is no cold side. Our lamp holds 4 to 8 quarts of oil. Fill it once for a hatch—no daily muss or smell. And our automatic trip cuts the flame down at the burner, when egg-chamber gets too hot. All others let the excess heat escape. That's why the X-Ray needs only one gallon of oil to a hatch, while others require 3 to 5 gallons. And an

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has no front door—it opens from the top. That's why it's so easy to ventilate and turn eggs in the X-Ray. The top has two double glass panels so you can see thermometer at any time without exposing eggs to outside air.

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And yet, while a flock of 250 hens might not apparently take up any of the farmer's extra time, yet we know keeping four times as many would to marked extent; in fact, 1,000 hens kept in yards are supposed to keep one man busy all day long, though they might not if on range. The farmer more than likely would make his dollar-a-hen profit, perhaps more than this, as on the farm many a hen costs her owner no more than 35 or 40 cents a year for feed, but with a thousand hens to look after he nor the rest of the family would sit at their ease and make that profit, as we who keep chickens know. Somebody must work to raise that many, and work diligent part of the year. For all this almost any farmer could keep a thousand hens if he'd make up his mind to. And they would pay.

IDA M. SHEPLER.

With Our Exchanges

Here is how we feed in winter: Whole corn in the morning. If the weather is very cold we thaw the corn out in the oven before feeding. We allow one-fourth-bushel of shelled corn for every 140 hens; this, you will see, is not a large feed, but we think it sufficient for breakfast. When this is eaten we give them some warm skim or buttermilk; later the milk, what is left of it, is thrown away and replaced with tepid water. At noon cabbage, potatoes, celery trimmings, turnips, beets, apple parings, or inferior, but not rotten, apples are chopped and fed raw in troughs. Sometimes bran is added to this, and sometimes we vary this noon meal by feeding instead of the green stuff boiled or scalded oats. About the middle of the afternoon we scatter some sheaf wheat over the ground in the house. The hens thresh this; it keeps them busy; no other food is required.—Indiana Farmer.

***

After the parcels post law goes into effect it will be possible to send eggs for hatching by mail. That it is feasible was demonstrated the other day. A carton of eggs shipped by mail from Oklahoma City to Postmaster General Hitchcock at Washington, D. C., arrived safely from the 1,500-mile trip, not an egg showing a crack. A setting of eggs properly packed ought not to weigh over four pounds, and at that weight can be carried anywhere within 100 miles for 18 cents, and anywhere within 1,000 miles for 30 cents, and anywhere in the United States for 41 cents. The parcels post will certainly increase the demand for eggs for hatching from a distance.—Kansas Farmer.

P. S.—The parcels post became a law January 1, 1913.

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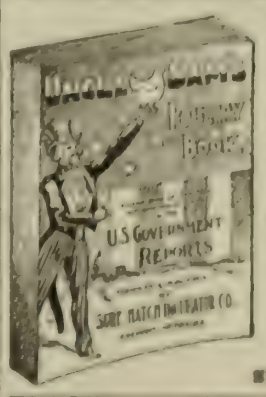

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250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

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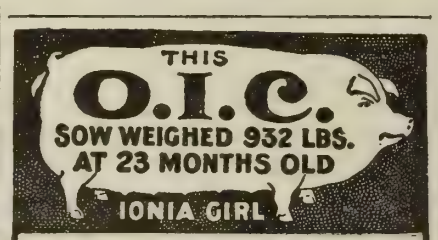

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Improved Methods in Farm Dairy

(CONTINUED FROM PAGE SEVEN.)

be more cleanly, sanitary and of higher quality in every respect than if produced under the improper conditions above mentioned.

Essential Rations

In feeding the dairy cows we must gauge the amount of rations given to each animal during the winter according to her capacity for milk production. If her period of lactation is drawing to a close, or where she is entirely dry, the quality and variety of her feed should be the same as when she was being fed for heavy milk production, but the quantity of such feeds will not need to be so great. She will want to be kept in good condition, however, in order to insure her beginning a profitable flow of milk at once when she again freshens.

With the summer succulence and greenness of our pasture lands all gone, the one great problem in winter dairying is that of supplying the dairy herd with feeds which will, as nearly as possible, take the place of the rich pasturage in promoting a heavy flow of milk. Silage and roots (beets, cabbage, turnips, etc.) form an appetizing ration, one in which the succulence enables the cows to consume larger quantities of the bulkier and rougher feeds. They also greatly promote the processes of digestion and assimilation, which is essential to the animal in converting her rations into flesh or milk.

Great care should be exercised in chopping up all roots fed to the cows, as many valuable animals are lost every season by their choking on pieces that were left too large. The hacking-up also assists the cows in crushing the roots well. Where the silage and roots are not obtainable the rougher and drier feeds may be made much more palatable and appetizing by running them through the feed cutter, dampening them with water and sprinkling a little shorts, bran, oil-meal or cottonseed meal over the mixture; this renders them much richer in flavor and so encourages the cows in consuming the necessary quantity for keeping up the milk flow.

Home-Grown Rations Cheapen Feed

Cheapness, combined with efficiency, is another point to be attained in feeding the winter dairy herd, and by using those grains produced on the farm this is easily accomplished.

Oats, barley and corn, fed with wheat bran, will form an excellent grain ration, alternating them from time to time, thus furnishing a change of feed. Some of the more concentrated feeds may be added with good results, oil meal, gluten, shorts and such mill feeds proving most satisfactory. It is obvious that no set rule can be laid down for feeding dairy cows, either as to quantity or quality, since all animals do not relish the same rations nor possess the same capacity for consuming them.

Again, the wider the variety of rations furnished the dairy herd the less feed will be required for their up-keep and profitable milk production. A conservative amount of grain feed for each cow is a pound for every three pounds of milk she is producing, although this rule is varied slightly either way, according to conditions. In supplying roughage for the dairy herd the rule of quantity and quality is even more indefinite, since a cow will eat more grain than is adapted to her needs, but of roughage she is hardly ever liable to do this. Hence, the amount of grain supplied will require more careful regulation, while the roughage will need to be given till the cow's appetite is practically satisfied.

It is a waste of feed, however, to furnish more of any feed than the cow will eat up clean. Ascertain about what amount of roughage each cow will clean up at a feed, then supply that quantity. This brings us right down to the study and practice of feeding according to individual tastes, which really is the true basis for all successful feeding, especially in the dairy herd. It is well to mention here that timothy or millet hay alone is not adapted to feeding the dairy herd; if these are used as a means of economizing in feed it should be in conjunction with clover or alfalfa, making the latter the greater portion of the ration. With roughage, as with grain, the combination of different kinds should be alternated frequently to form the essential variety in feeding.

Other Important Points

There are many other apparently small details in winter dairying that deserve careful attention and would sum up a surprising total in the results secured.

Be regular and systematic in your hours for feeding and milking, which will promote quietness and satisfaction among the herd and encourage a heavier, more uniform flow of milk than irregular, hit-or-miss feeding and milking.

All grain fed to the dairy herd should be ground, which will prevent many of the animals from swallowing the whole or only partly crushed grain without chewing it. Grinding also renders the grain more digestible and thus furnishes a greater amount of nourishment for the cows than whole grain.

Feed roughage first, letting the cows munch it for a few minutes before giving them their grain; this brings down the essential saliva and the friction of the roughage excites the digestive organs to action, preparing them for the reception of the grain part of their ration, which is stronger and more difficult of digestion.

Give the cow her grain at the time of milking her; this keeps her quiet, while the satisfaction thus induces her to give down her milk quickly and yield the maximum amount. A restless, hungry cow is almost sure to be slow in giving down her milk, and she is apt to hold up a part of it. Irritation also results, which often causes stepping about and kicking.

Handling the manure produced in connection with winter dairying is of the utmost importance; it represents the elements that have been extracted from the soil by the crops being fed to the cows, and, therefore, should be returned to the land from which it was taken in producing those crops. The most effective way this can be accomplished is to load it up directly from the stalls each morning while fresh, haul it to the fields and apply it to the ground with a manure spreader, thus placing it where there will be no deterioration by the liquids leaching away, or by part of it being scattered and lost in stall or pen. Where it is not practical to handle the manure right from the stalls to the fields, either by hand or the manure spreader, good pens should be provided for storing it till it can be removed in the spring. Feeding and caring for the dairy herd in a manner that will yield the maximum in the production of milk during the winter months is given the first consideration in winter dairying; the second, and even greater one, is that of so handling the manure that it will be utilized in restoring to the soil those elements that rejuvenate and maintain its fertility.

What Are You Going to Do About It?

(CONTINUED FROM PAGE FIVE.)

are needed, and to interest the taxpayers in the improvement. It is often wise to work in conjunction with a state road department or with the United States office of public roads. The construction of a short stretch of model highway is the best argument in the world for good roads. The construction of a few really permanent culverts and bridges is an object lesson of value. And finally, getting back to the old earth road that we have with us always, the organization of "road drag clubs" among the farmers and business men, offering prizes for the best mile of dragged road, stimulates that phase of highway development.

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Omaha, Neb.

Live Stock Market

By A. C. Davenport

THE high jump made by sheep and lambs last week was about the only really interesting of the live stock trade. The almost sensational advance in prices, however, was not unexpected, as the bulls had been predicting such a movement since along in December. They had it figured out that between the holidays and the time when Colorado stock would begin moving there would be a period when receipts would be moderate and that prices in consequence would show an advance.

The events last week bore out their predictions completely except as regards the receipts which were at most points liberal. However, the demand was so good that in spite of large receipts prices on all kinds of fat sheep and lambs advanced rapidly. The gains amounted to anywhere from 50c to 75c per 100 for the current week. This means that lambs have sold the highest of any time since May of last year, with the best yearlings as high as they were at the best time last year. Ewes, while advancing rapidly did not reach the extreme high point of last spring.

All reports agree that Colorado has a very large number of lambs on feed and that they will begin running before the end of January. A a rule feeders in that state scatter their shipments along unt'l quite late in the spring and if they follow that policy this year they may avoid creating a slump in prices. However, even the bulls have been conceding that at the height of the season prices might ease off a little. As a matter of fact, quite a little reaction might occur and still leave prices very good.

Western sheepmen are sending in very encouraging reports from the range where it is claimd that stock up to the present time has done very well with feed in abundance. Breeding stock is reported as in an especially good condition with the supply larger than had been anticipated, thus giving promise of an abundant lamb crop the coming spring.

The cattle market last week was lacking in new or interesting features. The trade, in fact, was very largely of a humdrum character, with price changes unimportant. Receipts at the big market centers were liberal, but there was a correspondingly good buying demand that kept supplies pretty well cleaned up. The cattle market has suffered more or less ever since the beginning of winter from the lack of cold, snappy weather, which always tends to increase the demand for beef. Weather conditions last week were more favorable, involving storms and severe cold over widely extended territory.

Hogs were good sellers all last week and while prices fluctuated to some extent it was simply an up and down movement that did not result in any very marked changes in the range of values. Hogmen are considerably at variance in their ideas, due possibly to the fact that conditions surrounding the trade are decidedly unusual. The price of hogs is so high as compared to the price of corn that a good many have been predicting that hogs must go lower, basing their belief on the old-time theory that the price of hogs is governed by the cost of production. On the other hand, there is a big bull contingent in the trade that continues to assert most positively that there is a real shortage in the supply of hogs in the country consequent upon the ravages of disease and that this shortage will become very apparent as the season advances. They are pointing out that the five big packing centers of the country all show heavy decreases for the winter packing season to date with the single exception of Omaha. The bulls also, while admitting that low priced corn generally means low-priced hogs, point out that provisions are by no means high as compared to the cost of beef and mutton. The bulls, furthermore, call attention to the big runs of light hogs indicating that the country has shipped its heavy stock and is cutting loose the lighter weights, thus indicating the absence of any great surplus of fat stock in the country.

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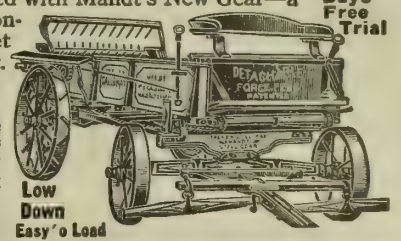

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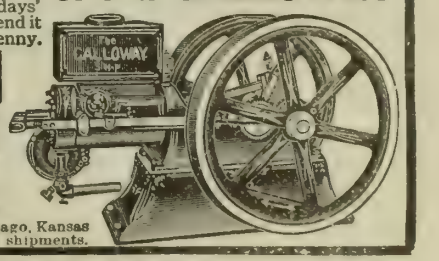

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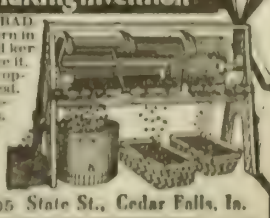

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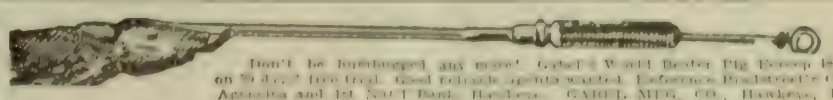

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Farm and Dairy

A GOOD idea in the planning of farm buildings is to have woodsheds and barns connected with the house, so that no going outside need be necessary during the cold and rainy weather. There is no danger of fire destroying all the buildings if there is a connecting simple greenhouse between the house and barn; all the sash can be removed in summer and the posts and rafters will make a pretty arbor (or pergola, as it is now called). The ideal heating is a warm-air furnace, supplemented by an open fire, for then impure or stale air cannot be breathed over and over again. Several furnaces are now so arranged that the northwest corner of a house can be heated by having separate chambers heated over the firebox. If the buildings have metal roofs the danger of fire is much lessened. By making the roofs with a low pitch and by carrying up a parapet around the top of the walls the unsightly appearance of the metal roof is obviated.

Milk in Winter

Too many dairymen leave the milk setting around while they finish up the chores before breakfast, which allows it to chill, and even freeze, making it more difficult to separate and causing a part of the cream to be left in the milk after separation. Another common mistake is to allow the cream to freeze, which will make it difficult to churn, or, if sold, it will cause the cream test to be lowered. Remember, cream or milk that has once been frozen never again will test what it would if properly handled from the time it is drawn from the cow's udder till it is sold or used. Hustle the milk right to the house and separate it as soon as it has been drawn, and keep the cream where it will not congeal in the least. Then when taking it to market cover the can well and toss an old sack or two or a clean horse blanket over it till you reach town. This is the only way to insure a good, uniform test during the winter.

Difference in Treatment of Cows

All cows are not equally timid. There is a difference in their temperament. What will excite one, another may not heed. Some require the utmost kindness, others more or less discipline. But discipline is not cruelty; it is but kindness combined with firmness, and is based on reason, not fits of anger.

The disobedient, unmanageable cow is often made so by an attendant who has no love for or pride in his work, no affection for the animals in his charge. Or, if not this, he is ignorant of the consequence of his acts and cares less about good results. Such men are undesirable in the dairy and should either be taught better or removed. They could bring the herd to but an indifferent degree of success, if, indeed, it should succeed at all. The dairy cow must be contented; she cannot be so unless she is humanely treated.

Kindness and training should begin with the calf. Who has not seen it cruelly beaten because its calfish pranks have caused the keeper a little run around the yard or over the field? Beating the calf after it is caught will not prevent a repetition of the act.

Ration for Cows

It is rather difficult to make a cheap ration when short of hay and with no roots, but the following is suggested for cows up to two gallons: Fourteen pounds of oat straw chaff, four pounds of long hay, forty pounds of brewers' grains, three pounds of dairy meal and two pounds of bran. Give one and one-quarter pounds of decorticated cotton cake or meal and one pound of dairy meal extra for each gallon over two. When you begin the mangels, reduce the grains to twenty pounds; give forty pounds of mangels, and instead of the dairy meal and bran give three pounds of decorticated cotton cake, or meal alone, which will make the nutrients almost exactly the same as in the former ration. Give the same increase for the increase in yield as in the former case.

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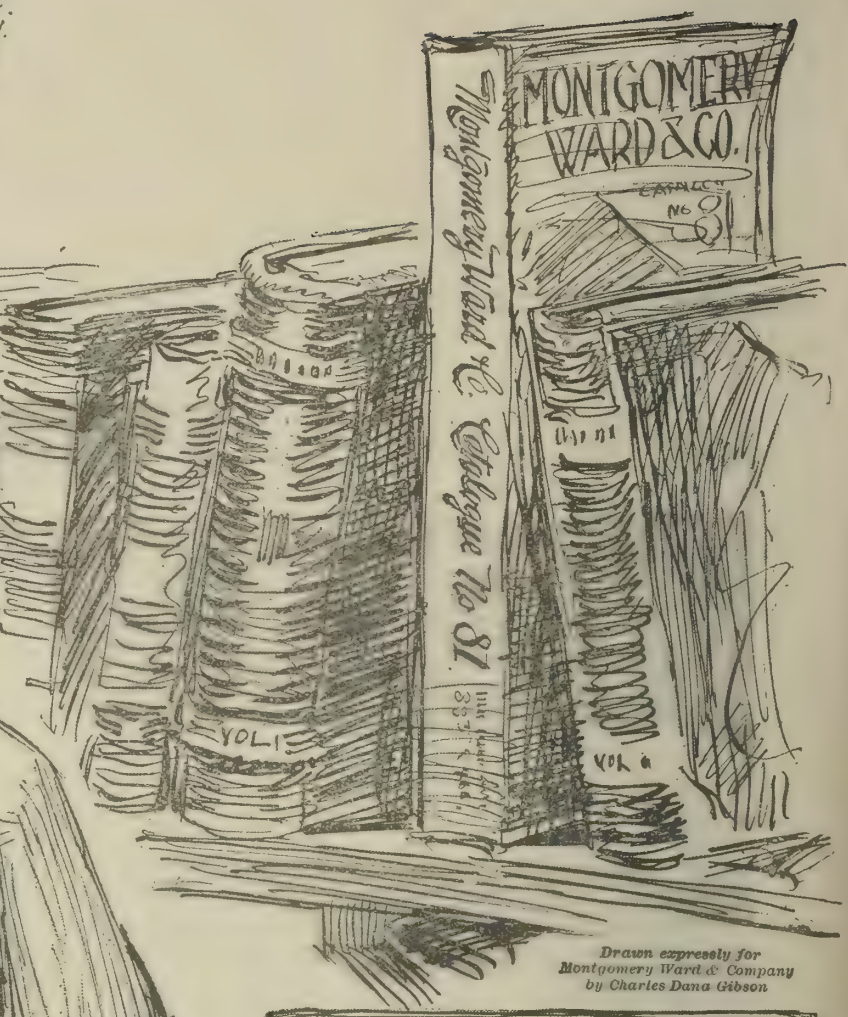
TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, January 25, 1913 | Number 633



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"My Father Loved that Book"

Prattle of the Youngsters

Not a Leader

"Johnny, I suppose your sister has her beaux besides me."

" 'Bout seven more."

"Where do you think I stand in r affections?"

"I'm afraid you're in the second vision, pal."

Economical

Johnny—Mamma, will you wash y face?

Mamma—Why, Johnny, can't you that?

Johnny—Yes, but I'll have to wet y hands, and they don't need it—ppincott's.

Out of the Mouth of Babes

One day a little girl about 5 years d heard a ranting preacher pray- g until the roof rang with the rength of his supplications. Turn- g to her mother, she whispered:

"Mother, don't you think if he nearer to God he wouldn't have talk so loud?"

As it Sounded

The preacher had announced a rthcoming concert by the choir, d that one of the principal num- rs would be a sonata by the or- nist.

"What did he say, Tommy?" asked slightly deaf old lady in the audi- ce, turning to her young nephew.

" 'Sh, auntie!" whispered Tommy. e says the choir is going to give a ncert and it'll be a snorter."

Reason Enough

Mother, overhearing a quarrel, lled her 4-year-old in from the dewalk and forbade him to go out- ors again while the other children re near.

"But I must go out there again, amma, just for a minute!" an- unced the child, earnestly.

"Why must you, dear?" asked amma.

"Because," was the fervid answer, hey hit me an' hurt me, an' I just tter go out there an' dead 'em!"

Geography Up to Date

At a Brooklyn school, not long nce, the class in geography was ked:

"What are some of the natural culiarities of Long Island?"

The pupils tried to think, and ter a while a boy raised his hand.

"I know," said he.

"Well, what are they?" asked the acher.

"Why," said the boy, "on the uth side you can see the sea, and the north side you hear the und."

Fully Assimilated

Ray S. Baker, the author, in an gument on immigration at Law- ce, cited the marvelous speed herewith the immigrant family, be German or French, or what not, comes assimilated into the na- nal life.

"An instance of this assimilation urs to me," he said. "I know a rthy Neapolitan, one Paolo Cenci, o came to this country three years o. Paolo's little son, Francesco, American citizen of 7, looked up m his school books the other ening to ask:

" 'Say, pa, what year was it you lians discovered us in?' "

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Our Service Department

THE Service department of The Twentieth Century Farmer will give complete and reliable information, without charge, upon request, regarding: Crop Statistics and Conditions, Animal Husbandry, Diseases, Statistics, Dairy and Poultry Statistics, Seed and Nursery Stock Demands, Horticulture, Soil Conditions, Real Estate, etc.; Methods of Cultivation, Marketing Conditions, Building Activities and Requirements, Distribution Facilities Railroad, etc. and any subjects relating to agricultural business or conditions in our territory.

The Service department will gladly undertake special investigations where necessary to secure the desired information. The already vast fund of information contained in The Twentieth Century Farmer files and library and the experience and judgment of its staff are available. Bulletins dealing with important subjects are prepared from time to time and filed for distribution. In addition to this extensive source of facts and figures the department is in close touch with all outside authorities, so that no reasonable question can be asked which will not be answered reliably and promptly.

Advertisers, prospective advertisers and advertising agencies may send their questions and problems The Twentieth Century Farmer Service department is organized for the use of subscribers and advertisers

Bright and Breezy

Couldn't Serve It

In a fashionable restaurant a new multi-millionaire with no knowledge of French and no desire to expose his ignorance, pointed to a line on the menu and said to the waiter:

"I'll have some of that."

"I am sorry, sir," the waiter answered, "but the band is playing that."

Natural Obstacles

"I feel that I could overcome any obstacle for you," he declared.

"There is only one obstacle that you will have to overcome to get me," she replied.

"What is it? Tell me, and I will overcome it."

"I have made up my mind that I will never marry anyone whose ears stick out like the wings on a monoplane. Get yours to flatten themselves against your head and the obstacle will be overcome."

Her Excuse

"These people have a plausible and self-righeous excuse for all their misdeeds," said Senator Bankhead, apropos of certain hypocritical lawbreakers, in an address in Fayette.

"They remind me, in fact, of a certain parson's domineering wife. The parson said meekly one day:

" 'My love, you told me before the wedding that you knew our marriage was made in heaven, yet you now order me about as if I were a slave.'

" 'Order,' the woman calmly answered, 'is heaven's first law.' "

Military Ignorance

"The late General F. D. Grant," said a Washington official, "was once complaining in my hearing about an ignorant officer. He likened this officer to a certain Private Cheney.

" 'Where is Cheney? What the dickens has become of Private Cheney?'

"So, he declared, Cheney was sought for one whole afternoon, but no tidings of him turned up until a comrade finally said:

" 'Cheney? Why, I saw Cheney about two hours ago. He was talking about going to get some guncotton to sew a button on his pants with, and that's the last been heard of him, I believe.' "

The Passing of Chivalry

Miss Italia Garibaldi, granddaughter of the famous "liberator," complained in Chicago about the way Italian women are sweated there.

"When I see," she said, "the male employer, with all his vaunted chivalry to woman, taking such an unfair advantage of his female employes, I don't wonder that woman is beginning to sneer at man's chivalry.

"It reminds me of an Italian washerwoman, very industrious and successful, to whom a young man offered himself in matrimony.

" 'You love me?' the washerwoman asked.

" 'Devotedly,' the young man replied.

" 'Are you sure?'

" 'I swear it!'

"She gave him a searching look.

" 'Are you out of work?' she asked.

Logging in the Pineries of the State of Washington

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Sheep Breeders and Wool Growers Meet

National Convention at Cheyenne Free from Long-Winded Theory and Hot-Air Vaporings

THE forty-ninth annual convention of the National Wool Growers' association was held at Cheyenne, Wyo., January 9, 10 and 11, 1913.

This was in most respects the most interesting and instructive convention ever held by this organization. There was less frills, fuss and formal display of oratory than is usual on such occasions.

A. J. Knollin of Chicago, the eastern vice president, in the absence of President F. R. Gooding, presided. Mr. Knollin is one of the big sheep growers of the United States and quite prominent as a worker, advocating every movement bearing the impress of sheep and wool advancement throughout the country. Mr. Knollin is not selfish as to western sheep interests, but is alike in sympathy with the farm flock, the man of small holdings. He urges the states east of the Missouri river to advocate the forty-sheep farm, if no more.

The program was gotten up in view of discussing practical things and features of interest to the sheep breeder and wool grower. The encouragement of thoughtful, suggestive ideas for the betterment of the sheep and wool industry was the spirit of this meeting. It is seldom one has the privilege of attending a convention so practical and instructive in its advice and teachings, so free from long-winded theory and hot-air vaporings.

Delegates from Range Sheep Country

This convention was made up almost wholly of membership and delegate representations from the range sheep country west of the Missouri river. The following states were present in the roll call of delegates: California, Washington, Utah, Oregon, Nevada, Arizona, New Mexico, Idaho, Wyoming, Montana and Nebraska. The spirit of this convention was anything but disheartened as to the ultimate success of wool growing and mutton production in the United States. It would be a very difficult matter to convene a more intelligent, healthy, prosperous-appearing lot of business men than composed the meetings of the various sessions of this convention. There was a very strong family resemblance in the make-up of this flock that might suggest the Scotch and Scotch-Irish ancestry of fully 90 per cent of the audience. The sheep business has been so thoroughly born in these flockmasters that they will contend for what they believe is right and just in the perpetuation of this industry in America and under the present system of tariff and opportunities for its growth and permanency.

The discussion of the wool tariff by Secretary S. W. McClure of Gooding, Idaho, under the title, "Wool Growing and the Tariff," was most thoroughly and systematically handled, and from the standpoint of the wool producer left no room for argument. Mr. McClure's discussion merits a place in general publication and is well worthy the consideration and study of all persons in the least interested in this subject, which is now commanding so much attention, not only by congress and the United States, but among readers, thinkers and business men. McClure's address will appear in full in the National Wool Grower, the official organ of the association, and extracts will be published in The Twentieth Century Farmer. Several other very interesting addresses, owing to their length, will be similarly treated.

Preparing Wool for Market

Preparation of wool for market was given considerable attention by various speakers, especially F. A. Ellenwood of California and I. D. Holliday, manager of the National Wool Warehouse and Storage company of Chicago. These gentlemen tried to impress upon their hearers the need of two special things in the marketing of their wool in order to make the wool-growing industry more profitable.

First, there must be improvement in quality of the flocks in the matter of a more uniform fleece and the improvement in condition of fleece. The former means the breeding of better sheep in quality of wool. This might suggest finer fiber, longer staple, a more dense covering of the sheep with these qualities of fleece and a larger fleece, one with more scoured wool per sheep. The latter would mean greater care in keeping the fleece, while on the back of the sheep as free as possible from burrs or any foreign substance that would add undesirable conditions to the fleece.

Tagging and Trimming Sheep

It means more attention to tagging and trimming the sheep in the spring before shearing that no soiled or damaged wool go into the tied-up fleece; to keep the fleece from getting soiled while shearing and in all other ways to protect the fleece from dirt or filth to the best of the ability of the flock owner; the tying of the fleece with jute, binding twine or any material that will in the least damage the wool in its manufacture. The recommendation of paper twine or cord made especially for wool tying was advocated as a means of increasing the value of wool. Cleaner shearing floors, where the tags and clippings are carefully swept up so as not to come in contact with the skin side of the fleece while shearing; the keeping of all black sheep at shearing time separate from the flock, as the particles of black wool damage the white fleece when sent to the factory. Too much attention cannot be given this feature of sheep care if the flock owner hopes to get what his wool is really worth when in good condition. Black fleeces and tags should be kept out of it, so far as possible. By these observations being carried out wool is worth several cents per pound more.

Grower Needs His Own Warehouse

Last, but not least the sheep grower should ship his wool to his own wool storage house, the National Wool Warehouse and Storage company of Chicago, where all wools are sold on their merit. Thus the clean, evenly graded clip of wool would bring the owner a much better price than if sold at home, where the eastern wool buyer aims to get all the wool at a uniform price, good, bad and indifferent. This price is based upon the indifferent grade of wool, a price which

(continued on page [illegible])

What the Wool Men Favor

FOLLOWING is a summary of the resolutions passed by the National Wool Growers' association:

Favoring a revision of schedule "K," the tariff law providing for a specific duty on scoured wool equal to the difference in the cost of production in America and abroad.

Opposing any reduction in the tariff on meat and meat products.

Favoring the enactment of a pure fabrics law similar in intention to the pure food law.

Favoring the indorsement of uniform bounty laws of western states.

Opposing the creation of additional federal game preserves.

Declaring unalterable opposition to any system of leasing the public domain.

Indorsing the National Wool Grower, the association's organ, and recommending its incorporation.

Extending thanks to the railroads for expediting shipments of grain and other supplies to the western ranges in times of distress of the sheep-raising industry.

Advising wool growers to follow the rules for preparation for shipment of wool laid down by the National Wool Warehouse and Storage company, and indorsing this corporation.

Indorsing house bill No. 26,113, by Congressman Mondell of Wyoming, appropriating $200,000 of federal funds for the payment of bounties for the destruction of predatory animals in western states.

Requesting that the National Wool Warehouse and Storage company's wool exhibit be placed aboard cars and transported throughout the wool growing states for the enlightenment of wool growers, and requesting the railroads to transport the exhibit free of charge.

Budding Peaches as Means of Propagation

While Process is Simple, the Manner in Which Improvement is Made is Not Easy to Explain

THE peach belongs to that class of fruits which is propagated by a process known as budding. The peach is budded like the plum, the cherry and the almond. The wood of this class of fruits, which are known technically as the stone or drupe fruits, is very brittle and does not lend itself well to propagation by grafting, therefore the bud from a twig is used.

Budding is one of the most rapid means and most economical method of artificial propagation. The work of budding is done during the growing season, the latter part of July, any time in August and occasionally in early September.

The peach is usually worked on peach, therefore it is necessary to grow the stock which is to be budded.

Propagators who bud peaches on a commercial scale, such as the large nurseries, have learned many tricks about the trade which makes this process of propagation economical.

Fig. I. A bud stick.

Growing the stalk upon which the buds are to be worked. The first step is the proper preparation of the soil. The ground is usually stirred in September, and after thorough preparation by the use of a disk and a harrow, it is marked off in rather shallow furrows with a lister. An extra effort is made to get the rows perfectly straight. Peach pits or seeds are secured in large quantities from the canning factories, home-grown peaches usually considered best on account of their being adapted to the climate in which the stock is to be grown. After the ground is prepared as above described peach pits are dropped in the bottom of the furrows and again an extra effort is made to keep the rows perfectly straight. The seeds are dropped from three to five inches apart and covered lightly with soil not to exceed two inches in depth. The peach seed soon takes up moisture through the stony seed coat and later, assisted by the frost, bursts through the seed coat, and when the warm spring days come we see a field of peach seedlings planted in straight rows. Usually these rows run north and south through the field. The grower also finds it more convenient to have the rows from twenty to forty rods in length. The young seedlings are cultivated and given every possible opportunity to make a rapid growth. Frequent cultivations are continued until the budding season

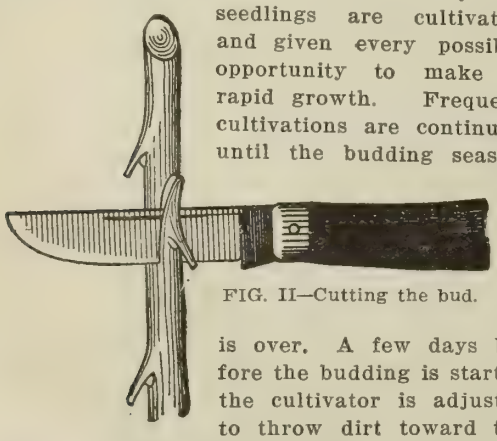
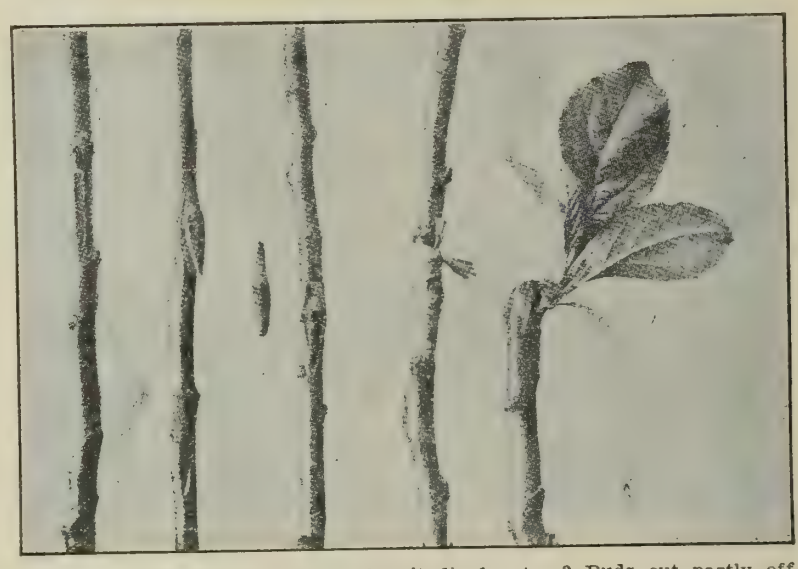


FIG. II—Cutting the bud.

is over. A few days before the budding is started the cultivator is adjusted to throw dirt toward the trunks of the little trees, the plan being to pile the soil from two to three inches higher than the average level of the soil around the trees. This is done to keep the trunks moist until the bud is inserted.

Selecting the bud sticks. This is an important step in the propagation of peaches by budding. First, the varieties one desires to grow is a study in itself, and in commercial practice is based largely on the popularity of varieties. As we have early, medium and late peaches, it is necessary to determine what varieties of each it would be best to select, also the number of each variety. The Alexandra and Hale's Early are popular early varieties. The Alberta and Hill's Chilli are considered medium in Nebraska. The Crawford and Champion have been largely used as late varieties.

There are many other considerations which the propagator of peaches must keep in mind. There are freestone and clings, yellow-fleshed and white-fleshed peaches—varieties desirable for canning—and others more adapted for drying. There is also a decided variation in the quality of fruit produced by individual trees in a variety such as Hale's Early or Alberta. The propagator in selecting his bud sticks should take them, if possible, from the trees which produce the best quality of fruit. A bud stick is merely a twig cut from the present season's growth; as was stated before, these are usually cut in August, so that the buds have sufficient time to become fairly well matured. The buds will be found to be immature toward the growing end; therefore, the end is cut back to the first mature bud. Each bud is borne in the leaf axil. The leaves are cut off, leaving about a quarter of an inch of leaf stem next to the bud. The stick then presents an appearance as illustrated in Figure I. The sticks are then tied in bundles and bear the label of the variety of the tree from which they were taken; they are then wrapped in wet gunnysacks, or packed in damp moss. When handled in this way they can be shipped thousands of miles.



Budding. 1. Stock with cross and longitudinal cuts. 2. Buds cut partly off. 3. Bud. 4. Bud inserted. 5. Tied with raphia. 6. Bud started and stock cut off. Illustration from Green's Laboratory Manual.

Before the bud sticks are unpacked a bud rag, commonly called by nurserymen, is prepared which is usually a small-sized gunnysack with long strings tied in either corner. The sack is then dampened about half its length so that the dampened end will keep the sticks moist when rolled up and the outside of the roll will be dry. The base end of the sticks are all placed one way, so that the sticks can be drawn from the bundle without breaking the leaf stem or injuring the bud. The bundle is carried by a string running over the budder's shoulder, so that the sticks hang by his side as he works. After the sticks have been prepared and are ready for use the cultivator is started in the peach seedlings, raking the dirt level between the rows and leaving a strip from four to six inches wide in the row which was previously thrown to the base of the trees to keep the bark moist. A budding gang consists of three men, one who goes ahead of the budder, raking the soil away from the trees, leaving the ground practically level, and trimming off the branches of the little trees from eight to twelve inches from the ground. The budder then starts, using a round-pointed knife made for this purpose, called a budding knife (Fig. II), which is usually kept as sharp as a razor. Nearly every budder carries with him an oil stone and razor strop to keep his knife sharp. With this knife the budder makes a T-shaped cut on the east or the north, but usually the northeast side of the tree, from one to three inches up from the surface of the ground. In making this cut the knife is inserted just through the bark, so that the wood underneath the bark, known as cabium, is not seriously injured. An illustration of this cut is shown in (a) Figure III. The severed bark is then opened, as shown in (b) Figure III, and a bud, cut from the stick, as shown in Figure II, and carried on the point of the knife held by the thumb, is inserted beneath the bark, as shown in (a) Figure IV. This figure illustrates a shield bud, so called from its shape.

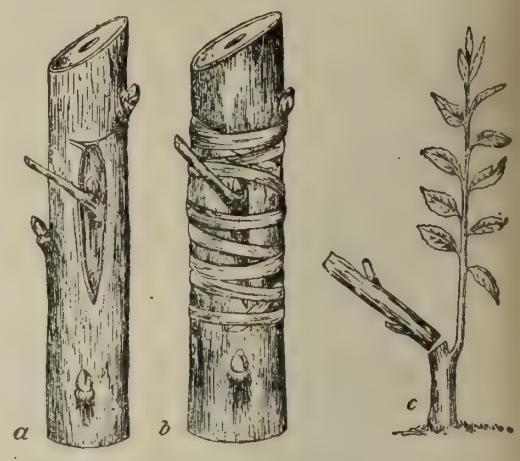


FIG. IV—Budding. (a) Inserting the bud; (b) tying; (c) cutting off the top.

A good budder is supposed to place from 1,600 to 2,200 buds per day. The actual operation of budding is hard work; however, there is a fascination about it and some budders become experts and are able to put in over 3,000 buds in a single day. A good budder is always in demand during the budding season and is able to command from $2 to $5 per day for his services. Careful work done rapidly is helpful in securing a good stand of buds. This applies to the work of the wrapper as well as the budder.

The budder is followed by the third man of the gang known as the wrapper. It used to be the custom to wrap buds with raphia, the bark of a reed or giant grass, grown in Central America, but now days in practically all the budding on a commercial scale the buds are wrapped with common white wrapping twine. The string is stronger, easier to fasten and cheaper. The string can be cut in pieces from twelve to eighteen inches long, depending on the size of the stalk which is to be budded. Three or four wraps are made below the bud and several above, drawing the severed bark lightly over

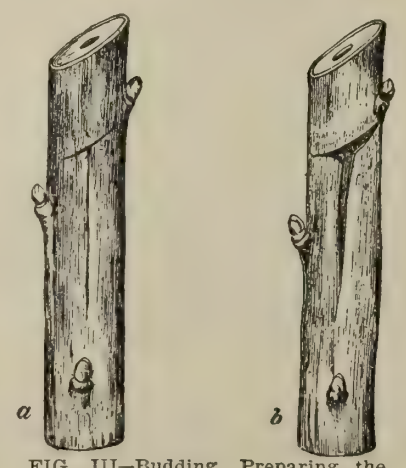


FIG. III—Budding. Preparing the stock.

he bud to exclude the air. In using the string t should be stretched before it is cut; this is usually done by winding string over a stretching machine as it is taken from the ball. The tring is fastened by drawing it into a cut made vith a knife on the opposite side of the tree rom the bud; when raphia is used it must be ied. The stalk then presents an appearance s shown in (b) Figure IV. This bud is expected to grow fast during the fall and the next pring, after the bud has started to grow, the ld stalk is cut off a few inches above the bud, s shown in (c) Figure IV. This method of udding can be used in top-working trees, and s many as a dozen varieties can be grown on a single tree. After the top of the original stalk is cut off the entire strength of the tree is thrown to the support of the new bud, which forces a very rapid growth. It is sometimes necessary to support the newly budded trees to prevent the wind from breaking them over during the first season; this is done by setting a small stick or lath down by the side of the tree, one end of which has been sharpened so that it can be pushed firmly into the ground. The new rapid-growing shoot which is to make the top of the newly budded tree is tied to this stick. Peaches and cherries rarely ever have to be tied, but it is necessary to tie a great many varieties of plums. While the process of budding peaches is comparatively simple, the manner in which peaches have been improved by this method is not so easy to explain. The peach has been propagated and handled in this manner for a quarter of a century, and yet there are very few varieties of peaches adapted to the climate of the central and north central United States. Budded peaches usually come into bearing three years after planting. This fact enables the grower to produce a new crop in a comparatively short space of time. There should be more investigation and experimentation with varieties of peaches with a view of producing sorts which will stand the climate of the central United States.

Does it Pay to Rear Boys on the Farm

This is the First of a Series of Articles, Under the General Heading: "Does it Pay to Rear Boys on the Farm" by E. F. Denison, Which Should be Read by All Parents of Boys

IN A RECENT trial in the state of Nebraska, in which the point at issue in the disposition of property was the establishment of the age of a girl, it was found impossible to secure any satisfactory records of age, until an old man n the neighborhood said that he had informaion which would solve the difficulty, for he remembered he had a blooded calf which was born t the same time as the girl. His memory beng clear on that point and the records showing ery accurately the date of birth of the calf, he case was settled on the old man's testimony.

We often seem more concerned with the earing of blooded stock than with boys and ive more attention to our granaries than to our hildren. It has come to be a trite saying that ost of the men in positions of trust and reponsibility are from the farms, and investigaion in any city will prove the truth of the tatement. The bank cashiers, department anagers, wholesalers and leading professional en, in very large numbers, trace their start o the days of hard work on the farms.

Rural Communities to Furnish Men

We must continue to look to our rural comunities for the material with which to man ur great enterprises. There are very good easons why this is true, and, if conditions on he farm are wholesome, must continue to be rue. Most boys in the city are either underorked or overworked. The youth from the ome of average means, or better, gets up in the norning to find a fire in the furnace already tarted: he sits down to a breakfast already repared by another hand; he is carried to chool either on the street car or in an automoile by power other than his own, and spends is day in school, where his principal task is o receive the truths brought to him with comaratively little effort. His neighbor boy in he poorer section of the city is often engaged n work which very closely approaches drudgry, with little opportunity for individual initiative.

On the contrary, his country cousin has done chores for an hour before breakfast, and hen has engaged in work through the day requiring the utmost persistence, but which also alls forth a high degree of independence of hought and action, while he has at the same ime been storing up a large fund of physical trength on which to draw in later years.

Choose Boys from the Farm

The large concerns of the nation are going o the colleges and universities of the middlevest to secure young men to train for the execution of their gigantic schemes, and particularly do they call on the agricultural colleges, because there they are apt to find the country oy at his best. One of the large and rapidly growing religious organizations has a man peculiarly fitted for the task, who gives his entire time to visiting colleges and universities to find men. This man discovers a large proportion of his material among the boys from the farms in the middle-west.

But if we are to continue to supply the constantly increasing demand for men of large ability and sterling character there are certain problems connected with the rearing of boys on the farm which must be solved, for his path is beset with many dangers, inside and out, on the farm and off it. To point out some of these dangers, and perhaps suggest some remedies, is the object of this and succeeding articles by one who has himself been a country boy and whom later years have taught some of the tremendous difficulties of boy life, as he has had the privilege of observing at close range in several thousand instances.

Small Town and the Boy

The situation always is complicated when the farm is located near a small town. Some time ago a minister came into our office and asked for a word of advice, saying he had four sons. He was living in a small town, but had received a call to a church in the city. His first concern was for his boys. We told him that as a general proposition our observation was that a city was a safer place for boys with good home surroundings than the small town; that in the city there are numerous groups from which he can choose, and, wisely directed, he should choose the good one. In the small town there is usually but one group of boys, and it takes a strong boy to stand alone.

We are well aware that conditions on the farm and in the village are rapidly changing—sometimes for the better, sometimes for the worse—that rural mail delivery, telephones, daily newspapers and other conveniences are very greatly modifying farm life. However, these new conveniences have in many instances only complicated the situation, so far as the boys are concerned. The automobile steering wheel may strengthen the boy's muscle as much as the plow handle, but it is not apt to strengthen his will.

Does it Pay?

Does it pay to rear boys on the farm in these modern days? That depends upon the character of the remuneration which one expects in return. The writer remembers the day when this question was frequently and seriously considered purely on its financial side. Boys are expected to remain on the farm until they were at least of age. It was not considered they had paid for their keep until that time, just on the same basis that a man would keep his neighbor's horse through the winter that he might use him for a certain length of time in the spring. On his twenty-first birthday he might be given a certain amount of money, or its equivalent, but this, too, was looked on rather as a compensation for services rendered. We wish to be clearly understood at this point: Boys should work, and work hard, on the farm, but the boy should be the first consideration and not the farm.

Training of Children

The training of children is a long, hard and expensive process. With other forms of life, up to a certain point, nature provides full development for the offspring, independent of care or training on the part of the parent. The insect is launched into the world, fully equipped to take care of itself. With birds only a brief care by the parents is given, and their education is largely inherited. As we progress higher in the stage of life longer care by the parent is required and youth is more prolonged. The cat reaches maturity in one year, or one-twelfth of its lifetime; the dog in two years, or one-tenth of its lifetime; the horse in four and a half years, or one-seventh of its lifetime, but man requires twenty-five years, one-third his lifetime, for maturity. This prolonged period of immaturity means that this time was intended for training and that the child must look to his parent for that training.

Home the Most Important Factor

A great many elements enter into this moulding proces, but by far the most important factor is the home. The home, always of vital importance, is particularly so on the farm, for other agencies are not so active. Francis Peabody truly says: "A good boy is the natural product of a good home, and all efforts of philanthropy to make boys better are consciously imperfect substitutes for the natural influence of a healthy-minded home. The great and overshadowing peril of a boy's life is not, as many suppose, his bad companions, or his bad books, or his bad habits. It is the peril of homelessness. I do not mean merely homelessness, having no bed or room which can be called his own, but that homelessness which may exist even in luxurious houses, the solitude of the boy soul, the lack of anyone to listen to him, the loss of roots to hold him to his place and make him grow. This is what drives the boy into the arms of evil and makes the street his home and the gang his family, or else drives him in upon himself into uncommunicated imaginings and feverish desires."

Does it pay, then, to rear boys on the farm? Probably not in most instances, from a purely monetary standpoint, but the hosts of well trained youth coming up from the country homes of the middle west, taking the places of their fathers on the farm, going into positions of trust and responsibility, testify that it does pay to rear boys on the farm if they are considered a sacred trust and not a chattel.

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A Kansas woman has a record for successful farming. Her husband is the county treasurer, and his official labors take all his time. So his wife runs the farm, and some folks say beats him at it.

It is not so much what a man likes as what is best for him that should determine his action. If farming is getting the greatest production at the least expense, the best farmer will operate at the least expense consistent with the greatest production.

The Department of Agriculture at Ottawa prohibits the importing of pure-bred cattle into British Columbia unless they have passed the tuberculin test. Scrub cattle, grade cattle and every other critter of the bovine species that can walk without help can go in without let or hindrance. Does the department at Ottawa imagine that only pure-bred cattle are subject to tuberculosis?

Missouri has a cow, Carlotta Pontiac by name, that produced a gross return of more than $230 during the last year. The cost of her feed during the year was between $80 and $90, leaving a handsome balance of net profit. If her milk had been sold at 6 cents a quart, which is less than the price usually paid by city customers, it would have brought in more than $700. Here is something for the cow owners of the Missouri valley to work toward.

More Money Must Be Used

The evidence is everywhere present that in order to get the best efforts of mankind in contest there must be a money incentive, and this incentive must be big enough to attract attention. Money may be the root of evil; be that as it may, this is not now the subject for discussion. It is reasonably certain that there has never been a child of intelligence who has arrived at the age of understanding, nor a mature, well balanced mind that has outgrown the ambition to be influenced by this same principle of money reward when the incentive is properly applied.

We find the most successful educators are the best organizers, and that they are constantly organizing some system or scheme of contest in order to stimulate activity and interest in the matters to be accomplished. The money incentive is not always expedient in all forms of contest; other means of arousing ambition may be successfully installed under the influence of good organization and discipline. But with the independent, unorganized labor there must be a concentration of thought and purpose first effected, and something out of the ordinary must be employed to do this.

In the matter of corn-growing contests for boys, a feature of education now being very successfully conducted by almost every form of business and educational organization by counties and states, the extent of interest aroused and good accomplished depends upon the money incentive involved in this enterprise. A cash prize of $500, apportioned so as to make a grand champion prize large enough to attract the attention and secure the effort of the ambitious contestant, is the demand of the times. The contest spirit should be encouraged. It is largely through the influence of these contests that the possibilities of production are developed, and thus the standard raised in what should be produced by every farmer.

Stories of Farm Success

As a rule, the real success upon the farm is not noised abroad. The farmer who has succeeded has been too busy with his farming to waste much time in advertising himself. For various reasons of his own, he prefers to remain in the background. His neighbors, or any others that know of his success, should force him into the limelight, not for his benefit so much as for the benefit of others that are striving for success. The Twentieth Century Farmer is anxious to hear of the cases of men who from small beginnings and under great discouragement have achieved a noteworthy success upon the farm. It will regard it as a great favor if readers of the paper will furnish information about such men.

This paper wishes to let the world know what such men have done and how they did it. Of course, such publication will give the farmer more or less publicity, but such stories, when rightly used, form a a very desirable part of the education of other farmers who are now battling for success, and in the thick of the fight need a little help. Send the names and addresses of such men and this paper will do the rest, as occasion permits.

Get Back to Farm Mares

The old-time idea of keeping mares on the farm to do the farm and general team work and raising a colt each year should be revived or reinstated as a source of profit and economy in farm management. The prices for good, handy farm teams are such at the present time as to make this an object in farm live stock interests. The farm, while a good money-making proposition, properly managed, cannot be run on the most expensive basis and yet be highly profitable.

The farm is the source of production in many lines when properly directed, and hundreds of thousands of the new farmers will make the mistake in buying everything needed on the farm when much of it can be produced, and at no very great cost when compared with the market prices for such products. In no line of live stock can the farmer save a few hundred dollars easier than in raising the horses needed to carry on the farm work, and have a surplus team or two to sell each year. This counts up very rapidly in farm profits or farm receipts.

A team of good, big mares, that can be employed in crop work through the greater part of the year, and raise a pair of colts that will develop into $200 horses at 3 years old, will be found to be about the most profitable investment on the farm, and produced so cheaply that their cost can scarcely be figured above their pasture expense. The horse-raising business has been practically taken from the farm and turned over to the range horse breeder, who is profiting by the false belief of the farmer that it does not pay to keep mares and raise a few colts.

It might be a good business proposition for the new western farmer to go back to the customs of the pioneer fathers and try to see how little they are obliged to buy above that which comes by the efforts of their own energy in farm production. The farm team of mares is a good example of how the farm resources may be enhanced. A little study, a little planning and a great cheapening of expense may be developed, and at very little sacrifice.

The Thomas B. Jeffery company of Kenosha, Wis., has been making important additions to its executive staff and has been distributing promotions among its most prominent employes. These changes have been made necessary by the rapid growth in the business, which required new men and new distribution of responsibilities.

Now is the time, while trees and vines are dormant, to give them the proper surgical attention. Every owner of such should set about the work of rducing their wood growth and giving them the proper shape and head. Do it now, for if there is delay it may be forgotten until the sap starts in the spring, and then it will be too late.

All Right for Wheat

The January snow storm, which is reported as covering immense areas of farm and range country in all districts of the United States, while severe on unprotected live stock, will prove of great benefit to the farming lands, especially that sown to winter wheat. In many sections there was complaint of dry weather and a threatened damage to the fall sown wheat. This condition has been helped by the heavy covering of snow in some instances and the rains and cloudy, moist conditions that prevailed in other parts of the country.

The very dry weather of the autumn season passing into winter with less moisture and rainfall than has been usual for many seasons, aroused a suspicion in the minds of many wheat growers that the chances were against the crop from the great liability of winter freezing. The blanket of snow, which came in time to protect the wheat plant from the severe zero and below weather, and which spread over the western winter wheat states, was just what was needed. Without this protection, under the existing conditions brought about by a long dry spell, there could have been but little hope for the wheat crop.

The acreage of winter wheat for the entire country reported by the Department of Agriculture, under date of December 1, 1912, shows 32,387,000 acres, against 33,215,000 acres for 1911. This decrease in acreage of 828,000 shows a falling off of 2.5 per cent. There was that much less sown in the fall of 1912 than was reported in 1911. The condition of this crop on December 1, 1912, was 93.2, against 86.6 on December 1, 1911, and a ten-year average of 89.9. It would seem that this country cannot afford to cut down on acreage unless there is going to be a very positive bracing up in more intensive cultivation.

Standing of Corn States

The reports of the comparative standing of the big corn-producing states have been greatly exaggerated from the standpoint of actual, reliable producton. A state, county or district of country does not acquire its rating as a producing area from its last year's yield, but from a series of annual yields. If this were true Nebraska would have been entitled in 1897 to have been advertised as the leading corn-producing state of the United States. This would have been very misleading, however, and an injustice would have been done to the two big corn states of the country—Illinois and Iowa.

Nebraska, it is true, produced in 1897, 8,340,000 bushels more corn than any other state. Illinois was this amount below Nebraska, and Iowa, the other big corn state, was 20,179,000 bushels below Nebraska. This was the only year that Nebraska led all states in corn yield.

In 1896 Nebraska was second in corn production, with a yield of 298,600,000 bushels, following Illinois, with a yield of 321,719,000 bushels. Nebraska for many years has held the position of third state in corn production, estimated in periods of ten years, following Illinois and Iowa, until last year, 1911,

ssouri came in for third place and s been able to hold her position the 1912 crop.

The position of the eight leading rn-producing states on a ten-ar basis of estimate, 1903 down to d including 1912, is as follows: inois first, with an aggregate eld of 3,533,915,000 bushels; wa, 3,191,202,000 bushels; Mis-uri, 2,106,071,000 bushels; Ne-aska, 2,049,225,000 bushels; In-ana, 1,722,768,000 bushels; Kan-s, 1,657,203,000 bushels; Texas, 368,071,000; Ohio, 1,?23,943,000 shels.

It is altogether probable that me very surprising advances in rn production will be made in the uth within the next ten years, and at others will be listed among the rge yielding states. Because a ate or district of a state meets th some mishap in drouth or other saster to cut the crop low is no ason why it has lost its rating as producing district, nor does the e year's big crop bring a state into ominence and establish it in pro-ction on this one yield.

The state of Nebraska is more ally interested than the city of ncoln in the qestion as to whether e collections of the State Historical ciety shall be moved from the uni-rsity. The state has paid for mak-r the collections and has un-ubted right to say what the final position of them shall be. They e a valuable adjunct to university ucational work. This is practically e only service they perform. If e personal interests of the secre-y of the society and of the law rarian are more important than e educational work of the state, e state may consent to their re-val.

The American Co-Operative Jour-l is authority for the statement at there are 1,078 co-operative so-ties in Minnesota, viz., 552 cream-ies, 277 grain elevators, 60 stores, live stock shipping companies d 149 mutual fire companies. at is going some! Iowa reports the same paper 1,000 co-opera-es, viz., 340 elevators, 305 cream-ies, 125 lumber and coal yards d 270 insurance and other com-nies. "The world do move!"

There are many things to be said ainst corn. It furnishes the raw aterial for the Peoria product, its old is the cause of mold disease in rses and several other crimes are id at its door, but it is not fair to arge it with being the cause of llagra. Scientific men have con-usively proved that pellagra is an sect-born disease and have com-etely exonorated corn. This is od news for the corn belt.

The Agricultural club of the Uni-rsity of Nebraska offers two prizes ch year, each to consist of $100 in sh and an arrangement whereby passage to Europe and return can earned in caring for live stock i ansportation. It is not expected at this money will cover the entire sh outlay for the trip, and the ize winners will have to make up e balance from their own pockets.

Education in Rural Schools

For a large number of the pupils in the rural school that school is the finishing school; that is, they will never go further with their education. For these pupils the school should furnish the best equipment possible as a preparation for the struggle of life that is before them. The most necessary subjects should not only be studied, but mastered. These should include the three "R's," which are now made altogether too little of, and a practical working knowledge of English. It is not fair that these students should be compelled to take a number of studies that will be of very little value to them in order that other students that wish to pass on to the high school may take them. It is not fair to tax the whole district to secure education in branches that are not strictly essential to a majority of the pupils.

In nearly all the states of the Missouri valley the course of study for the rural school is so loaded with subjects that very few pupils are able to cover it, and only a small proportion of these are able to master it. The course of study needs reforming and cutting down so as to lay due emphasis upon essential matters, and assign a minor place to nonessential, or, better still, to exclude them entirely. State Superintendent of Education Delzell of Nebraska urges "a revision of the course of study so that a more practical outline may be given. Thc present course requires too great a quantity of work to be completed in the eight grades at the expense of quality." This hits the nail squarely on the head.

With such an overloaded course of study the principal result of the county school is a training of the memory only. Education means the development and exercise of all the mental powers. It leads not to the capacity to remember, but to the capacity to know and to do. Mastery of any one subject has a far greater educational significance than a mere memory of them all. The rural scholar, for whom the rural school is the finishing school, should master the three "R's" and gain a practical working knowledge of English, and it is not important for him that the school undertake anything further than these.

It is admitted that the system of education of any state should be unified, but the unification should begin with the rural school and end at the university, rather than begin with the university and end with the rural school. The future citizen for whom the rural school must suffice should receive there the principal attention and secure there the greatest benefit possible. Half learning is no learning. The mastery of any one subject is worth more as an educational influence than a superficial knowledge of many subjects.

During 1912 $117,385,847 was paid for live stock at the South Omaha stock yards. This breaks all records in total number of head of live stock received and in the total number of hogs received and total amount paid for live stock. This makes South Omaha the second largest live stock market in the world.

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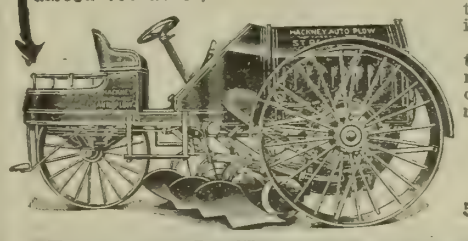
EVERY farmer owes it to himself to learn about this great labor saving One-Man-Machine that is virtually revolutionizing farming—changing drudgery to ease.

The Hackney Auto-Plow is the **only** machine made that can be used successfuly on the farm of average acreage, for doing all work where power is needed, such as **plowing, seeding, haying, harvesting, threshing,** as a tractor for hauling loads and also as a stationery engine.

The successful performances of the Hackney Auto-Plow in all parts of the country, in all kinds of soil, and under all sorts of conditions, proclaim its great value to the farmer.

Here is an extract from a letter from Pratt Bros., Whiting, Ia., under date of Nov. 12, 1912. "We plowed 200 acres of the hardest kind of sod, disced 700 acres, harrowed 400 acres and our machine is in fine condition today. We think it has paid for itself this year.



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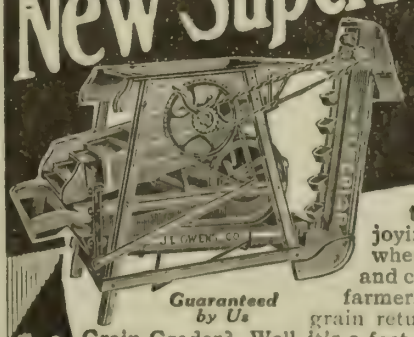

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Have you ever thought about the *extra profits* you could be enjoying by cleaning and grading your wheat, oats, flax, barley, rye, timothy, and clover? Did you know that frequently farmers add 20 per cent or more to their grain returns by the use of the New Superior Grain Grader? Well, it's a fact. Cold figures in our free books show $59.30 saved on ten acres of wheat besides paying for the machine

You know that good seed costs money when you buy it from your neighbor. A New Superior will sift and clean the seed—right out of your own crop—at a mere fraction of what the seed man asks. And good seed is the first step toward bumper crops.

Besides getting bigger crops you get top-notch prices. Your grain goes to the elevator *clean*—free from all foul matter—no weed or grass seed. And therefore no dockage. Besides you've *saved the screenings*—good feed for your cattle.

Go to your dealer's—see the New Superior. Study the automatic adjustable feed, the 18 sieves and screens, the big capacity hopper, the large drive wheel, *double bagger*. A twelve-year old boy can use the New Superior *easily*. And this great machine now on special offer.

$2.50 for this Coupon at Your Dealer's

Yes, $2.50 sliced right off the price. We want to attract the attention of every progressive farmer! We want every grain grower to know what the New Superior Grain Grader is! We'll make the same $2.50 offer on the Owens Smut Cleaner. If you'll take the coupon to your dealer, he'll pass you $2.50 on either machine. And that's only the beginning of what you'll save. It's not uncommon for a New Superior to net hundredsof dollars per year for owners.

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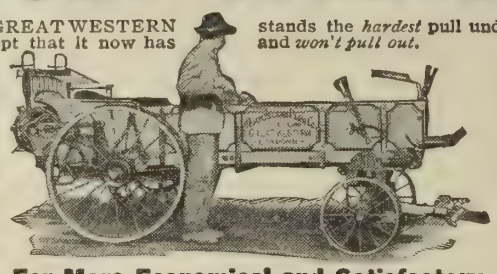
Get the machine that operates with least effort—that gives no trouble—that makes more profit—that is so strong, so simple, so durable, as to make it the one *perfect* spreader.

You take no chances in buying the GREAT WESTERN. Over 100,000 farmers have used them during the last twelve years and swear by the *old reliable, time-tried*

Great Western

Here is the *proved* GREAT WESTERN of other years, except that it now has roller bearings and is made low down—waist high—*just right*—with safe clearance underneath for rough ground, obstructions and top dress on growing corn.

Wheels are *under the load*—wheel base is short; result, *lightest* possible *draft*—easy pull—a saving on horses and harness. Double heavy oak bolster, 16-inch malleable fifth wheel; stands the *hardest* pull under worst conditions, and *won't pull out.*



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We won't build them light or flimsy or hang the load between the wheels just to save a few inches in height.
We won't use a narrow front truck, because you couldn't top dress.
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We won't build a spreader in a cheap way just to sell, regardless of satisfaction in use.
We want you satisfied or no sale, and you will be with the GREAT WESTERN.

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We build them right.
We put the wheels under the load so as to make light draft.
We use a heavy, double front bolster and heavy malleable fifth wheel, so you can't pull the front out.
We make a short wheel base so you can turn anywhere.
We use roller bearings throughout and an endless roller bearing apron with 102 rollers.
We build the "World's Best" Spreader to give you long service and the best work at the lowest possible cost. Ask for new spreader book, it's free.

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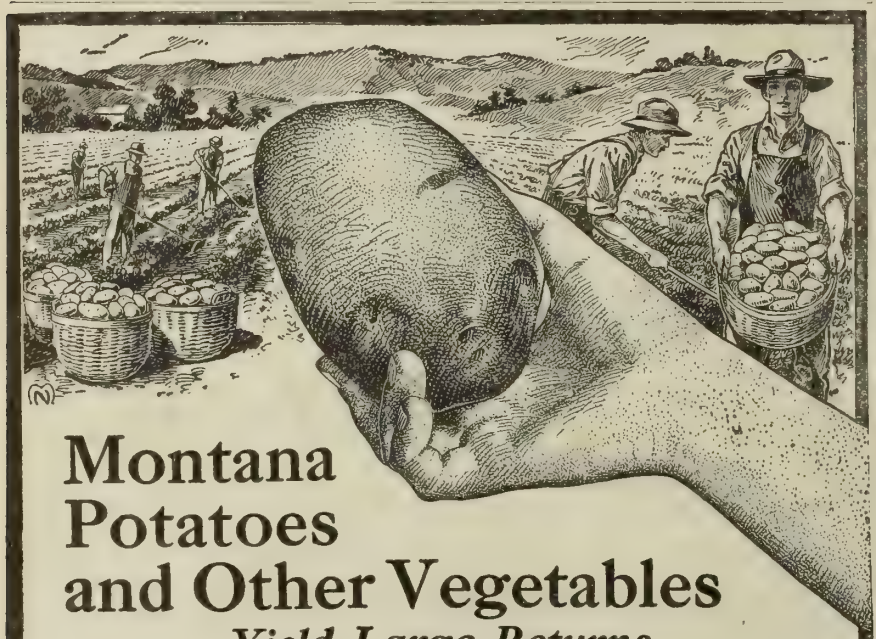

Montana Potatoes and Other Vegetables

Yield Large Returns

W. W. Sleight, of Willow Creek, Mont., writes: "About four years ago I took up a homestead of 160 acres. I had in crop last year 10 acres of potatoes and raised over 6,000 bushels. I had also all kinds of garden truck. I took up this land for nothing and land on which you can raise 600 bushels of potatoes to the acre and get 60c a bushel you can soon figure up how it has increased in value."

The following from J. A. Siffert, Three Forks, Mont.: "Am sending you a box of potatoes from Con Lane's farm near here. He has a little less than two acres and has 450 sacks. There are about two bushels in each sack."

These Are Not Unusual Instances

They are the rule, *not* the exception. What these and their men have done you can do. Make a new start *now*. Take up a government homestead under the new three year homestead act. There are millions of acres of land that can be homesteaded and millions of acres that can be bought at $15 to $45 per acre. Write for literature of this treasure land, compiled and published by the

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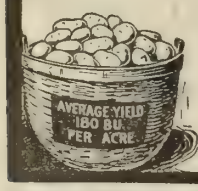

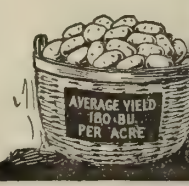

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Asoturia in Horses---Preventable Disease Common in Cold Weather

A DISEASE of horses that should be guarded against, especially at this time of the year, is azoturia, sometimes called "Monday morning" paralysis, or lumbago. This disease usually follows periods of rest or idleness, especially in cold weather, when horses have been kept on full feed. Horses in good flesh, in the pink of condition, are the ones usually affected. Just as milk fever picks out the best cows in the herd, azoturia seems to strike the best horses in the stable.

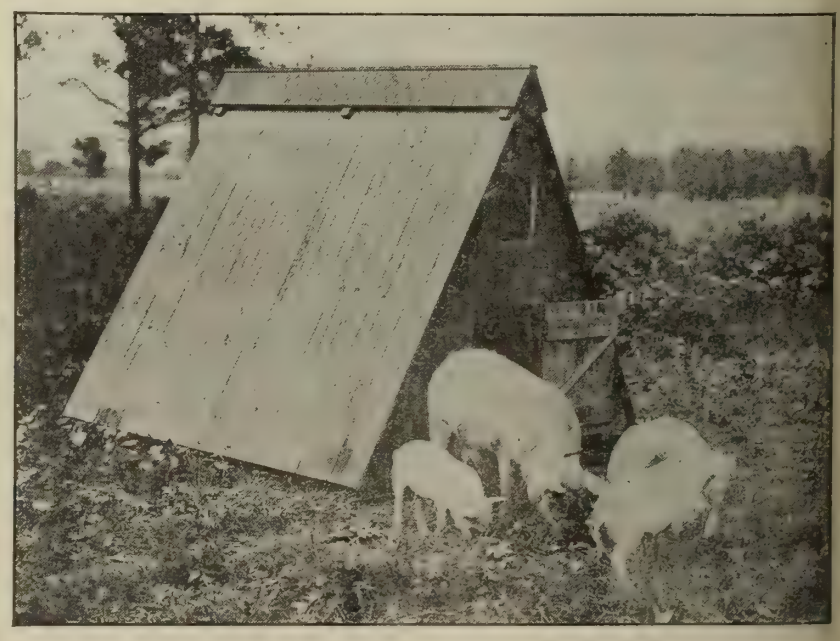
The symptoms of the disease come on after the horse has left the stable, sometimes before a mile has been traveled. The first thing usually noticed is that the horse limps or favors one hind limb, frequently knuckling over at the fetlock; this rapidly gets worse if the animal is kept going. Perspiration breaks out over the surface of the body. If not brought to a standstill the horse will travel till the hind limbs become paralyzed and collapse; if stopped when the first symptoms are shown the horse will bear all of the weight on the unaffected limb, unless both are affected. He is very restless and uneasy. The sweating is profuse, and may run off the body in streams, even in very cold weather.

The muscles of the crop on the affected side appear very hard and tense and the skin seems as firm as sole leather. Urine, if passed, is very dark in color, varying from a reddish brown to a brownish black. It frequently has the appearance of coffee and is often quite thick. If both hind legs are affected the horse usually goes down and makes frequent inefectual efforts to regain his feet. The breathing is usually labored, the pulse quickened and the temperature may run high or stay at normal.

The proper thing to do under the above conditions is to stop the horse just as soon as anything is noticed wrong; stop right in the road, if necessary, and blanket the horse over the hindquarters. Do not try to return home or to reach a neighboring stable, unless the latter is within a few yards. More horses are killed by trying to keep them going than in any other way. The disease progresses very rapidly if the horse is kept going, and few horses recover if they go down and are unable to rise. As soon as possible send for a veterinarian to take charge of the case. Do not give the horse any medicine, unless directed to do so by a veterinarian.

To prevent azoturia, obesrve the following rules: If it is necessary for a horse to stand idle for a number of days during cold weather, cut down his feed, especially if he is in good bodily condition. Give a bran mash the evening before starting to work; give the horse some daily exercise while idle and see that the bowels are moving freely and regularly. When starting out from the stable start slowly. Active, vigorous horses will want to step along freely after a rest of a few days, and it is in just such cases as this that we meet azoturia, if proper precautions have not been taken to prevent it.—Dr. H. Preston Hopkins, University Farm, St. Paul.

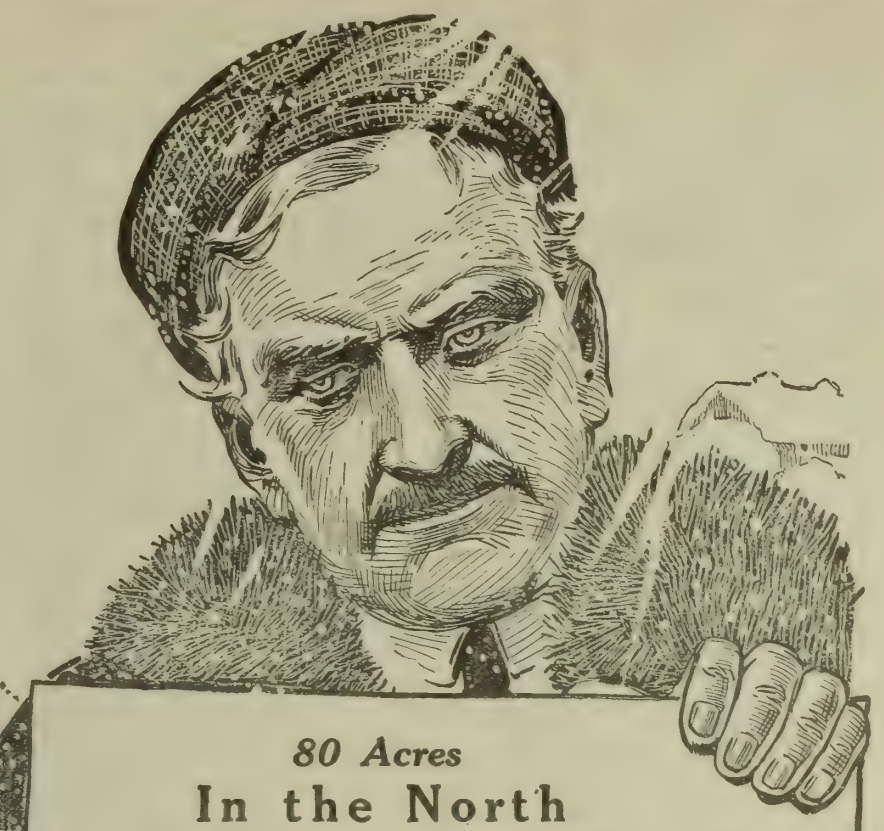
An Individual Hog House



During the last few years the successful hogmen have been using what they called individual hog houses. They would build these houses out of cheap lumber. The base is usually six feet square and the apex about five feet high. One window is placed in the end. It makes a convenient and sanitary place for the hogs; it is sufficiently warm to protect them during the winter, especially if the house is placed on the leeward side of the straw pile or the buildings. One house will accommodate a brood sow and her pigs. The house is so made that the danger of the sow lying on the pigs is largely eliminated. The house can be moved and is in every way a good investment for the hog grower.

80 Acres
In the Gulf Coast—Louisiana

	Cr		Dr.	
Feed for stock	$		$ 000	00
Fuel for family			000	00
Clothing for family			100	00
2d crop—winter crop	500	00		
3d crop—spring crop	750	00		
Gross winter income	$1,250	00		
Total winter expenses			$ 100	00
Net winter income	$1,150	00		



80 Acres
In the North

	Cr		Dr	
Winter feed for stock	$		$ 583	00
Winter fuel for family			50	00
Winter clothing for family			250	00
Total of winter crops	000	00		
Net winter expense			$ 883	00
Net winter profit in South			1,150	00
Total cost of winter in North			$2,033	00

What Does Winter Cost You?

For a third of the year your farm is dead. Your expenses go on, but your income stops. Every winter drains your profits—sets you back cold, hard cash.

You Northern farmers are working under a tremendous handicap. You must make your success in spite of the climate—not because of it ust because you have become used to that way of working doesn't mea n that it's the best—it isn't.

The farmers in the wonderful Gulf Coast Country of Louisiana kn ow no such handicap. They don't work any harder than you do, but they ake twice as much, because their farms produce all the year 'round.

The 12-month growing eason of Louisiana will just double your profits

There's no guesswork about it—facts prove . The experience of thousands of others eaves no chance for a doubt. Figure it out or yourself. There's not a single month of he year you can't plant something. You get wo crops instead of one. There's no magic bout it—just common sense. The climate is n asset instead of an expense—that's all.

Any good northern farmer can succeed in Louisiana

It's just the same kind of farming you have known—but with greater possibilities. You've got to work, of course, **but you get double returns for your efforts.** If you can make a living in the North you can build up a **fat bank account** here.

You can stick to the staple crops you have always grown and make money. You plant in the same way, cultivate in the same way, harvest in the same way—but you do it twice or three times a year instead of once.

Then there are the southern crops—cane, cotton, rice, pecans, oranges, tobacco, alfalfa, truck—scores of them, **and enormous profits in every one.**

And it's the kind of life that's worth living. You have heard of "sunny Southern skies." you know that the people are more kindly, more hospitable than you will find anywhere else in the world. You and every member of your family will be healthier, feel better, than you ever did before. These things count big—they mean more than money—BUT YOU GET THE MONEY, TOO.

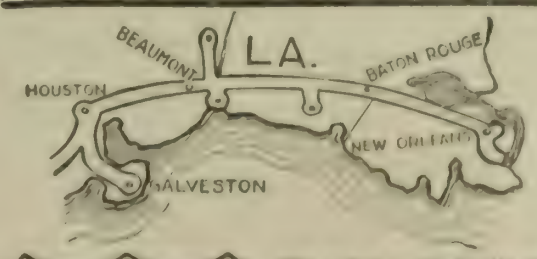
No Boom--No Inflated Prices

The Louisiana Gulf Coast movement is not a boom. It's a natural development. The new main line of the Frisco from Houston to New Orleans has given this country ideal transportation facilities—the only thing it needed to make it perfect. The opening of the great Panama Canal, now only a short time away, will directly benefit **this** section more than any other section of the United States.

You can suit your own purse and buy on your own terms

Twenty millions acres are waiting you. The range of choice is practically **limitless.** But, no matter what kind of land you select, you will find the prices **less than one-fifth** what you would pay for Northern land even approaching it in location and fertility. You can buy land as low as $7.50 an acre and for $25 an acre you can duplicate land that you could not buy anywhere around where you are **for less than $125.**

You can arrange for the most liberal kind of terms if you want to. Sellers know that they are taking no chances when they ask you for a merely nominal payment, the balance to come out of your **extra** profits.



FRISCO LINES

This land is located mostly in the [illegible] of the Frisco system from Houston to New Orleans, [illegible] transportation could not be improved. You can go to the [illegible] and see what we say is true. Or you can write us for [illegible] of the land.

What you can reasonably expect from staple crops

Corn in the Louisiana Gulf Coast runs from 50 to 90 bushels to the acre. Oats will run as high as 100 bushels to the acre. Barley, rye and other grains do amazingly well.

The yield of Alfalfa is almost unbelievable and as for silage it is unexcelled. Four and five cuttings a year are the rule, not the exception.

Stock beets are planted after the corn is harvested and yield 10 to 30 tons an acre in mid-**December.**

These are conservative statements based on actual results that have been and are now being obtained. You can do just as well.

See the country before you buy--go via The Frisco Lines

Go now before the land prices jump. Property values have more than doubled in the last five years and the real raise that's bound to come has hardly started. The cost of the trip is low. Round trip tickets are sold on the 1st and 3d Tuesdays of each month. Via Frisco Lines from Chicago $25.00, from Leeds or Kansas City $15.00 or even less.

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Northern States. **BREAK THAT CHAIN!** Take your family to Florida, where they and you can live out of doors winter and summer—where the land is rich—texture same as Illinois and Iowa prairie soil—where **YOU GROW 3 to 5** crops a year. Heavy, rich loam and rich, loamy clay soils. Send for the big free Florida Book. More than 3000 of your northern neighbors have already bought our rich land and are satisfied—making money—happy. The price of our land is still low. The book tells you all about it. Investigate! Write today!

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IOWA SEED CO. Dept. 3, **Des Moines, Iowa**

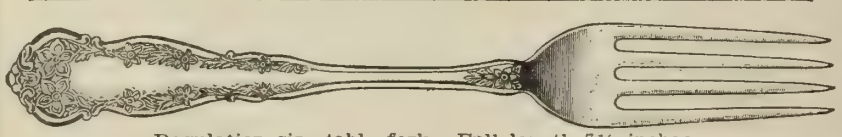
100 Bushels of Corn an Acre

is not uncommon in the Southern States and has even been greatly surpassed in some sections. The South will produce as much corn and as good corn as any section of this country, and the value of last year's corn crop in the South was eight hundred million dollars. Why raise corn on land in the North and West valued at $200 an acre when equally as good corn-producing land in the South can be purchased at from $15 to $30 an acre, and where the temperature in summer is no hotter than in the Middle West? And with the additional advantages of another crop or two from the same land and no long, cold winters.

Let me send you our illustrated booklets and learn what can be done in a country where fertile land can be purchased cheaply and where there are 312 working days a year. **Low round-trip fares 1st and 3d Tuesdays each month.**

G. A. PARK, Gen'l Imm. and Ind'l Agent, Louisville & Nashville R. R.
Room 309 Louisville, Ky. (202)

You have the spoons; now get the forks!



Regulation size table fork. Full length 7½ inches.

The Twentieth Century Farmer has been giving away handsome Wm. Rogers & Son's silver teaspoons. Forks of the same pattern have now been obtained. Because of the extra expense in handling the forks, and in getting the designs, the price for mailing is 20 cents. You may still get the spoons, each, for 10 cents. Complete your set of spoons, and also get the forks. Start now.

Use coupon below.

COUPON.
Plese send my fork to

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Address.....

Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

Address Silverware Department

Twentieth Century Farmer
OMAHA.

What Can Be Done to Double the Yield of Wheat

AN ILLUSTRATION of what may be done in the way of increasing the yield of wheat per acre has been given in the state of Kansas, where the members of the Top Notch Farmers' club had a competition last year to see who could raise the most wheat per acre, and the winner of the first prize, a silver loving cup, has just been announced. He is Carl Schlotthauer of Marion county, who made an average yield on nineteen carefully measured acres of fifty-nine bushels and twelve pounds of wheat per acre. The soil from which this bumper crop was grown has been in cultivation thirty-nine years.

Mr. Schlotthauer's nearest rival for the cup was C. E. Belden of Atchison county, who made an average of fifty-eight bushels and fifteen pounds of wheat per acre on six measured acres of land which had been continuously under the plow for more than forty years.

The fact that nearly sixty bushels of wheat to the acre has been grown by one farmer shows that it is one of the normal possibilities of wheat-raising, for what one farmer has done anyone can do by pursuing the same methods—by using care in enriching the soil, in preparing the seed bed, in drilling plenty of seed wheat to the acre and in careful, clean harvesting and threshing.

The importance to a great wheat-growing state like Kansas, Iowa, Missouri or Illinois of doubling the yield of wheat per acre is tremendous. It is far more important to double the yield per acre than to double the acreage, because when you double the yield of wheat per acre you do not cut down the acreage of corn, oats, potatoes or any other crop. You put in as many acres of corn as ever and raise as many bushels as ever, in addition to doubling the amount of wheat raised.

In fact, 59 3-14 bushels per acre is more than doubling the average yield of wheat, for the average yield is said to be about 11 7-10 bushels per acre in the newer states of the northwest upon unfertilized land, though this average yield must have been figured some years ago, for it is surely greater now, with the improved methods and scientific principles of farming. In order to do full justice to such fertile states as Iowa and Illinois let us say that the average yield is twenty bushels per acre. Yet here were two men who almost trebled this yield. If these men had had a 500-acre farm, with 300 acres in wheat and the balance in corn, oats, potatoes, clover and alfalfa, they would have made nearly 18,000 bushels of wheat on these 300 acres instead of 6,000.

Is it not worth while to use improved methods and make 18,000 bushels on 300 acres, without having to decrease the yield of corn, oats, potatoes, etc., by cutting down the acreage devoted to these crops?

The farmers of any state are doing grandly if they treble the number of acres in cultivation in all crops, but how much grander would it be to double the yield of all their crops with their present number of acres in cultivation? Let us double the acreage as soon as we can, but let us strive first to double the yield per acre, since our consumption of flour is increasing faster than our production of wheat, and especially since we can increase the yield cheaply without buying high-priced fertilizer. All that is necessary is to feed cattle on the land in the late summer and early fall, to plow in an occasional green crop in the spring and to rotate wheat with sugar beets, clover and other crops occasionally.

It is a question whether it would not pay a farmer to feed cattle in his fields about every other winter, planting spring wheat, oats, corn or clover in the spring, rather than plant winter wheat in the autumn and confine his cattle in feeding pens during the winter. While winter wheat makes the best yield per acre, and is fine for late winter grazing, yet for adding cheap fertility to the soil the winter feeding occasionally in the open fields might more than counterbalance the superiority of the winter wheat. ISAAC MOTES.

The Farmer Holds the Key

Editor Twentieth Century Farmer: A majority of the practical stockmen are agreed that the one effective way to change the shortage of beef now existing into a surplus, or at least to raise beef production to a point that will equal the demand for it, is to breed more cattle on farms. Interviews with hundreds of stockmen and farmers published in the daily live stock market papers this year are unanimous in saying it can be done with a profit. Of course, if it be done, there must be greater efficiency in every department of farm management. Not only must more cattle be raised and fed on a given number of acres, but more grain and more grass. At least 50 per cent more grass could be grown on an acre than is done ordinarily if it was cultivated and pushed in the right way. Then an acre and one-half of grass would keep an animal seven months of the year.

Since the establishment of the Illinois experiment station the yield of corn in that state has increased seven and one-half bushels per acre. Dr. Hopkins, head of the agronomy department, says that instead of raising thirty-five bushels per acre, as at present, the corn lands of Illinois should produce seventy bushels per acre, and would do that if the soil was properly handled. He says that two-thirds of the money spent for fertilizers is wasted through ignorance. Everybody knows that live stock will build up soil fertility better and more permanently than commercial fertilizers, but to get people to act on their knowledge, even when it is clearly for their own benefit, is not always easy. To make two steers feed where one fed before is a sign not only of industrial enterprise, but of national progress.

J. A. RICKART.

Boy's Successful Feeding of Hogs

THE writer well remembers the first bunch of pigs he ever fed out for his own. I had trapped gophers in a eighbor's meadow on my way to nd from school, securing sufficient noney by that means to buy the igs.

Having a very limited amount of orn, I put the pigs in a close pen, n old log house, which, of course, fforded good shelter. In one cor- er I built a crude floor on which to ive them their feed, running a rim round each outer edge to keep the igs from rooting the corn off in the irt.

Believing that most farmers asted considerable feed by giving all in dry form, I arranged a bar- el for soaking equal parts of shelled orn and oats in, and this mixture as made the principal part of the ation at the beginning of the feed- ng, especially for the morning meal. I could have added ground wheat r shorts to this mixture at feed me I am sure that still better re- ults would have been realized.

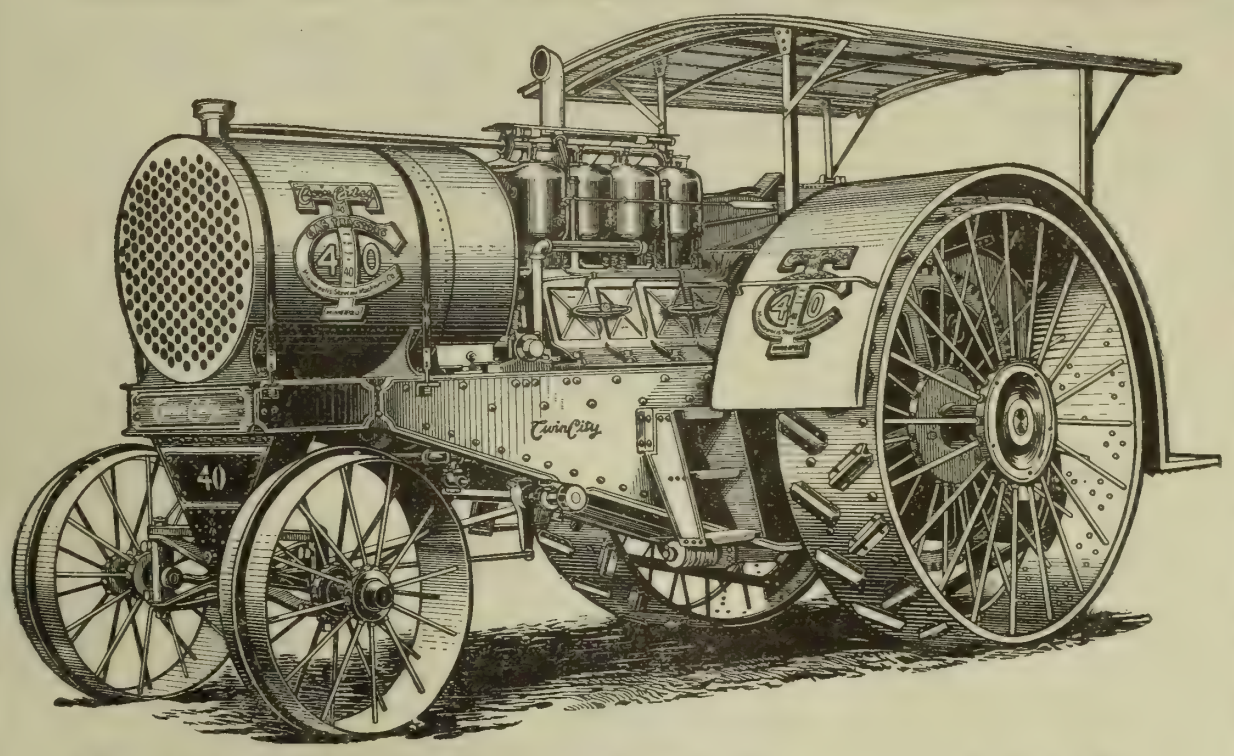
This soaking process should not e carried on too far in advance of e time at which the feed will be ven, as it gets a little too sour and apt to cause digestive troubles. eep it well soaked ahead of the me for feeding, and when the odor om it gets what appears to be too rong feed it to the pigs or some- ing else at once. Don't increase e quantity given to the pigs sim- y to get rid of it quicker, as this ill prove costly economy by throw- g the pigs off feed and doing more arm than good.

The oats in this mixture act as a ort of a laxative, tonic, regulator f the bowels and builder of bone nd muscle on which to grow the at, while the soft condition of the orn renders it much easier of di- estion, thus giving it a greater per- entage of nourishment than that ecured from the hard, dry corn, hich hogs always fail to chew up ell, and a part of which passes hrough a hog without yielding up ll of its nourishing qualities. These oints show that the soaked feed eans economy in feeding and a apid growth among the hogs.

These soaked grains and about ne ear of corn for each pig were ll we gave them at the start, and hey grew right off from the very eginning. As they neared the time or finishing them for the market he amount of corn was gradually ncreased till the oats were only a ery small per cent of the ration. he amount of dry corn also was radually increased from one ear till, t the time of marketing, each hog eceived six ears of sound corn, in ddition to about a quart of the oaked feed. I never kept an accu- ate account of the net profit these nimals brought me above what they te, but the fattening of this little unch of pigs always has stood out n my mind as one of the most suc- essful I ever accomplished.

M. A. COVERDELL.
Worth County, Missouri.

The Big Steel Farmer



The Steel Combination of 40 Horses and 20 Men

Every working day is what you see in this machine.

That plate girder frame is the strongest piece of construction ever put into a traction engine.

The four cylinder motor is a masterpiece of 25 years' experience in designing motors.

With all its sturdiness and power it is the lightest tractor per horse-power on the market today. It will pay you well to get all the facts and history of

TWIN CITY TRACTORS

Built in Two Sizes

25 and 40 Tractive H. P.

Twin City Tractors have some wonderful records of things accomplished. In every Northwestern state—in Canada—down through Kansas—in Texas—Mexico—Cuba—South America—everywhere that these machines have gone you will find an unequalled record of success to which owners practically without exception are willing to add their personal testimony.

Here Is Some Real Testimony:

The following letter is our latest report from the Superintendent of the Taft Ranch, where five Twin City "40" Tractors are now operating.

Geo. M. Gilette, V.-P., September 28, 1911.
Mpls. Steel & Mchy, Co.,
Minneapolis, Minn.

Dear Mr. Gillette:—I realize that your machines are now being put to the hardest test that has ever been tried in this country.

I do not think there is any doubt but what you have the only gasoline engine that has ever been able to plow this kind of country successfully.

We are getting our work well done and more economically than it has ever been done before.

Yours sincerely, JOSEPH F. GREEN.

And this one from North Dakota

OJATA, N. D., August 18, 1912

Gentlemen:—Last spring I purchased a Twin City "Forty," which was delivered April 1st, 1912, and has been in operation almost continually through the summer without trouble or loss of time.

The tractor has been pulling a twelve-bottom .....Plow and a twenty-six foot.....Harrow and plowed six inches deep

I think the "Twin City" has the greatest power plant of any tractor on the market.

Yours respectively,
E. H. BLAIR.

We have a book of such letters as these written by some of the biggest farmers in the country. We also have a book of reasons why "Twin City" tractors have been able to accomplish so much. It tells about these machines.

Write today for these Free books—7A and 9A.

Minneapolis Steel and Machinery Company

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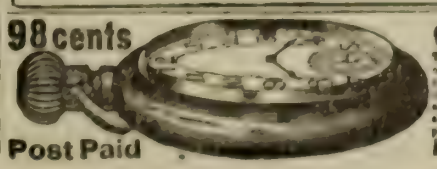
WE HAVE A SCHOOL FOR TRACTOR OPERATORS

98 cents



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Salvador Soon to Be Connected by Rail

By Frank G. Carpenter

ESQUINTLA, Guatemala.—I am writing this letter at Esquintla, Guatemala; it is the biggest town between the capital and the seacoast; it lies on the Guatemala Central railroad some distance north of Santa Maria, the junction where the Pan-American road will cross the Central on its way to Panama. The Pan-American line is now practically completed from Santa Maria to Mexico, and the plan is to extend the road southward to Santa Ana, in Salvador. The distance between these two towns is less than 100 miles, and we shall then have railroad connection between Salvador and the United States. An American syndicate will probably build this road, and the same syndicate has plans for a line from Zacapa, on the Guatemala railway, to connect with the Salvador system. When these roads are finished Salvador will be able to ship goods to Port Barrios on the Caribbean sea, and it will be within less than three days of New Orleans.

I understand the concessions for these branches are well under way and that their completion is a matter of a very short time.

These two roads will form a part of a great Central American railway system, the chief owners of which are Minor C. Keith and his associates, many of whom are connected with the United Fruit company. Mr. Keith controls the roads of Costa Rica and also those of Guatemala. He has large interests in Honduras, and also a grasp upon the railways of Nicaragua. The road from Santa Maria to Santa Ana was originally granted to Rene Keilhauer, but it is now in the names of Minor C. Keith and Bradley M. Palmer. The line from Santa Ana to Zacapa is also said to be backed by Mr. Keith. It will be seventy-nine miles long and its gauge will be standard.

Salvador Railways

As it is now, Salvador has just about 122 miles of railways, and these belong to a British company. Its lines were built with British capital, although they have a number of American engines and cars. Some of the locomotives are Baldwins, and a number of the cars were manufactured in Philadelphia. At present the company is building its own coaches.

These roads connect the port of Acajutla with the thriving town of Santa Ana, and also with the capital at San Salvador. The company owns an iron pier at Acajutla, which cost over $1,000,000 to build, and it has a line of steamers, which plies along the coast running to Honduras, Nicaragua and as far north as Salina Cruz, in Mexico. These steamers carry the Salvador mails north to Tehauntepec, cutting down the postal time between Salvador and Europe to only a little over two weeks, whereas it used to be one month; they enable one to go to Salvador from here every few days. With the completion of the Panama canal the traffic of Acajutla will be greatly increased and the road will be a very valuable property. The prospect is that it will eventually go into the hands of the American syndicate.

The Balsam Tree Grows Only in Salvador

Smallest of American Republics

These railways will bring Salvador into close connection with the United States. It is one of the most interesting countries on this continent. Great parts of Guatemala are savage, wild and unpopulated. Salvador is more thickly settled than most parts of our union; it has an area less than that of Massachusetts and its inhabitants number 2,000,000. If the United States were as thickly populated it would have more than four times as many people as now, and if our soil throughout were as rich we would have wealth beyond the dreams of avarice. Salvador has two ranges of mountains, which are rich in iron, copper and lead, and in gold and silver as well. As it is now, its mineral exports are between $2,000,000 and $3,000,000 a year, and the total exports, including coffee, tobacco and sugar, are more than $9,000,000.

The bulk of the exports go to the United States, France and Germany, while the most of the imports come from the British and us. The Germans, who have less than $500,000 of the exports and about the same of the imports, have large financial interests, and they are doing what they can to capture the trade.

Indeed, it behooves the Americans to be up and doing as to Central America. I find the Germans everywhere, and the British have long had a hold on the various countries. As it is now, Great Britain is supplying twice as much cotton to Salvador as we do, and it is crowding us close in hardware and in certain kinds of machinery. We have the bulk of the leather imports and most of the flour, and we are shipping several hundred thousand dollars' worth of drugs and medicines—a business in which Germany tries in vain to compete.

As to our imports, we are buying about a million dollars' worth of Salvador coffee, $600,000 or $700,000 worth of gold and a few thousand dollars' worth of rubber and skins. Total exports to the United States in 1910 were just a little over $2,000,000—a bagatelle in comparison with the population and wealth in the country.

Salvador Farms and Farming

Salvador is different from the other Central American states in that it is divided up into small farms. There are many landholders, and nearly every family owns its own home farm. The soil is fertile and the rainfall abundant. There are thousands of little coffee plantations, many indigo farms and here and there a field of green sugarcane.

The government is doing all it can to encourage farming and it has established a school of agriculture, which has an experimental farm situated on the sides of the mountains, about 1,300 feet above the sea. This farm is between Sonsonate, the second city of the republic, and Izalco. It is not far from Acajutla, upon a little tableland, on the highest part of which are the school buildings and laboratory. Experiments are being made there in coffee and sugar planting, and also in cattle breeding and dairying. The school sends out bulletins of information somewhat as our Agricultural department does, although on an infinitely smaller scale.

Coffee and indigo are the two chief crops of Salvador. The coffee product amounts to something like 9,000,000 pounds, and it brings the highest of prices. The trees grow in all parts of the republic between 1,500 and 4,000 feet above sea level. The plants are grown in seedbeds and are set out when they have been well sprouted; they begin to produce at about three years. It costs from 5 to 6 cents a pound to raise the coffee and it sells at retail from 10 cents to 25 cents a pound, over half the crop being consumed at home. I am told that that which is sent abroad brings very high prices, and the Central Americans think Salvador coffee better than that of Brazil and superior to the coffee of Jamaica or Java.

Indigo grows almost everywhere,

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and it once was the chief export of the country. It is produced from a plant which flourishes upon nearly all soils. The ground is first burnt over and then scratched with the plow; the seed is scattered broadcast and the plants soon grow to the height of your head; they are then cut and the indigo extracted by soaking them in water in vats. It takes about 100 pounds of the green plants to produce four or five ounces of indigo. This business is not so profitable as it was in the past, when as much as 1,800,000 pounds were produced in one year, a value equal to about $3,000,000. The output today is much less, the indigo dye having been largely driven out of use by the cheap analine dyes.

Perfumery from Salvador

Another queer Salvador export is the balsam of Peru, whose name reminds me of that which Senator Palmer chose for his log cabin home outside Detroit. He called the place Font Hill, and when asked why replied that it was because it had no fountain and no hill. This is the case with the balsam of Peru; it does not come from Peru, but from Salvador, and this is about the only place where it grows well. This balsam is largely used in perfumery and medicines; it is sometimes called cocoa balsam because it really comes from a great tree of the tropical forests, which, when full grown, is over a yard thick and from 80 to 100 feet high. The tree has a white bark and the wood is hard and durable; it has white blossoms and its fruit is much like a bean pod, with a single seed. These trees grow in the forests and the balsam is collected almost altogether by Indians, who tap the trees in the winter by scraping off the bark in patches to the depth of one-tenth of an inch. After this the scraped places are heated with burning torches and then covered with scraps of old cotton cloth; the cloth sticks to the tree and in a day or two the sap has soaked into it. The rags are now taken off and boiled in big iron pots; they are then put under pressure and the balsam juice squeezed out; it must now be refined and put up in cans for the market. The product is a grayish-red mass, which smells like vanilla; it is said to be especially good for skin diseases and as an antiseptic; it sells for $2 or $3 a pound.

The Cities of Salvador

Secretary Knox took a run through Salvador during his stay in Central America, and he has proclaimed it one of the prettiest of our sister republics. The lowlands and sides of the mountains are covered with farms, the villages are quaint and the cities have many beautiful buildings.

The biggest town is Santa Ana, with about 34,000; then comes San Salvador, with about 32,000. Sonsonate, where the railroad shops are, has 12,000, and the port of La Libertad is almost as large. The total city population, including towns ranging from 3,000 upward, is about 180,000.

A Look at the Capital

The capital, San Salvador, is one of the beautifully located towns of Central America; it lies in the foothills of the mountains, right under a magnificent volcano and about 2,000 feet above the Pacific ocean. In some respects it compares with Mexico City. Near it is Lake Ilopango, a beautiful green sheet of water with a shore line of perhaps thirty miles. All the country about is volcanic, and this lake formerly had islands which some years ago dropped out of sight at the time of an earthquake, while another island 500 feet in diameter rose out of the lake to a height of 150 feet. At he same time the water became intensely hot, although it is ordinarily cold. Ther are now villages and hotels about Ilopango and it is the favorite resort of San Salvador.

The capital of the republic is well built; its streets are wide and well paved and its public offices compare with those of the great cities of Europe. The new cathedral is magnificent and the White House, or Casa Blanco, the university, the theater and the National institute are worthy of mention. There are fine homes consisting of one or two stories surrounding open courts, or patios; most of these have beautiful gardens and not a few have fountains. The houses are painted in bright colors and the roofs are of tiles. The sidewalks are paved with slabs or rock from the quarries near by and there are tramways which give a ten-minute service. A new theater is now being built which is subsidized by the city; it will cost about 1,000,000 francs and will seat 1,200.

San Salvador has numerous parks, in which the people walk about during the evening, when the bands play. It is a great club center and is the social hub of the republic. It is where the president lives and where congress meets.

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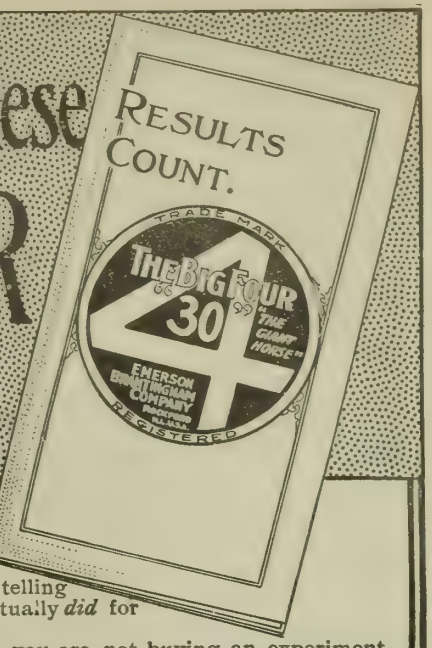

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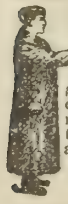

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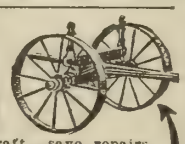

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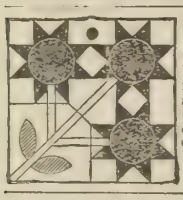

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Of Interest to Our Women Readers

Help One Another

"Help one another," the snowflakes said,
As they nestled down in their fleecy bed,
"One of us here would not be felt,
One of us here soon would melt,
But I'll help you and you help me,
Then see what a great snowrift there'll be."

"Help one another," the maple spray said,
To his fellow leaves one day;
"I'd be withered away long ere the close of day,
But I'll help you and you help me,
Then see what a shade there'll be."

"Help one another," a dewdrop cried
As he spied another close by his side;
"The warm south breeze would dry me away
Long ere noon today.
But I'll help you and you help me,
And we'll make a brook to run to the sea."

"Help one another," a grain of sand
Said to another grain close at hand;
"The wind would blow me away far over the sea,
And oh, then what would become of me?
But here, my brother, give me your hand,
We'll build a mountain and there we'll stand."

So the snowflakes grew to drifts,
The sands to mountains,
The leaves to a mighty shade,
And the dewdrops to fountains.

Our Home Chat

Most kitchens are too large and have too much in them. Around the farm kitchen stove there is apt to be an assortment of rubbers, overshoes and mittens drying out. A contributor to this page recently suggested that a low shelf be installed back of the stove on which these articles may be placed. One farm woman avoided this inconvenience by clearing out a store room adjoining the kitchen, having it finished for a wash and clothes room. Here she has provided shelves for rubbers and mittens, hooks for coats and a long sink for washing. The hired men are expected to stop here, change their shoes and make themselves clean and tidy before presenting themselves for meals; then they are expected to go direct to the dining room; the kitchen is not their domain.

A large pantry, almost too far from the stove for convenience, she has fitted as a pastry room, with everything arranged for the greatest convenience. Here all pastries are prepared for baking, set on the wheeled serving table and taken out to the range. The kitchen cabinet she uses for holding those things which she uses most—utensils, a small can of flour for use in making gravy, spices, etc. In the middle of the room she keeps a table, the top covered with zinc, the legs fitted with castors, to make a easily movable. This is her work table, and beside it she keeps a high stool, also fitted with castors, so that she can sit down to her work.

The walls of the kitchen are painted a rich cream; the windows have pretty sash curtains and in summer there are window boxes, gay with geraniums and nasturtims. During the winter she keeps parsley growing in pots, and not only has pretty greens, but seasoning for her soups. The sink she had taken out and put four inches higher than is usual, which enables her to work at it without stooping. Strange to say, this kitchen boasts a comfortablbe rocker, and these things, with a rag rug, are all the furniture the kitchen can boast. It is one of the neatest, most compact and convenient little kitchens the writer has ever seen.

THE EDITOR.

The Gossip Habit

It was a woman, Lucy Larcom, who said that gossip originated in sympathy; but those most familiar with the modern article may observe that this quality is at times drawn out remarkably thin. It is inferred that unless we have some kindly interest in Mrs. Brown we will not take the trouble to talk, or even think, about her. Yet the modern notion would scarcely bear out this idea; at least there are exceptions enough to more than prove the validity of the rule.

Not that women gossip more now than they did in the days of the Millgirl poet. In many localities the habit is growing out of date, yet it thrives in others like a white daisy in the meadow, with no prospect of ever becoming obsolete. When men meet they talk politics, but with women—we wonder how it is out in California and the other states where suffrage has won the day! At the sewing circle there are still those as well versed in family history and local events of a petty nature as they are ignorant of the real questions of the day.

They mean no harm no ill-will toward anyone—some of them. It is just a habit. And, like any other habit, especially one of doubtful propriety, it grows. Give it the range of the neighborhood and the radius will unconsciously be extended. The only sure cure is the smothering process—just the one used by the farmer to get rid of the Canada thistle or wild carrot, sow good seed of some kind and see that it chokes out the weeds. Clubs of various sorts are effecting this while scattering thoughts and facts of a more important nature. There are so many things which might be learned in nature, art and the making of the real home that we have little time for the petty things which are of no use to anyone, and which may bring harm to someone—ourselves, if no one else; for an habitual indulgence in the gossip habit is a form of squandering which no one can afford.

BESSIE L. PUTNAM.

Lightbread in Cold Weather

My friends think it is impossible to make good lightbread during cold weather. During my years of housekeeping I have learned from experience a few things which I pass along to others through the medium of our good paper.

I used to put my yeast cakes to soak a while before night, and before retiring make the batter and set it to rise until morning. Often it would be too cool for it to rise well during the night and it would not be very light by morning. In warm weather it would rise, run over and perhaps fall or get sour.

For several years I have put my yeast to soak at night in the amount of water needed for bread with a little salt and a handful of sugar. I set the crock containing this near the heater and put enough flour to make a stiff batter into a pan and set it in the oven of the cook stove.

In the morning the cold flour gets warm by the time the stove is heated enough for cooking purposes, and if the yeast water is not warm in the crock I warm it and sift the warm flour in all at once and beat it up thoroughly and set the crock in a breadpan near the heater. By the time breakfast is over and dishes washed the yeast is ready to make into dough. After cooking breakfast and while the oven is not too warm, I again set a pan of flour in and let it get warm for making the dough. Thus the temperature of my bread is not lowered and its rising is not checked. Care must be exercised that none of it gets too warm. I add another handful of sugar and sufficient salt to the warm flour for the dough. Again I set the dough near the heater. If it is covered to exclude the air it rises nicely and does not form a dry crust. I get my bread made and have light rolls for dinner. The bread is ready to go into the oven as the dinner comes out and the afternoon is not interrupted by baking.

By a little patient effort every homemaker may provide good, wholesome bread for her family, provided she has good flo and a stove that will bake well.

MRS. JESSIE G. YOUNG.

Good Recipes

Chocolate Custard—One pint milk, two tablespoonsful of sugar, two tablespoonsful of grated chocolate, one tablespoonful cornstarch, half teaspoonful vanilla. Let milk boil and then add the sugar and chocolate. Let boil again and then add the cornstarch mixed with a little milk.

Rarebit—Half-pound of cheese chopped fine, half-cup of cream, butter size of egg. First melt cheese; heat the cream and butter and then mix with the cheese; add pepper and spread on fifteen crackers and serve hot. This can be reheated and will be good as at first.

Salad—One cup apples cubed, half-cup celery, half-cup English walnuts. Cover with whipped cream.

Fritters—One egg, one cup milk and little salt, two teaspoonsful Indian meal, one cup flour, two heaping tablesponsful baking powder. Fry in hot lard.

This New Day

Out of the tomb of night a day has risen. Be not anxious; this day is all your own. Do not hurry, for in time it is like all other days; neither delay, for now is passing.

Early turn your face to the dawn and let its fresh beams bathe away all stains of night; then, should the noon be dark with storms, your smile will still wear the rose tints of the morning.

Step softly among human hearts, and leave so much of kindness along life's pathway that gladness shall spring up, bearing tribute in the cool eventide of the world's glad New Day.—Croft.

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4743—White satin, with hand embroidery and Maltese lace. Waist No. 4743, sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 3¾ yards of

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4808—The Directoire collar and chemisette bring this staple shirtwaist design up to date. Taffeta or charmeuse, with chemisette of white satin, make satisfactory separate blouses. A waist of this kind in serge, with a skirt of the same material, produces a practical business dress. Sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 3¼ yards of 27-inch material, with ⅜-yard of contrasting material 27 inches wide for the chemisette collar. Price, 15 cents.

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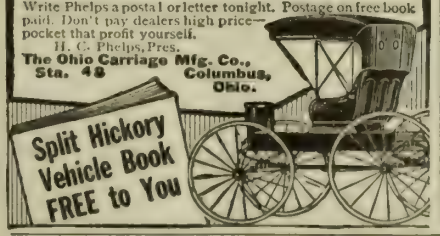

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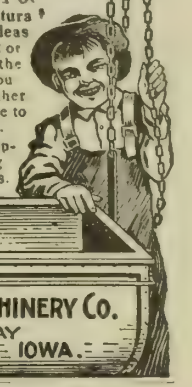

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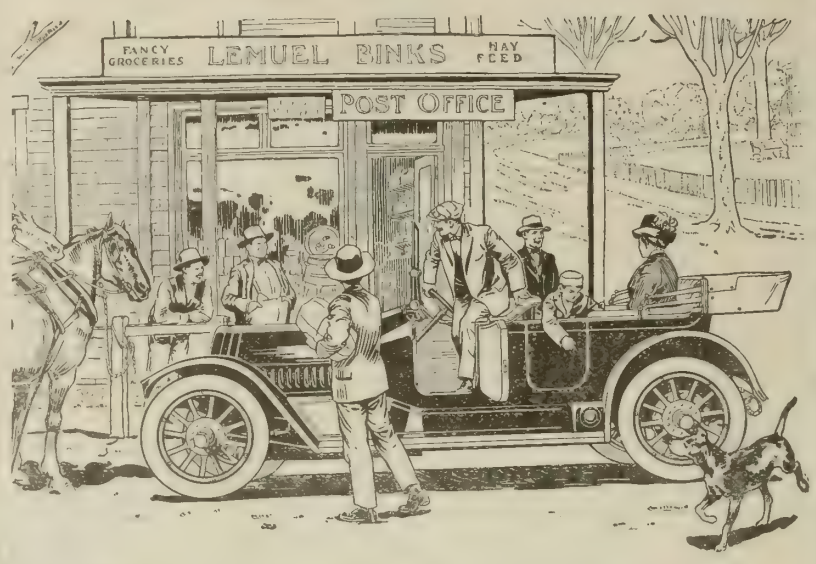

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Stories by Our Young People

Grandma's Pet

My grandma likes my brother best,
Because he is a boy,
And calls him by all the pet names
Her tongue can well employ.

When grandma is at our own house,
Where she comes once a day,
Then brother takes great liberties
And no one will obey.

He pulls my dollies limb from limb
And tears my books to shreds;
My flowers he jerks up by the roots
And tramples on their beds.

Yet grandma thinks this is all right,
'Cause brother is a boy,
And says, "Now don't be selfish, Sis,
He must his hands employ!"

Truth, should he think that he must have
The stars, the moon, the sun,
Our grandma'd snatch them from the sky,
Could that by her be done.

As to that verse 'bout the spared rod,
Which grandpa at her hurls,
Dear grandma says, "That don't fit boys,
That text was writ for girls!"

—Jennie Vickery.

The Editor's Corner

"Dear me, what can I sew?" asked a wee girlie the other day, as she watched her mother and older sisters busy with needles and sewing machine. Her grandmother looked up at that and said:

"Would you like to sew what I did when I was a wee girl like you; the same thing which my grandmother taught me?

"Oh, did you have a grandmother, too?"

"Yes, indeed, and she took some pretty pieces and cut them into little squares like this and taught me to put them together and sew them along the edge. Yes, you can do that; make your stitches small," said grandmother.

A very happy little girl sewed on quilt blocks all that cold afternoon, and soon had enough for a quilt for her doll's bed. The pieced quilts used to be regarded with great pride in our grandmothers' day and every little girl had to do a certain "stint" of piecing each day. The quilts were so beautiful that they are liked yet, and just recently there has been great interest in reproducing the old patterns. This is nice work for girls, and your mothers and grandmothers can help you in working out patterns. THE EDITOR.

(Prize Story.)

The Forest Party

By Majorie Shipman, Aged 11, Sidney, Neb. Original. Blue.

Once upon a time the forest said, "I am going to give a party to all the animals of the forest."

She sat at once to writing invitations to the bears, rabbits, squirrels and so many other animals. When the bear received his invitation he just hugged himself with joy, for he knew he would have such a nice time.

The rabbits and other animals were pleased, too. The day of the party dawned a beautiful autumn day. The forest itself looked beautiful in a gown of red, purple and gold. When her guests arrived she showed them a most delightful time. She gave them all kinds of refreshments; she gave the bear honey, as much as he could eat. The little squirrels got their share of nuts and all the other animals had their share of good things, too. When the last game was played and the last morsel eaten they all went to their homes, thanking the forest for such a nice day.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

"Buster" Brown and His Dog, Tom

(Honorable Mention.)

May's Little Hen

By Pearl Rusmussen, Aged 13, Arlington, Neb. Original. Blue.

Little May was very fond of paper dolls and had a great many which she cut from fashion magazines, and which her brother Dick had painted for her. When she went to the country to spend the summer she t k her paper dolls with her, but she was too sick to play with them and put them all in a soap box on a back porch. The only thing that seemed to amuse her was a little speckled hen, which was very tame and would eat from her hand. One day when May was feeding Speckle the doctor came to see her, and he said she must not run in the hot sun and must have a fresh egg every morning for her breakfast.

The next day as May was getting out of bed she heard a loud cackling on the back porch and ran to see what was the matter. Dick was out there, and as May came to the window he held up an egg.

"See what Speckle laid in your paper doll box," he said; "she must have heard what the doctor told mamma."

"Oh, how nice!" cried May. "I hope she will lay one every morning."

That was just what Speckle did Every morning about 8 o'clock there was a loud cackling on the back porch and a pretty white egg in the paper doll box.

Do you wonder May soon grew well and strong, with such nice fresh eggs to eat, or that everyone thought Speckle a very clever little hen.

Additional Stories

Blue Side—Lena Hass, Wisner, Neb. Martha Vallery, Mynard, Neb.; Amanda Claussen, Harlan, Ia.; Odell McCanne Moberly, Mo.; Ethel Ross, Grand Junction, Colo.; Bessie Kirkpatrick, Hartington, Neb.; Alice Zimmerman, Henderson, Neb.; Vernie Wina, Lynch, Neb.; Alberta Floey, Carleton, Neb.; Daisy Case, Berwyn, Neb.; Ethel Meyer, Hick-

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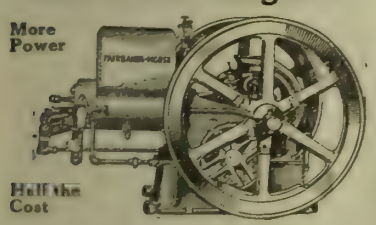

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My Honey	Come Josephine in Fly'g M'bine
East	Dreams of Long Ago by Caruso
Rag	There's Mother Old & Gray, etc.
Rose	Silver Threads Among the Gold
Rag	Alexander's Rag Time Band
Won't Tell	Put on Your Old Gray Bonnet
Bill	When Autumn Leaves are Fall'g
These Days	Meet Me Tonight in Dreamland
Doll	Brass Band Ephraham Jones
Jones	Where River Shannon Flows
Rag	In All Dreams I Dream of You

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SECOND PRIZE: Mrs. E. D. Keith, Bedford, Ia.—If Sweet Basil should Caraway Rosemary, what would poor daffy-Dill do? He would Rue it for a Thyme and then Wormwood bring Anise Balm for his Bleeding Heart.

If Colorado Springs and Iowa Falls, who would Sioux City for damage?

Juanita Stagner, Artesia, N. M.—If a young lady refused the attentions of an admirer, would it be contempt of court?

If an old maid advertised for a husband, would the editor recommend a Twentieth Century Farmer?

Frank Chingman, Austin, Minn.—If the first lady of the land should refuse to serve wine at the White House table, would the Cabinet maker, and would anti-liquor?

If the lamb gambols, will the horse interfere?

Charles L. Enwall, Mason City, Neb.—If the sun kissed the pumpkin, would it shock the corn?

When the rain falls, does it raise Cain?

Muriel L. Harshman, Beverly, Ill.—Which was the louder of the lot? She was half powder and he was half shot.

Lillian Barry, Blair, Neb.—If the women all went to China, would the men go to Pekin? (peek in)

W. E. Lantz, Bethany, Ill.—When the whale swallowed Jonah, did the Devil-fish?

Clyde Johnson, Salida, Colo.—I. the chauffeur was mad, would the automobile crank?

Clara Redenbaugh, New Market, Ia.—When a girl loves a fellow, will a bottle stopper?

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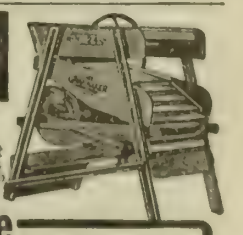

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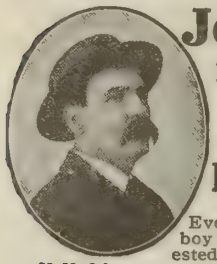

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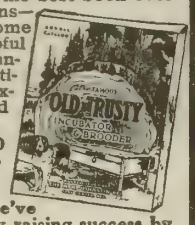

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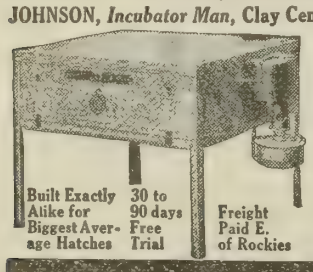

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Book of American Standard Poultry House Temperature

QUITE often the question comes to this office, "I have pure-bred fowls. I want to know how to select from these according to standard requirements." Now, where can one refer these parties better than to the Book of Standard Perfection itself? From this book they can select not only their chickens according to requirement, but turkeys, geese and ducks, also. But here comes a trouble, and I cannot understand why it must be so. Neither place of publication or price of book is set forth in any copy that I have ever seen or heard of. The book merely says: "Published by American Poultry association." Now what does that tell you? Where is the town and publishing house of the American poultry association? Who knows? I don't. I might tell you the town where the secretary lives this year, but by another year there may be another secretary far removed from this one. Some of the poultry journal publishing companies keep these books, but who that might desire a book knows which one of these companies keep them? The book itself is highly deficient in this matter that it does not plainly state its publishing house and its price.

It is deficient in another way, also, and this is that it does not give pictures of every breed made standard, and give them in the exact color of the fowl. I had thought they were going to make their last book in this style; they failed entirely to do it. A judge will cut you on the color of a fowl. I saw some fine Buff Orpingtons discarded last fall because of their bright buff color. "Too buff," said the judge. The owner, knowing how soon the color fades in all buff fowls, made a specialty of breeding her hens a deep buff, thinking this was right—which it ought to be. Had the Standard given the Orpingtons in their proper colors, as well as shape, she would have known. This book will never do the general poultry public the good it is meant to do until all breeds are pictured in exact color markings.

Of the new fowls put in the last Standard of Perfection I find that the Bourbon Red turkey has been made standard, and its weight increased thirty pounds for cock, twenty-two cockerel, eighteen for hen and fourteen for pullet. This shoves it above the Black, Slate, White Holland and Buff and places it equal with the Naragansett, which is second to the Bronze, largest of all turkeys. It will take some extra selection and close breeding to bring the Bourbon Red up to this weight. With us it has never shown extra size at all.

Of the new breeds entered the Plymouth Rock has added to its old White and Buff varieties, the Partridge, Silver-Penciled and Columbian. The Columbian Rock is a compact-bodied, clean-legged variety, marked exactly like the Light Brahma. It should become a speedy favorite.

The Wyandottes have taken on a new breed, the Patridge Wyandotte. There are no new ducks or geese taken on with the old. The Buff duck seems to hang back from becoming standard in this country.

Poultry House Tempera re

F. D. O., Nebraska: Would you answer following questions in next issue of The Twentieth Century Farmer? First, what should be the average temperature of a poultry house containing twenty-five fowls? Second, have been feeding in hoppers. Lee's Egg-Maker, 2½ lbs.; 12½ bran, 12½ ground oats, 12½ cornmeal and 12 pounds middlings; two quarts mash in afternoon; corn, wheat and oats in litter at night. Four of the hens are coming 2 years old, the rest early-hatched pullets. I don't get more than two eggs a day. Why is this? These are laid by the older hens. Third, what is a good, quick cure for roup, both in simple and malignant form, and a good way to keep out lice from the poultry house?

Answer—First, hens are not blooded animals, and it is found that they do best in houses that are left without artificial heat. The temperature of a poultry house I have never bothered to take; simply keep them warm enough that the combs will not become frosted. This is done by providing houses with good walls and roofs, with shields from wind blowing down on their heads at night or wind coming in on them from any direction. Keep them busy in straw on dry floors in the daytime.

Second—The feed seems well varied and plentiful enough, but there is nothing said of animal food or milk. Had you kept twenty-five of the eighteen months hens instead of the pullets you would have been getting a fair average of eggs on that variety of feed. I depend on my coming 2-year-old hens to give me the winter eggs. Pullets may do good work this time of year, but as a rule most farmers find they are not to be relied on; they must get an extra good start before very cold weather if they do. If they fail to get this, then you need not expect many eggs from pullets until in February, and later. It also depends on the breed of pullets.

Third—There is no quick cure for any kind of roup; it is a serious disease. For common wheezing, sniffling colds, rubbbing the throat with a mixture half and half of hot lard and turpentine and giving the fowl a teaspoonful of the mixture two or three times a day internally has brought about speedy recovery; so has feeding them quinine and syringing coal oil or diluted perozide of hydrogen in throats and nostrils. More often than not, when we think they have roup it is influenza or bronchitis. Of course, these troubles can kill them.

Fourth—Dusting the fowls often with London Purple will kill off lice. Scalding the hen roosts often, keeping nest boxes scalded or burned out and thes traw changed in them, with occasional scrubbing off of roosts with coal oil, is my best way of keeping down poultry vermin. It means diligence is all.

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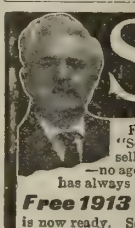

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Windbreaks as Snow Holders

HALF of the wheat failures are due to winter-killing, this trouble comes only when fields are bare of snow. It is a fact that a six-inch blanket of snow over a field will protect it sufficiently to make 40 degrees below zero do no more harm than zero would without snow.

Some winters have a great deal less snow than others, but it really is surprising how much falls when it is all measured and kept track of. In the winter of 1905-06 the eastern states got very little snow until the latter part of March. Old people said they had never seen less. But the fact was that all the little flurries put together made almost thirty inches. Wheat was killed that winter to a large extent, but if the fields had been protected over their entire area the same as they were close to strips of woods there would have been enough snow covering to have prevented the loss.

Evergreens are by far the best for this protective purpose. The influence of even a single row of evergreens will extend for well over 100 yards on either side of it. If the row is double the benefit will be increased. The snow that falls will lie almost in one place until it melts. You may find a low drift on the lee side of the windbreak, but this snow came from distant places, high through the air, and was caught by the treetops. Even when the days are warm enough to melt most of the snow the melting hours are much reduced by the presence of the trees. It is astonishing how much difference can be made by evergreen trees.

Wheat is mentioned because it is the crop usually carried over winter in most sections, but other growing things are helped also. In the southwest windbreaks can be made of enormous value, since in those states many crops depend on the fickle weather during winter and spring. In any part of the country every planter of an orchard should plant evergreens at the same time to protect it, first, from the severest cold during the winter; second, from spring thaws and freezes; third, from frost at blossoming time, and fourth, from hard winds when the fruit is big enough to blow off. The evergreen windbreak will occupy about as much space as two outside rows of trees, but its presence will be of enough value to the remaining trees to pay five times over for the product of the trees it displaces. Put the evergreens along the outer boundary and leave a space of forty feet between them and the first fruit trees.

Dairy Cleanliness

No human food is so susceptible to contamination as milk, and none will absorb noxious odors so readily. The rules of a successful dairyman must be well learned and as rigidly followed as the gospel. But in this it must be remembered that the gospel of clean milk is a gospel of prevention and not of straining

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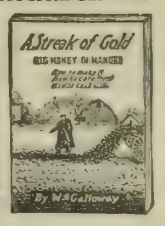

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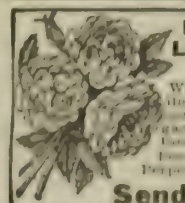

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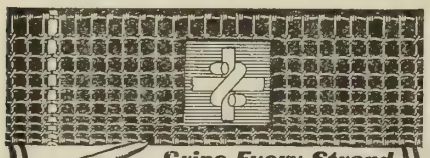

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Waters Represents All Sections

Editor Twentieth Century Farmer—In your issue of December 21 appears this:

We are a united people, and the northern agricultural press should not attempt to embarrass President-elect Wilson by proposing and demanding the appointment of a northern man, regardless of qualifications and fitness for that exalted station—Texas Farm and Fireside.

To which you have added the comment:

The nominee of The Twentieth Century Farmer for secretary of agriculture was born and raised in Missouri, which is a southern state, and is now actively engaged in agricultural work midway between the north and south. For this reason he is in a position to serve both better than either a northern or a southern man could serve them.

When a man from Missouri travels in Texas he finds that he is a northern man; when he goes to Nebraska or Minnesota he finds that he is a southern man; a trip to New York or Pennsylvania will convince him that he is a western man, and if he makes a journey to Colorado or California he discovers that he is an eastern man, and when he returns home he finds that he is in the middle of it all, and in hearty sympathy with all.

Such a man is President Henry Jackson Waters of the Kansas Agricultural College, formerly dean and director of the Missouri Agricultural College and Experiment Station. He is, in fact, a northern, southern, eastern, western, central figure, a man of the broadest sympathies and thorough training, and one who would add strength to the body of advisors President-elect Wilson will select. His presence in the cabinet will not be an embabrrassment to the incoming president.

The work of President Waters while he was director of the Missouri Agricultural Experiment Station illustrates as well as anything can his large vision and large sympathies, from which the north and south have mutually profited, and Texas more than any other state. The particular work I have in mind is the co-operative investigations between the Missouri Experiment Station and the Texas Experiment Station and other southern states on the immunization of cattle against Texas fever. To President Waters more than to any other man is due the credit of initiating and encouraging this work.

On his return to Missouri from the Pennsylvania State College, where he had served as professor of agriculture, his work was to reorganize and strengthen the experiment station work. At this time the veterinary department of Missouri Experiment Station had no one in charge and no experimental work was in progress. Dean Waters asked me to take the position and to suggest lines of work. I mentioned among others "Texas fever," and it was not many days before he had arrangements made with the authorities of the Texas Agricultural Experiment Station by means of which Dr. Francis of the Texas station and I got busy on the problem of rendering northern breeding cattle immune to Texas fever. The results of that work has been of incalculable benefit to Texas and other states in the Texas fever infected territory.

It was not long before Mississippi and Louisiana, Georgia, North Carolina and South Carolina were carrying on the same work. It goes without saying that the breeders of cattle in the north appreciated the enlargement of their markets for their registered bulls. The eradication of the tick is to be the final solution of the Texas fever problem, but until that is accomplished immunization of the imported calves is a necessity and is at present in large use in the infected territory.

I am simply mentioning this to show the debt that southern agriculture, as well as northern, owes to President Waters in seeing an important problem of interstate interest and pushing it to success. I am sure that Dr. Francis of the Texas Experiment Station shares with me the fullest appreciation of the president of the Kansas Agricultural College for the encouragement he gave us in working out a problem of such large practical value, as well as of scientific interest. In matters of this kind state lines disappear and we are, indeed, a "united people." J. W. CONNAWAY.

Profitable Cattle Feeding

To the Editor: For several reasons I believe the spring and summer months the most profitable for feeding cattle for market. A bunch of cattle out on pasture, with shade and plenty of pure water, can be cared for in a few minutes, while in the barns it takes hours sometimes cleaning up and bringing feed in to them. Cattle that are on pasture can be fattened much more cheaply than those kept in stables or inclosures, as they require much less grain. Cattle seem to fatten easier in summer. The pure air and sunshine and abundant exercise keep them in perfect health. In winter a large part of the food consumed goes to heat the body of the animal. In summer most of this food may be saved or go to apply meat to the animal. In winter expensive shelter is necessary for best results, but in summer this expense is not necessary.

The work of caring for the stock in summer is nothing compared to what it is in the winter when the weather is so cold and the farmer is handicapped in so many ways. Again, although it is not always true, as a rule, taken year for year, the spring and summer market of-

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s a cent or two more than does winter market. Many farmers d cattle over winter, but do not ring the summer. Right there is ere they make a mistake. Win--fed cattle pay well; summer-fed y better. Why not feed a bunch cattle both summer and winter? ere is money in it.

C. J. GRIFFING.

Shrinkage in Corn

Many farmers ask themselves the estion whether or not it will pay sell their corn in the fall or to it and sell it the following spring. ually the price in the spring or mmer is somewhat in advance er that in the fall. Corn, however, rinks considerable during the ar. The Iowa Experiment Station rried on an experiment for eight ars to determine the amount of rinkage in corn. From November to October 31, or one year, it rank 18.2 per cent. This corn hen it went into the crib was broughly dry. From November 1 March 31 it shrank 9.7 per cent. om these figures the farmer can sily figure out whether or not it ll pay him to sell his corn early to sell it the next season.

Canadian Field Peas

That Canadian field peas are apted to the northern half of uth Dakota was proven by the t season. One farmer sowed a xture of oats and one bushel of as and obtained five tons of fore per acre. This forage was cut r hay and used in feeding live ock. He believed that it was the st feed that could be obtained and other season will put in twenty res. Another farmer sowed one shel of oats and cut and threshed e crop. He obtained thirty-two shels of oats and fifteen bushels peas per acre and said that it as the best horse feed that he er used. In both cases the peas d oats were sown quite early in e spring.

A New Record

Another cow at the University of ebraska is making sensational cord. She calved November 16, 912, and up to the present time has xceeded any of the previous high ecords that have been made by the niversity cows. La May is a regisered Holstein, dropped April 3, 907, and is now less than 6 years ld. At her comparatively early age he has made a remarkable producion of 97.1 pounds in one day. This t two pounds per quart is equivaent to forty-eight quarts. In one veek she produced eighteen pounds utter-fat, equivalent to 22.6 pounds utter at 80 per cent, and her best veek's milk production is 656.2 ounds, a daily average of 93.6 ounds. During the month of December this cow produced 2,694 ounds milk, an amount sufficient to upply 1,347 families one quart each, or to supply forty-three families one quart per day during the entire month. During the same time she roduced seventy-seven pounds butter-fat, equivalent to 96.7 pounds utter, 80 per cent fat.

Of course, La May requires more care than the average cow, and she deserves more, because it would require at least three of the average cows to produce the same quantity of milk. La May is milked four times a day at six-hour intervals and at each milking gives almost as much as the average cow does during the day. Furthermore, La May requires a much larger amount of food than would the average cow, but not so much as three cows to produce the same amount, because there is only one body to maintain. This cow is attended by J. T. Hollingshead, the dairy herdsman, to whom much credit is due for her continued high production.

La May is on test for the year, and should she do as well as might be expected, her yearly production will be sufficient to place her among the few highest-producing cows of the breed, and perhaps the best for her age. She is at work daily at the dairy department barn, where a large number of Nebraska farmers will be permitted to see her during Farmers' week.

GEORGE C. WHITE.

Pneumonia in Cattle

The essence of the treatment is to take it early and give rousing stimulants that will carry on the heart's action and prevent stagnation. Ammoniacal remedies are advised because they are more direct and do not leave the disposition to run down which simple alcohol has. Carbonate of ammonia in doses of half to three-quarters of an ounce, dissolved in a pint or more of water, is cheaper than the aromatic spirit, and you can add aromatics, such as ginger and cardamoms, and sweet pepper. A counter irritation to the sides of the chest should be tried at the earliest moment and may consist of two drams of Spanish fly, half an ounce of spirit of turpentine, a dram of oil of cloves, half an ounce of camphor and two ounces of olive oil. Double this quantity is needed for doing both sides. On the third day the solution of acetate of ammonia in three-ounce doses should be given with a pint of fresh infusion of gentian night and morning in place of the more stimulating carbonate.

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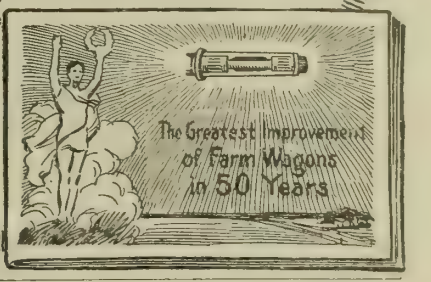

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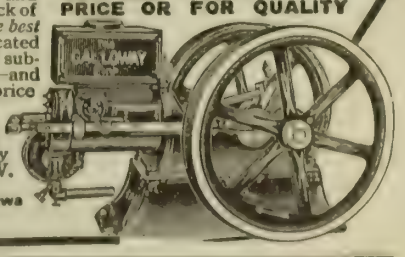

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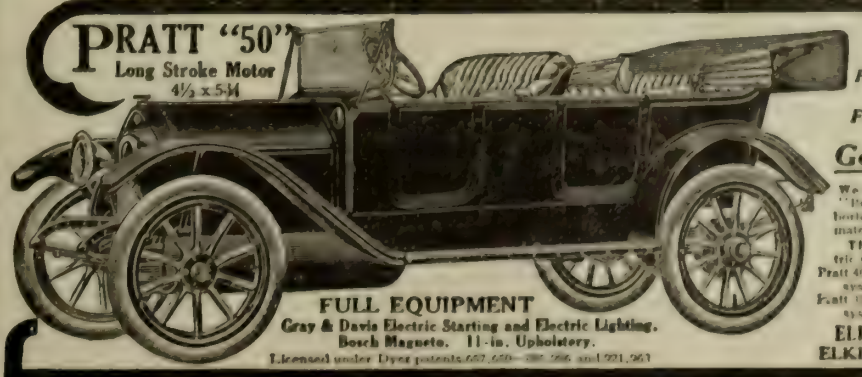

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Review of Live Stock Market

By A. C. Davenport

TRADE in cattle thus far this month has been for the most part devoid of any very interesting features. Business has followed along in about the usual channels and new developments have been few and far between. During the first two weeks of the month receipts at the big markets showed a decrease of around 12,000 head as compared with the previous year and prices were correspondingly high. During the third week of the month receipts jumped up, wiping out a part of the month's shortage. The increase in fat cattle gave the buyers an opportunity to pound the market. Thus it happened that during last week there was a slump of 15@25c in fat cattle values.

A peculiarity of the break was that heavy cattle showed more loss than lightweights. The tendency on the part of packers seemed to be to cheapen up the cost of beef by buying the low grades of cattle. This action on the part of the packers is always to be looked for when the market is very high, and the natural outcome is that the spread between the best heavy cattle and the common to medium light cattle is narrowed down very materially.

Increase in Receipts of Cattle

The decided increase in the receipts of cattle during last week seemed to be due entirely to the freer shipping of light and unfinished steers A good many are very much inclined to criticise the wisdom of shipping in these immature light cattle and then trying to buy back feeders to take their place at the extravagantly high prices prevailing. Critics reason that it would be cheaper for the feeder in the country to retain the cattle that he has already warmed up and feed them to a finish rather than send them in and attempt to refill his feed lots with fresh cattle. As a matter of fact a good many of the warmed-up cattle that are being shipped for beef do not reach the packers' hands at all, but are bought up by other feeders at higher prices than the packers will pay and shipped back again to the country to be fed out. This would not look like a good business propositin, but the reasn for it is very plain. The high prices at which light and half fat cattle are selling are making the country feeder a good profit on his corn, and hence the temptation to let the cattle go is too strong to be resisted and thousands of them are being cashed in. All of these cattle that go to the packers as a matter of course mean just that many less heavy cattle to be sold later in the season.

High Price of Feeders

One hears a great deal said at the present time about the high price of feeders, and there is no question but what prices on that class of cattle are high; in fact, the highest right now that they ever were in the history of the trade. In spite of this fact experienced and skillful feeders do not hesitate to say that with corn and other feed in the country at current prices they can buy the high-priced feeders and make them fat and resell at a profit with very little or no advance over the buying price. In other words, that the gain in weight will pay for the feed. That, however, should not be regarded as a safe basis on which to figure, as it is very doubtful if the average cattle feeder would come out whole on a proposition of that kind.

Prevailing sentiment in the cattle market is generally strong. No one doubts for a minute but what the packers will take advantage of all big runs to break the market, and with prices as high as they are they would be foolish if they did not do that very thing. However, the general feeling is that the runs on an average are not going to prove large enough to enable the packers to maintain the market for any length of time at any very great reduction from present figures. The disposition on the part of feeders to immediately stop shipping on all breaks makes it just that much more difficult for buyers to put the market down and keep it there. Operators on the market, in view of the present outlook, are generally advising their friends to be in no hurry, but to take their time and feed their cattle until they are good and ready to ship, and by all means avoid crowding them in at times when receipts are large and prices breaking.

Bulls in Hog Trade Encouraged

The bulls in the hog trade have been very much encouraged during the week past. They were a little down in the mouth two weeks ago, when the packers showed how easily they could break the market, but the general position of the hog trade is so strong that the packers, while able to put prices down, do not appear strong enough to hold them there; in fact, the buying demand is so good that breaks in the market are easily recovered. During last week, even on pretty liberal receipts, the buying demand was sufficient to give prices an upward turn. The bulls in the hog trade are still drawing their chief inspiration from statistics bearing on provisions and the number of hogs going to slaughter. Thus they are especially calling attention to the fact that for the winter packing season to date—that is, since November 1—not quite 6,000,000 hogs have been slaughtered at western houses. These figures show a decrease as compared with the corresponding time the previous season of over a million and a half head. Every big market, with the single exception of Omaha, shows a decreased number of hogs packed. The bulls are also drawing a great deal of comfort from the figures showing total stocks of meats at Chicago. These figures show that there were on October 1 50,500,000 pounds, while at the present time there is not quite 75,000,000, or, in other words, a gain of 24,000,000 pounds. The previous year the stocks at this time were 107,000,000 pounds, a gain from October of about 40,000,000 pounds. Thus with reduced provisions on hand and with both beef and mutton very high, hog bulls are strong in the faith.

Everything thus far since the beginning of the new year has been in the sheep feeders' favor. The consuming demand has been very good, while receipts have been far from burdensome, and prices accordingly have made a phenomenal advance. Just at present writing there is some complaint that the consuming demand for meats at eastern points is being restricted by the high prices current, and it would not surprise anyone to see some little reaction in the market.

Omaha Delegates Attend

A large party from the South Omaha stock yards attended the Wool Growers' convention at Cheyenne. The members of the party included prominent men of South Omaha connected with the wool industry, banks and railroads. The following is a list of the members of the party:

Union Stock Yards Company—E. Buckingham, J. S. Walters, W. H. Schellberg.

National Live Stock Commission Company—G. J. Kyte.

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Wood Bros.—Walter E. Wood; W. M. Farrar, W A. Haime

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Lee Live Stock Commission Company—C. B. Bogue, jr.

Drovers Journal-Stockman—Bruce McCullough.

Stock Yards National Bank—F. G. Clarke.

South Omaha Live Stock Exchange—C. K. Patton.

Fremont Stock Yards—Ralph Jennings.

Grand Island Stock Yards—Jessie Whitmore.

Orchard & Wilhelm Company—H. H. Kieffer.

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New York Central Railway Company—J. J. Monks.

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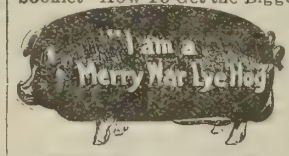

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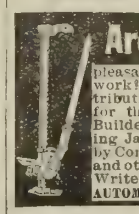

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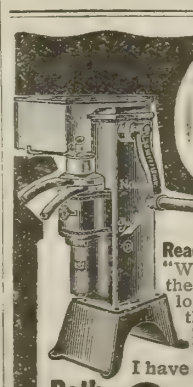

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(CONTINUED FROM PAGE FIVE.)

allows for the rag, tag, dirt and filth that some clips represent. This storage plant in its officers and board of directors represents a lot of the big wool producers of the western range country and is organized to fill the demand that the western wool grower has been in need of ever since the development of the western sheep industry.

The wool exhibit of the National Wool Warehouse and Storage company, which was on exhibition at the International Live Stock Show at Chicago, with many additions, was installed in a large exhibition hall at Cheyenne and was made a great educational feature. All kinds and conditions of wool from practically all sheep-growing countries in the world were on exhibition, and every stage of manufacture, from raw wool to the finished yarn and cloth, were on display. Cloth was exhibited showing how the old-styled twine, used for tying up the fleece as shorn, ruined the cloth, and how white serge may be ruined by black wool and how some kinds of paint used in marking the sheep spoils the cloth. Examples were shown of improper sacking of wool, how it destroys the selling value and scores of other interests too numerous to mention.

Exhibits and Lectures

This exhibit was crowded most of the three days' meetings by wool producers studying the various phases of the exhibit and listening to the explanatory lectures on the various features it presented. The hundreds of samples of wool and the hundreds of articles of manufacture showing each process of change, from the fleece of wool to the finished product, was of great interest to many and a matter of bewilderment, a real puzzle to others really beyond their comprehension.

The exhibit of the scoured fleece, or scoured wool of a particular fleece, and the bottled dirt and foreign mater of various kinds that had been extracted from this fleece just as it came from the back of the sheep, was the greatest surprise. When this kind of an exhibit was presented for the inspection of the wool grower he recognized the dirt, the dust, the sand and the soil that had been shipped in that fleece, representing in some cases from 65 to 70 per cent of the weight. The same price per pound had been paid for this dirt, and freight on it, and it was a total loss to the wool manufacturer. There was a conscious feeling that there should be more effort on the part of the wool grower to eliminate so far as possible, all tendency to fraud and misrepresentation of the wool to be sold, and that every effort be put forth to produce a better quality of wool and put it in a better marketable condition.

Magnified Grower and His Business

The exhibit by Mr. Holliday and the lessons he gave will go far toward correcting the poor condition of marketing wool. The co-operative system introduced through the Wool Warehouse and Storage plant is the thing to be encouraged by all wool producers. It is your institution, why not patronize it and get exactly what your wool is worth? The intelligent wool grower and sheep owner when he left this show and convention had reason to feel magnified several hundred time in his estimation of himself and his business. The production of the raw material that enters into so large a scope of manufacture and commercial demands of the people of the world was never more plainly and impressively set forth and called to the attention of visitors and sightseers as on this occasion.

In all this great and independent enterprise the production of wool and mutton there come times when the banker and money-lender is a source of convenience. If not necessity. In order to give this branch of live stock industry a chance for suggestions and a little advisory council on how to conduct the range sheep business and maintain credit with the bank, Harry B. Henderson of one of the leading banking institutions of Cheyenne was asked to address the convention on "Banking and Wool Growing."

Mr. Henderson went at his subject in an earnest and practical manner. He was familiar with the banking side of the proposition and had no little experience as an adjuster on the range in placing and collecting loans, both good and bad, and proceeded to deliver a vast amount of good, hard sense advice to the flock owner on the proposition of borrowing and the importance of maintaining a good borrowing reputation at the bank. He lined up the two classes of borrowers, the safe and the unsafe, by defining their methods of flock management. His remarks were appreciated by the audience, judging by the ovation given him at the close of his address.

Secretary McClure in his annual report spoke of freight rate charges ordered and enforced by the Interstate Commerce commission as the result of litigation instituted by the National Wool Growers' association. These new rates are responsible for a saving of more than $500,000 to the wool growers during 1911. He suggested the baling and shipping of wool instead of sacking, which he believed would result in a saving of $200,000 more to the producer.

Condemns Additional Game Preserves

The secretary's report condemned the creation of additional game preserves in the west, asserting that these preserves are of no material value and deprive the live stock interest of large bodies of lands that should be utilized as range of stock. He asserted that the Order of Elks are behind this movement and that the live stock influence should oppose its further agitation upon the ground of injury to the meat-producing interests of the country. He urged the Elks of the west to take such steps as would discourage further action by the departments at Washington in this uncalled for waste of grazing lands.

During the last day, with a full program of unread addresses, the attention of the members was centered on the location for the next annual meeting, candidates for election to the various offices, standing committees and other important details for the welfare of the organization. The next annual meeting had been promised to Salt Lake City at the Omaha meeting, and this kept down competition. Salt Lake City being the only place named, it was unanimously chosen.

A change in the bylaws or constitution voted to establish Salt Lake City as the permanent location for the office of secretary. S. W. McClure, the old secretary, was re-elected; also Frank C. Miracle of Helena, Mont., as treasurer. There were at one time, in the fixing of the slate for president, three candidates whose names were strongly urged by their several friends and supporters—Frank R. Gooding of Idaho, A. J. Knollin of Chicago and F. J. Hagenbarth of Spencer, Idaho. The political strength of Hagenbarth induced all other candidates to withdraw and was elected by acclamation. A. J. Knollin was made eastern vice president, the position he formerly filled, and N. J. Powers, Flagstaff, Ariz., western vice president.

The following executive committee was named: Oregon, George McKnight; Idaho, Nathan Ricks; Wyoming, Patrick Sullivan; Washington, F. N. Rothrock; California, F. A. Ellenburg; Arizona, M. L. Powers; Nebraska, Robert Taylor; Montana, Charles Williams; Utah, J. E. Austin; New Mexico, H. C. Abbott.

Support for Official Organ

The support of the official organ, the National Wool Grower, became a matter of concern and at the very close of the last session an appeal was made by Vice President Knollin resulting in securing pledges amounting to $7,000 for the coming year. This journal which has been published at Gooding, Idaho, will be moved to Salt Lake City and a strong effort made to develop it into one of the leading live stock publications of the country.

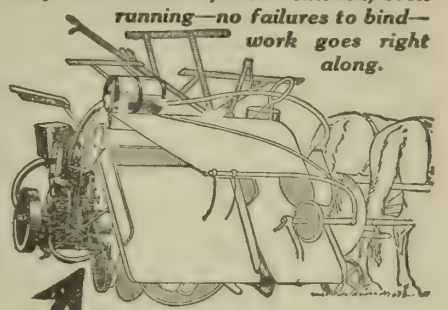
Smiles

Doctor—Are you ill? Let me see your tongue.

Poet—Ah, it is no use, no tongue can tell how bad I feel.—Jester.

Run Your Binder with a Cushman Engine

Only two horses required—smooth, even running—no failures to bind—work goes right along.



Horses Simply Draw Machine

The engine does all the work of operating. 4 h.p. Weight under 200 lbs. Speeds to 5 h. p. easily. Automatic throttle governor measures out fuel according to work. The original binder engine and more in use than all others combined. Detach and use for all-purpose farm power. Easy to handle, fits in anywhere. We also build 6-8 and 20 h. p. engines with same high efficiency—engines for all heavy duty. Write for free catalogue.

CUSHMAN MOTOR WORKS,
2037 N St., Lincoln, Neb.

Farm Cushman
The Original Binder Engine

Farms That Pay

In 'The Land of Fulfillment'

Rich undeveloped lands in the Eastern part of Oklahoma or Texas, or the Western part of Louisiana, Arkansas and Missouri can *still* be bought at low prices and good terms. This land is in the proven rain belt where the climate is so even that agriculture is continuous with no crop failures.

Give up struggling in a cold climate with short growing seasons. *Change mere existence into real life.* Come where you can *live well, make money every year* and *save some,* and where your children can have a *future.* Wheat, corn, alfalfa and forage crops do as well as anywhere, and cotton, cane, rice are especially profitable crops, native to the south. Vegetables, fruits and nuts will yield enormous crops. Two to four crops on same land each season is possible in places. A single season's crop should more than pay the *cost* of the farm. A splendid stock country, good grazing land $5 to $7 per acre.

I have no land to sell, but if you are dissatisfied where you now are, there's a place for you in "The Land of Fulfillment" and I want a chance to tell you of the money making opportunites awaiting you in the country through which runs the

KANSAS CITY SOUTHERN RAILWAY

Write For Free Books

If you would like to know more about the profits farmers are making in "The Land of Fulfillment" write me today for interesting *free* books.

Wm. Nicholson, Immigration Agent, K. C. S. Ry.
648 Thayer Building, Kansas City, Mo.

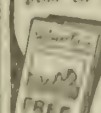
Money-Making Farm

Splendid modern New York farm, fine buildings, 163 acres excellent land, well located on main road convenient to creamery, stores, high school, mail delivered, telephone; 125 acres rich loam fields, nearly level, 25 acres spring-watered pasture, remainder timber, 2-story 9-room house, bath, hot and cold water; three big hip-roof basement barns, running water, silo, two poultry houses, 5-room tenant house, to close immediately $7,000 takes it and 2 horses, 18 high grade cows, wagons, machinery, tools, etc., thrown in if taken now, easy terms. Picture of buildings and traveling directions page 58, "Strout's Farm Catalogue 35," copy free. Write today. New York farm products valued at $245,000,000 yearly. Milk, potatoes, vegetables, fruits and grains are our money-makers. 14,000,000 people in Pa. and New York to feed. Get the facts. E. A. Strout Farm Agency, Station 3128, Union Bank Bldg., Parsburg, Pa.

Southern Farm Facts

Land at $10 an acre up

Alfalfa makes 4 to 6 tons per acre; Corn 60 to 100 bu. All hay crops yield heavily. Beef and Pork produced at 3 to 4 cents per lb.—Apples pay $100 to $500 an acre; Truck crops $100 to $400; other yields in proportion.



THE SOUTHERN RAILWAY

Mobile & Ohio R R. of Ga. So. & Fla. Ry. will help you find a home in this land of opportunity. Booklets and other facts—free.

M. V. RICHARDS, Land and Industrial Agent
Room 61 Washington, D. C.

FREE [illegible] will be sent to anyone interested in the wonderful Sacramento Valley [illegible] is the worst [illegible] opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento. **CALIFORNIA**

Marquis Wheat

Winner Of The New York Land Exposition $1000 Prize

A new variety, yields more per acre, of the finest quality, and a week to ten days earlier than Red Fife. Originated at the Ottawa Experiment Station, Canada. Our seed is Canadian grown and the purest and finest seed wheat obtainable. Our price is f.o.b. Minneapolis, and includes bags. No duty to pay.
Bu., $3.00; 2 bu., at $2.90; 10 bu., at $2.85. This wheat, as well as a full line of

Sterling Seeds
Sold By 15000 Merchants

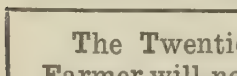
If no dealer in your vicinity sells our seeds, write to us and we will fill your orders. We have the largest, complete line of seeds in the United States.

Write For 1913 Catalogue

This book contains 144 pages filled with illustrations and descriptions of the seed best worth growing. This expensive book is mailed only to those who request it. We are glad to send it, without obligation on your part, to any address.

NORTHRUP, KING & Co.
SEEDMEN
MINNEAPOLIS, • • MINN.

Do You Want This Steel Gate FREE



One farmer in each community can get one for helping us introduce Tro Jan Gates to his neighbors. Write for particulars.

The Best Steel Gate in the World

High carbon steel frame. All No. 9 galvanized wire mesh. Special hinges. Patented self-locking latch. Steel center brace. Unbreakable. Raises at either end. Sold on 2 years' trial at our special direct-to-you factory price of $4.95.

W. K. VOORHEES, Mgr. Standard Mfg. Co.
303 Main St. Cedar Falls, Iowa

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention the Twentieth Century Farmer when writing advertisers.

O. I. C. HOGS

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN RFD 79 Portland, Mich.

POLAND-CHINA HOGS

CLEAR LAWN STOCK FARM

25 Poland-China spring boars and fall yearlings. Highest breeding, excellent individuals. Get my low January prices.
W. J. HATHER & SONS, - ORD, NEB.

JERSEY CATTLE

WINELAND FARM JERSEYS The Wineland Farm herd of Jerseys contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

Care of the Shod Horse

No shod horse—old or young, grave or gay—has any business loose among other stock.

Never stand two shod horses in the same stall. No matter how peaceable they are, one never can tell what they will do.

Where the shoes are left on the horse for more than six weeks without having them refitted the animal not only handles his feet awkwardly, but they are apt to be deformed.

The calks of horseshoes should be kept well sharpened, as dull, smooth calks, together with the weight of the shoes, make travel or pulling more laborious than if the horse had on no shoes at all.

Shoes loosen more readily on some horses than on others. See that the shoes are kept tight on the hoofs, as loose ones hinder the animal in travel, are liable to injure the foot and apt to pull off and be a total loss. M. A. COVERDELL.

Live Stock Notes

Red Poll Bulls for Sale

W. F. Schwab of Clay Center, Neb., is offering some corking good Red Polled bulls for sale at this time; also a choice lot of females of all ages. Mr. Schwab has one of the largest herds of Red Polled cattle in the country and is in a position to offer prospective buyers as good as the breed affords. His prices are reasonable and you can rest assured you will get a square deal. Write him, mentioning this paper.

Percheron Belgians and Shires

Watson Wood Bros. & Kelly company of Lincoln, Neb., are ready to show the readers of The Twentieth Century Farmer a splendid lot of big, smooth, heavy-boned, drafty stallions, such as are seldom seen in this country. This is one of the oldest importing firms in the country and their past records and repeated sales to old customers are the best guarantee of what may be expected if you purchase a horse from them. Write them for illustrated catalogue, mentioning this paper.

Rock Brook Farm Holstein Sale

We take particular pleasure in calling attention in this issue to the dissolution sale of Holstein cattle to be held at the sale pavillion, Union Stock Yards, South Omaha, Neb., on February 4 and 5 by Rock Brook Farms, Station B, Omaha, Neb. This will be one of the greatest opportunities ever offered breeders and farmers in the west to obtain some strictly first-class stuff. The fact that it is a dissolution sale makes it double important, as many animals will be offered that could not otherwise be bought at any price. Below will be found extracts from a letter received from the junior member of the firm that will give an idea of what may be expected in this sale: "Rock Brook herd was established in 1885 by selections from the herd of Thomas Bales and Smith Powell and Lamb, the first great importers in America. The herd has been under the management of Henry C. Glissman for the last fifteen years, and until a few years ago was one of the strongest show herds in the central west. The growth of business in the last few years has compelled us to abandon the shows, as we could not find time to be away from home during the fair season. Our herd has at all times numbered around eleven head. Our herd bulls at present are among the best, being sons of King of the Pontiacs and DeKol 2d's Butter Boy 3d, two of the greatest sires of the breed. Father wishes to retire from active operations on the farm, and so to make fair settlement we decided to sell the entire herd at auction, nothing reserved but the herd bulls. I will restock the farms with cattle from my New York headquarters, where I have a large farm now on Rock Brook Farms, in Madicon county, New York. During the last few years we have sold a lot of high-grade cattle to western dairymen and on the second day of the sale we will sell forty-five head of choice cows and heifers shipped out from the best dairy sections of the east especially for this sale. In this way there will be cattle for everybody, from the commercial milkman to the breeder of the highest class of registered stock. There are a number of the cows with A. R. O. records and a lot of them with yearly milk records up to 17,000 pounds of milk and up to 700 pounds of butter in a year. All the big breeding matrons that have made Rock Brook Farms in the past go in this sale, along with a lot of their daughters that carry a lot of the most fashionable blood of the breed. The bulls are an especially fine lot and every one of them is backed by the best of A. R. O. records and breeding, in all the best lot ever sold anywhere in the central west. The herd will be continued under the same name, but will be owned by the younger H. C. Glissman alone." Catalogues are now ready and may be had for the asking.

HOLSTEIN-FRIESIAN

ROCK BROOK FARM HOLSTEINS
DISSOLUTION SALE
of
125 Head Holstein Friesian Cattle to Be Held at
SALE PAVILION, UNION STOCK YARDS,
South Omaha, Neb., February 4 and 5, 1913

80 HEAD of Registered Cattle, consisting of **40 Cows**, 3 to 8 years old, milking or soon fresh, **20** yearling and 2-year-old heifers, all bred to **King Segis, King of the Pontiacs** or De Kol 2d's Butter Boy 3d; **10 heifers** under one year old, and **10 bulls** ready for service. There is more A. R. O. blood in these bulls than any ever offered in the west.

45 head of high grade Holstein cows and heifers, all milking or soon due to calve by registered bulls. Every animal over six months old is tuberculin tested. The result of 30 years of careful breeding is represented in this offering. Catalogue onw ready. **ROCK BROOK FARMS, Station B, Omaha, Neb.**

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers
50 1½-year-old heifers
100 2 to 2½-year-old heifers
100 2½ to 3-year-old heifers
Just being bred to a son of a 24-pound dam.

250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls. Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

Don't you want a good grandson of the great Katy Gerben, The Champion cow of the breed for five consecutive years. We have some fine ones out of splendidly bred A. R. O. dams.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed.
Send for FREE Illustrated Booklets.
Holstein-Friesian Assn., Box 179, Battleboro, Vt.

300 head Cows and Heifers in lots to suit purchasers. Special prices on car lots. Several bulls of serviceable ages. Come at once or address,
HENRY C. GLISSMANN
Sta. B., Omaha, Neb.

HOLSTEINS—Beautifully marked heifer and bull calves, 15-16ths pure, 3-4 weeks old, $20.00 each, crated for shipment anywhere. EDGWOOD FARM, WHITEWATER, WIS.

Be sure to mention The Twentieth Century Farmer when writing.

HORSES AND MULES

FAIRVIEW FARM **Percherons, Belgians, Shires, Mammoth Jacks and Jennets**

SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets—in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.
HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS AND MULES

Raise mules and get rich. 18 Jack and Mule farms under one management, which can be seen 420 head fine large Jacks, Jennys and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address
KREKLER'S JACK FARM
West Elkton, Ohio.
Branch barns: Clinton, Ind.

DUROC-JERSEY HOGS

DUROC-JERSEYS

130 choice sows bred to Crimson Wonder Jr., Col. Lafollette, C. H. Col. and Count Medoc. Also 15 spring and all my herd boars must be sold before March 1st. Will sell 50 head of choice sows Feb. 10th at Friend, Neb. Write for catalogues and prices today. State agent for Black Diamond Stock Powders and Dip. Absolutely the best conditioner on the market. Try 100 lbs. and be convined. Agents wanted in every town in the state. I have a new 40-ft. diameter sale tent for rent. F. Alldritt, Lincoln Neb.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

THE BEST VALUE.

Home-grown Registered Percheron Stallions of substance, 2 and 3 years old, grays and blacks. Big straight fellows that will pay you. Just east of Omaha. Drop a card. FRED CHANDLER, R. 7. Chariton, Iowa.

THE MARKET PLACE

SCHOOLS AND COLLEGES

WE TEACH YOU TO OPERATE AND repair automobiles; training on vulcanizers, drill presses, lathes; pattern making, moulding, brazing and driving. Free catalogue. Lincoln Auto School, 2352 O St., Lincoln, Neb.

SHORTHAND—UNIGRAPH IS quickly learned, rapid and readable; excels all others; pays best; beginner's booklet, 10c. Unigraph Co., Omaha, Neb

MEN AND WOMEN WANTED FOR government positions; $90 month; thousands of parcels post positions open; annual vacations; no "lay-offs"; common education sufficient; influence unnecessary; farmers eligible. Send postal immediately for free list of positions open. Franklin Institute, Dept. K 99, Rochester, N. Y.

MISCELLANEOUS

YOUNG MAN, WOULD YOU ACCEPT and wear a fine tailor-made suit just for showing it to your friends? Or a Slip-on Raincoat Free? Could you use $5 a day for a little spare time? Perhaps we can offer you a steady job? Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Company, Dept. 82, Chicago.

PATENTS

PATENT YOUR IDEAS; THEY MAY bring you wealth; 64-page Patent Book free. Fitzgerald & Co., Dept. L, Washington, D. C. Established 1880.

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LUMBER—YOU CAN SAVE 25 PER cent in buying direct from manufacturer. Send us your list of material for estimate. Keystone Lumber Co., Tacoma, Wash.

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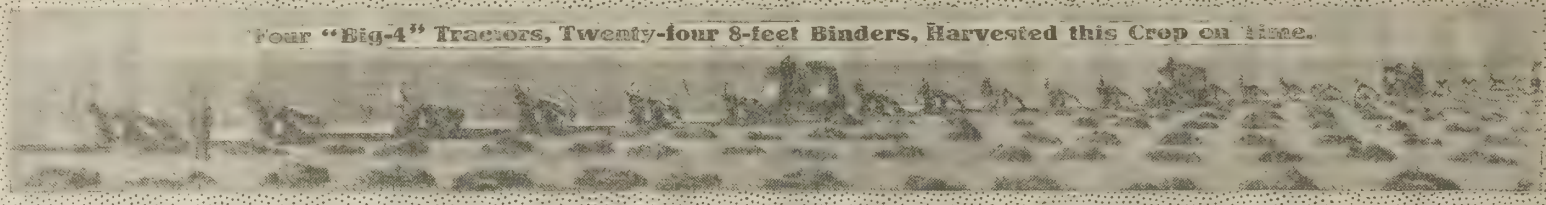
TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, February 1, 1913 | Number 634



"Saved $6,000.00

in 4 days with my BIG FOUR TRACTOR on work I could not have done with mules under any consideration. I absolutely know that it will do more work than sixty horses or mules and at sixty per cent less cost."—*HENRY HARFST, El Campo, Texas.*

Mr. Harfst's story of how he saved $6,000 in four days is printed in full in our book of letters from users of the BIG FOUR "30." This book is well worth writing for.

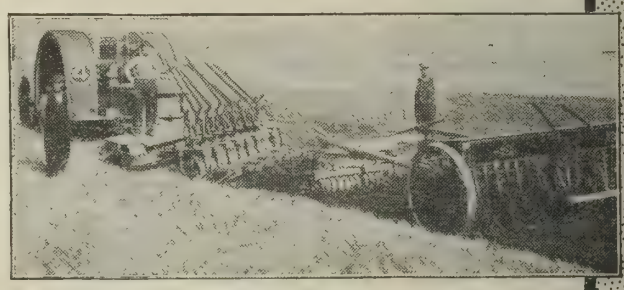
Every farmer knows that hardly a season passes in which he does not suffer loss because he cannot do all of his plowing, seeding or his harvesting at the time when weather conditions are most favorable. But few realize just how great a loss this often amounts to.

Mr. E. F. Luebke of Valley County, Mont., in telling of 100 acres he broke, packed and drilled in three days and nights with the BIG FOUR "30," says: "If I ha not handled my land in this rapid way and done good work I wouldn't have been paid for my labor, as it got awfully dry after the first sixty acres were in and that portion of the field put in the last day did not yield nearly as well as that sowed the first day. It seems strange to think what a difference one day's work makes. I think if I could have put the field in one week earlier my yield would have been nearly double."

Mr. J. A. McMillan, of Crookston, Minn., says: "I got a much larger yield than my neighbors who plow and seed with horses. This season was very dry, but I threshed twelve bushels of wheat to the acre where my neighbors, on precisely the same kind of land, only threshed from four to six bushels."

One BIG FOUR "30" user writes that he wouldn t go back to farming with horses if he had to pay $10,000 for his engine. What with better and quicker work, larger crops, less cost for men, horses and feed, it is easily possible for a BIG FOUR "30" to pay for itself in a single season.

Drilling and Packing 1,000 Acres in 12 Days



Broke, Packed and Drilled 100 Acres in 3 Days and Nights

Hear What These Users Say:

as to what the BIG FOUR "30" does for them in actual every day use. The following are extracts from long letters full of vital interest to you which are printed in our BIG FOUR "30" Book.

"Expense one-half less than steam engine."
D. A. Hiebert, Epburn, Sask.

"Seeded and harrowed 150 acres a day at a cost of 12 cents an acre." Taylor E. Ruby, Craik, Sask.

"Plowed and broke 1674½ acres, in 83 days."
H. H. Richardson, Saskatoon, Canada.

"The BIG FOUR '30' leads them all."
J. A. Kyle, Monument, Ky.

"Self steering device saves a man's wages and board."
Levi Mackin, Terry, Mont.

"Not one penny for repairs in an entire season."
D. H. Mihills, Cottonwood, Minn.

"Thursday my boy plowed 52½ acres."
Ole H. Bang, Oslo, Minn.

"Hills make no difference."
A. A. Ulrich, Springbrook, Md.

"Planning on purchasing two more."
Northwestern Land Companies, South Dakota.

No machine will pay for itself so quickly."
W. H. Matthews, Ortonville, Minn.

BIG FOUR "30"

Farm Tractor

uses kerosene, gasoline, benzine, distillate or any fuel used anywhere by any internal combustion engine. Won the gold medal two years in succession at Winnipeg, Man., in competition with the leading makes of steam, gasoline and oil burning tractors, During these contests the BIG FOUR "30" burned both gasoline and kerosine.

One BIG FOUR "30" user claims he can now do *more work* than he formerly could with his steam engine and at *one-fifth* the operating expense. Another claims he can do *twice* as much work with the BIG FOUR "30" and at *one-half* the operating expense as his neighbor does with a two cylinder oil burner.

Steering device, which is an exclusive feature with the BIG FOUR "30," does not cost you a penny extra. It is worth at least $1,000 as it saves one man's wages in plowing and makes the BIG FOUR "30" strictly a one-man proposition for plowing.

You Don't Have to Run a Big Ranch to Use the BIG FOUR "30" Profitably.

There are many ways by which owners of small farms are increasing their profits immensely by using the BIG FOUR "30."

Eliminates all Fire Risk in Threshing

SOLD ON APPROVAL

You need not contract to buy the BIG FOUR "30" until you have seen it make good on any kind of a test right on your own farm. We can afford to sell it on this plan because it always makes good against all competition.

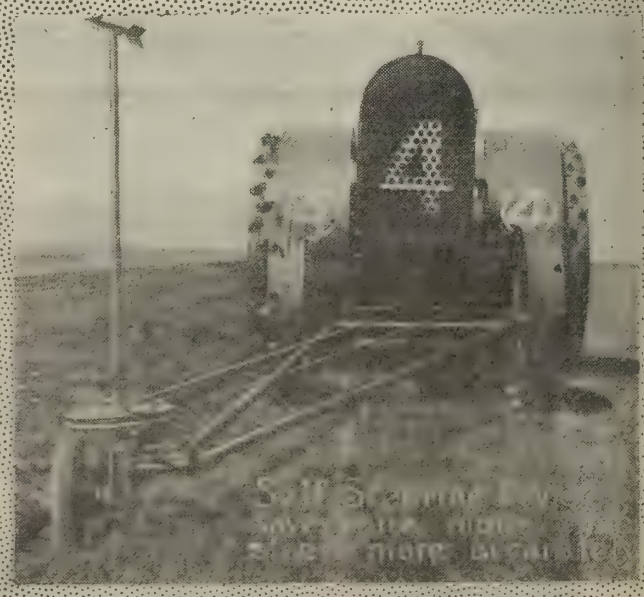
Write for the BIG FOUR BOOK

It explains just exactly *why* the BIG FOUR "30" has so many great advantages over all other types of tractors. Your tractor investment is of sufficient importance to justify your careful investigation of the BIG FOUR "30" before making your decision. Write for the BIG FOUR BOOK *today*.

29624

Emerson-Brantingham Implement Co.
(INCORPORATED)
431 Iron Street, Rockford, Ill.
Largest Line of Farm Machinery in the World

Plows, Harrows, Pulverizers, Listers, Spreaders, Planters, Drills, Cultivators, Mowers, Hay Tools, Baling Presses, Corn Shellers, Gas Engines, Farm Tractors, Steam Traction Engines, Threshing Machines Road Rollers, Wagons and Vehicles.



Prattle of the Youngsters

A Circulating Library

"Look, John, isn't this lovely evolving bookcase father bought?"

"Revolving bookcase? I thought that was called 'a circulating library.'"

What to Do

"I have a weighty question to decide, John; whether to go to school or not. What would you do if you were in my shoes?"

"I'd get a shine, quick," answered John.

Little Girl Lost

Lillian (aged 4)—Mamma, you're not a girl, are you?

Mamma—No, dear. I used to be a little girl, but now I'm a woman.

Lillian—Then what became of the little girl you used to be?

A Matter of Books

"John," said his teacher, "I thought I told you to bring a notebook today."

"I'll use my head as my notebook."

"That is not a notebook; your head is a blankbook."

John was squelched.

Great Expectations

"Did you give brother half of your apple, John?"

"Yep, I gave him the best half."

"Which is the best half?"

"The part with the seeds, for he can plant them, and by next fall he will have packs of apples for himself."

Afraid of the Dark

Little Joe, released from punitive imprisonment, told his mother that he had been terribly afraid while in the dark closet.

"Of what were you frightened?" asked mother, a trifle suspicious.

"I was afraid I couldn't find the cake."

Occasion for Thanks

Little James while at a neighbor's was given a piece of bread and butter and politely said, "Thank you."

"That's right, James," said the lady, "I like to hear little boys say 'Thank you.'"

"Well," rejoined James, "If you want to hear me say it again you might put some jam on it."

The Kindred Touch

Little Howard expressed a world-wide sentiment the other day, subsequent to the hanging of his mother's prize yellow Leghorn.

"Howard," his mother said, shaking her finger prophetically, "did you hang my yellow pullet in the coal shed?"

Howard kicked a small sandaled foot against the portico steps.

"Ma," he said, looking down, "I don't want to talk."

Unrestrained

The mother of a 3-year-old boy who was given to running away adopted the plan of tying him to one of the piazza pillars with a long rope. He was very fond of having his mother sing to him, and one night when she was singing the old song, "Where is My Wandering Boy Tonight?" the child suddenly burst into tears and asked, "Why didn't his muvver tie him?"—Harper's.

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Co-Operation Among Farmers

THIS paper firmly believes that many inconveniences to which the farmer is subjected may be avoided and much of the expense of farm operations may be saved, if the farmers can be persuaded to act together in co-operative effort. One of the reasons why co-operation, which has been so much talked about of late, has not taken a firmer hold on the minds of the farmers is that the effort for co-operation has been made at the wrong end of co-operative enterprises. Advocates have attempted to begin with the "higher ups" and bring the benefits of co-operation from the upper plane of economical effort down to the toilers upon the lower plane.

It is the opinion of this paper that farmers will not unite, in very large numbers, in any co-operative movement until they have learned by actual, personal experience what benefits co-operation is sure to bring to them. It feels that the movement, to be generally adopted, must begin with the A B C of co-operation; that is, with co-operation in its simplest form between the farmers upon adjacent farms.

It will shortly undertake the publication of a series of articles upon "Neighborhood Co-Operation," "Community Co-Operation" and "Inter-Community Co-Operation," in which it will attempt to explain and exemplify both the method of co-operation and the benefit certain to be derived from it, from the ground up.

Bright and Breezy

She Did Her Best

Ida—But maybe he was bashful. You should have thrown out some hint that a kiss would not be objectionable.

May—I did everything possible. I told him I was so hoarse that I couldn't scream, no matter what happened.

Not Even "Fonetic"

"Tim," inquired Mr. Riley, glancing up over the door of the post-office, "what is the meanin' of thim letters, 'MDCCCXCVIII?'"

"They mean eighteen hundred an' ninety-eight."

"Tim, don't it sthrike you thot they're carryin' this spellin' reform entoirely too far?"—Youth's Companion.

To Illustrate

Example as well as precept was furnished to the youthful autograph fiend who wrote to one of the world's richest men, asking for an "autograph sentiment" and inclosing a 2-cent stamp for his reply. Over His Opulency's signature came the prompt response—on a post card:

"A penny saved is a penny earned."—Lippincott's.

The American Woman

The Countess Szechenyi (nee Vanderbilt) praised the good taste of American women at a luncheon at Mrs. H. P. Whitney's in Roslyn.

She ended her praise with an epigram both striking and true.

"The women of all nationalities," she said, "can make their own clothes, but only the American woman can make them so that nobody ever suspects it."

The President's Tact

President Taft's happy knack of doing the right thing without offense to anyone was illustrated well at a reception in Chicago. It was a reception of artists given in the president's honor, and an unknown and young and conceited artist got hold of the guest of the evening and talked to him without let-up for fifteen minutes. It was embarrassing. None of the more distinguished guests could get near the president. But Mr. Taft sized up the difficulty and, laying his hand on the young bore's shoulder, and smiling his famous smile, he said reluctantly and apologetically, as he turned to meet a group of millionaire bankers:

"'But I am monopolizing you.'"

Callous, Indeed

"Well, I must confess I am glad to get back home amongst my own kin and friends, where people ain't too busy or too unfeeling or too stick-up to take some interest in one another," said Mrs. Polley.

"Now, there's them postoffice folks down to Chicago. I found 'em actually hard-hearted! Why, would you believe it, that man that brings round the letters to Mabel's, he's so queer and standoffish that when he handed me husband's postal card, telling how mother had fell and broke her arm, he never so much as opened his lips to give me one word of sympathy! No, sir, not even enough to say, 'Too bad!'"—Youth's Companion.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Farmers Hold Busy Sessions in Missouri

Great "Show-Me" State Demonstrates Its Faith in the Agricultural Institution at Columbia

THE week from January 13 to 17 was a gala week for Missouri agriculture and agriculturists. In connection with the Farmers' Week and Farmers' Short Course at the university there was also a meeting of the State Board of griculture. What astonished and gratified e outsider was the large number of Missouri-ns who were attracted to Columbia by the ex-rcises there provided. The weather was not the best; it was sloppy under foot and the in fell steadily for nearly two days, but this oved no dampener to the enthusiasm every-here in evidence. As the week wore on the umbers of those who left were more than unterbalanced by the numbers of new arri-ls, so that the last day of the meeting found larger crowd in attendance than any previous y.

The character of the exercises and enter-inments was different from those obsberved similar occasions in other states. It was mphatically and literally a farmers' short urse that the institution offered to all vis-ors. The day was divided into six periods, nd during each of these periods instruction as given in not less, in any one instance, than x different subjects, and sometimes this num-er was exceeded.

Educational Character of the Meetings

The character of the instruction given was ractical and helpful. There were no set tech-cal lectures; the aim seemed entirely to be put before the farmers assembled practical oints that they might put into application upon eir farms at once. It seemed to be the pur-ose to select for discussion only such topics as ight prove of practical use to those in attend-nce, and these were presented in such a prac-cal way, and in so simple a manner, that any stener might fully understand and put the uggestions into operation without any further xpert advice or instruction. The practical enefit that the visitors derived from such in-truction, presented in such a way, cannot fail giving practical results upon the farms of ose present.

The character of the students in the classes as noteworthy. By far the large majority ere men in middle life, actually engaged in rm operations. There were a few recent grad-ates of the institution who came back to get eir batteries recharged, and possibly to pol-h up their apprehension of matters previously arned. But such were in a decided minority. he most of those present were there because hey were actuated by an earnest desire to arn facts that would assist them in improving eir farming methods. The earnestness and ttention with which they listened during all xercises attested the fact that they have con-idence in the institution at Columbia and in he instruction given by those having the dif-erent departments in charge.

The men that were in most demand, and whose classes were most largely attended, and whose words were listened to with the closest attention and greatest confidence, were Dr. Connaway of the veterinary department, Prof. Eccles of the dairy department, Dean Mumford, who has charge of the animal husbandry department, and Prof. Miller, in charge of agronomy and allied subjects. One rarely has the opportunity of attending exercises where so much practical good seemed to be done in so short a time.

Why Columbia Commands Confidence

One is led to wonder why so large a number of people of such a character should be attracted by such meetings to Columbia, when in some other states it seems impossible to attract even a smaller number, or to generate even a lesser enthusiasm. The cause for this is not far to seek. The institution at Columbia has demonstrated its value to Missouri in an unmistakable manner. It has been able to do this because at the head of the institution there is a strong man who commands the confidence and the respect of the farmers of the state, and because he is assisted in his work by a corps of able men, who carry his suggestions into effect, and in following where he leads have also earned the confidence and respect of the farmers of the state.

There was no talk there about book farming. There was not to be heard during the entire week a suggestion that it is easier to farm with a roll top desk and with a typewriter than by actual contact with the soil. The men there have been of such a character, have had such attainments and such experiences, as have commended them to the farmers of the state. The result is that these men are listened to, and their advice is sought, and the average Missouri farmer is glad to avail himself of the opportunity to take instruction and advice from them, though only for one short week.

Result Upon Agriculture of Future

The effect upon the future agriculture of the state of such meetings cannot be overestimated. They will have a quickening influence, not only upon technical agriculture as it is concerned with the raising and the marketing of crops, but also upon all forms of the live stock industry, horticulture and all allied forms of agriculture. This effect will not be confined merely to those who attend the meetings, but each visitor on his return home will be a focus of agricultural inspiration which will radiate throughout his neighborhood.

When one sees the amount of probable good that is done by one week given in this way to farmers, it is regretted that other weeks at other seasons of the year might not be set apart for the same purpose, so that in this way the good done might be multiplied. Of this, however, the middle west may rest assured. The institution at Columbia is alive, is keenly conscious of the agricultural needs of the state and is doing stalwart work to supply those needs.

The institution has been hampered by lack of sufficient funds. If the legislature of Missouri could appreciate what the institution is doing for the state, could realize that it is by far the most noteworthy and profitable means for furthering agricultural development and the increase of agricultural production in the state, and could be made to feel, what is the indisputable fact, that the future of the state depends more upon its agriculture than upon any other of its resources, it would see to it that no longer should the activities of the institution be limited or its usefulness narrowed by too great parsimony in furnishing it the means by which it may be better enabled to do its work. The little schemes of persons seeking their own personal advantage, the little plays of politics should there give way to the supreme need of the hour, and ample means should be afforded for meeting and satisfying this need.

Lectures Reserved for Evening Meetings

The visitors at the meetings were not left without literary entertainment of a high order. Every evening of the week was given up to lectures and literary and musical entertainment at the university auditorium. Many persons outside of Missouri who had earned distinction in their several fields of activity were invited to Columbia to address these evening meetings. Mrs. Genevieve Clark, wife of the speaker of the national house of representatives, was named as one of the committee to award prizes for the best home-cured ham, and was also expected to address one of these evening meetings. For some unfortunate reason, not explained, she was unable to be present, and her place upon the program was filled by someone else. One of the most notable addresses of the week was given by President H. F. Waters, of the Kansas Agricultural School, on "Co-Operation On the Farm." President Waters is well known in Columbia as one of those who have helped the institution attain its present prominence, and his name upon the program brought out a large number, not only of farmers, but of citizens also, who were anxious to show their appreciation for the distinguished man, who was for so long a term of years their fellow citizen.

The Missouri Ham as a Badge

The badge that was distributed to visitors was unique. Among the novel features of the meeting was a prize to be awarded to the best home cured Missouri ham, and accordingly the badge consisted of a miniature ham, that looked almost good enough to eat, which the visitors wore upon their coat lapels side by side with the customary ribbon badge. If this contest shall result in a greater production of the ham for which Missouri is famous, cities in other states will be only too glad to secure a supply of the genuine home-made article.

Missouri is on The Twentieth Century Farmer's map, and this paper congratulates the state and the institution on the showing made at Columbia.

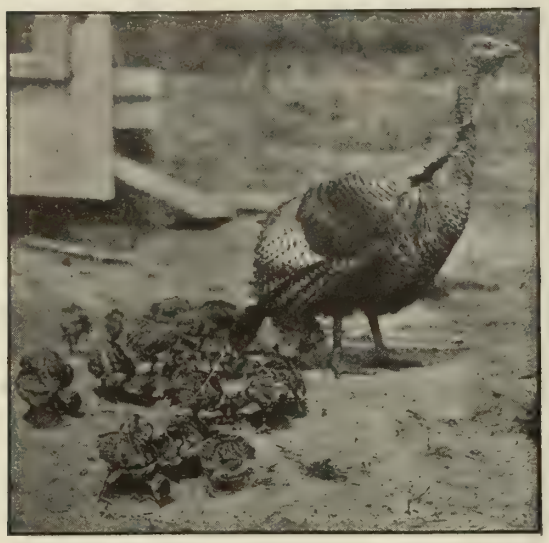
What Birds Shall Constitute Laying Pens

There Are Only Two Classes of Fowls Which the Poultryman Should Keep for Winter Layers

EGG production is the chief aim of the average poultryman or farmer keeping a flock of hens, and winter egg production is the highest ideal toward which our best poultrymen strive. To get eggs when they are scarce is no easy matter, for it is necessary to a certain degree to combat nature, for the winter months are not the natural laying time of the hen. The primary use of eggs was for reproduction, and as the spring and summer season is the most suitable period for this, naturally then is when eggs are most abundantly produced. The reproductive organs of the female are the source of all eggs, and it is necessary to have those organs functionally active in order to get eggs. The problem, then, is to force the hen to extend her period of reproductory effort over a greater period of the year, especially the cold weather. In a normal state it is believed that laying begins when growth ceases. Here is one of the determining factors in the time for hatching pullets, and the time the pullets are hatched determines to a great extent their usefulness as winter layers.

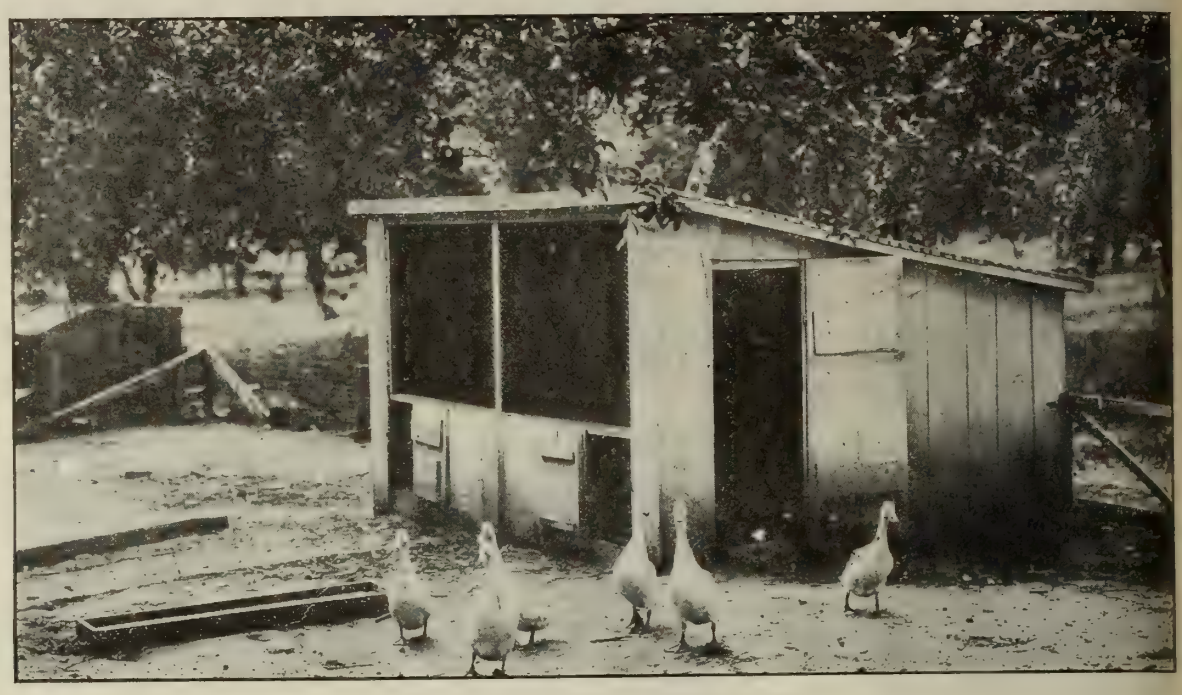
The poultryman has only two classes of fowl which he should keep for winter layers, viz., pullets and birds 2 years of age, and rarely 3-year-old hens. Older birds of the heavier breeds, unless it be a few kept for their value as breeding stock, seldom prove profitable egg producers. Some individuals of the lighter breeds are good producers at 3 years of age, and judgment must be used in selecting the winter layers, as good, tried and proven 3-year-old hens may beat the poorer type of late-hatched pullets. Pullets must be culled, and culled closely, for there are always many among them which will be "boarders" throughout the first winter. Many writers claim that age and egg production are not directly correlated, but they all agree that egg production depends upon constitution and conditions of feeding, housing and general care, and with the forcing of pullets and hens, age, when it exceeds a certain point, must affect the general condition and vitality of the hen. which limits the production of more eggs, so that age may be rightly used as a determining factor in the selection of laying stock each fall.

Selecting the pullets is no easy matter, but it may be accomplished with quite satisfactory results if started in time. The best method to follow is a gradual weeding out of the inferior birds as soon as they attain sufficient size for table use. This must be followed up later on by the disposal of all those which from time to time show an evidence of lack of development. The best pullets should be laying well in October, and any that have not commenced by November are not likely to lay to any appreciable extent until the approach of spring. Late pullets should always be sold off, because they have not, as a rule, reached a stage of maturity to begin laying at this date, and the cold weather checks growth and stops development of the birds, shutting off all chances of profitable egg production. Where trap nesting is done and only eggs from heavy laying strains used for hatching the pullets intended for replenishing the flock, breeding has some place in pullet selection, but on the ordinary farm no such measures are taken, so that there is no standard to go by excepting the development of the birds themselves. Choose only the fully developed, attractive birds, which have short backs, broad bodies, clear eyes—birds which are good rustlers, not found on the perch most of the day, but rather down scratching in the litter, seeking more food to further their development and at



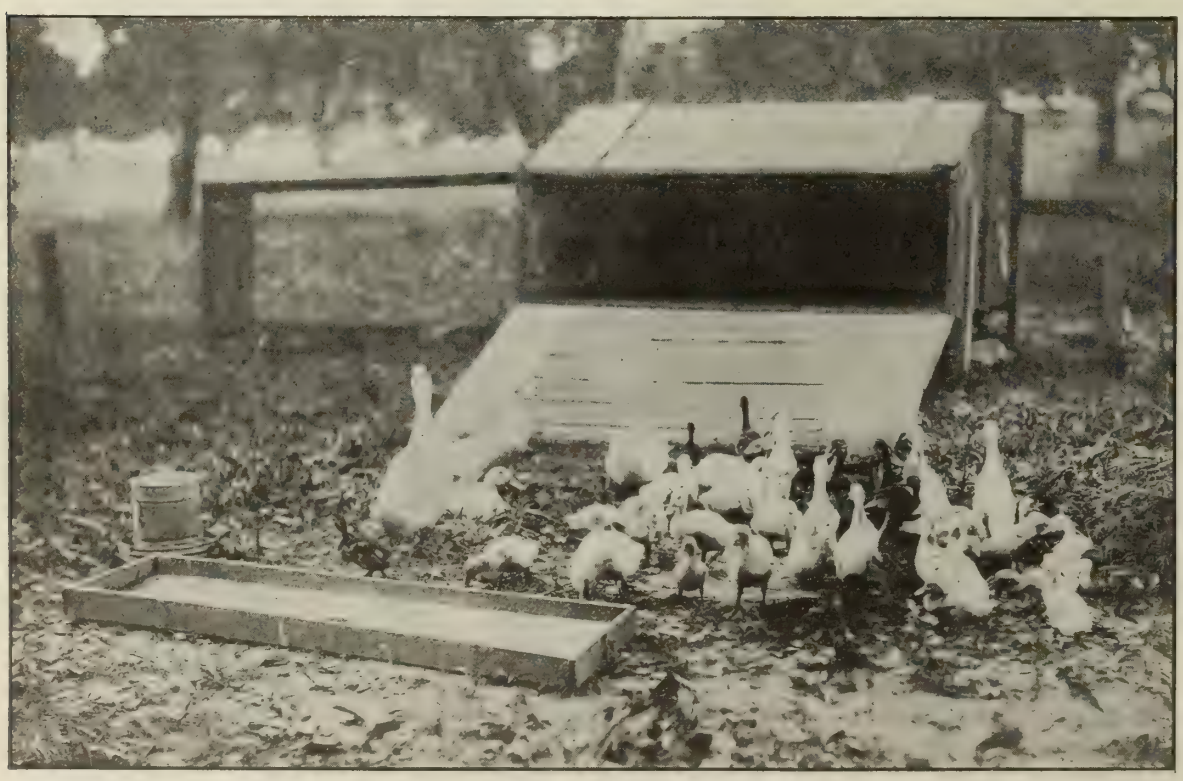
Turkeys as Revenue Producers

Turkeys on the farm are revenue producers, and at the same time are very valuable to the farmer for destroying grasshoppers and other insect pests. After the poults become 3 or 4 weeks old they will obtain practically all of their living by foraging through the pastures and cut-over harvest fields, so that they become almost entirely profit when they are sold at Thanksgiving time, from the standpoint of grain consumed, and have been worth dollars apiece for the insects they have killed.



Shelter for Indian Runner Ducks

Type of shelter used at Missouri Poultry Experiment station for the Indian Runner ducks. The house is divided through the center by a wire partition, so that each house shelters two pens of ducks. A very low wire fence keeps the ducks confined and they do not require water for swimming. This pen of six ducks laid 674 eggs during the year ending October 31, 1912. The ducks are not bothered by vermin as the down smothers same, and the ducks will eat anything except the crockery and tin cans in the garbage, making them very desirable for egg production in small yards, especially in the cities.



Home-Made Shelter for Ducklings

An inexpensive shelter for ducklings in use at the Missouri Poultry Experiment station is an old piano box turned on its back and elevated a few inches from the ground to prevent moisture from rotting the floor. A cleated approach enables the ducklings to get into and out of their home with ease. Their water supply and feed trough are shown in foreground.

the same time getting the necessary exercise to maintain a vigorous body. Pullet selection depends almost altogether on appearance. Of the hens, a few which will have reached the age of 3 years next spring may, under certain circumstances, prove profitable for the winter, but those rising 2 years are more likely to be the best producers. Trap nesting and egg records give an excellent opportunity to be sure of the best layers, and the time of year in which they do their best work; but as this is not extensively practiced on the farms, one must rely upon observance to a large extent. The person who feeds the hens day after day and week after week, who gathers the eggs and takes all care of the flock, if he keeps his eyes open, can form a pretty good idea of the relative value of his hens, provided he has some mark by which to distinguish them. It would pay every poultry owner to leg-band all his birds, as this is the only way to be sure of their ages. Watch the hens carefully. Go to the pen early in the morning, and when the twilight commences to fall at night, and you will find some of the hens down from the roost very early and busy scratching out their morning's food. These hens are likely to be the last to go to roost at night, and the workers in this respect are almost invariably the layers. A hen that sticks to the perch for a greater part of the day usually becomes fat and seldom lays enough eggs to pay for the food which she consumes. The first consideration should be the kind of fowls from which the hens or pullets come; that is, the poultryman should be sure that they come from a good laying strain, and then, as pointed out, he should exercise good judgment in culling, keeping only the best developed, most promising birds, and outside of actual trap-setting and egg records, he has done all there is to be done in the matter of deciding upon what shall constitute his flock of winter layers.

Isn't She a Beauty?

The Kansas State Board of Agriculture

Forty-Second Annual Meeting at Topeka Attended by Large Numbers of Enthusiastic Visitors

THE functions of the Kansas State Board of Agriculture are limited as compared with the wide field of activity that state boards of agriculture in other states attempt to cover. In Kansas there are practically two state fairs, but neither of them is in any way supported by appropriations by the state, and neither of them is in any way connected officially with the State Board of Agriculture. This board resolutely limits itself to collecting, publishing and disseminating practical information that will be helpful to the producers of the state, to gathering, compiling and publishing statistical information with reference to the state's population, its agricultural resources and its agricultural production. The law of the state decrees that its annual meeting shall be held at the state capitol, beginning on the second Wednesday of each January. This annual meeting was called to order in Representative hall, in the Capitol building at Topeka, on Wednesday, January 8. An interesting program had been provided for the entertainment and instruction, not only of the board itself, but of all visitors in attendance. The invitation to the meeting was open and large numbers of visitors were present both to see and to hear.

Celebrities Present from Outside the State

Besides the governor of the state and various professors connected with the several state institutions, there were present and addressed the meeting W. P. Snyder, superintendent of the experimental substation at North Platte, Neb.; Director Wilson of the Agricultural Experiment station, Brookings, S. D.; Prof. Detlefsen of the University of Illinois, Chancellor Avery of the University of Nebraska and D. A. Wallace, the editor of the Farmer, St. Paul, Minn.

An Interesting New Departure

At the last general election Kansas adopted the suffrage amendment to its constitution, which conferred upon the women citizens of that state the right to vote. As a result, and to show the sympathy of the board with the progressive movement that the state had definitely begun, the board elected two of the prominent women of the state as honorary members of the board. One of them, the accomplished daughter of the man who, more than anyone else, may be regarded as the father of Kansas horticulture, presided at one of the evening meetings. The occasion was one of jollity and mutual congratulations. There are very few men anywhere that can preside as gracefully, as intelligently and as effectively as this daughter of Kansas. In a mirth-provoking spirit the presiding chairwoman and the various members of the board rallied one another upon the attitude each had attained toward the suffrage amendment at the last election. Of course, all the men asserted, with an apparent candor, that they had vigorously supported the amendment, but the laughs that followed such stout asseverations left the majority in doubt as to what their attitude had actually been. At last the matter was put to a vote and it was requested that anyone who had voted against the amendment rise in his place. One lone man rose in response to the request and was greeted with hearty laughter from over the entire house. He probably did it as a joke, and the whole matter was passed along in a genuine fun-loving spirit, which seemed to be characteristic of all the meetings of the board.

The Kansas Spirit in the Board

What struck the observer as the most characteristic attitude of all the meetings was the entire absence of any partisan spirit, political or otherwise, and the failure of any purely self-seeking spirit to make itself manifest. The promotion of a higher and better agriculture seemed to engross the attention of everyone to the exclusion of everything else. After each speaker had finished his address the meeting was thrown open to general discussion, and one after another, the men prominent in Kansas agriculture took the floor for short, pointed and relevant remarks. The best of good feeling pevailed, even where there was a difference in opinion. The one thing sought to be elucidated was solely what would be best for the agriculture of Kansas. To this one thing all the meetings were devoted. There was no need to exclude other things, because there was no attempt to consider other matters. It is certainly refreshing to meet so large a body of the prominent, intelligent and progressive farmers of the state, and find them so completely engrossed with the sole purpose of promoting, in a broad sense, the welfare of the state.

The Man to Whom This is Due

It is but fair to state that, more than to any other one man, this Kansas agricultural spirit is due to the devotion and to the untiring labors of Hon. F. D. Coburn, secretary of the board. More than any other man, he knows his Kansas; for, more than any other one man, he has helped to make it what it is. He has the right spirit, and his spirit prevails and rules in agricultural matters throughout the state. For 362 days of each year the secretary is the board, and the board is glad to have him act in that capacity. They trust him, because he has demonstrated that he is worthy of such trust. He stands up for Kansas, not in a factional or in an exaggerative spirit, but for Kansas as she is. He wants the world to know her just as she is. He believes understating rather than overstating the truth about her. He thinks that in the end it woud prove to be a crime against Kansas to claim for her more than she can justify, and this would take a pretty large claim.

Kansas Statistics Reliable

He publishes to the world what Kansas is and what Kansas produces. He is himself the encyclopedia of statistical information regarding the state. Some other states, because they lack his facilities for gathering accurate information, and perhaps actuated by a semblance of envy, have felt, and sometimes have quietly asserted, that the secretary in publishing his results becomes the victim of an exaggerative megalo-mania, and sometimes stretches the truth a little, using his imagination unconsciously, instead of his mathematical faculty.

Absolute Accuracy Impossible

Of course, under conditions as they are, absolute accuracy in such statistical matters is impossible. So much is to be left to the judgment of observers and reporters, whose judgment is sure to be more or less untrustworthy,

(CONTINUED ON PAGE TWENTY EIGHT.)

The Kansas Spirit

THINKING with his brains rather than with his lungs has made the Kansan always the hardest man to boss and least responsive to the party lash. As against his convictions, he cares less for political or creed regularity than any other man on earth. Having reached a conclusion on a given issue, he acts or votes accordingly, regardless of consent or advice from any neighbor or nation. If later convinced he is in error, he can reverse himself instanter, without self-reproach and without apology. Whatever the foibles of Kansas may be, whatever she is, whatever she may be, or fail to be, the pen that in the coming years shall indite the Kansas story must write: "Here was a state builded by those who worshiped God, loved their fellow men, despite color or creed, and were sober." F. D. COBURN.

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The University of Nebraska offers a two weeks' short course in butter making, which begins at the department of dairy husbandry February 17.

A man in Duluth in 1911 had a net income of more than $9,000 from three acres of lettuce. After the Duluth market was supplied he shipped the balance to Chicago.

It would be a great deal better for the vessels of the United States engaged in coastwise trade to pay tolls at Panama than to violate the solemn agreements set forth in the treaty of 1901.

Dr. Harding, the bacteriologist of the New York agricultural experiment station at Geneva, has been appointed head of the department of animal husbandry in the Illinois Agricultural college.

During 1912 the production of gold in the United States decreased by more than $5,000,000. During the same year the production of silver increased by more than 2,000,000 fine ounces.

Now that the alfalfa weevil is spreading so widely in the west, and is producing so much damage to this valuable crop, it is necessary for every state to take stringent quarantine action to prevent the spread of the danger. No seed should be permitted to be imported into any state when the seed comes from an infected region.

The Cost of Distribution

In his address before the annual meeting of the Kansas State Board of Agriculture, Editor Wallace of the Farmer, of St. Paul, cited two instances to show what share of the consumers' dollar the producer sometimes gets. The first instance was the case of a grower of melons in the south, who sold his crop for 5 cents per melon. The same melons were afterward sold in the St. Paul market for 75 cents apiece. In this instance it cost 70 cents to get a 5-cent melon from the grower to the consumer.

The second instance was that of a grower of potatoes in Minnesota, who sold his potatoes on the Elk River market for 25 cents per bushel. They were afterward sold in Arkansas at $1.25 per bushel, as was learned from the answer to a letter, which the grower of the potatoes placed in the middle of one of his sacks. In this case it cost $1 to get 25 cents' worth of potatoes to the consumer.

This state of affairs cannot long endure. Something must be done to reduce the price of distribution. The violation of the economic law, as surely as the violation of the natural law, always, in the end, extorts its penalty. Sometimes when the violation is too flagrant and continued for too long a time, the penalty extorted is revolution and confiscation. The twentieth century is too wise for such measures. It will in course of time force a readjustment of present economic conditions peaceably, but none the less surely.

In this readjustment someone will be sure to get hurt. Somebody will have to go out of the business in which he is at present engaged, and will suffer consequent loss.

The wise man is the one that is able, in some degree at least, to forecast the future, and be prepared for any change before it comes. If unpleasant consequences are to be avoided in the future, the middle men, if they are wise, will take the initiative in establishing a new order of things that more nearly conforms to the demands of economic law. They will reduce materially the number of their standing army, will be less exorbitant in the margins of profit demanded and will see to it that no artificially-made conditions are permitted to interfere with the unrestricted operation of the natural law of supply and demand.

A wise mariner takes in sail and reduces the spread of his canvas when he sees a storm approaching. The approaching economic storm period shows itself above the commercial horizon so as to be seen and recognized by the most inexperienced observer. Those who intervene between the producer and the ultimate consumer, if they are wise, warned by the gathering clouds, will lessen canvas and take in sail before the storm breaks.

Soil Survey of Otoe County

The field work of the Soil Survey of Otoe county, Nebraska, made by experts of the bureau of soils, United States Department of Agriculture, has been completed, and the report will be issued during the latter part of the coming summer. The county contains about 616 square miles, or 394,240 acres.

The survey was made by the bureau of soils for the purpose of determining the agricultural value of the soils of the county, and what crops each soil type is best adapted to, in order that the department may recommend what agricultural methods should be practiced to obtain the best possible yields and at the same time maintain or increase the present fertility of the soil.

Accompanying the report will be a soil and topographic map, showing in colors the location and extent of the various types of soil encountered during the survey, as well as the location of all farms, churches, schools, public roads, streams and railroads in the county.

Iowa a Winter Wheat State

Why is Iowa not a greater producer of winter wheat, is often asked, and the answer usually comes, "Oh, winter wheat does not seem to do well in Iowa." This was the same kind of an answer received a few years ago in response to the query, "Why is there not more alfalfa grown in Iowa?" "Alfalfa does not seem to do well in Iowa," etc. Where alfalfa has been fairly tested in Iowa it is doing all right, and where winter wheat has been given a fair trial it has succeeded just as well as in most of the corn belt states farther east.

Prof. L. C. Burnett of the cereal breeding department of the Iowa experiment station says there is no better money maker among the cereal crops in Iowa than winter wheat. His tests with winter wheat prove that in a five-year series winter wheat brought an average annual return of $16.19 per acre, while corn brought only $15.46 per acre. Corn has been the big crop with the Iowa farmer and wheat has not had a chance. It is quite probable that the winter wheat area will be increased largely among Iowa farmers in the next few years. Crop rotation will have influence in checking the continual planting of corn. Wheat has received considerable attention in the crop rotation experiments.

It would seem that the Missouri river, dividing the states of Nebraska and Iowa, should not distinctly introduce new crop conditions, make a great winter wheat and alfalfa state on one side and just across this stream cause an entirely different condition of things.

Prof. Burnett has been doing some excellent work in Iowa in the matter of small grain development, and the time is close at hand when Iowa will cause some of the winter wheat states to take notice of what it is doing in wheat production.

There is no reason why Iowa should not produce alfalfa as successfully as some other states. The Iowa farmers have become so wedded to timothy and red clover meadows that they reluctantly give up what they know is successful for what has been published as unsuccessful in their state. Iowa has hundreds of acres of alfalfa that is flourishing as a hay producing crop. It is useless to try alfalfa on wet or spongy lands. It demands a dry soil and well drained surface. It succeeds where red clover thrives.

The Farmer's Vacation

The farmer's vacation or farmer's outing seems at first thought a burlesque or joke, one of the impractical suggestions of a theorist or newspaper crank, who unwittingly is trying to introduce the farmer into society, because of his thrift and independence as a money and property accumulator. The farmer, as he is found today in this country, represents mainly two distinct classes. The one is the man on the farm, the other is the retired farmer who has moved from the farm to the town or city. The former is the young or middle aged man, the active, energetic, pushing farmer who is looking the world straight in the face with a realization of what other and older men have done, and a firm belief in what may yet be done when intelligence, industry, economy and perseverance are applied in the effort.

This man has his plans pretty definitely mapped out for the coming year and probably for several years in advance; his time is taken up with his program of farm management, and he has no time for vacations or outings. He manages to get to town once a week, for a few minutes, and around among his nearby neighbors, possibly combining sociability with his business calls. He is generally a good fellow, not ordinarily devoid of human kindness and sympathy for his fellows. In case of sickness, death or need, he responds most cordially and feelingly with every attention within his power.

The man of the farm comprises the great army of toilers from whose brow trickles the honest sweat that is offered in return for the produce of the soil, for the necessities and luxuries of life, the army that feeds 90,000,000 people in this greatest and most resourceful farming country in the world, the United States of America. His business is one of study and research; his work in recent years has been transferred from one of chance, hit-or-miss, go as you please, to one of system, of scientific application of methods that are worked out, demonstrated, tested and found worthy of imitation. The farm is rapidly becoming the center of educational force in the public schools and many schools of higher order.

The farmer on the farm, the active farmer, while he plans and directs his own affairs, has a progressive occupation; he has new things turning up constantly. They may not be big affairs, demanding radical changes in his program, and yet they may. Insect pests may require other crops to be planted or sown, storms and floods must be reckoned with, drouth may interfere, animal disease may make some changes in the detail of work arranged.

The opening up of the spring season brings activity upon the farm, plowing, the preparation of the seed bed, the seeding of the land, each of which passes in quick succession. Then cultivation and harvest time are both in sight, each with urgent appeal. No time for vacation, no time for outings, the preparations for the winter wheat and other fall crops are close on the heels of harvest. The cutting, siloing, husking and care of the corn crop, which is followed by the filling of the feed yards with cat-

tle, sheep and swine, ushers in another time of interest and activity that bridges over the period between harvest and seed time, and which in its operations and management is nonetheless important to the success of the farm and the farmer than that of sowing the seed or gathering in the sheaves.

Who can take the place of the boss on the farm, the farm owner, at this critical period, when the marketing of the crop through the feed yards determines the price at which these crops are sold, and shows whether or not the year's labors have yielded a profit, and how much? Winter at this period is ushered in with all its duties and cares, whether fattening animals in the yards or attending to the breeding and farm stock. The customary vacation period has passed and there has not yet been room on the program for vacation or fashionable outing.

The retired farmer, the second class of farmers to be considered, deserves a little different consideration. He usually has money to throw at the birds, and has decided that he does not have to worry longer about seed time and harvest. He can take his seat in the rocking chair on the porch or in the parlor, and smoke his cob or briar root pipe, and the world will go merrily along. This is the farmer who is ripe for vacations, outings, etc., or should be. He can go south to the land of the fig tree and orange blossoms if he wants to. He can go to California, can enjoy a whole season on the Pacific slope, study, investigate, travel, see and become young again, even in his old age.

This class of people is not to be pitied because they were fortunate in acquiring wealth, unless they fail in putting a portion of it to use in trying to catch up with the procession of young farmers who are moving along at the present high rate of speed, in the matter of twentieth century vacation and outing. The retired farmer should treat himself and his household partner to everything good and enjoyable in sight. This is the kind of medicine that helps to make life worth living, and it comes at the right period of man's existence, and should be indulged in liberally. No retired farmer should be encouraged to sit around and rust out. Death and eternity will come soon enough and there is no checking or warding off of either. Make the most out of life, according to your ideas of temporal enjoyment, and your beliefs of future existence. Be happy, be cheerful and study out from your own standpoint what the farmer's vacation should be, and plan for it.

If, as has recently been asserted, pellagra is not caused by an undue use of corn or by the use of spoiled corn, but is due to a specific infection, the disease may be regarded as infectious, and measures may have to be taken to prevent the spread of the infection.

The beet sugar factory at Billings, Mont., paid to the farmers during the season just closing $1,215,000. This was paid for beets grown on 20,000 acres of land located in the Yellowstone and Clarks Fork valleys and in the Big Horn basin of Wyoming.

A Question or Two

This paper wishes to ask its farmer readers a few questions that it considers fair questions and worthy of consideration. It wishes its readers would submit candid answers to these.

On the first of every month the merchants in every town send a statement of their accounts to the butchers, and the butchers send their statements to the merchants, and the balances between the accounts are promptly settled by check. This is regarded by both parties as a matter of good business policy. If, however, either of these parties sends a similar statement to the farmer, it generally throws him into a huff. "Thinks he's going to lose his money, does he? Thinks I am going to try to beat him." This is the way the majority of farmers feel under such circumstances, and this is what a great many of them actually say. If it is a matter of course in business to present statements of accounts every thirty days, why should not the farmer, who should be a business man and place his business on a business basis, expect, as a matter of course, to receive such statements, and promptly to settle the accounts? If it is good business policy for the merchants, why is it not just as good business policy for the farmers?

Prosperous merchants discount their bills. By this is meant that the jobber that sells the merchant his goods allows a certain discount from the bill in case it is paid within a certain time. Thrifty merchants take advantage of this privilege to discount their bills, and make money by so doing. In case they are short of cash, they borrow money at the bank in order to make the discount, and find that they make money by so doing. There are very few merchants that will not sell their goods to the farmer on the same terms granted by the jobber, when requested to do so. If it is good business in the merchant to discount his bills, even if he has to borrow money to enable him to do it, why will it not be equally good business for the farmer to do the same thing?

Unless the patron of the retail merchant pays cash for his goods, the merchant will have to borrow money to carry on his business during the time for which he extends credit to his customers. The interest that he is obliged to pay on this money is one of the elements entering into the margin of profit that he charges, an element that in the end is paid by the customer. There are very few merchants that will not allow a liberal discount from regular retail credit prices to the customer that agrees continuously to pay cash. If the customer should himself borrow money with which to pay his bills as he contracts them, the discount that he gets from the purchase price will more than pay the interest on the borrowed money. If the customer's credit is not good enough to enable him to borrow money at the bank with which to meet his bills, it certainly is not good enough to afford a basis for credit at the store. If it pays the merchant to borrow money with which to settle his own bills, why will it not pay the farmer equally well to do the same thing?

The extensive credit that the retail merchant allows his customers is one of the causes for the large margin of profit that he demands. If his customers should pay cash—and there is no reason why the majority of farmers might not pay cash—he might materially reduce his price on the goods he sells. Is not the farmer, himself, because he buys so largely on credit, one of the causes for the high cost of living? Might he not materially reduce the price of what he has to buy and save money for himself by paying cash, or by settling his bills every thirty days, which in commercial circles is regarded as the equivalent of cash?

Conservation Congress

The fourth annual Nebraska Conservation Congress will be held in Lincoln Febrbuary 20 and 21. This congress is made up of accredited delegates from municipalities or civic organizations, agricultural societies and other state or local organizations interested in state development.

The program this year will be devoted to an exposition of the vital resources of Nebraska. Extensive exhibits are being prepared by the State Board of Health in co-operation with the Conservation commission, the various colleges of the university and the State Board of Agriculture, showing the present status of public health and the agencies which are being used for its conservation. These exhibits will be placed in a number of rooms in the university temple and will be open to the public, with frequent lectures.

Dr. Oscar Dowling, president of the Louisiana State Board of Health, accompanied by Conservation Commisisoner J. M. Alexander of Louisiana, will be present with the Louisiana health train and its entire exhibit, which was the leading feature at the recent national meeting of health commissioners in Washington, D. C.

Dr. W. A. Evans of Chicago, a national character in connection with the health movement, and Mrs. Phillip N. Moore of St. Louis, vice president of the National Conservation Congress, and ex-president of the National Federation of Woman's Clubs, will also speak.

A new feature this year will be a section on "Economic Value of Social and Religious Life in Rural Communities." These meetings will be held under the auspices of the Nebraska Federation of Churches, with some of the strongest national speakers in attendance.

The National Department of Agriculture has given $3,600 to the extension department of the state university in Nebraska to assist in county farm demonstration work during the present year. Merrick, Gage and Seward counties have already approved the plan, and county demonstrators will be put in the field in these counties at an early date.

Some of the milking Shorthorns are putting the dairy breeds on their mettle to keep ahead in dairy production. The milking Shorthorns have the added advantage of producing first-class beef.

The Ice House Question

Many of The Twentieth Century Farmer's contemporaries are publishing plans for ice houses which are beautiful to look upon. They urge their readers to erect such houses for the storing of ice for summer use. These plants are quite elaborate, and provide for many conveniences, but within the territory which this paper tries to serve they will call for an erection too expensive for the ordinary farmer, if the building is so made as to prevent excessive loss of ice by waste.

In the territory mentioned there is too much wind to permit economical storing of ice above ground unless the ice house be made practically wind-proof. To do this will require an expense that will be practically prohibitive on the ordinary farm.

The cheapest ice house, and in the opinion of this paper, the most satisfactory place for storing ice, is one that is dug, so that the ice may be stored below the level of the ground, and in this way be protected against the wasting influence of wind. Such an arrangement will demand a little labor, but will entail practically no money expense except for covering. Drainage may be provided by boring a sufficient number of large post holes in the bottom of the ice pit. If the walls of the pit are not of such character as to prevent caving, they may be covered with a coat of concrete.

While filling with ice, there may be left an eight-inch space between the ice and the wall for the necessary packing. Wheat straw, when well packed, preserves the ice almost as well as sawdust, and costs practically nothing.

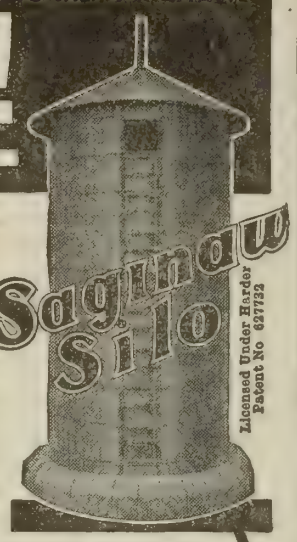
When it may be had at such small expense, every provident farmer will see to it that his family is supplied with a sufficient quantity of this cold luxury to answer all the domestic demands during the warm season.

"Milk and Its Products"

A new volume of the Rural Science Series with the foregoing title has just been issued by the MacMillan Company, 66 Fifth avenue, New York. It covers the entire dairy field, beginning with the anatomy of milk production, which is treated fully, scientifically and in language that anyone may understand, and ending with a description of the most approved dairy appliances and processes. It is in itself a complete encyclopedia of all the information that any milker of cows will find necessary in the conducting of his business, together with a digest of the various dairy laws in the different states. It is worth while for every farmer to have a copy. It will be sent postpaid by the publishers on the receipt of $1.50.

The Iowa Draft Horse Breeders' association is asking the Iowa legislature for a law making it illegal to bring a stallion or jack into the state unless it is accompanied by an official certificate of soundness. Every other state should adopt a similar quarantine against unsound breeding stock

Wonderful!



The New 1913 Saginaw With the Patented Angle Steel Rib

Last season's Saginaw Silo was pronounced **utterly perfect** by dairymen and stockmen all over the country. For 1913 it was wholly unnecessary to attempt improvement. Yet, despite this, we come out with this 1913 Model. The big feature of the 1913 is the **ANGLE STEEL RIB.** This ingenious invention adds about 50 per cent to the life of a Silo. And that's wonderful, when you consider that the Saginaw is already known to be the strongest and most durable Silo ever built.

Doing the "Impossible"

The Angle Steel Rib has done what other Silo makers only a year ago considered impossible. It has given you Dairymen and Stockmen a Silo which the heaviest wind storms can't even SHAKE or TILT. All because the **Angle Steel Rib** absolutely prevents any up-and-down slipping of the staves. Moreover, this marvelous invention forever ends **the remote possibility of your Silo caving in when empty.**

This **Angle Steel Rib** is a Structural Steel Reinforcement, curved to the circle of the Silo. It is slidingly received in strong, malleable brackets which are securely attached to alternate staves. Each rib is free to move and adjust itself to any variation in the diameter of the Silo. Built on the same structural principle as the big "I" Beams used in giant steel frame buildings. One flange reinforces the other.

Think what it means to have these trustworthy, unbendable Angle Steel Ribs encircling your Silo! To fully appreciate the patented **Angle Steel Rib,** you must get our new free Silo Book, which pictures and explains all.

Other Noted Features

The Saginaw was famous first as "The Silo With the All-Steel Door Frame." Then followed the **Saginaw Inner Anchoring Hoop.** Next came the celebrated **Saginaw Base Anchor.** And now comes the **Angle Steel Rib**—the most astounding feature of all.

5 Big Factories

The Saginaw is far the most popular Silo on the market. Five mammoth Silo factories have had to be built. Last season we received orders for 587 Silos in a single day.

Strong as a Skyscraper

The Saginaw Silo, with its steel frame, stands as solid as a modern city skyscraper. It cannot blow down; it cannot twist; it cannot warp; it cannot collapse; it cannot shift on its foundation. Like a Giant Oak, it is rooted to the ground by the Saginaw Anchoring System.

Bright, Clean Silage

No rank, soured silage ever comes out of a Saginaw. It is sweet and pure clear to the edges, right next to the walls. Animals love the enticing flavor and thrive wonderfully on the rich, succulent food. Don't get a Silo that spoils silage.

Get Latest Silo Book

Our latest Book on Silos is about ready for mailing. It not only fully describes the 1913 Saginaw, but also contains a Wealth of Information on Silo Building and Silage. Don't miss getting it. Drop us a line today for Booklet **62** and you will receive it, free and postpaid, **by return mail.** Address our nearest factory.

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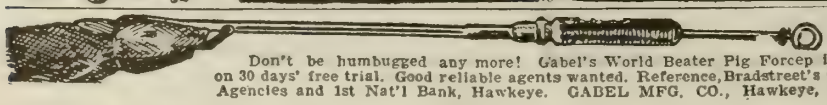

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Handling Soil for Production

III—Necessities for Plant Growth—Air and Heat

THE third necessity of the soil for plant growth is air. Precisely in what way air in the soil is necessary for plant growth may not, at the present stage to which scientific investigation has arrived, be accurately and definitely stated. It is well known that air is necessary, because without it plants will die.

It is definitely known that air in the soil produces certain changes in the chemical condition of the soil, and that these changes are beneficial to plant growth. As was stated in a preceding article, the soil contains large quantities of plant food in crude form. This crude plant food must be oxidized before it becomes available for the use of plants. Air in the soil assists in this process of oxidation, and for this reason is necessary, in order to provide available material for plant growth.

Air Needed for Other Purposes

But air is needed in the soil for other purposes. While it may not be stated precisely in what way the air is beneficial, the fact that it is necessary is in the main deduced from the effects upon plants that result from excluding the free air from the soil. To illustrate: If there should fall upon a soil, composed of sandy loam, a spanking shower or a heavy rain, and the sun should come out soon after the storm had passed, the result would be the formation of a crust over the surface of the soil that would be practically impervious to the free air above it. If there should happpen to be growing in the soil at the time of the shower a crop of wheat or oats, or any other small grain, the vegetable growth would soon show the result realized by having the free air excluded from the soil by the firm crust. It would soon appear to be suffering, and unless the crust were broken and air admitted, the leaves of the growing plants would sicken and die.

A Striking Illustration

A field of spring wheat was fully headed out, and was in blossom on such soil as has been described. A heavy shower, followed by bright sunshine, produced such a crust over the field as has already been noted. The lower leaves of the stalks of wheat turned yellow and died, and there was great danger that the entire crop would be lost. Although the crop was so far advanced, the owner went over the entire field with a weeder, which was sufficient to break up and destroy the crust. In order to note the effect produced by the weeder a strip was left through the middle of the field on which the crust remained unbroken. The effect of breaking the crust became markedly noticeable within a very short time. Where the crust was broken and free air admitted to the soil the wheat revived, and at harvest time produced a profitable crop. The strip on which the crust was left unbroken failed to produce a crop.

It is not believed, in the instance above cited, that the admission of air to the soil produced the sole effect of rendering crude plant food available. There seemed to be plenty of available plant food in the soil for maturing not only that one crop, but several others, as the soil was comparatively new. It is believed that the admission of the air to the soil had other effects, but precisely what effects, and precisely in what way it produced these effects, may not at present be definitely stated.

Figurative Expressions Not Accurate

There are those that assert that it is necessary for the roots of plants to have air to breathe, and that without this air they will become smothered. Such language as this should be taken figuratively, and as an indication that the person that makes such a statement is not dealing with literal facts. It is perhaps possible that there is an analogy between this fact and the effect produced upon animals by being compeled to breathe the same air over and over again.

The effect of air in the soil upon plants might be explained by saying that the soil needs ventilation, just as human sleeping apartments need ventilation, if the health of t ir occupants is to be maintained at full vigor. But this is also a figurative statement and may not be taken as an exact expression of fact.

Air Necessary for Soil Sanitation

There are those that maintain that plants, as well as animals, throw off excretions. That there are plant excreta would seem to be probable from the fact that plants take all their food in solution, and that into this solution enter all soluable materials in the soil, both those that are elements of plant food and also those of which plants can make no use. The plant takes the entire solution, and naturally would be supposed to reject the materials of which it could make no use. This rejected material might be regarded as an excretion from the plants.

Sanitation is the method by which the toxic effect of animal excreta is destroyed. Those that hold to the theory of plant excretion in the soil assert that soil sanitation is necessary to destroy the toxic effect of such excretions. Air is the great purifier and sanitary agent. It is possible that the free admission of air to the soil is necessary for soil sanitation, for destroying and neutralizing the toxic effect of plant excreta in the soil.

Air in Soil Absolutely Necessary

Whatever explanation is made as to the precise manner in which air in the soil benefits plants, the necessity of air in the soil, and the added necessity of pure air in the soil, by changing the air in the soil after it has lain there for a certain length of time, is a demonstrated fact. For some reason or other the soil air must be frequently changed if plants are to thrive. More than this, the soil must be kept in such a condition as to permit it to hold a sufficient quantity of air, to provide all that will be needed by growing plants.

A Word About Soil Heat

Just a word is needed with reference to the necessity of heat. It

(CONTINUED ON PAGE TWENTY-EIGHT)

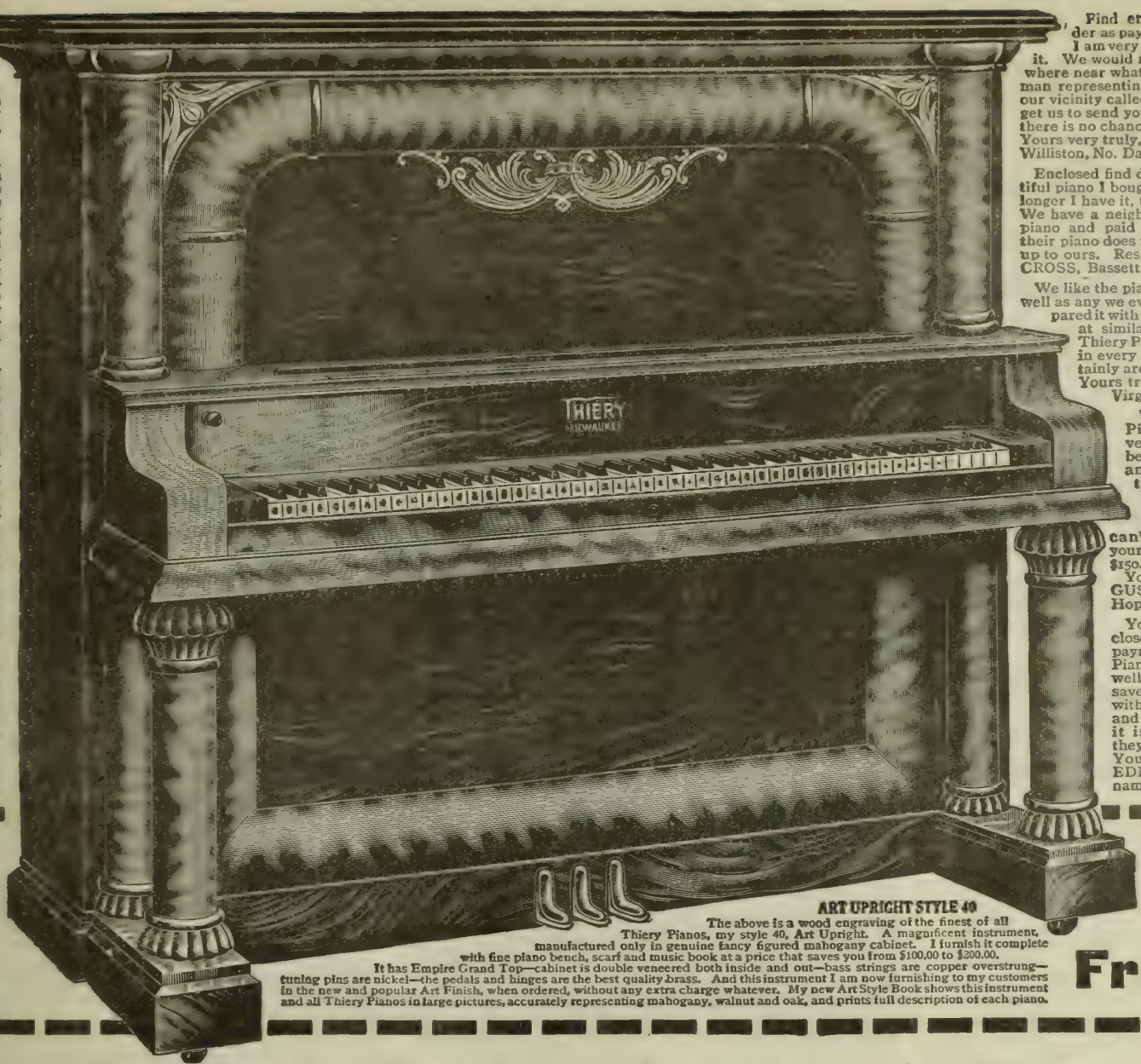
You will find enclosed
eck in full for the
no you sent me sixty
s ago. The piano is
finest in this part of
country, and if I can be
any assistance to you in
future just say so. Very
ly yours, J. T. DUDGEON,
lton, Oklahoma.

We received the piano Oct.
in good condition. It is a
utiful instrument. We
d a piano player out here
ry and test it and he said
as a wonderful piano. You
d me the truth when you
te me I would not need
thirty days trial. We
ed at least $150.00 by deal-
with you instead of here
d you can expect the money
a few days. Yours very
ly, FRANK WEBER, R. R.
Dyersville, Iowa.

We received the piano May
h and are greatly pleased
h it. Several first class
yers tried it, and all say it
s a very fine tone, but that
finish is unsurpassed. I
ld not get its equal here
$500.00. Yours respect-
y, JOHN TILFORD, R. r,
x 24, North Platte, Neb.

Find enclosed check in full
the style 40 Thiery Piano.
much pleased with it. It
ts all the pianos our local
nts handle, and besides
ts $100.00 less. I had it
ured and the insurance
nt said it was the finest
no he had ever seen. Yours
y truly, H. BEHN, Os-
ne, Iowa.

piano as good as this would
me from $600.00 to $700.00
e in town. The Thiery
no is better than any piano
ld possibly be sold for at
low a figure. The tone
workmanship are per-
. You have saved me
. Yours truly, ADOLPH
GNER, Reardan, Wash.



Find enclosed money or-
der as payment on the piano.
I am very much pleased with
it. We would not sell it for any-
where near what we paid for it. A
man representing a piano house in
our vicinity called here and tried to
get us to send your piano back, but
there is no chance for him to do so.
Yours very truly, W. H. BENELL,
Williston, No. Dakota.

Enclosed find draft for the beau-
tiful piano I bought from you. The
longer I have it, the better I like it.
We have a neighbor who bought a
piano and paid $100.00 more and
their piano does not begin to come
up to ours. Respectfully, MRS. J.
CROSS, Bassett, Nebraska.

We like the piano you sent us as
well as any we ever saw. We com-
pared it with agents' pianos here
at similar prices and the
Thiery Piano is much better
in every respect. They cer-
tainly are just as advertised.
Yours truly, JOHN EBLE,
Virgel, Kansas.

We like the Thiery
Piano you sent us
very much. It is a
beautiful instrument
and all who see it
think it is just grand.
We saw a piano
sold here the other
day at $400.00 that
can't compare with
yours and we paid you
$150.00 less money.
Yours very truly, E.
GUSTNER, R. F. D. 3,
Hopkins, Minnesota.

You will find draft en-
closed for $30.00 as first
payment on the Thiery
Piano. I certainly am
well pleased, and I have
saved money by dealing
with you. My neighbor
and music teacher say
it is the finest piano
they ever played on.
Yours respectfully,
EDNA DEBOLT, Put-
nam, Oklahoma.

30 DAYS FREE TRIAL

I Pay the Freight

ART UPRIGHT STYLE 40

The above is a wood engraving of the finest of all Thiery Pianos, my style 40, Art Upright. A magnificent instrument, manufactured only in genuine fancy figured mahogany cabinet. I furnish it complete with fine piano bench, scarf and music book at a price that saves you from $100.00 to $200.00. It has Empire Grand Top—cabinet is double veneered both inside and out—bass strings are copper overstrung—tuning pins are nickel—the pedals and hinges are the best quality brass. And this instrument I am now furnishing to my customers in the new and popular Art Finish, when ordered, without any extra charge whatever. My new Art Style Book shows this instrument and all Thiery Pianos in large pictures, accurately representing mahogany, walnut and oak, and prints full description of each piano.

My New Art Style Book is Ready. And my 1913 Buying Plans and Straight-to-You-Prices—they are hummers! When you can buy Quality Pianos on a "Nothing-to-Pay-for-but-Quality" basis—with agents' and middlemen's tidy profits left out—and have your choice of Thiery Quality Pianos in your home on Real Free Trial to Prove It—what's the best thing to do? Just fill out coupon below and mail to me—what you'll receive by return mail will surprise you.

those who have al-
dy received my
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ok, say it is the
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k or my
gan Book.

A number of years ago, when I decided to sell Thiery Pianos direct to the home—a man from South Dakota wrote for a copy of my little catalog, and in his letter said, "If you sell your pianos through agents, don't bother about sending catalog, because I won't buy that way."

The next day a man from Iowa wrote for my book and said, "This town is just full of ordinary, every day pianos. I want something different and better, and if you've got it, I'll buy direct from you."

And the hundreds of homes that are writing to me now for my newest Style Books are doing so for the same reason that these two men wrote to me eight years ago, and that reason is to get a real quality piano with the fancy prices and fancy profits left off.

My new Style Book is the finest piano book ever printed. It is interesting from cover to cover and if you are going to get a piano now or in the future, get this book and note my buying plans and Straight-to-You-Prices.

Any Thiery Piano you want is yours, direct to your station, freight prepaid—no deposit to make—no advance money—simply choose the piano you want and I'll ship it to you at my expense and when the thirty days trial is up, if, for any reason in the world, you don't want to keep the piano, just ship it back at my expense.

My thirty days trial is a real free trial—it is just exactly as I advertise—it is yours to take advantage of and convince yourself before you pay a penny that Thiery Pianos are exactly as represented.

But you won't even need the thirty days trial, although its yours just the same. Before you have a Thiery Piano a week, you will decide to keep it.

SPECIAL 1913 OFFER

As an extra inducement to buyers in localities where new Thiery Pianos have not been introduced, I have arranged a special plan, one feature of which is that no payment whatever need be made on piano until two months after the 30 days free trial has expired. You have the piano three months before you expend a cent towards the purchase price.

Mr. Frank Weber, R. F. D. 19, Dyersville, Iowa, writes to me as follows: "We received the piano Oct. 6th. You told me the truth when you wrote and said I would not need thirty days trial. We saved at least $150.00 by dealing with you instead of here, and you can expect the money in a few days."

If you are not cash buyer, I will give you from two to three years time to pay me, a hundred and one different plans of payment to choose from—one of them surely will suit you. Quarterly, Semi-Annual or Yearly payments if you want them—not simply the much advertised monthly payment plan. My special letter tells you all about them.

And any Thiery Piano you buy is fully warranted against any defect in material or workmanship as long as you keep the instrument. You could not write a stronger guarantee yourself.

Here are some new features about the new 1913 Thiery Pianos. They have polished brass pedals, hinges and trimmings. They have Empire Grand Tops. They have nickel plated tuning pins. The bass strings are copper overstrung. They all have ivory keys, not celluloid or imitation. The cabinets are all double veneered both inside and out in genuine mahogany, genuine burl walnut and the finest English oak, nothing imitation about them. And without any extra charge, you can have any Thiery Piano you want in the new and popular Art Finish if you so desire.

Thiery Pianos have quality points that you don't find in any cheap pianos. They are always up to the minute in design—they are the greatest values offered direct to the home today. Just fill out the coupon below and send it to me at once and my Style Book will come to you postpaid, also special letter with straight-to-you prices. Don't consider a deal elsewhere or even think of buying from an agent or any other house until you get this book and plans.

J. B. THIERY, The Piano and Organ Man, Milwaukee, Wis.—Without slightest obligation on my part, please send to me at once, postpaid, your beautiful New 1913 Style Book, with Special Letter, Net Price List and full particulars of your 1913 buying plans and offers, as advertised in Twentieth Century Farmer.

☐ PIANO STYLE BOOK

☐ ORGAN STYLE BOOK

NAME _____

_____

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Thiery Organs are the real "music-makers" of all organs. 12000 sold direct to homes in the last two years. My Style Book of Organs, printed in colors, shows and tells all about them. 30 days trial and test in your own home—ship back at my expense if you are not more than pleased. No money in advance—from one to two years time to pay if you are not a cash buyer. $2.50 per month and up buys one. Choice of parlor, chapel and piano-case styles—at a saving of $25.00 to $50.00. If you want an organ, send coupon now and receive new Style Book free by return mail. Be sure and mention on coupon whether you want piano or organ book, so I can send the right book.

J. B. THIERY, Milwaukee, Wis.
THE PIANO AND ORGAN MAN

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OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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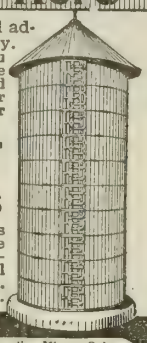

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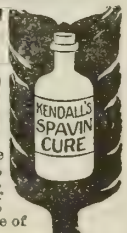

You can never tell when a horse is going to develop a Curb, Splint, Spavin, Ringbone or lameness. Yet it is bound to happen sooner or later. And you can't afford to keep him in the barn. Keep a bottle of

Kendall's Spavin Cure

handy at all times. John Sayer of 324 Bronson Avenue, Ottawa, Ont., writes: I would not be without Kendall's Spavin Cure at any cost. It is a priceless liniment for both man and beast. Get Kendall's Spavin Cure at any druggist's. $1 per bottle—6 for $5. "Treatise on the Horse" —free—or write to

Dr. B. J. KENDALL CO.
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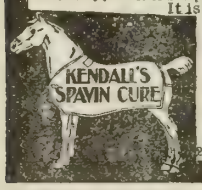

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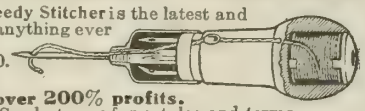
The Speedy Stitcher is the latest and best of anything ever offered for $1.00.



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Root Crops for Feeding Stock

Experience of an Iowa Feeder

RECENT correspondence in this paper concerning potatoes as stock food has prompted the query, Why are root crops so seldom grown in this country for stock food? Not that they are adapted to the sandy soil referred to for tubers, but all our rich prairie land that produces good crops of corn is peculiarly adapted to growing big yields of succulent roots, as carrots, beets, turnips and artichokes.

In Great Britain, Germany and Denmark, where intensive farming is practiced, rarely is seen a farm where these vegetables are not a prominent feature, grown for feeding stock. Carrots take the lead, as they contain the higher percentage of nutriments.

We know in advance that the proposition to grow these roots here will be met by the argument that there is a small percentage of nutriment, relatively to weight, in them. Granted. The same statement would be true regarding most of the roughage consumed by cattle, yet who will contend that roughage is unnecessary? The value of succulent roots is not in amount of solid nutriment they contain, but in their property of being wonderfully efficacious in promoting thorough assimilation of the heavier foods and consequent increase of the amount of milk and butter-fat from cows and of flesh in other stock for a given quantity of grain feed. For example, to give the result with an experienced and successful feeder, D. R. Olmstead of Council Bluffs, Ia.:

, "The usual quantity of what is considered a balanced ration of both grain and forage, fed without roots, may be reduced by 20 per cent when accompanied with a feed of carrots equal in weight to the reduced grain ration, and not only will an equal yield of butter-fat or flesh be had, but stock will be in a more thrifty state. As carrots yield from ten to twenty times more in weight per acre than any grain, the economic advantage is readily seen.

"Another element in the reckoning, especially by dairymen, considered valuable is that carrots impart that yellow tinge so much prized in cream and butter. Last year Mr. Olmstead raised over 1,000 bushels of long Orange carrots per acre, at a cost for seed and labor of from $12 to $13, which, as will be seen, figures out less than 1½ cents per bushel. For a conservative estimate let us reckon a yield of 800 bushels per acre at a cost of $16, or 2 cents the bushel."

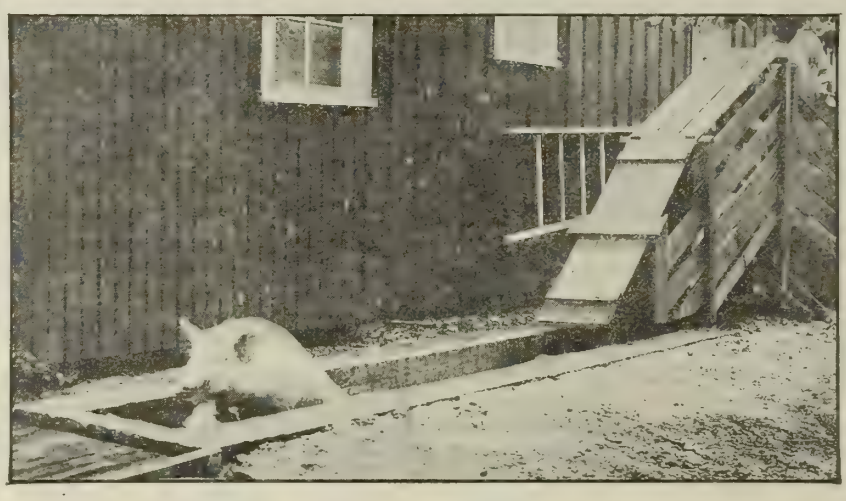
Mr. Olmstead says that all kinds of stock eat carrots greedily, with marked benefit to horses and sheep, as well as cattle.

Many years ago the writer of this had a neighbor who owned a pet family horse of bay color, which had an unusually lustrous and beautiful coat of hair. The owner said that the sleekness of this equine was attributable to a twice-daily allowance of carrots in addition to a moderate grain and hay ration.

The long orange carrot is the greatest yielder and most profitable for stock, the ground for which must be plowed deep and in other respects thoroughly prepared. Seed should be sown with proper machine in rows from sixteen to eighteen inches apart and plants thinned to from three to four inches in row. Crop may be stored in cave or in piles not too deep on ground surface and covered with dry straw; they will stand from 8 to 10 degrees lower temperature than potatoes.

Another authority gives his experience in feeding artichokes to hogs. He had a small tract of this root and in fall turned his hogs in the field to help themselves, and says they thrived with no other feed, without diminishing perceptibly the supply of roots. The hog-rooting seemed to give proper cultivation. Seed was sown broadcast.

A. F. AINSWORTH.



Concrete dipping tank used by T. C. Kimber on his farm at Pilot Knob, Mo., for dipping his large Yorkshire white hogs. He gives all of his hogs, including pigs 6 weeks old and over, a run through the solution once every ten days during spring, summer and fall. He uses a regular sheep-dipping solution, which kills all vermin on the hogs and helps to keep them healthy. The tank is fourteen feet long, four feet deep at plunge, but slopes upward the last six feet, a cleated boarding being provided on the incline.

Every man that had to struggle with the long ballot at the last election will be glad to see the present agitation for the short ballot carried to a successful issue.

Remove One Nut and Share is Off

Off or on quick—that's the new feature. That's what you want. It's the biggest plow improvement in years.

When you see how it works you'll know the advantage of the

JOHN DEERE "Q-D" SHARE

For New Deere Sulkies and Gangs

"Q-D"—means quick detachable Also quick attachable. You take the share off by removing one nut. Put it back and fasten it by replacing and tightening nut.

And this one nut is in a handy place—just glance at above picture. Could anything be easier? It "stays put" too. Locking lug on landside holds share perfectly tight and rigid.

Our book, mailed free, tells all about this new improvement in plows. Write for free "Q-D" Book No. Q-D 15

John Deere Plow Co., Moline, Ill.

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SUPERIOR GRAIN DRILLS

WARRANTY—Castings replaced FREE any time—in one year or 20 years if shown to be defective. Disc Bearings replaced FREE if they ever wear out. Every Drill guaranteed to be and do ALL WE CLAIM.

Ask your local dealer to show you the OSCILLATING DRAW BARS on a Superior Single Disc Drill—the exclusive patented device that gives such great clearance—that allows the discs to sow around obstructions, not over them. **Send for the Superior Catalogue.** Go to your local dealer and insist on seeing the drill that puts the seed in the ground—that "Drills the grain to grow again." The "Superior Feed sows every seed."

Superior Drills can be had in any size from one-horse up in plain grain and combined grain and fertilizer, Single Disc, Double Disc, Hoe and Shoe.

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Rearing Boys on the Farm

II---Some Hints on Growing Men

IF A STOCK grower were going to raise a driving horse for his own use, one that that he expected to keep hrough a number of years, he ould be very careful about a numer of things. In the first place, he ould be very wise in his choice of ne right kind of ancestry; he would ant to assure himself that the hysical conditions surrounding the nother of the colt were the very est; he would want to be sure that ne food values were properly prpoortioned. As the colt reached the ge when it would begin to eat he ould see that it was supplied with ist the right kind of food. In good eather he would turn it out in a asture where there was plenty of oom for exercise; in bad weather e would give it proper protection. Vhen it came time to break the colt e would do so with the greatest re and caution, realizing that he ad a nervous, high-strung animal, hose whole future usefulness might e spoiled by unwise treatment. aving done all these things he ould expect to have a driving horse ehind which it would be a joy to ide.

ittle Knowledge of Boys and Girls

Farmers and stock raisers who nderstand the needs of growing nimals are sometimes not so careul in raising men. This comes about ery often because parents do not ave the same knowledge of boys nd girls, their ways and whims, as ney do of the stock which they are aising. There are some well dened laws of boy life, on its physial side, which can be readily underood. Oliver Wendell Holmes said nat the time to begin the training f a boy was with his grandfather, hich is just another way of saying nat every boy has a right to be well orn. He has a right to inherit a ood, strong physique. Given the ght kind of parentage and wholeome conditions of birth, it is safe assume that the boy will be rong physically at the beginning f his life. If these conditions are ot met the probability is that he ill start into life poorly equipped, rom a physical standpoint.

Having his start in life, it is imortant that his physical environent be of such a nature as to inre the best growth. We have all f us seen farmers whose barns were ery much superior to their houses nd who gave more attention to the omfort of their animals than they id to the physical welfare of their milies. But even the best intenoned parents are sometimes not so reful as they might be about the ysical conditions surrounding eir children. We have learned uch in these days in regard to sanation. Unfortunately, that knowlge has not been utilized by many ssessors of farm homes. I do not ave the figures at hand, but I beve it is safe to state that contagis diseases are better controlled in ties than they are in the country, though the conditions for that ntrol are very much more difficult. In the country, where pure, fresh air is to be had in unmeasured quantities, sleeping rooms and living rooms are often very poorly provided with that most essential article. Healthy boys and girls cannot be raised in stuffy bed rooms. Disease lurks in unsanitary places. We have too long depended upon the physical strength gained by our outdoor life and have not yet realized that we were paying a dear price for physical carelessness along other lines.

Boys Need Chance to Play

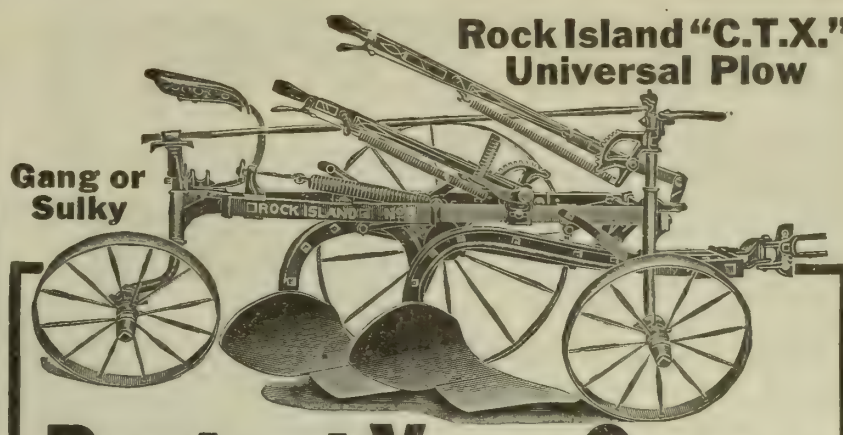
So important do we consider the proper development of our driving horses that we provide the colt with adequate facilities for exercise under proper prpotection. We do not realize the great need of giving our boys a chance to play. We hear much in our cities of the need of playgrounds and millions of dollars are being expended in our . eat centers to provide open spaces for the children's play, but many times play life is more neglected on the farm than it is in the city, because its importance is not appreciated. I well remember a boy on the farm whose father did not realize the importance of recreation of the right sort. There were no Saturday afternoons off; there was seldom a holiday. The importance of work was kept constantly in mind. That boy, now grown to manhood, is not on the farm, and the efficiency of his whole life has been lessened because he was not given the opportunity of learning the great lessons of play.

The individual, as he passes from infancy into manhood, lives out in large measure the history of the race. If he be prevented from doing those things which are natural to certain stages his usefulness is greatly impaired for the remainder of his life. The frog in his tadpole state has a tail which is evidently a useless article for his mature life. In due course of time this tail is sloughed off and his frogship appears without that appendage. However, if the tail of the tadpole be forcibly removed we find the from to be imperfect in his development. The boy who does not have adequate opportunities for play during the play years of his life will be a less effective man because of this denial. When we come to appreciate the importance of play we will give it larger attention in our rural schools; we will consider it more for our older boys and girls. Many parents are confronted with the problem of Sunday base ball. The natural solution of this question is to have ball games on Saturday afternoons, properly supervised by the right persons. It may mean that the boy will plow less corn, but it will mean a larger usefulness for him in years to come.

Frequent Holidays Important

This whole subject of the recreational life of our boys and girls is a tremendously important one, and the proper handling of this question will go a long way toward holding

(CONTINUED ON PAGE TWENTY-SEVEN)



Protect Your Crops

By Doing Away With Dangerous Air Spaces

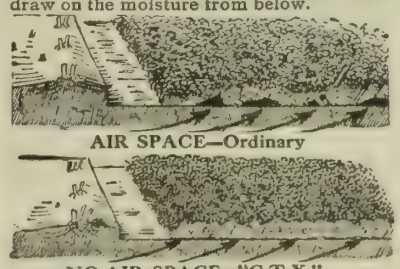
Many a fine crop has been shortened, yes ruined, because of air spaces left between topsoil and subsoil when plowing. That's why farmers everywhere are discarding ordinary plows and using the "C.T.X." You, too, will realize the economy and advantage of using the Rock Island "C.T.X." Universal as soon as you know all about it.

Why Air Spaces Prove Fatal

Ordinary plows leave air spaces between the topsoil and subsoil. This is because the slice, instead of being turned clear over flat and being thoroughly pulverized, is *crimped* up and the dirt falls back in the furrow. It isn't turned completely over.

Then, when a dry spell comes, the crop begins to burn and fire, for the moisture from below is cut off completely.

If the topsoil lay flat on the subsoil and there were no air spaces, moisture would come right up from below, just as kerosene comes up the wick of your lamp. Thus, during a long siege of dry weather, when no rain falls for weeks and weeks, your crop suffers but very little, because it will draw on the moisture from below.



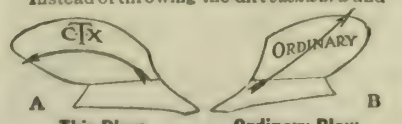
AIR SPACE—Ordinary

NO AIR SPACE—"C.T.X."

How the Rock Island "C.T.X." Universal Plow Ended Air Spaces

Now, the Rock Island "C.T.X." Universal has a very peculiar bottom—*corkscrew-like* in shape. A perfected, patented shape that is proving a boon to the user.

Instead of throwing the dirt *backward* and *upward*, this bottom sends the dirt *backward* and *DOWNWARD*. (The arrows in the pictures below show how dirt travels over an ordinary bottom and over the Rock Island Universal bottom.)



This Plow Carries Dirt Back — Ordinary Plow Throws Dirt Forward

Thus, no dirt is spilled into the furrow and each slice is so thoroughly pulverized and so completely overturned, that your *topsoil* lies right against the *subsoil*. No air spaces between. All this sounds very simple, yet it has taken years of experience and study to realize what it really means and how to avoid it. It's the last big step to perfect plowing.

A Truly Universal Plow

Nor is the solving of the air space problem all that this plow has done.

For here is a truly *universal* plow—the only *universal* plow in all the world.

You can work this plow in any field on your farm and do perfect work in *tame sod*, in *old stubble*, in *trashy cornfields*, in *meadows*, just *any place*. Makes no difference whether it's *gumbo*, *heavy clay*, *sandy loam* or *mixed soil*. Every slice will be turned over flat; all trash will be completely buried. Every furrow will be clean; and the dirt will be pulverized more completely than you ever thought possible, saving you at least one harrowing.

Do you wonder that the Rock Island "C.T.X." Universal quickly became such a sensation?

Do you wonder that, to keep up with the multiplying demand, it has taxed our factory and workmen to the utmost? That we have had to increase our factory output over four times?

Do you wonder that men who see this plow perform are discarding their old plows and using "C.T.X." simply from an economical standpoint? It's a fact.

The Price Is Reasonable

Notwithstanding the unusual demand for this plow and the fact that we own and control all patents on a plow that really has no competitor in results, *we have not raised the price*.

It requires greater care and is more expensive in construction, but enormous production enables us to get lowest possible factory cost so that it costs you practically no more than an ordinary plow.

Its great value to you is in the results—the increased crops—the saving in work and the far greater satisfaction and longer life.

FREE CATALOG

Proper plowing is the basis of all farming. You, as a user of plows, should learn what the Rock Island "C.T.X." has done toward improving the plowing. Increasing the crops without extra cost, and also saving labor. Give us your name and address on a card and we will tell you where you can see a Rock Island "C.T.X." Universal and you can judge for yourself, for your own knowledge and experience will show you why you can't afford to use any other. Write these words on a postal: *"I am interested in plows."* Then sign your name and address and mail to

ROCK ISLAND PLOW CO., 384 **Second Ave., Rock Island, Ill.**

THE SOUTHERN FIELD

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Financial Condition of Central America

By Frank G. Carpenter

GUATEMALA CITY—In this, my last letter from Central America, I shall deal with business conditions and the possibilities of the countries if they can be placed upon a sound financial basis. The present situation is abnormal. Central America is the richest part of the North American continent, and its people are among the poorest of our whole hemisphere. Its mountains have gold, silver and copper, and its hillsides grow the best coffee on earth; it lies in the front dooryard of the United States, the world's greatest market, and it can produce tropical fruits which would bring in gold by the millions. Nevertheless, the bulk of the people are paupers, and the foreign bondholder hangs around its neck more heavily than the Old Man of the Sea around that of Sinbad the Sailor.

Should Be Industrial Empire

Central America should be the industrial empire of the North American continent, and its population as rich as any on the face of the globe. Look at it! The country begins at Mexico and runs to the Isthmus of Panama; it skirts the Pacific ocean for a distance as great as from New York to Detroit, and its extreme width is as far as from Washington City to Boston; it has so much land that, in the words of John Barrett, our great specialist on all things concerning Latin America, "If it could be lifted up and laid down on our Atlantic states it would cover all of New England and leave enough over to make a blanket sufficient to tuck in New York, Pennsylvania and New Jersey." As to the individual republics, Honduras is almost as big as Pennsylvania, Guatemala is almost the size of Mississippi, Nicaragua is equal to New York and Costa Rica to Vermont and New Hampshire combined, while Salvador is about the size of New Jersey.

This territory has a population which is fast crowding 4,000,000. Here in Guatemala we have 180,000, Salvador has more than 1,000,000, Honduras over 500,000 and Costa Rica and Nicaragua have, respectively, 405,000. The only country that is at all thickly peopled is Salvador. Our New England and middle Atlantic states are about equal in size to Central America. They had at the last census a population of 37,000,000, and there is no doubt but that Central America could support 10,000,000 or so more than it has.

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And now let me give you some idea of the mighty debt load which hangs from Central America's neck. The money was borrowed for railroads and other developments, but the most of it has gone into the pockets of the officials, and today there is hardly a government here which is not honeycombed with corruption and bribery.

The debts are enormous. Here in Guatemala the gold loans have run high into the millions; they amounted to more than $14,000,000 in 1908. The local currency is now worth 6 cents on the dollar, and an American dollar is equal to eighteen of Guatemala dollars.

In Honduras the situation is worse. That country has a population of less than 500,000, and its foreign debt is $125,000,000 and more. If the people should pay it in full they would have to be assessed $250 per head, or about $1,250 per family, a thing which is evidently out of the question when we remember that many of them work for only a few cents a day.

Do you wonder that Honduras can't pay its interest? The bulk of its debt was contracted more than forty years ago, and it has paid no interest whatever since 1872; indeed, the most of the debt is interest. The original loans footed up only about $27,00,000, but the interest has climbed until it is now mire than three times the amount of the original loans.

Vast Foreign Debts

Nicaragua has a foreign debt of $9,000,000 or $10,000,000, the Salvador debt is about $11,000,000, and that of Costa Rica in 1910 was more than $15,000,000, of which $6,000,000 or $7,000,000 was interest. In addition to these vast sums every country has its internal debt, and in most of them the currency is far below par.

Where Uncle Sam Comes In

And now let us see where Uncle Sam comes in. In the first place, he is interested in the present situation on account of the Monroe doctrine. We cannot have European nations interfering with affairs in southern North America, and especially now as we have the Panama canal. Nevertheless, the most of this debt is owing to Europe, and the powers there intimate that if we make them keep their hands off we ought to see that they get back the money they have loaned. The foreign bondholder in many cases would be glad of the return of the principal, lacking the interest, but they say the United States should make the credit of Central America good. This can only be done by treaty arrangement which will give us the supervision and application to the foreign debts of the customs collections, as was done in the case of Santo Domingo, resulting in the wiping out of revolution and the putting of that country on a good business basis. This, in short, is the proposition of the United States government.

With a view to this end conventions are now pending, or have been entered into, with several of the governments, and, based upon them, new loans amounting to millions of dollars are ready for use. It was to further this movement that Secretary Knox made his trip to Central America. He came into contact with the presidents of the republics and told them that they ought to observe the obligations of the Washington conventions, which they had entered into through their repsentatives. He demanded that proper economic conditions be established, and here in Guatemala he practically told President Cabrera that the currency must be reformed and the financial obligations provided for.

Financial Situation Perplexing

For the ordinary man to understand the financial situation in these Central American republics is not

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easy. Take this matter of Honduras, where a country about as big as New York, with a population of about 500,000, owes $126,000,000. The loans were made between 1867 and 1870, and upon them for forty years no interest has been paid. The loans, as I have said, are altogether about $27,000,000, and $15,000,000 of this bears interest at 10 per cent per annum, while on over $10,000,000 the interest rate is between 6 and 7 per cent. The bonds are largely owned in England, and the British bondholders proposed an arrangement about three years ago to settle on certain conditions. Among these was one provision that the debt was to be a lien on the customs, and another was that the tariffs were to be raised. They also proposed to bring the chief railroads under foreign control and to do other things which would seriously affect certain American investments.

Asks State Department for Loan

To this the United States objected, and Honduras then asked our State department to arrange for a loan. This was provided for in connection with J. P. Morgan & Co. It was proposed to settle with the foreign bondholders at 15 cents on the dollar, and to this they agreed. The security for the loan was to be the customs receipts of the government and the loan was to be big enough to settle the foreign debt, adjust the domestic debt and to give funds for railroad construction and other internal improvements as soon as the country was in condition for them. The loan was to consist of bonds, which were to be sold at 88 cents on the dollar. This arrangement was made at Washington, but it failed to be ratified by the Honduran government, and since then arrangements have been made with New Orleans bankers who are associated with the bankers of New York.

One reason for the rejection of the Morgan proposition was the selling of the bonds at 88, which the financiers here say was a very fair deal, and more than is usually paid for Central American bonds.

The question as to the payment of any debt depends on the assets of the debtor. I am told here that Honduras has resources which will enable it to pay any debt of this kind it might contract. If the customs receipts be properly handled and the people kept free from revolutions the country will develop rapidly, and, with funds for internal improvements and railroads, will soon be about the richest of all Central American republics.

Honduras Rich in Timber

Honduras is rich in timber, including mahogany and dye woods, and it has great agricultural possibilities. Cacao, cotton, sugarcane, coffee, tobacco and other tropical and subtropical products can be grown on the lowlands, while farther up there are immense pastures fit for grazing. With rapid transit to New Orelans, there is no reason why Honduras should not be one of the fruit gardens of the United States. The banana is said to grow wild in all parts of it below 2,000 feet, and the banana shipments now average about $1,000,000 a year.

There are good coffee lands throughout the hill country at altitudes of about 1,500 feet and upward, and lower down are sugar lands, so connected with mountain streams that their refineries could be run with water power.

As to mines, Americans are largely interested in them in different parts of Honduras, and some of the mineral properties are valuable. Altogether, 700 mines of various kinds have been announced, and there are placer deposits in the beds of the rivers from which the native women are taking gold, washing it out through a sieve. The Rosario mine, not far from the capital, has been operated for over thirty years, and from it alone has come gold and silver to the amount of $16,000,000. Honduras has rich deposits of lead, copper, iron, zinc, nickel and coal.

The possibilities of Nicaragua are equally good. That country has an area of 49,000 square miles, and the greater part of this is good land. The mountains contain large deposits of gold and silver, and more than 500 gold mines are registered in the bureau of statistics of the republic. American and English companies have secured mining concessions, and as it is now the principal mines on the west coast are in the hands of English capitalists. There are rich placer mines on the Atlantic slope, and also quartz mines and gold-bearing reefs. I was told in Costa Rica that if conditions can be made safe in Nicaragua its mineral deposits will be rapidly opened and that much American capital is now ready for investment there.

Nicaragua's Great Resources

Nicaragua has great timber resources. Its coffee is of the finest quality and there are extensive lands which could be devoted to sugar. The present product of the plantations is already more than $1,000,000 a year, and the biggest sugar estate of Central America is located there. There are also extensive banana plantations, the fruit going to New Orleans, while quite a large area is devoted to the raising of cocoa, the industry being subsidized by the government. At present the output is consumed in the country, selling at from 20 to 25 cents per pound. The average yield per tree is two pounds, and an orchard will yield 600 pounds to the acre, which means gross receipts of $120 per acre per annum.

The loan to Nicaragua is $15,000,000, and if it should be carried out it will result in the putting of that country on a sound basis, secured by the customs. The plan will lead to a stable currency in a land where the paper money has been worth as low as 4 cents on the dollar. It would also bring about a railroad development, backed by American capital, a road having been planned from Lake Nicaragua to the east coast, forming in connection with that lake a transcontinental route across Central America. There is no doubt but that the interest could be paid by the customs, which would probably increase through our management.

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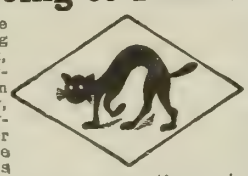

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Woman's Idea of Conservation

By Mrs. W. O. Paisley

THE Second Minnesota Conservation and Agricultural Development Congress held in Minneapolis was an important assemblage of persons interested in the advancement of the North Star state, and while on account of its motto, "Talk Minnesota, keep pushing," there were some who were disposed to call it a "conversation" congress, yet it was a meeting which will bring splendid results. Similar meetings are needed in every state to spread interest in the development of our country.

The first meeting of the kind was held in 1910, and 750 delegates registered during the meeting. This was a much larger attendance than was attracted by the National Conservation Congress held in the same building six months ago. At the second state meeting the registered attendance was over 4,500, and delegates from all parts of the country were present, besides those from every community in Minnesota. It will pay those interested to study the work done in Minnesota. The one held in Omaha last January was interfered with by severe weather conditions, but neither that or previous ones held in Nebraska or other states have stirred up the interest in their work that has been developed by the one in Minnesota.

The program of the congress was one which covered topics of interest to all. The state of Minnesota is one of the older ones of the west, but even at that only one-third of its acres are under cultivation. The sections which were first developed did not receive proper care in the earlier days and their fertility has been exhausted and returns from them have been reduced so the interest was both in conservation and development. "The Soil," "Practical Farming" and "Scientific Farming" were topics at special meetings for farmers, the discussions being led by agricultural experts, and at the regular sessions of the congress agricultural topics were discussed by James J. Hill, the empire builder, and by prominent agricultural educators and editors; "Good Roads," by a representative of the Department of Agriculture; "The Money Trust" and financial topics by prominent financiers; "The Conservation of Railway Service," by President Howard Elliott of the Northern Pacific railway; "The Conservation of Life;" "The Prevention of Fire Waste," "Child Conservation" and many similar topics were the themes of experts in their respective lines and the closing talk was by Maude Ballington Booth on the conservation of "The Discharged Prisoner—An Asset."

I have mentioned these numerous topics to call your attention to the scope of the meeting. While it was one where Minnesota was the theme, it was also one where every state was interested, for the lessons apply to any section. And woman's work in conservation was not forgotten. Each day there were women on the program, and all of the speakers showed their appreciation of woman's part, both in conservation and development. Miss Frances Lapham of Caledonit, Minn., a school teacher and an agricultural investigator, spoke on the topic, "Keeping the Girl on the Farm." She presented the topic from an optimistic standpoint.

"If you can solve the problem of keeping the boys on the farm, I will risk the girls," she said, and she urged the co-operation of the parents in making the duties of the farm girls pleasant and in helping the daughters to take a pride in the work, but she urged that they be given some responsibility. "When you find a girl who has shown a spirit of unrest," she said, "it is usually a case of having been pampered. Maternal influence is of vital importance in bringing up girls so they are happy in farm houses, but this influence should be exerted while they are young. Optimism should be the ruling factor of every farm home, and if this predominates it will solve the question to a marked degree."

Miss Anna Shelland, superintendent of Koochiching county schools (please note that most of Minnesota's counties, as well as many of its towns, have Indian names), whose home is away up on the Canadian border, gave one of the best addresses of the whole congress on the theme of the development of a new country, and it was an effective appeal for good roads, as well as a message regarding "The Rural School in a New Country." Miss Shelland brought a message that told of constructive work for best results and told of the difficulties in getting to school, and of the effect of poor roads on the problem and of other phases of the work.

"Each community is a world of its own, and some of them are composed of only six or eight families," she said. "Even along the lines of railroad the communities are scattered, separated by swamps, and likewise by rivers, until they are at least partially isolated. Away from the rivers and railroads they are even more isolated, but we have tried to reach every child by giving the best possible service to each school." She told the story of privations and of the lonesome conditions in those border districts and closed by saying: "Give us roads, or appropriations equal to the taxes the state should pay on its land, and in ten years' time we will show the best schools, the finest gardens, the best wheat fields and the most productive and prosperous country in all the land, for nowhere can you find better climate, timber, soil or mineral wealth."

A topic which was placed on the program at the solicitation of the women and with the hearty support of Governor Eberhardt, the president of the congress, was that of "Weights and Measures." The director of the bureau of standards from Washington, D. C., and Dr. Fritz Reichmann, superintendent of weights and measures for the state of New York, were the speakers. The latter said:

"The women are to be congratulated on the splendid work they have done in behalf of the weights and measures agitation, which they have started, not only in Minnesota, but in all parts of the country. The women have fully realized the importance of this problem in the direct bearing which it has on their homes.

"A child brought up in a home where the mother carefully attends to the accuracy of the buying end of the household will find that it has an added advantage later in life in the splendid training that she will have received, for this sort of accuracy will reflect in every phase of home life."

When asked what he thought of the possibility of the women securing the law regarding the uniform weights and measures in the state, Dr. Reichmann was most emphatic in his affirmation. "Of course they will. In the first place, the women always get what they decide they want, and in the second place, Minnesota is one of the progressive states and will take such opportunities to keep in the rank of being one of the leaders of the northwest." Other states will do well to take the same position in this matter.

Not only did women take part in the program, but they were the hostesses of the congress. The fact that the Northwestern Products exposition was being held in the adjoining building added interest to the congress, as at the land show there were many exhibits made by women, and the secretary of the Women's Commercial club of Seattle was one of the active workers at the exposition. In order to shorten the name of the congress it will be known hereafter as the "Minnesota Agricultural Development Congress," and a state appropriation has been asked to meet part of its expenses, but the conservation feature will remain prominent in its work, and each community can profit by the work done, not only the communities in Minnesota, but those in other states as well.

Woman Wheat Grower

A woman was one of the competitors making a close race for the world's greatest wheat prize, offered at the Minneapolis Land Show. This was a gas tractor and gang plow valued at $5,000, and was offered for the best five bushels of wheat exhibited from the seven northwestern states. Over 400 entries were made and 300 bushels of wheat judged in the final competition, and the prize finally awarded to J. P. Nash and C. P. Bridgeman, ranchers at Clyde Park, Mont. The wheat was judged on yield, the commercial score card and on baking test. One of the finest samples was entered by Miss Josephine Connolly, a school teacher and homesteader at Power, Mont. Her entry scored high on the physical and laboratory tests, but she lost on yield. In the large field of entries she stood tenth in the final returns. Although not a winner in this big competition, Miss Connolly has demonstrated that a woman can raise wheat as well as teach school.

ntelligence in the Feeding of Dairy Cattle Means a Profit

STUDENTS of dairying have often defined the cow as a factory where roughage and grains are converted to milk and butter-fat. If this finition is to hold and we consider e dairy cow as a factory, then she ould be required to return a profit e same as the manufacturing es-blishment.

Here is where many dairymen ten go wrong. They get out the ring balances and make a milk eet and then by the use of the abcock tester proceed to sell all ws which do not show a fair profit. owever, this test is often not a ir method of determining a cow's lue, as poor feeding on the part the owner has robbed many a w of her rightful place in the herd. ie may make a good yield of milk id butter-fat, but she cannot make profit with the high-priced feeds ot especially inducive to milk pro-uction.

The trouble is in most cases that e average dairyman does not pay icugh attention to the balanced ra-on. That is, the proportion of the fferent feed constituents is not rnished in the amounts required maintain the body and produce e maximum amount of milk. In any cases too much rough feed is ven and as a result a portion of it is wasted and the ration is made too costly. Unless a cow is an exceptionally high producer she cannot begin to make the profit that she would if she were properly fed.

If the feeds are to be used to the best advantage they must be palatable and succulent. Nothing is more certain to fill the milk pail than a little care in making up the ration.

Then again, the ration must be an economical one. In order to meet this qualification the writer would advise every dairyman to know the market value of the different feeds he is using, together with the digestible nutrients contained in each. The latter can be obtained in tabular form in most any book or bulletin on feeding of live stock. Then when protein feeds are desired it will be a matter of division to know which feed is a most economical one to use.

If, for example, wheat bran sells for $26 per ton, protein costs 10.6 cents per pound, while if gluten feed sells for $28 per ton, protein costs 6.9 cents per pound. The latter, then, would be much the cheaper feed to buy. The cost of protein is figured as follows: Wheat bran contains 12.2 per cent of protein, or 244 pounds in one ton; then $26, or the price of 2,000 pounds divided by 244 equals 10.6 cents, or the cost of one pound protein in wheat bran.

As an example for poor judgment in feeding I would refer you to the feeding record of a herd of twenty-eight cows owned by a firm near Manchester, Ia. The average production of these cows for the year was 225 pounds of butter-fat, while the profit averaged but $4.34 per cow. The reason for this low profit is easily explained when we notice that the cost of the roughage averages $53.15 per cow.

Even the poorest and the best cow in this herd were fed the same amounts of roughage regardless of the fact that the one cow produced 300 pounds of butter-fat, while the other produced just half as much. A small difference is to be found, however, in the cost of the grain, the poorest cow being fed $11.70 worth, while the highest producing cow received $14.23 worth of grain.

The chief cause of this high cost of roughage was the feeding of $25.76 worth of corn stover, together with $7 or $8 worth of timothy. If more silage had been fed this herd could have been fed much cheaper with feeds which would have been more inducive to milk production.

Timothy hay never was a feed for dairy cattle, and never will be; it lacks palatability, is not especially a milk-producing feed and is too high-priced for the nutrients which it does contain. Corn stover has somewhat the same objections and characteristics that timothy hay has and should not be depended upon for a very large part of the roughage.

Contrast this herd with another one in the same neighborhood and belonging to the same co-operative cow testing association, owned by a somewhat better feeder. The total profit of his ten cows amounted to $192.03 more than the total profit of the first herd, although the first herd contained twenty-eight cows, which averaged forty-three pounds of butter-fat more per cow than the ten cows produced on an average. In this latter herd each cow cost her owner $23.58 for roughage averaging a profit of $30.44 each.

The following table puts the data of these two herds in tabular form and brings out the contrast still more plainly:

Herd No.	No. of cows.	Ave. lbs. butter-fat per cow.	Ave. cost of roughage per cow.	Ave. profit pr cow
1.....	28	224	$53.15	$ 4.34
2.....	10	181	23.58	30.44
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Of course, the individuality of the cow and the conditions existing on the farm will have an influence on the kind of ration fed. Allowing for all common variations in the conditions, the fact remains that the man who spends a little time in becoming acquainted with the needs of his cows and who understands something of the value of the different feeds is the man who is going to climb the ladder of success in dairying. He will not be the man who has to keep twenty-eight cows of superior producing ability in order to get two-fifths as much total profit from his herd as a man who has but ten cows, either.

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Is now ready for you, brimful of quality vehicles of all styles at bargain prices. This handsome book is profusely illustrated in colors and describes every vehicle in detail. There is nothing left to the imagination, everything is plainly shown and clearly explained. You are as safe in ordering from it as if the vehicle actually stood before you.

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Our 1913 Vehicle Catalog shows a Top Buggy for $30.95, a guaranteed Runabout for $24.90, a Canopy Top Surrey for $52.80, a standard Farm Wagon for $49.00 and over one hundred other similar bargains.

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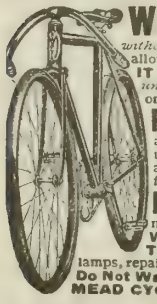

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FACTORY PRICES *Do not buy* a bicycle or a pair of tires from *anyone* at *any price* until you write for our large **Art Catalog** and learn our *wonderful proposition* on first sample bicycle going to your town

RIDER AGENTS everywhere are making big money exhibiting and selling our bicycles. **We Sell** cheaper than any other factory. **TIRES, Coaster-Brake rear wheels,** lamps, repairs and all sundries at *half usual prices.* **Do Not Wait;** write *today* for our *special offer.*

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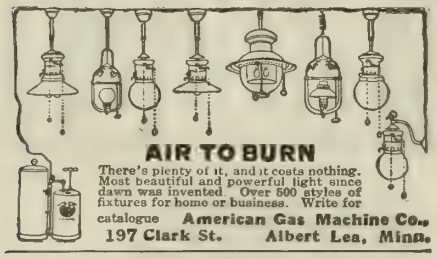

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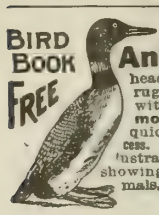

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Reduce Farm Work!

This rapid tool grinder, with its wonderful artificial diamond wheels, sharpens plow points, saws, axes, discs, sickles and all farm tools 25 times faster than a grindstone, 10 times better than emery. Will not draw temper. It reduces farm work, saves time, labor and money. Will send it on trial without advance payment or obligation.

LUTHER DIMO-GRIT GRINDER has all metal frame, enclosed shaft drive, dust proof bearings, runs easy as a sewing machine. Special attachments such as forge, milk tester, jig saw, ripsaw, lathe, drill, etc., furnished if desired, fully guaranteed. Write for free book on tool grinding and liberal free trial offer.

Luther Grinder Co., 382 Stroh Bdg. Milwaukee, Wis.

Of Interest to Our Women Readers

All in a Coach and Four

The quality folk went riding by,
All in a coach and four,
And pretty Annette, in a calico gown
(Bringing her marketing things from town),
Stopped short with her Sunday store,
And wondered if ever it should betide
That she in a long-plumed hat would ride
Away in a coach and four.

A lord there was, oh, a lonely soul,
There in the coach and four;
His years were young, but his heart was old,
And he hated his coaches and hated his gold
(Those things which we all adore).
And he thought how sweet it would be to trudge
Along with that fair little country drudge,
And away from his coach and four.

And so next day he went riding back,
All with his coach and four,
And he went each day, whether dry or wet,
Till he married the sweet little maid Annette
(In spite of her lack of lore).
But they didn't trudge off on foot together,
For he bought her a hat with a long, long feather,
And they rode in the coach and four.

Now, a thing like this could happen, we know,
All in a coach and four;
But the fact of it is, 'twixt me and you,
There isn't a word of the story true
(Pardon I do implore).
It is only a foolish and fanciful song
That came to me as I rode along,
All in a coach and four.
—Ella Wheeler Wilcox in Lippincott's.

Gathering the Eggs

Our Home Chat

Many a boy and girl has been scolded for laziness when they in no way merited the rebuke. Children who are growing fast, "shooting up," as we say, often lack strength, and have not the vitality for hard work. Their development may not be uniform, perhaps the heart has not grown in proportion and the child is not in shape for work. A boy and g' ' in this condition will be inclined to sit around in corners, without taking part in strenuous games or work. Nature is merely indicating to them in her own way the course they should pursue. To force a child on to effort under such a handicap is not only an injustice, but may result in lasting harm.

Dullness in school may usually be traced back to physical imperfection; in fact, almost always has its origin there. The eyes may be defective, making close application to the printed page, either painful or nerve-racking. Adenoids and enlarged tonsils are a great source of trouble resulting in mental backwardness. Improper ventilation in the school room or the sleeping room is perhaps the most common source of trouble, resulting in headache, nausea and general debility. There is plenty of fresh air in the country—let it into the houses. Good health is due every child and should be the first consideration of parents. To add to a child's physical inability by scolding and unjustly accusing him of laziness will only result in bringing bitterness to his little soul.

THE EDITOR.

What Ventilation Does for the Child

Dr. C. W. G. Rohrer, M. A., M. D., Ph. D., of the Maryland State Board of Health, has just completed one of the most exhaustive researches in the value of fresh air to school children that has yet been made. Among the most important of public health questions is the problem of ventilation. High up in the scale stands the ventilation of school rooms. The pupils, as well as their busy teachers, spend from five to six hours daily in the school room. This period represents nearly one-fourth of the twenty-four hours. How important, then, it becomes for both pupil and teacher that the school room should be properly ventilated.

In order to ventilate a school room properly the air must be kept constantly in motion. Winds are powerful agents for ventilation, and a slight breeze passing through a school room changes the air therein many times in the course of an hour and carries out many of the impurities. The best method of natural ventilation is to lower the school room windows from the top, a few inches or more, according to th season, to allow the warm expire air to escape. Also raise windo slightly from the bottom to perm fresh air to enter from without. the wind is high and the weath extremely cold, the windows nee not be raised from the bottom. sufficient amount of fresh air wi enter between the upper sash ar the lower one.

If natural ventilation proves to inadequate, artificial means must resorted to. Some of the lar school rooms are splendidly equipp by reason of the hot-air furnace. Th warm air is admitted by means registers built in the floor; these a located a sufficient distance fro the desks of the school children, as not to cause any of them to b come overheated, because nothing more dangerous than to sit or star over a hot-air register on a chill wintry day. The windows are lo ered from the top to allow the e pired air a means of escape. Th windows long, and with large pan of glass to insure plenty of light a sunshine, extend within a few fe of the floor. Between the windo additional small inlets for fresh a are also provided. This arrangeme permits the fresh air to be proper heated at the time of its entran into the room. If this was not do unpleasant chilling and injurio draughts would be the result. Ca must be taken that the pupils ha a full supply of properly-warm air and are not overcrowded.

The air supplied to school hous should be taken from a point w above the level of the ground, whe it is free from contamination and constantly changing, and not fr cellars or closed areas, where t atmosphere is stagnant and full impurities.

The best of the artificial venti tors is such that the air after bei warmed and brought into the sch rooms at a level a few feet above t floor circulates through them and finally withdrawn through regist at the floor level, whence it is c ried underneath the floors to lar outlet shafts in which a draught constantly maintained.

Opening the doors and windo when the pupils are out of doors flushing the rooms with fresh air is an excellent aid, and is even u ful in cases where the most elabor artificial system of ventilation is use.

Forty per cent of the diseases winter are due to improperly ven lated houses and school rooms. P pils habitually living in such an mosphere are almost uniformly l guid, subject to headaches, nau and loss of appetite, and often skin eruption, pneumonia, bronchi and other ailments.

Parents often wonder why th children are stupid and drowsy wh at school, and they do not progr favorably in their studies. Def tive ventilation is often the cau Then it is that much study becon "a weariness of the flesh."

DR. LEONARD K. HIRSHBER

Fashions : Winter Comfort for the Little Ones

LAST season the trend of laces for dress embellishment ran toward the coarse and heavy varieties, uch as macrame, ratine, the very eavy cluny, Irish and torchon. his season the fine-meshed, flimsy, oft-as-tissue laces have been rein- ated in favor and, with excellent easons for the softness and pliabil- y of the materials in vogue, call for corresponding quality in trim- ings in order to produce the grace- ul lines and clinging effects pre- cribed by the present modes.

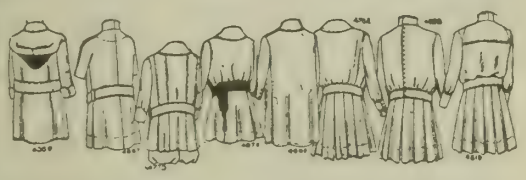
There is a particularly strong enchant for shadow and malines ces containing pretty flower and croll designs. These laces ome in various widths—in ne white, cream and deep cru tones—and furnish an xquisite trimming on ainty evening frocks, after- oon gowns, blouses, neg- gees—in fact, almost everything at can be placed in the cate- ory of women's garments. Shadow ces are popular for frilling, hich is used to trim sleeves nd collars of waists, suits and resses. The Directoire craze occa- oned an unusual demand for soft ce and net jabots, frills and other nceits worn in conjunction with gh and low Robespierre collars.

Bohemian, Mechlin, Pointe d' lencon, Venetian, Milan and Val- nciennes laces are the most popu- r—outrivaling Cluny and Irish, ne favorites of a season ago. How- ver, both these laces are still used a great extent, but the thread mployed in their makings is very uch finer.

The hand-made laces mentioned re very expensive—far too expen- ve for the average purse, but hand- ome imitations of them can be had t remarkable reasonable prices, and ney serve the same purpose, with qually effective results. So clever re some of these laces imitated that ne difference between the genuine nd the machine-made varieties can ardly be detected except upon very lose inspection.

Crochet lace is still very popular, nd the girl who has the time and alent can have most beautiful trim- ings of her own making. Designs nd directions are appearing in many nagazines and are easily followed.

4389 4805



4775

4876
4867

4782

4819 1868

Description of Patterns

4389—This little coat intended for a girl small tot for "best" wear, was hand- omely made of gray blue corduroy, with ollar of broadcloth in a self-tone. A lit- le bonnet coat for ordinary wear may e made by this pattern, using one of the oft reversible materials. The pointed ood should, of course, be used in this ase. No. 4389, in sizes 6, 8, 10 and 12 ears, the 8-year size requiring 3 yards of 6 inch material. Price, 15 cents.

4805—There is no mistaking the fact that his double-breasted overcoat is intended or a boy. The severe cut and finish will e appreciated by the little man who vants a coat like father's. Dark blue ersey, cheviot and the soft, thick Scotch nd English mixtures are recommended. No. 4805, in sizes 2, 4, 6, 8, 10 and 12 years, he 8-year size requiring 1¾-yard of 54- nch material. Price, 15 cents.

4876—A pretty little dress like this model was made of tan and brown checked, ightweight woolen goods, with trim- mings of tan-colored broadcloth. The low waistline and the very slightly bloused body portion are becoming features. An up-to-date detail is shown in the short sash ends at the back. No. 4876, in sizes 2, 4, 6 and 8 years, the 4-year size requiring 2 yards of 36-inch ma- terial, with 1¼-yard 27-inch contrasting fabric. Price, 10 cents.

4867—A dear little dress for Sunday wear could be made like this model using dark green velveteen with silk braiding in a lighter green. The under-sleeves may be of white China silk, percale or lawn. The dress is in one piece from neck to hem, and has an inverted plait at each side seam. No. 4867, in sizes 1, 2, 3, 4 and 6 years, the 4-year size requiring 2⅝ yards of 36-inch material. Price, 10 cents. Braid- ing design No. 11767, price, 20 cents for perforated pattern.

4782—White or biscuit - colored serge would make a handsome dress of this pretty model, while the darker colors are, of course, better for general wear. The collar may be of broadcloth or satin. No. 4782, in sizes 6, 8, 10 and 12 years, the 8-year size requiring 2⅝ yards of 44-inch material. Price, 15 cents.

4819—One of the most attrac- tive and girlish dress models is shown here. For its devel- opment are suggested serge, cheviot, black and white shepherd checks and the new wool eponge or sponge cloth. The dress of taupe-colored serge in the illustration was made very pretty with white satin collar and tiny brass buttons. The applied pocket at the right side of the skirt will appeal to the little maid. No. 4819, in sizes 4, 6, 8, 10, 12 and 14 years, the 8-year size requiring 2½ yards of 44-inch material, with ⅜-yard of 18-inch satin. Price, 15 cents.

4868—Tan and blue striped, lightweight woolen goods combined with old blue broadcloth makes a pretty and service- able selection for a school dress. While a front closing is here simulated, the ac- tual closing is at the back. One-piece sleeves, fitted at the wrist by dart tucks, are sewed into large armholes, and the attached, side-plaited skirt is cut in one piece. No. 4868, in sizes 4, 6, 8, 10 and 12 years, the 8-year size requiring 2⅝ yards of 44-inch material. Price of pattern, 15 cents.

How to Order Patterns

The Twentieth Century Farmer will supply readers with perfect fitting patterns; all seams allowed.

With every pattern there is a cutting guide and a construction guide.

When ordering give number of pattern desired and the size.

When ordering for children give age in years.

Address Pattern Department, The Twentieth Century Farmer, Omaha, Neb.

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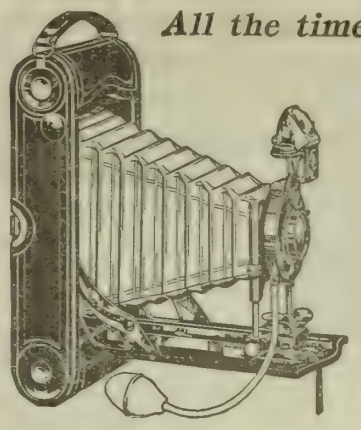

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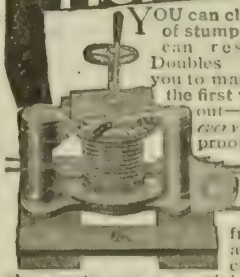

YOU can clear an acre or more of stumps a day. No stumps can resist the Hercules. Doubles land value—enables you to make $1200.00 on 40 acres the first year after stumps are out—and $750.00 in crops *every* year after. Get the proof. Why not

Write Us Now

Book tells all the facts—shows many photos and letters from owners—tells all about the many Her- cules features. We'll also quote you a special money saving price proposition that *will interest you.* Address

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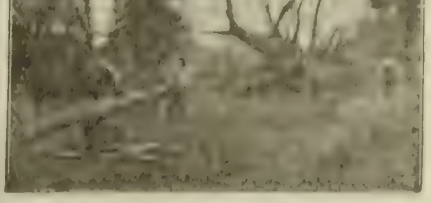

This Coupon and good for the next num- bers of all of the fol- lowing magazines:

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Pictorial Review
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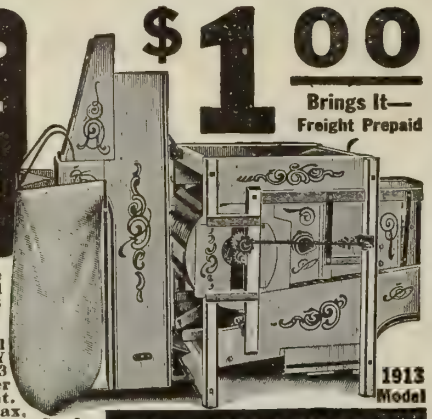
One Dollar

Is All It Now Costs to Have Your Seed-Grain Cleaned and Graded

Manson Campbell

Now that farmers everywhere are cleaning and grading their Seed Grain, the question is, how to get it done *best, easiest* and cheapest. Here's my 1913 offer:

Send me one dollar and I will ship you, FREIGHT PAID BY MYSELF, this improved 1913 model Chatham Grain Grader and Cleaner with all equipment. Clean your Seed Wheat, Oats, Flax, Barley, Peas, Beans, Corn, Grass Seed, etc. Then PLANT those fine seed. AFTER you have harvested a bumper crop, pay me the balance of my low price. Not one penny need you pay, except the $1, until next November. And by November YOUR CHATHAM WILL HAVE MORE THAN PAID ITS ENTIRE COST in INCREASED CROPS. Then you'll have a "Chatham" to work FREE for you the rest of your life.



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1913 Model

The CHATHAM Grain Grader and Cleaner

Your Dollar Returned

if you want it. I don't want your dollar or want you to keep my "Chatham" unless it pleases you. If, after a 30-day test, you are not satisfied, return the machine at my expense and I will send back the dollar.

A Machine That Fits Your Farm

After 40 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on *your* farm. Experience has shown that a Grain Grader and Cleaner should have special equipment for the particular farming section to which it goes. For example, I send an *entirely different equipment of screens*, riddles and gangs to Maine from what I send to California. In fact, *there are scarcely 2 states in the U. S.* to which *I send the same equipment*. Thus you get the exact and proper outfit to handle the grains and weed seed that grow on *your* farm. You *don't* have to pay for a lot of extras for which you have no use.

Extra Screens and Riddles Free

In case you want more or different screens, just write me and I will send them free. Not a penny would I ask for extra screens and riddles.

I also have a **Free Service Department** which will separate, clean and grade FREE any mixture you send in. If you've got some impurity in your grain that you cannot get rid of, don't get discouraged. Write me.

Handles all Small Grain and Grass Seed

My 1913 Chatham handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all sunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bully chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Easiest running mill on earth.

Special Corn-Sorting Attachment

Last year I added a Corn-Sorting Attachment, which grades corn so that a *round* or *edge* drop planter drops the right number of grains in 98 out of every 100 hills (in repeated tests at State Agricultural Colleges). Same planters, loaded with *ungraded* corn, make only 65 out of 100 perfect hills. In two months I shipped to Iowa farmers alone 4,000 machines with Corn-Sorting Attachments. Try my Special Corn-Sorting Attachment. *It will increase your corn crop amazingly!*

Postal Brings My New Book

on **Seed Selection.** Every chapter is highly practical and exceedingly interesting. It shows an easy, simple way to get rid of any weed on your farm; how to separate any mixture of grains—in short, how to get perfect grain for *sowing, feeding* or *marketing*. Send postal *today* and receive by *next mail* my new Book *free*. **Address Dept. 49,**

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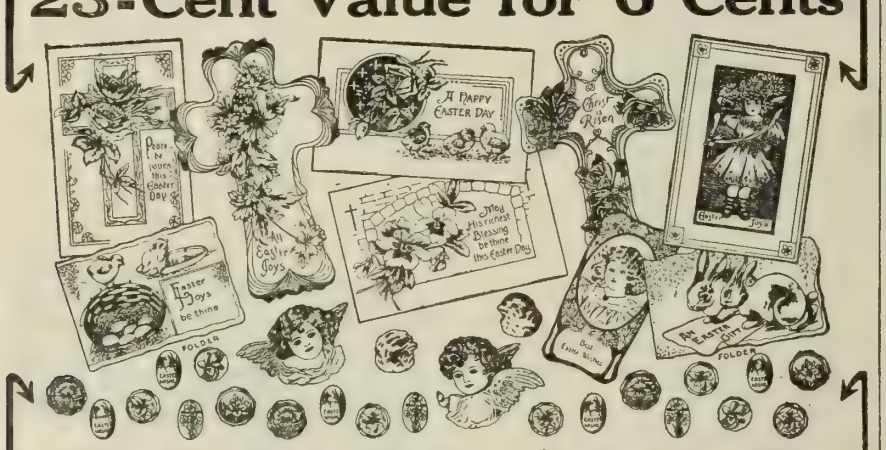

A 33-Piece Easter Assortment

Easter Greetings

The sending of small Easter remembrances is a pretty custom that grows every year. The cards, book marks, folders and decorative novelties here offered, while inexpensive, are attractive and express the Easter sentiments as no words can.

4 Easter Post Cards -	Value 4 Cents
2 Fancy Crosses - -	Value 5 Cents
1 Easter Book Mark -	Value 2 Cents
2 Angel Heads - - -	Value 2 Cents
2 Chicken Heads - -	Value 1 Cent
2 Four-Page Folders -	Value 4 Cents
20 Easter Seals (Assorted)	Value 5 Cents
33 Pieces - -	Regular Value 23 Cents

As to Quality

Regardless of higher prices, you cannot get more exclusive designs, attractive coloring, appropriate text matter, a more varied assortment, or better material and workmanship than is displayed in this outfit, which is well worth the regular price of 23 cents.

To show you the exceptional value, and to introduce Our Big Easter Offer,

We Give You this 33-Piece Easter Outfit for only Three 2-cent Stamps

if you will agree to show your package to four of your friends and try to interest them in *Our Big Easter Bargain Offer.*

Our supply of these introductory packages is limited, so send your order today. Don't delay, tomorrow may be too late. Address your order to

F. H. PHELPS, Dept. 28 , Springfield, Mass.

Beauty, Strength, Durability—Easy To Erect—Cost Less—THAN—Wood

CYCLONE FENCES AND GATES

This is the standard lawn fence of America—the fence of Quality and Economy. Gives the home permanent protection and makes the ground look attractive and prosperous.

CYCLONE LAWN FENCE is made of the best quality, large, heavily galvanized, rust-proof wire, woven by the exclusive Cyclone *sag proof* method. Easy to put up—self adjusting to uneven ground—may be erected on wood or iron posts. Made in many patterns.

CYCLONE VICTOR FARM GATE is heavily galvanized and built different from any other. You can raise it to any position and it stays there; automatic lock is absolutely stock proof. Strong, tubular steel frames; Fabric of heavy rust-proof wire held firm by stretcher bar; no holes to weaken frame.

Catalog Free. Write today. **CYCLONE FENCE CO., - Dept. 82 WAUKEGAN, ILL.**

Stories by Our Young People

A Sleepy Song

Down in the Valley of Drowsyland,
Guarded by Walls of Sleep,
Walks there a Shepherd with staff in hand,
Guiding his flock of sheep.
Out from the shade of the Dreamland tree
Comes one, then two,
Then two and three,
And after the two come three and four,
Who follow him on to the sheepfold door.

The Shepherd sings and his voice is low,
But flocks are hard to drive.
After one comes two, then three and four,
And following four are five,
Then five and six,
And seven and eight,
Pass sleepily in through the sheepfold gate,
And close by the eight comes nine and ten,
But the Shepherd goes back to call again.

Down in the Valley of Drowsyland,
Guarded by Walls of Sleep,
From under the Dreamland tree there come
Eleven and twelve white sheep.
First one, then two,
Then three and four,
And after the five and six come more.

But the thirteenth sheep is sleepy and late,
So the Shepherd carries him through the gate.

—Irene Elliott Benson in The Delineator.

The Editor's Corner

There is frequent request for ideas for young people's parties and entertainments. With just a suggestion to direct them, young people can evolve something which will be clever, original and no end of fun. If you are planning a party and looking for ideas for entertainment, why not use the anagrammed names?

Make out a list of all those who will be present and then work our anagrams on these names. Here are a few examples:

Sound of a trumpet? Blair (blare).
The oldest family of all? Adam's.
The flouriest name? Miller.
The state of a honeymoon? Bliss.
The modest architect of the barrel? Cooper.
The name of great profits? Gaines.

Write the anagrams on cards and tie the cards with different colored ribbons; one boy's card and one girl's card with the same color, so this may be used as a means of finding partners for lunch by matching colors. The guessing of the anagrams will furnish amusement during a part of the evening.

THE EDITOR.

(Prize Story.)

Archie's Dream

By Hester I. Harper, Aged 14, Lo-Ia. Blue.

When Archie went to feed his pet squirrel at noon he was drowsy and sat down under a tree to rest. He had been there but a few minutes, when he heard a voice speaking to him. He looked and found it was the squirrel, which was sitting in the bottom of his cage.

"Little boy," it said, "I am very lonely and wish you would let me out of this cage. You have been kind to me, but would you like to be shut up in a room and not let out to play with other boys? Your mother was good to you when you had the measles, but were you happy? I was happy until I was caught, but now I am very sad."

Archie rubbed his eyes; he had been dreaming, but his dream had taught him a good lesson. So, opening the door of the cage, he said a sad goodby to the little squirrel. It hopped about joyously, then, running up a tree, it sat chattering on a limb to express its thankfulness. It looked so happy that Archie did not feel so sad, after all.

(Honorable Mention.)

Jack Frost

By Elsie Robson, Aged 12, Scranton, Ia. Blue.

One cold day as Jack Frost was walking up the autumn road he met Tom and Robert Morris. They did not see him until he said:

"I want to talk with you a minute."

"Oh, is that you, Jack Frost?" said Tom. "How are you this morning?"

"Very well," said Jack Frost.

"Where are you going?" asked Robert.

"I'm going to the woods to pick the nuts," answered Jack Frost.

"I know where you were last night, Jack Frost," said Robert, "at our place."

Then Jack Frost said:

"Do you know what I was doing?"

"Yes, you were painting on our windows. This morning when mamma called us she asked us if we knew who was there last night. We told her we didn't and she said for us to look on the windows. We did, and saw pretty pictures of trees and birds and many other things, and we knew that you had been there."

"I must be going," said Jack Frost.

"We had better go, too, or we will be late. What time is it, Jack Frost?" Tom asked.

Jack Frost looked at the sun and said it was eighteen minutes until nine. The boys bade him goodbye and went on to school. Jack Frost went to the woods and by night all the nuts were on the ground. The next day Robert and Tom went nutting.

Additional Stories

Blue Side—Alma Schlichting, Cedar Bluffs, Neb.; George Stutz, Monrovia, Kan.; Vivian Thompson, Lexington, Tex.; Winiona Morgan, Alexander, Idaho; Margaret Jackson, Clearwater, Neb.; Alice Campbell, Botna, Ia.; Jack Piper, Yucca, Ariz.; Dorothy Stubblefield, Gordon, Neb.; Noma Havens, Bear, La.; Helen Meyer, Roca, Neb.; Eva Yoast, Cuttter, N. M.; Myrtle Mayfield, Vian, Okl.; Edda Snyder, Provo, Utah; Kathryn Schwab, Clay Center, Neb.; Daisy Krehbiel, Coburn, Tex.; Alfa Bartholmew, Blakeman, Kan.; Maurice McKeon, New Castle, Wyo.; Amy Riggs, Mesa, Ariz.; Elsie Ross, Somers, Ia.; Planche Hougner, Gardnerville, Nev.; Madge Winterstein, Wayne, Neb.; Madge Wheeler, Champion, Neb.; Elsie Henry, Oklahoma; Dora Wagner, Kanawha, Ia.; Lola Gaddy, Austin, Tex.; Pearl Bunnell? Rokeby, Neb.

Red Side—Olga Nelson, Loretto, Neb.; Corby Fichter, Randolph, Ia.; Fred Stange, Papillion, Neb.; Irene Furse, Rexburg, Idaho; Joe Hutt, Severance, Kan.; Orval Schwab, Clay Center, Neb.; Clarence Budd, Bonesteel, S. D.; Leona Londeman, Griswold, Ia.; Alvin Rennick, Wayne, Neb.; Ruben Bratthour, Soldier, Ia.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Pets of the Farm Home

ppeal to Children to Save the Birds

JOHN BURROUGHS and Ernest Thompson Seton, the world's most widely known naturalists, have issued e following joint appeal to the hool children of America:

"An urgent appeal we make to u in behalf of our native birds, ny species of which are in danger extermination. To you is now ven the opportunity to render subntial help toward their preservan. A measure is now before conss, the purpose of which is to ace all migratory birds under the otection of the federal governent. Such a law is greatly needed. it is not passed our birds will conue to decrease—to the great and erlasting disadvantage and shame the American people. The deruction of bird life is costing Amerin farmers millions of dollars anually through the constantly inreasing devastations of harmful inects upon which the birds feed. But greater loss their slaughter is inging to all who love God's great t-of-doors.

"The measure now before congress nonpartisan and nonpolitical. It ould have one hearty endorsement all patriotic and nature-loving mericans. But it is in danger of ing lost in the great mass of less portant legislation now pending in ngress.

"We, therefore, appeal to the hool children of America to help this vitally important matter. We k you to get your parents, teachrs and friends to write or telegraph the congressman of your district nd the two senators of your state, ow in Washington, urging immedite action upon the pending bird proction bill that they may underand how deep is the interest in it nd how great is the need for it. If ou will today get two or three such nessages written and sent (they eed not be long messages a simple signed request will do) you will have the satisfaction of knowing that you will have rendered substantial help in this great and good cause. Why not make this your task for today—and tomorrow? Your teacher or your newspaper will give you the names of your senators and congressman. The messages should be sent at once.

"And this appeal is big enough and important enough to extend to all the grown-up children who are out in the greater school of life—men and women who would help conserve one of the country's most valuable and interesting resources. To such we appeal for immediate cooperation. A message—to Washington—sent today—from you—will help to save our birds from destruction. Surely, you'll send it!"

(Signed)
JOHN BURROUGHS,
ERNEST THOMPSON SETON.

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE Ella M. Effert, West Side, Ia.: Jack in the Pulpit goes to see Rose-mary, but her Poppy objects to it because preachers are always poor, and he wants Rose-mary to Mari-gold.

Did the ash bear the oak pine for the maple?

What does Black-Eyed Susan wear? Lady slippers. What does Sweet William wear? Bachelor Buttons.

SECOND PRIZE John W. Benson, Cheyenne, Wyo.: If Rock Springs at Cheyenne (Shy Ann), would it Lander in the Big Basin?

The Fence That STANDS Tight and Trim The Whole Year Round

—and Why (15)

Every farmer knows that a fence which will stay tight and trim through summer and winter must be built to give and take. It must be made of tough, springy wire, and in such a way that in contracting and expanding it will take up as much as it gives out.

There are several reasons why

"Square Deal" Fence

Stays Tight and Trim the Year 'Round

FIRST: Note that the strand wires are wavy. This gives the fence *elasticity*—its give and take—*keeps it tight* summer and winter.

SECOND: The Stay Wires are *one-piece* from the top wire to bottom one, forming the backbone of the fence, which stiffen and support it, absolutely preventing sagging and bagging.

THIRD: Note the *SQUARE DEAL LOCK* which double-grips the wires so tightly they cannot possibly slip. It is one of the most important parts of a wire fence.

We use the toughest, strongest wire—draw it, galvanize it, anneal it in our own mills; then weave it into Square Deal Fence and back it with our own guarantee. We know how it is made—the kind of material that's in it—and consequently stand back of it with our Square Deal Guarantee, which insures every purchaser a Square Deal and perfect satisfaction.

Write for Catalog, Prices and Free 2-Foot Folding Rule

We want you to know more about this "honor built" fence. Our catalog tells the complete story. If you will write for a copy we will send you a Four-Section 2-Foot Rule FREE. Send today before they are all gone.

THE KEYSTONE STEEL AND WIRE CO. 1615 Industrial Street PEORIA, ILLINOIS

STRONGEST FENCE MADE
FROM FACTORY DIRECT TO FARM

26-inch Hog Fence,....14c.
41-inch Farm Fence,....21c.
48-inch Poultry Fence...22½c.
80-rod spool Barb Wire, $1.55
Many styles and heights. Our large Free Catalog contains fence information you should have.
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For all purposes. Direct from factory, freight prepaid.
Bargain Prices—13c per rod up
Get our new fence book before you buy fence for Horses, Cattle, Sheep, Hogs, Poultry, Etc.
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We save you *big money*—give you highest quality. Mail postal *now* for Big Fence Bargain Book
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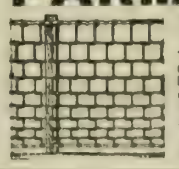

11½ cts. a rod
for a 26 in. high fence; 17 1-4c. a rod for 47 inch high stock fence; 28 1-2c a rod for a 50-inch heavy poultry fence. Sold direct to the farmer on 30 Days Free Trial. Special barb wire, 80 rod spool, $1.55. Catalog free.
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Gasoline Engines

have the new Lauson Gear Driven Magneto, which eliminates all batteries. Built into the engine—won't wear out. Throws a big, hot spark that never weakens. *Starts Easily.* The Frost King starts on the magneto without turning over. Requires no cranking. Positively frost proof. Low fuel consumption—high efficiency. Case hardened and ground wearing parts practically eliminate wear and breakage. *Write for catalog* stating power required and name of Lauson dealer.

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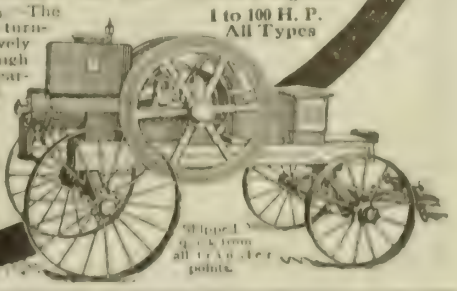

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Save Work, Time, Money
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Electric Handy Wagons
saves high lifting, tireless draft, don't rut roads. Spokes don't loosen, wheels don't dry out or rot. Write for free book on Wagons and Wheels.
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We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
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General Farming with Cattle and Hogs make highest, surest profits

If you want to make money, or if you want to give your boy a start in the world, investigate the possibilities offered ambitious workers on the fertile acres of the Texas Panhandle and South Plains.

Here is a wide diversity of soil and a splendid climate. The normal rainfall ranges from 22 to 24 inches a year — ample for crop purposes if intelligent tillage is practiced. Wheat this year averaged a little over 15 bushels. One small field ran 37½ bushels, machine measure. Every acre should have done as well.

There is no more gamble in farming in the Panhandle than elsewhere, if proper cultivation is practiced. You must have some capital to work on after the initial payment on your land is made. Then it is a matter of intelligent work. You can grow wheat, oats, barley, emmer, feed crops, peanuts, silage and live stock. You can raise as much of each as you can in Illinois, and your local market is just as good.

The Santa Fe is so anxious that every man who moves into the country shall succeed that they have engaged a staff of scientific agriculturists to work with the settlers and show them how best to meet the new conditions. This aid is given free, and it is just one more reason for going to this new *good* country.

In a few years the Panhandle of Texas will be crowding Kansas as a wheat producer, and people will wonder why they did not buy at $15 to $25 an acre, the prices now asked.

But get and read our new book on the Panhandle and South Plains. It's interesting, authoritative, informing and free. It tells you about the topography, soil, rainfall, possibilities for irrigation, cultural methods, crops, markets, transportation, taxes, living conditions, roads, schools, churches, and other subjects of vital importance to you. Also a series of letters from farmers who have lived here from two to eleven years. These letters tell what has been accomplished, how it was done and how you may do as well when you come.

We would like to have you join one of the Homeseekers' Excursions on the first and third Tuesday of each month, and see the opportunities for yourself. For full information without obligation, write

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A. T. & S. F. Ry.
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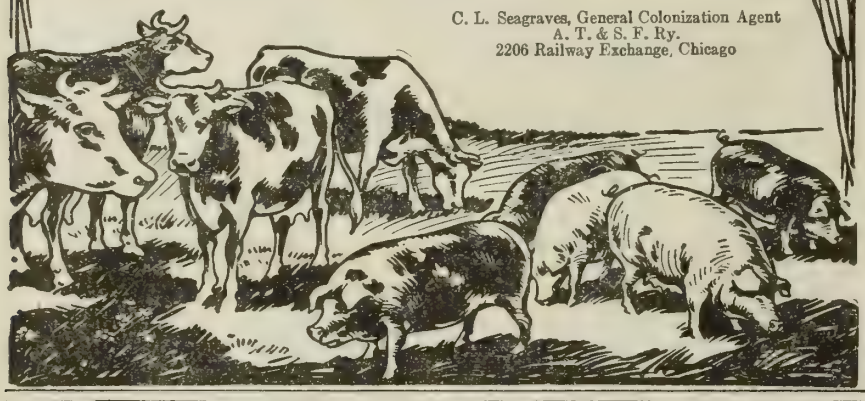

Keep the Grain Out of Your Straw Pile

All threshing machines are not alike. There is one different from all others. It has a different way of taking the grain out of the straw. **It beats it out** just as you would do by hand with a pitchfork. All other machines depend upon its dropping out.

This one different machine is the Red River Special and you should insist upon having it do your threshing. It will save all your grain and waste none of your time.

It saves the Farmer's Thresh Bill.

It has the Big Cylinder, the "Man Behind the Gun," the patented Grate and Check Plate, the greatest separating devices ever built.

The Big Cylinder drives the intermingled straw, chaff and grain against the separating grate, **beating** the grain through where the check plate catches it and delivers it to the grain pan and mill.

Ninety five per cent of the grain is taken out right there.

The straw goes over upon the shakers which hold it and **beat** it until all the grain is **beaten out.**

In all other kinds the straw is hurried out of the machine and the grain is expected to drop out.

It doesn't. Thousands of green straw stacks every year loudly say it doesn't.

The Red River Special saves all this. Insist upon its doing your work this year.

It will save your thresh bill. Write for proof.

To Whom It May Concern:

I. J. Knudson, farmer, of McHenry County, North Dakota, do depose and say that during the summer of 1908 I bought of Nichols & Shepard Company a threshing outfit, consisting of one 20-horse power, double cylinder traction engine and one 32x52 Red River Special Separator with wind stacker, self-feeder and weigher attached.

That on or about August 23, 1908, I started this outfit near a stack of old straw that had been threshed in 1907 by a ———separator, and to stretch the belts on the new machine I caused a small load of old straw from the stack in question to be run through the new machine and was surprised to get over sixteen bushels of oats from this load of straw.

I afterward threshed out the balance of this stack and got 347 bushels of grain.

(Signed) JAMES KNUDSON.

Subscribed and sworn to before me, a Notary Public, in and for McHenry County, North Dakota, this 6th day of Feb., 1909.

[Seal] J. EDGAR WAGAR,
Notary Public.

My commission expires March 27, 1914.

NICHOLS & SHEPARD COMPANY, Battle Creek, Michigan

Builders of Threshing Machinery, Engines and Oil-Gas Tractors

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That's what hundreds of farmers' sons now earn by selling

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you.. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Anent Mr. Edy's Road Article.

The farmer must use the roads and regardless of the motive may injure them. It will not rain every time just to suit the road user and he is compelled, often, to use them even though it injures.

Narrow track wagons go to the bottom of a rut and so do the wider ones, but if Mr. Edy can convince the farmers that the narrow track is to blame and he will give them a wide track for their narrow ones that object will be overcome. Driving in one track can only be overcome by dragging the roads after a rain before one goes on them. All loads are heavy when the mud is deep, so it is hard to tell what about the "heavy load after a soaking rain." He is right when he says it is wrong to move a heavy mass of loose earth to the middle of the road. Better not disturb the solid earth when it can be helped.

If curb lines, that some city road experts advise, were left out, grass would grow on the roadside, which is better than weeds to cut, and stock would not disturb the waterways so much as to injure the roads.

Instead of passing a law against narrow tracks, we might use sleds, which run about as easy as a wide track wagon in mud. It probably would be all right to make a law with a big penalty against building a steel bridge that would fall down under the weight of a milk wagon. Many ideas of road building have been discussed. Here is a practical farmer and land owner's notion of good roads and a satisfactory settlement of the present unsatisfactory management:

Every land owner should make and keep in good condition all roads through or along his land. The road district tax and its road boss discontinued. All road tax be levied in the general road and bridge fund and all bridges and drain materials furnished and placed from this tax under the sanction of the county commissioners, aided by one road inspector elected in each precinct. Where roads are to be located hereafter that may require an unusual expense, this precinct inspector, with sanction of the board, may apply the county general tax as a part of this expense.

Under such a law every land owner could work at home and at a time when he could best do the work to the best advantage of the road and should be held by the county, through the county board and the precinct inspector, and when failing to keep his roads in fair condition should be fined the amount necessary to fix the same, after due notice. Here are the advantages: His pride will be tested, his progressiveness proven, he will not have to be forced to the far end of the district to work, can spend a little time with the drag when nothing will suffer by it and not feel that he is working for nothing, while another is getting pay and for which he is taxed. No road boss can hire a pet and get pay himself for building a good road by his residence out of the district tax. No city business men's club can influence a road boss nor make smokers and banquets to get the farmers to donate work on a road they never travel, and above all, the roads will be as good as is possible for dirt roads to be made, while the taxes, which under the present management are not better, in many places not so good, will be less and the public satisfied. W. C. STARKEY.

Nebraska.

Candied Orange Peel or Citron.

S. C., Rio Bravo, Cal.: I would like to make a suggestion which you can act on or not as you see fit. I think it would be interesting and valuable reading matter to take up different crops, one at a time, and go into details of the raising and marketing of the same, giving descriptions of the machinery used. The matter might be handled in somewhat the same way as you handled the bee question. That was interesting to me, as I knew practically nothing of it before. While such a treatment of alfalfa would not interest me, as I am in that belt, it would probably interest thousands of others.

There is one subject that would be valuable reading to me if you see fit to deal with the same. This is the raising of pink beans as it is done on the coast, the harvest of the same by hand and the rules they follow in doing it. I hear that there is some kind of a machine used now for this purpose, but I should have to work by hand.

How is candied citron or candied orange peel, such as is sold in the stores, prepared?

Answer—In preparing the candied orange peel or citron, slice the peel thin and soak in salt water over night. Wash in clear water and boil until tender. Prepare a heavy sugar syrup. Remove the peel from the boiling water and drain. Drop it into the boiling syrup and boil for about one hour. Remove from the syrup and drain, then roll in sugar.

Wants a Subsoil Attachment.

A. S. C., Wilbur, Neb.: Is there any machine or implement that can be attached to a plow so as to loosen the subsoil? For instance, if you should plow six inches deep with a plow, is there any machine that will dig up or loosen the subsoil in the furrow, say to the depth of two or three inches, so that a greater amount of water may be held for a longer time?

Answer—There is no such implement known to this paper. There is a subsoil attachment for a lister, but so far as known there is no such attachment for a plow. Many implement manufacturers manufacture a subsoil plow that is used behind the regular plow. Such a subsoil plow requires at least four horses for effective work.

Hog Cholera Serum Query.

J. S. L., Ainsworth, Ia.: I read an article in your paper about hog cholera serum. Do you think it any good? If so, if you vaccinate a hog,

how long will it immunize the hog? How soon will it have to be done over? Is there any danger in vaccinating a sow that is with pig?

Answer—Hog cholera serum, when properly used, is an absolute preventive, not cure, of hog cholera. If the hog is vaccinated with serum alone the immunity conferred will last from thirty to ninety days, all depending on the potency of the serum and on the condition of the hog. Serum should never be used with a sick hog. The only way to be safe is to take the hog's temperature with a thermometer. If the temperature is more than 103 degrees, the serum will be useless, as it is in no sense safely to be regarded as a cure.

A Telephone Company's Rights.

C. L. E., Mullen, Neb.: Can you make a telephone company take down its lines or pay for the ground they run on, if incorporated or not incorporated, when it does not live up to its agreements? It got the right-of-way from the homesteaders, and nothing was said about paying for it. The line goes on a section line where there is no laid out road. Has it any more right there than any one else? Will it have to pay or take down its lines?

Answer—If the right-of-way was granted by the homesteaders as a gift it gives the telephone company as much right as though the right-of-way had been paid for. If it has violated its agreements with the homesteaders the violation might be the basis for an action against it for damages. If the telephone company is a trespasser, an action at law might compel it to vacate. Law suits are expensive, and to be avoided if possible.

Cocked Ankle

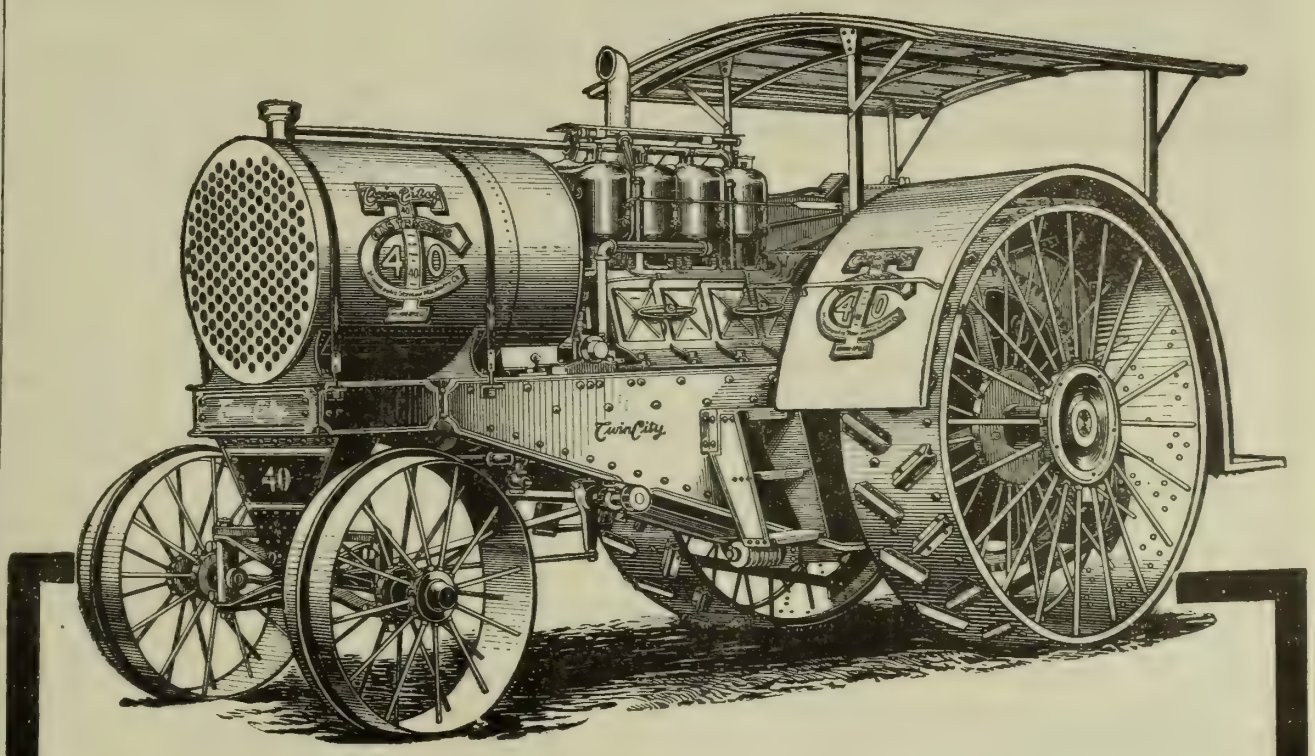
A. K., Omak, Wash.: I often read different inquiries about stock. Would like some advice about what remedies to use on a cocked ankle on a 4-year-old mule. I think the cause was due to a sprain about a month or two ago. The animal is quite large.

Answer—The only treatment that amounts to much for the condition of cocked ankle is blistering. Use cantharides blister and rub it in well at night; wash off in the morning and keep greased. This treatment can be repeated in two weeks. Only one ankle should be treated at a time, as it is necessary to give the animal one well leg to stand on. During the time of treatment the animal should not be worked. It will be necessary at time of blistering to tie the animal's head so it cannot get to the part with the mouth.

Barnyard Itch

C. F. T., Crookston, Neb.: Will the editor or some of the readers of The Twentieth Century Farmer tell me of a cure for barnyard itch on young calves? I have tried carbolic acid and grease, but they did not seem to help.

Answer—Keep your calves out of mud and manure and in a dry place until they are cured. Thoroughly cleanse them with soap and water, then apply any good disinfectant, such as cresol dip or kerosene emulsion. Make them and keep them clean.



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Two Sizes--25 and 40 Tractive Horse-Power

From the steel plate girder to the smallest mechanical detail, you will find unusual strength.

The entire construction is designed to meet every emergency—to stand up and deliver in the most difficult jobs. One single weak spot would sooner or later cause trouble.

Even with its unusual strength and steel construction, it is a lighter tractor per horse-power than nearest competitors. Uses less of its power to pull its own weight—has a greater pulling power.

The Twin City Tractor is the only tractor which has successfully broken land in the Mesquite country of the Southwest—the utmost test. Read the following letter from the superintendent of the Taft Ranch, Texas:

September 28, 1912.

Geo. M. Gillette, V. P.
Minneapolis Steel & Machinery Co.,
Minneapolis, Minn.

Dear Mr. Gillette:—I realize that your machines are now being put to the hardest test that has ever been tried in this country.

I do not think that there is any doubt but what you have the only gasoline engine that has ever been able to plow this kind of country successfully.

We are getting our work well done and more economically done than it has ever been done before

Yours sincerely,
Joseph F. Green

More about Twin City Tractors and their wonderful achievments are told in our Tractor Books, 7A and 9A. Write for them.

Minneapolis Steel & Machinery Company

Minneapolis, Minnesota.

My X-RAY Saves You From 75¢ To $1.25 Every Hatch

GREATEST hatcher ever invented! Shipped *direct* to you from factory. No agents—no dealers. *Guaranteed* to please. Orders filled *same* day received. No delays.

I place my lamp underneath, square in the center, and not on the side. Thus I get an absolutely even temperature throughout the egg-chamber all the time—and there is no cold side. I use a big oil tank on my X Ray—holding 4 to 8 quarts of oil—fill this up just once and you don't have to touch it again until after the hatch. One gallon of oil is all that is needed for a hatch—just one gallon! Why? Because every bit of heat in my

X-RAY Incubator

"Built Different From all Other Machines"

is used to best advantage, because my automatic trip cuts down flame at the burner when egg-chamber gets too hot. Others burn high all the time and let excess heat escape. My machine controls it!—saving both oil and money. You never have to touch the regulator of my X-Ray—it's automatic, it's the most perfect heat regulating device ever invented. My heater being so centrally located (underneath) conveys equally a direct heat from the lamp into every part of the egg-chamber. Door of my X Ray is on top—where there are two double-glass panels through which you can see the thermometer any time—without raising lid and chilling eggs.

Uses Only One Gallon Oil to Hatch Requires Only One Filling of Lamp

To use my X Ray means less egg handling, less oil, less heat generated, absolutely no waste, no filling of lamp during hatch, no fumes, no danger of "cooking" eggs—but an even heat always over the WHOLE egg chamber. My X-Ray weighs ¼ to ½ less than the old style machines of same egg capacity. I personally guarantee it to please you—to give you the biggest and best hatches you ever had. Anyone can be successful with my X-Ray—it is so simple. It is neatest, cleanest, most beautiful incubator made.

Write today for Free Book No. 68 on X-Ray Incubators and Brooders. Get my Factory to-you price. I pay the freight and make good every claim.

J. H. Kate, President, X-Ray Incubator Company, Wayne, Nebr.

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More Money from Poultry

NOW is the time to get in the money-making poultry business with one of my Successful Incubators—**only $6.75 up.** With the "Successful" no experiments or trial hatches are necessary—you can be sure of success every time.

SUCCESSFUL INCUBATORS
(Life Producers)
SUCCESSFUL BROODERS
(Life Preservers)

give most chicks—raise more chicks—and are guaranteed with the strongest guarantee ever put behind any machine on the market. Don't buy an incubator that guarantees less than I do. Send your name *now* for catalog, low price proposition, guarantee, and *Free Lessons in Poultry Raising* that insure success.

DES MOINES INCUBATOR CO.
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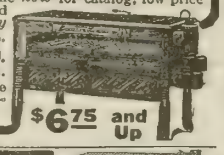
NOTE—Book "How to Raise 48 out of 50 Chicks", 10c—Catalog is FREE. Get it.



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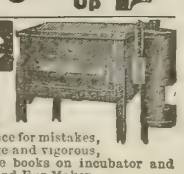

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How to Get Eggs in Winter Time
Feeding Fowls for Greater Laying

I HAVE solved the problem of how to get eggs in the winter time, when prices are high. For several years I had noticed that the children were most fond of eggs when they were high in price and at a time when our own hens stopped laying. I soon associated the high price of eggs with the purchase of coal and extra clothing. The coming of cold weather haunted me, because I knew that egg time was at hand.

I determined to experiment with my flock of hens to see if I could not induce them to get busy when the mercury was hovering around the zero point. I remembered what Barnum said about the American people, and I thought if they liked to be humbugged, why not American hens. The natural time for the hens to lay is in the summer time, when the weather is warm. I determined to take advantage of this fact and make my hens believe that summer had arrived a little earlier than usual. I thought that I could fool them.

I had a hen house built after the ordinary plan, with one portion for roosting purposes and one for the scratching shed. This shed was open in front and covered with wire netting. I closed the side which was to the south, placed a number of windows and divided the shed into compartments. I made these compartments absolutely draught-tight by putting paper on the studding and boarding up on the inside. I then made a neat box about eighteen inches from the floor and above this I made a floor for a dropping board and arranged removable roosts for their convenience at night. About a foot above these roosts I made a new deck for the ceiling. This would insure my hens keeping warm at night. The compartments were twelve feet north and south and six feet wide. I put seven hens in each of two compartments. I made a larger compartment and in that placed eleven hens, being careful to have the same number of square feet per hen as in the others. I then fixed up the old roosting room in the same manner as I did the new compartments, and in this I placed my remaining twenty-one hens.

I now had the hens believing that the good old summer time had arrived and I waited eagerly for the results. In each place I made a self-feeding hopper in which I placed plenty of dry bran. On the floor I put about a foot of dry straw, in which I fed the biddies whole grain, consisting chiefly of wheat. I gave them plenty of water and plenty to eat, treating each lot with the same care. This was in December. In about two weeks my hens commenced to lay and within three weeks the children had more eggs than they could eat. This had not occurred before for seven years. And the eggs came nice, plump and white. It did my soul good to gather them each day. I had solved the problem.

By keeping careful record of each compartment, I found that there was a wide difference in the amount of eggs that the compartments gave me. For instance (I quote from the records), each pen where the seven hens were yielded me from thirty-three to forty-one eggs per week. The eleven hens laid from twenty-five to thirty-four eggs per week, while the twenty-one hens never laid over twenty-five eggs in a week. I took four away from the eleven and in a short time they laid as well as the other two focks of seven.

I kept a careful account of the cost of feeding and found that my eggs cost me on an average of 8 cents per dozen for the pens of seven, and considerably more for the larger pens. I have now carried on this experiment for three winters and have met with excellent success. I have no fancy fowls—just common barnyard chickens—but I get more eggs than some of the farmers with flocks of 500 who let their hens run at large during the cold weather.

From my experience I know that fourteen hens with the care that I give will lay all the eggs that an ordinary family can use. The expense of keeping a small flock is not large; the cost of such a house is

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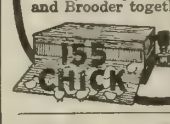

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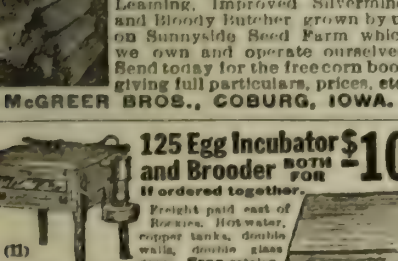

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Feeding Laying Fowls.

The feeding of fowls for the production of eggs requires considerable practical experience and knowledge to obtain the best results. The beginner should obtain a list of poultry foods with their chemical composition, and work out various mixtures for himself. The best ration of food for laying hens is about one to four—that is, one part albuminoids to four parts carbohydrates. The composition of maize, for instance, in one part albuminoids to eight parts carbohydrates. To balance this excess a good mixture for laying hens would be one part maize-meal, one part lean, cooked beef and one part middlings, which works out at very near to four. Another suitable mixture for feeding would be boiled potatoes, one pound mixed with one pound of scalded bran, and dried off with middlings. But the more changes of food given to hens the more eggs one is likely to get, as the birds lose their appetites if fed on the same food all the time.

A good way would be to give them say, oats one week, wheat the next, with changes to barley and other grain food now and again. Never give maize continually for a week, but one evening now and again when the weather is very cold or wet.

The soft food in the morning should also be changed as much as possible. A few handfuls of millet or rye buried in the litter of the scratching shed at midday will keep the birds busy and in good health. A good supply of green food is also essential. Do not overfeed the birds, but give them sufficient to satisfy their hunger. If they are not overanxious to eat, only give them half the usual amount of food, but if, on the other hand, they are ravenous, give them a few more handfuls, for one cannot expect hens to lay if they are either too fat or half starved. To say just how much food to give birds is impossible, but observation and experience soon teaches.

Poultry Pointers

Green-cut bone has a high nutritive value, and it is also one of the cheapest feeds there is. It pays to use this when the weather keeps the fowls from roaming over the fields, where they naturally find their supply of this kind of food.

Exercise is of supreme importance all through the winter. Unless this is enforced the hens will become fat and they will not lay as they should. Scatter the feed in the litter and make them hunt for it. They will be healthier, more profitable and will enjoy life better.

Don't ever keep the weakly chick for either a winter layer or to place in the breeding pen; they will lay few, if any, more eggs than will pay their board bill, will six times out of ten hatch a weak chick and they are always grabbing at chances to take cold, croup or to go under from the least offness in their feed. In short, they are weaklings from start to finish. W. M. PHILLIPS.

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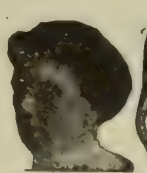

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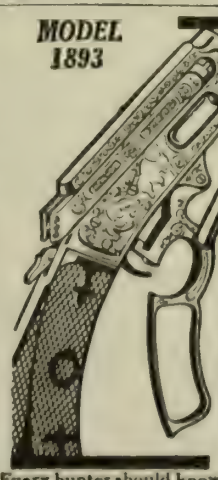

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How Windbreak Modified Climate

A few years ago there were ten acres of quince trees on a farm in western New York; they were thriving as well as unsprayed trees could and they bore crops pretty regularly every year. About 1907 the farm changed hands and the first thing the new owner did was to clean up a fence row along the north and west sides of the quince orchard.

This fence row was of the hybrid sort that "accumulates" during a hundred years or so. Its chief features were stone in front of Arborvitaes, cedars and spruces, natural and planted, forming a broken wall of evergreens about twenty feet high. Around and under these evergreens grew grapevines, witch-hazel, sassafras and other "trash," as the new owner called them, till the whole thing was twelve or fifteen feet wide and very thick. Everything was removed; even the stones were buried. This was in the fall.

The next spring it was noticed that some of the quince trees showed frost damage, a thing that never had given trouble before. A light crop was the result that year. The second year half of the trees were frozen back so that they bore no fruit and looked as though they had been dehorned. In the spring of 1912 only a few dozen of these trees remained out of the thousand that used to be doing well, and the sole reason was that the windbreak that had been cut away stood on the exposed side of the orchard and made all the difference between climate that the quince trees could stand, and one that they could not.

Probably the full sweep of the coldest winds resulted in harder freezing in midwinter, but it is likely that the most damage was done in the spring, when a keen wind, blowing unobstructed over the trees after a warm day, say in March, would deaden the slightly swelled buds. The wind would carry away moisture also. Moisture is a frost preventive in certain circumstances, and later on in summer is an absolute essential for a good crop of fruit.

It was noticed that the garden, located just beyond the orchard, also suffered from the absence of the evergreen protection. The annual "spring opening" had to come several days later than it formerly did and tender vegetables were bitten by frost both in spring and fall.

But whatever the various steps by which the injury was accomplished, there was a loss of at least $1,000 when the evergreens were cut. This year the owner is replacing the break in a slightly more favorable location, using Norway and Black Hills spruce and white pine.

The lesson in his experience is not so much for those who have ancient fence rows of stones and bushes and wild grapevines as for those who have no windbreaks of any kind, and whose gardens and fields freeze and dry up. Good evergreen breaks planted on treeless farms will make more difference than one can realize. The ragged fence rows should go—they should be narrowed down and made neat, but in doing that good act do not destroy the useful and valuable part.

Whether in filling in gaps in such natural breaks or in planting new breaks, do not depend on wild seedlings that you can find; they lack in vigor and in root development and will make you wait years longer than good nursery-grown evergreen trees that have been transplanted several times.

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The above words indicate what you get when you plant Condon's "Sure Crop" Seeds. We live in the country farming our own farms and know from actual experience that without good seeds good crops can not be harvested. To get acquainted with the sower, we as growers offer the following

Banner Collection, 69 Varieties

comprising 39 varieties of Flower Seeds; 5 varieties each of Radish, Cabbage, Lettuce, Turnip, Tomato and Onion,

69 in all for only 10c postpaid.

Guaranteed to please or your money back. WRITE TO-DAY, SEND 10c and we shall include our NEW BEAUTIFULLY ILLUSTRATED GARDEN and FARM GUIDE that tells you how, when and what to plant,

CONDON BROS. Seedsmen, Rockford, Ill.

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Seed Potatoes

Red River Early Ohio the most popular early potato in America, a standard extra early variety the world over. Our Red River Valley stock is the earliest, best looking and highest grade you can find, sure to bring big yields and produce fine, smooth, vigorous potatoes. Every shipment carefully selected. Ask us now for prices on these and other standard seed potatoes. Also write a postal today for our free book of Garden and Field Seeds. Address

GRISWOLD SEED CO.

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Lincoln, Neb.

Free Catalog

FREE Send today for pkt. Giant Pansy (50 col).

SEEDS

Large instructive catalog of New and Standard Seeds at right prices. Send 2c stamp for postage. Gardeners ask for Wholesale list.

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Choice Nursery Stock and Seeds

Best qualities and varieties of seeds, fruit and ornamental trees, small fruits and evergreens. Bargains in strawberry and other plants via Parcels Post. Prices less than ½ of agents prices. Free catalogue and coupon.

NORTH BEND NURSERIES,

Box 500 North Bend, Dodge Co., Neb.

Sonderegger TREES AND SEEDS THAT GROW

AT IT OVER 28 YEARS

For twenty-seven years I've been selling "Seeds and Plants that Grow" I've been selling them direct—at rock bottom prices—no agents' commissions attached. My catalog has always been my only salesman. My

Free 1913 Nursery and Seed Book

is now ready. Send for it. It's the result of 27 years' experience. Lists all kinds of trees and plants, farm, garden and flower seeds. Quotes lowest prices, no agents' commission to pay. Here are a few of the many bargains: Apples 8c each; Cherry 14c each; Plum 15c each; Catalpa Speciosa seedlings 8-12 inch $1.75 per 1000.

SPECIAL 10c Offer 5c pkt. Mixed Colors Petunias; 10c pkt. Ex. Fine Mixed Pansies; 10c pkt. Giant Single Pinks; 5c pkt. Finest Mixed Poppies. 30c worth for 10c, postpaid.

Remember my seeds are all Nebraska Standard. I pay freight on $10.00 tree orders. Send for catalog, see my prices. A postal brings it.

German Nurseries & Seed House, Box 148 Beatrice, Neb.

Onion Seed

85c per lb. and up

Write for FREE SAMPLES of our new crop onion seed; lowest wholesale prices, and Free Leaflet on onion culture. Catalog Free. All kinds of garden seeds at wholesale prices and freight prepaid.

Henry Field Seed Co., Box 12 Shenandoah, Iowa.

SEEDS

Northern grown Garden and Field. Alfalfa, Red Clover, Blue Grass, Clay County White Corn and Eclipse Yellow Corn. Poultry Supplies. Catalog free. Send to-day for low prices.

MISSOURI SEED CO., 22 LIBERTY ST., KANSAS CITY, MO

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Shows how to plant and care for an orchard, when to spray, etc. Tells how to make $400 per acre from Cherries—$300 from Berries—$350 from Grapes and $200 from Apples. I have no agents. Apple trees 8c—Cherry 12c—Grape Vines $2 per 100. Forest Seedlings—Flowers—Bulbs—Seed Corn. I guarantee better trees for less money. Your money back if not satisfied. Freight paid. Get this free catalog at once.

BUY TREES DIRECT SAVE HALF

D. HANSEN, The Nurseryman, Box 18 Established 1880 Fairbury, Neb.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention the Twentieth Century Farmer when writing advertisers.

Rearing Boys on the Farm

(CONTINUED FROM PAGE THIRTEEN.)

r boys on the farm. Frequent holidays e important and essential to the best ysical development of boys in their ns.

The most marked feature of childhood growth. This growth continues with nsiderable regularity up until about 10 ars of age. The brain has practically ased growing at 10 years. There is a ll on the demands of the system; it is time of storing up of energy to launch e individual over into later life. Child-od is the height of physical activity. ore games are played during these ars than at any other age. As the ild enters the teens growth again be-mes very marked. The most important riod in the life of any individual is that mprised in the 'teen years. This period, arked by these tremendous changes—ysical, mental, social and spiritual—we signate by the term "adolescence." ie period of adolescence is more impor-nt than all the rest of a man's life put gether; that which goes before is sim-a building up toward this time. All a man's ideals afterward are set and ed by what happens during this period his life.

Has Right to Unrestricted Growth

Many of the greatest pieces of the rld's work have been done during olescence. Lord Byron was famous at through his writings and at 24 was in e front rank of writers; Spurgeon be-me a pastor at 19 and at 21 was preach-regularly to audiences of 10,000. The rld's civilization is raised, not by the labors of a generation, but by the in-tence extended through a dozen years. e most marked feature of this period physical change. There is a tremen-us growth in height and weight. There e marvelous changes taking place in e nervous system, in the development the brain; circulation becomes more pid and the temperature increases half degree. This is the time when wise rents will be very careful of the amount d character of the work to which their ys are assigned. The boy has a right full, unrestricted growth. Often the scles grow more rapidly than the nes, making the boy awkward and un-inly. The awkwardness of youth at is time is not a thing to be laughed at, t rather something to be understood. cause of the unevenness of growth the y is physically unable to do certain ings which adults can do with compara-e ease.

rm Natural Place for Development

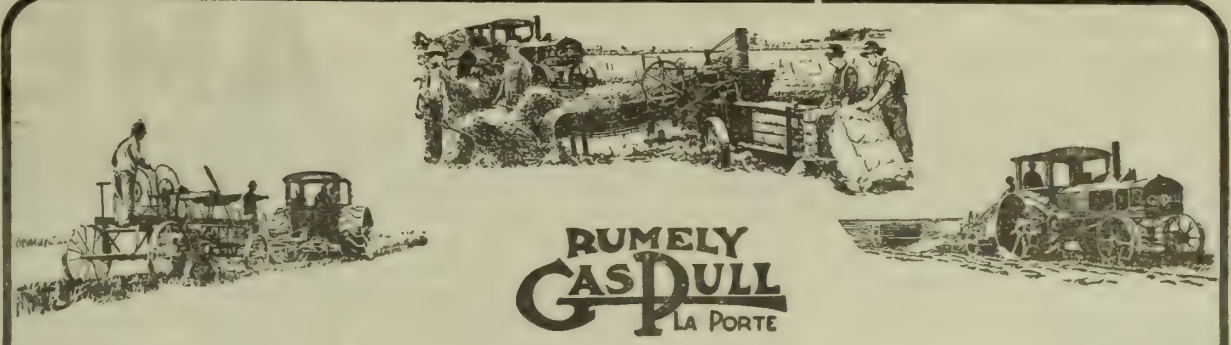
Now the farm is the natural place for very normal physical development. should be able to attain a perfect e here on a farm as in no other place. fortunately, this is often not the case. Efficient care is not taken by parents to direct their growing boys. Only too ten do fathers give to their sons that nd of personal instruction and advice hich they have a right to expect. Too quently there is not sufficient atten-on given to proper posture, to proper re of the body, to bathing, sleeping, c., so that the boy reared on the farm es find himself coming to maturity th a poorer physical equipment than ose who are surrounded by less likely ditions.

No one believes more heartily than the iter of this article in the importance work in the proper training of boys, t at the same time the boy has a right not be overworked, and this right ny times is denied him on our Amer-n farms. The greatest thing which rm life has an opportunity to give to boys, surpassing in its opportunity any her kind of life, is that of the proper ining and development of the will. e will are very closely joined to our scles, and the muscle training which e youth receives, properly directed, will a long way toward giving him the ht kind of will training.

Dyspeptic Philosophy

n the pursuit of happiness rapid transit n't absolutely necessary.

Ask some people to take your part, and ey will take all you have.



RUMELY GASPULL LA PORTE

An Every-Day Tractor

It often pays to have a tractor just for the rush jobs. It always pays to have one for the every-day work.

Most up-to-date big farms have tractors—the farmer with a moderate sized farm needs a tractor, too. We have the right one for him—the

RUMELY GASPULL LA PORTE

15-30

It fits any size farm from 160 acres up. There's some job it will do every day in the year—it will bale, thresh, harvest, harrow, fill silos, saw, plow, build roads, haul—it is an every-day tractor.

It's light and will go anywhere—you can use it in any part of your farm or on any kind of work. The GasPull is simple, handy, powerful and inexpensive either to buy or to run—every working part is protected.

Here are some GasPull facts:

2-cylinder—15 draw-bar h.p.; 30 h.p. at belt—weight only 11,000 pounds—low platform—variable speeds—convenient levers—working parts protected—turns corners in 15-foot circle—pulls 4 to 6 plows—hauls 30,000 pounds on roads not too hilly—has draw-bar pull of 3,000 pounds on low gear.

You havn't a real job on your farm this tractor won't help in. A man, 25 gallons of gasoline and a GasPull should plow 15 acres in 10 hours—a lot depends on the ground.

GasPull Data-book No. 352 will tell you how you can use it winter and summer. Send for it.

RUMELY PRODUCTS CO.

(Incorporated)

Power-Farming Machinery

LINCOLN, DES MOINES,

Home Office: La Porte, Ind.

466

Get My Price—FIRST

Freight Prepaid—30 Days' Free Trial

I want to quote you a price that will cause you to sit right up and take notice on the grandest, best plow that ever turned a furrow. I can do it because we are the *actual manufacturers*, and sell *direct to you*. We don't have traveling salesmen—don't sell to jobbers or dealers. You save those expenses and profits when you order direct from our factory. But that isn't all. You get a *better plow*. I say to you that the

MONMOUTH SULKY OR GANG PLOW

will prove easier for you to handle, easier on your horses and will do your work better than any plow you can buy, regardless of price. It's positively the only plow that actually carries the beams **on top** of the frame. No pressure on bottom of furrow—no friction. Single Rod and Horse Lift; and "Point First" action.

ALL SOLD DIRECT FROM FACTORY

FREIGHT PREPAID, SO YOU KNOW EXACTLY WHAT YOUR PLOW IS GOING TO COST YOU

I'll give you a chance to prove every statement I make, and we'll pay the "damages"—freight *both* ways—if we "fall down" in a single assertion. I want to tell you all about these plows and our other implements—Cultivators, Disc and Spike Tooth Harrows, Grain Drills, Mowers, Rakes, Farm Gates and other farm tools—all sold at factory prices. Satisfaction guaranteed. Just write a postal for our complete catalog. It's free. Write to me, The Plow Man, with

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Lightest Draft Plow Made

Monmouth Plow Factory, 137 So. Main St. Monmouth, Ill.

The Easy Louden Way

The harder you work the Louden Hay Carrier and the heavier you load it, the better it shows up. You can't break it down—years of hard service won't send the

LOUDEN HAY CARRIER

to the repair shop. It lasts a lifetime. Its fork has a square catch and cannot possibly wedge or fail to work. The powerful wheel arms will never spread. All twist and kink are let out of the rope by our simple patented rope swivel, the only successful swivel on the market. Won't bind on the track, has adjustable stops.

The **Louden Balance Grapple Fork** is the best fork ever built. Will handle dry clover, alfalfa or threshed straw where all others fail.

The **Louden Hay Carrier** and **Louden Grapple Fork** will work in any barn and handle all kinds of hay with more satisfaction than any others. See them at your dealer's—if he does not have them write us.

Send for catalog of complete barn and cow stable fixtures—**Hay Carriers, Door Hangers, Litter and Feed Carriers, Cow Stalls, Cow Stanchions** etc.—also our FREE BOOK on the value of manure and how to care for it.

LOUDEN MACHINERY CO.,

Fairfield, Iowa.

311 West Broadway,

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contains real
MONEY-SAVING offers
In Ladies' Wearing Apparel. It Shows the most becoming of the beautiful new styles.
Write TODAY for Your Copy--It's FREE
Satisfaction Guaranteed or Your Money Back

THIS SUIT $3.98

MAIL OR EXPRESS CHARGES PREPAID

2HR475 Here's a marvelous men's suit value. A big clothing manufacturer procured a mill's surplus of the cloth at a very, very low price. He made the suits up for us during the dull weeks of June when his tailors willingly helped him make a low price to keep busy. In fact, these suits never wholesale under $5. And we guarantee this to be the best clothing value you have ever seen. Dependably made throughout, with twilled serge linings and cut over exactly the same patterns that are used in high grade, hand tailored suits. Ordinarily retails at $7.50 to $9.00. Sizes 34 to 44 chest. Special (charges prepaid)—

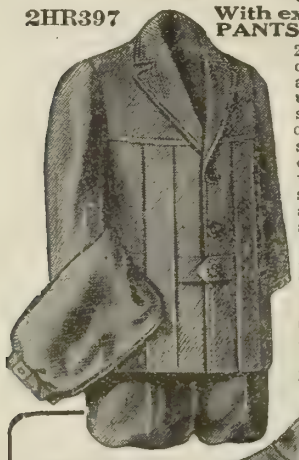
$3.98

2HR475—In blue serge $3.98
3HR435—In black Thibet $3.98

HR150

HR150 A staunch, neatly-made Russian sailor suit. Well tailored of blue Thibet. Patent leather belt, embroidered shield, trimmed collar and cuffs and full, durably sewed bloomer trousers. Ages 3 to 6 years. Regular $2.00 quality. (postage prepaid)..... $1.39

All Wool Serge Suit
2HR397
With extra PANTS..... $3.39



2HR397. Here's certainly remarkable clothing value. Dressy boy's suit with 2 pairs of pants. Handsomely tailored of excellent, all-wool navy blue serge. Both pants are durably lined and the suit is made to withstand good, hard wear. Jaunty and attractive in appearance and comes in sizes 6 to 14 years. A $5.00 quality (postage prepaid). $3.39

2HR98

Little Fellows' Cloth Suit
89c

2HR98. Nobby little boys' cloth suit for play and every day wear. Made in Russian blouse style with double-breasted front, patent leather belt, bloomer trousers and pretty embroidered emblem. A staunch, serviceable quality of splendid appearance and $1.50 value. Ages 3 to 8 years (postage prepaid).. 89c

Standard MAIL ORDER Co.
274 W. 17th St., New York, N. Y.

Handling Soil for Production

(CONTINUED FROM PAGE TEN.)

will be shown later to what extent it is possible to control the temperature of the soil by the manner in which it is handled. All that is necessary to say now is that there must be a certain amount of heat in the soil to make germination of seed possible, and to enable plants to take their soil food. Tropical plants require more heat than plants of the temperate zone, and plants of the Arctic zone survive under conditions that woud be fatal to any oth r plants. The farmer should be governed in preparing to plant his seed by the degree of temperature required by the plants for germination of seed.

These, then, are the four soil necessities for plant growth—plant food, water, air and heat. It is necessary that the successful farmer handle his soil in such a way as to provide each of these necessities in requisite amount.

The Kansas State Board of Agriculture

(CONTINUED FROM PAGE SEVEN.)

that there is always, in such matters, the possibility of error, but the secretary makes them as nearly accurate as it is possible to make them; much more accurate than the figures published by any other state, or by the United States government itself. His report comes as near to the truth as the circumstances make possible. He had rather understate than overstate the fact. They may be universally taken as coming as near to absolute reliability as is possible; they make a big showing, but Kansas is doing big things, and because she is doing big things, the big reports follow as a matter of course.

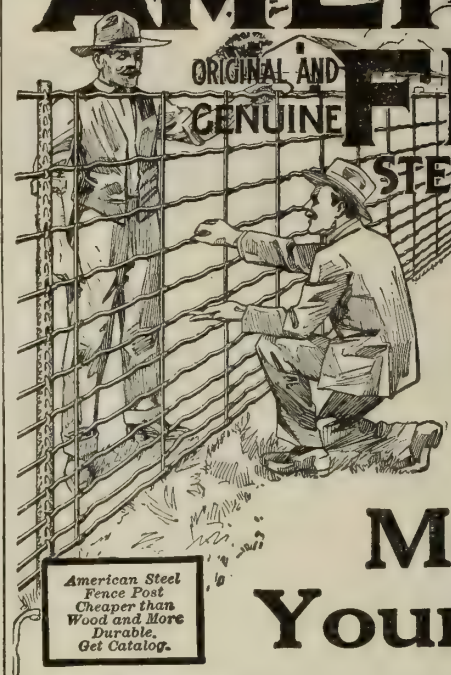
"What's the Matter with Kansas?"

If anyone should propose to the writer William Allen White's old conundrum, "What's the matter with Kansas?" the writer could only answer, "Prosperity; that's what's the matter with Kansas; prosperity based on intelligence, on devotion, on industry—the only prosperity that is worth enough to endure."

The governors of twenty-six states have appointed a committee of nine of their number, which includes three progressive republicans and two democrats that have never been classed with tory members of their party, to draft the necessary bills for furthering the organization of Co-Operative Credit Societies among the farmers—not of bankers for farmers. Any legislation that may be recommended by such a committee is bound to command popular support. The movement must be kept in the hands of the farmers themselves, not delivered over to the bankers on the plea that they can better care for the farmers.

The Kansas State Grange has indorsed President Waters for secretary of agriculture in a set of ringing resolutions. Farmers' institutes, commercial clubs and other organizations throughout the state are taking similar enthusiastic action. If President Wilson is to make subservience to agriculture the motive for the appointment, President Waters will outdistance competitors.

AMERICAN FENCE
ORIGINAL AND GENUINE
STEEL POSTS AND GATES



American Steel Fence Post Cheaper than Wood and More Durable. Get Catalog.

Over half the farmers of America are recommending American Fence. Let the judgment of this majority be your guide.

More For Your Money

AMERICAN FENCE has always been the economical fence. Now it's a better investment than ever. The same superior steel (open hearth or Bessemer), the same big, stiff wires—but the galvanizing is even better than ever, being heavier, more permanent, giving added insurance against rust. Investigate American Fence. Note the prices and you'll do some fencing this year.

Dealers In Every Place

where farm supplies are sold. Shipped to them in carload lots, thus saving freight charges and enabling dealers to sell at lowest prices, giving buyer the benefit.

Two Great Books Free

"Making The Farm Pay"—a simple and short treatise on farming, covering the things every farmer and his boy should know—**sent free on request.**

"The Making of Steel"—a complete account, simply and clearly presented, with many illustrations. This subject never before presented in so concise a manner. Every farmer and his boy should read this. **Sent free on request.**

FRANK BAACKES, Vice-Pres. and Gen. Sales Agent
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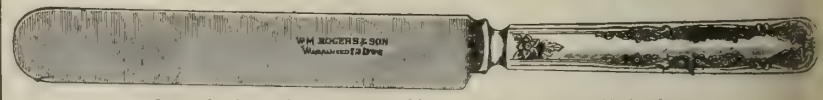
140 and 140 EGG INCUBATOR CHICK BROODER
The incubator is California Redwood, covered with asbestos and galvanized iron: has triple walls, copper tank, nursery, egg tester, thermometor, ready to use. 30 DAYS' TRIAL—money back if not O. K. Write for FREE Catalog today—NOW.
Both For $10
Ironclad Incubator Co., Dept. 72 Racine, Wis. (2)

Can you spare 60 days working for me at $5 a day
Would you like a steady job selling my goods, starting right away, earning $30 a week, with a chance to be promoted to a position paying $3,000 yearly. No experience is required. My agents have steady employment the year round. I am ready to give you a position right now where you can make **big money quick.** Just write me a letter or postal today sure and say: *"Mail particulars about the position you offer"* and mark the address
Personal for **E. M. DAVIS, President**
E. M. DAVIS CO., A 50 **Davis Block, Chicago**

NOW GET THE KNIVES



Regulation size table knife. Full length 9½ inches.

That you may obtain a complete set of Wm. Rogers & Sons' Silverware, The Twentieth Century Farmer has added knives to its great offer. Spoons and forks of this pattern have been offered before. (You can still get them.) Start now with the knives. Send 20 cents for each fork and knife and 10 cents for each spoon.

COUPON.
Please send my knife to
Name.....
Address.....
Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

Silverware Department
Twentieth Century Farmer
OMAHA.

Wool Growers' Annual Meeting

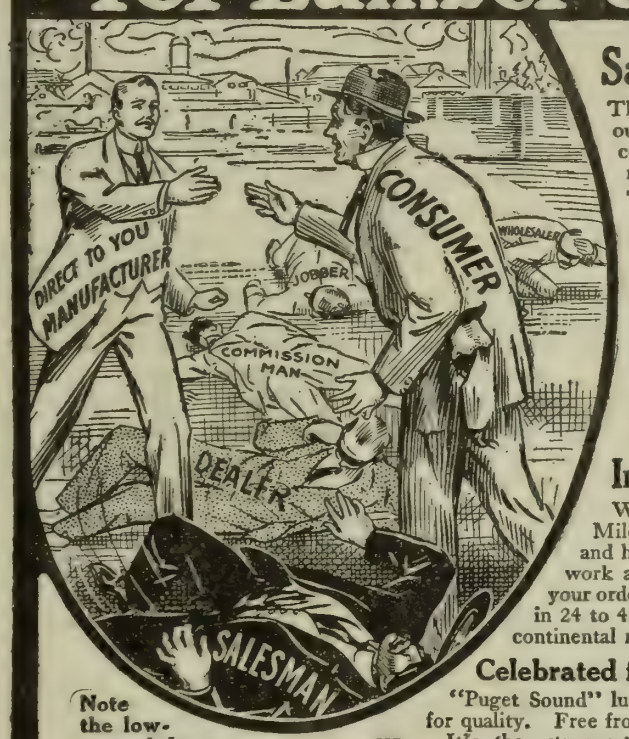
THE annual meeting of the National Wool Growers' association, held at Cheyenne, was in most respects a ting for business. While the gram was gotten up to provide inst dearth of interesting discus-, there proved to be more long ers read, and present to be read, n there was time to devote to this se of entertainment. The pro-m was hurried along in view of ng each performer a chance to y the audience with his own per-al opinions. Like most of these association meetings, there was opportunity or time to criticise productions. The expression of ion on subjects that are worthy discussion is the means of benefit nembers in attendance. If there ot opportunity offered, and not isposition to ask questions and icise the arguments presented by aker or paper, the greatest ure of benefit possible to be had n such meetings is lost.

Vice President Knollin informed audience at the closing session next year the program would be en up in view of business ses-s, the open discussion of practical gs, more than for entertainment inely prepared papers to be read. s idea is the only reasonable way reate a personal interest in the irs of the association. It is a d plan to present, on the an-ncement sheet, a number of prac-l topics that should be discussed ore the meeting. Mail copies of announcement to each member or three weeks in advance of the ting. This gives all members a nce to think and study these sub-s over and come to the meeting pared to say something—at least e his experience.

Outside of a good resolutions com-tee, the free-for-all talk, the ex-ience meeting participated in by se present, will create a better ling in the real work of the asso-tion's annual meeting than any thod that can be suggested or put o practice. The Cheyenne Wool owers' national convention had res of members present who did open their mouths, and who uld have discussed any subject in-igently that was presented on the gram, if the meeting had been re informal. It should not be a ting of speech-making, but a ting of questions and answers, suggestion of a single idea, the earsal of observations and experi-es, even if illustrated by good, norous Scotch or Irish anecdote. e man who gets up in a meeting l tells what not to do is often, m an educational point of view, ater than the professor or the rned theorist who is sometimes t out to tell the farmer and ranch-n "what to do."

At the "Made-In-Nebraska Show" be held in Omaha in March, there l be a complete historical exhibit Nebraska-made goods, beginning h the crude forms of earlier years l ending with the perfected types today.

Don't Pay Holdup Prices For Lumber and Millwork



Save 40% to 60%. Stop paying 5 profits

That's what makes the building material you buy of your dealer so outrageously high. Comes from a mill controlled by the lumber combine. Too high a cost to begin with. After that five middlemen—wholesaler, jobber, commission man, salesman, and dealer—all get a fat profit—and you pay it all. We stop this hold-up game.

We own our own forests and mills

and sell you direct—at one profit

We are a million dollar corporation, with 45 years lumbering experience. We own billions and billions of feet of standing timber in the famous Puget Sound territory: fir, cedar, spruce, hemlock, western soft pine, etc. We do our own cutting, logging and hauling. Six great mills prepare this lumber for shipment. They are producing daily 20 to 30 cars of highest quality materials. *You* get all the benefit of this great cost-reducing organization. *Not one* middleman gets a profit.

Immediate shipments. Quick delivery to you.

We carry immense stock. Miles and miles of lumber piles, and huge warehouses full of millwork and building materials, await your order. All shipments made within 24 to 48 hours. Seven great transcontinental railways maintain fast freight schedules from Seattle. Our shipments reach all points west of the Mississippi within two weeks. It's certainly worth while to look ahead two weeks, save 40% to 60% and get materials guaranteed to be better quality.

Note the lowness of these prices F. O. B. SEATTLE

Celebrated for Quality

"Puget Sound" lumber is celebrated for quality. Free from large knots and sap. It's the strongest as well as the longest lasting of wood. Resists rot and decay. Doesn't warp or twist. No waste or working over, because it's *straight*.

Satisfaction Guaranteed

We guarantee not only lower prices but that you'll get better materials, grade for grade, than trust or combine standards. If we don't make good you can get your money back. The risk is all ours. We're glad to take the risk. We'll more than please you.

Freight rates in our favor

Other houses ship various materials from different points and usually in less than car lots. Our orders are loaded at *one* point and in complete car lots. The car lot rate, and our amazingly low mill cost never fails to bring our prices *way under* those of all competition, local or otherwise.

Send us your bill of materials for estimate

We ship everything needed for building, complete: lumber, sash, doors, shingles, millwork, hardware and paint. Let us show you in actual figures how much we can save you on the building you're planning. If you're not ready for actual figuring,

Mail Coupon today

For Catalog and Price List

Catalog gives full information concerning everything in building materials. We'll quote you prices delivered at your station so low, they'll make you smile with satisfaction. *Write today.*

Hewitt-Lea-Funck Co.
621 First Ave., - Seattle, Wash.

Hewitt-Lea-Funck Co.
621 First Avenue
Seattle, Wash.

Kindly send me your catalog and list of prices on lumber and building supplies, laid down at my station.

Name _____

Address _____

Business _____

FREE NO MONEY DOWN 30 DAYS' ABSOLUTELY FREE TRIAL

Don't Send Me a Dollar

I will ship you a genuine 1913 Galloway manure spreader without one cent down. Yes, sir. I will ship it to you for a 10 or even 30 days' absolutely free test. Besides I will save you $25 to $50 and give you the best spreader made. Guaranteed for 5 years. My offer is backed by a $25,000 legal bond and a $1,000 challenge offer. Something no other manufacturer ever dared to make.

Get My 1913 Proposition

I have never made an offer to equal my new 1913 offer. Get it. I want to tell you how you can get a Galloway at practically no cost to you. My offer helps you to pay in part or entirely for your machine. Nothing else like it. Get the full details now.

Write Me at Once for My Big Catalog and Valuable FREE Book, "A Streak of Gold"

My catalog tells all about the Galloway spreaders, and I have got just the machine for your particular needs. My big book, "A Streak of Gold," is the only one of its kind in the world. It will help you to make the manure pile pay for your machine. It tells how to care for the manure, how to spread it, how to treat your soil and other valuable suggestions. Shows how crops have been doubled by proper use of manure. This great book is worth many dollars, free to you. Now just write to me personally. Get my lower than ever 1913 prices.

William Galloway, Pres.
WILLIAM GALLOWAY CO.
619 Galloway Sta., Waterloo, Ia.

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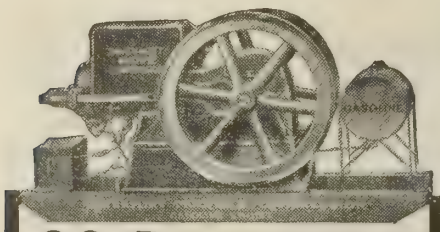


60 Days Trial

FREE

Yes, 60 whole days to try out a Davenport Multiple Compression Engine on your own place. Write—write for our big offer. We want you to test it and try it out on your own place two entire months before you decide to keep it. Two months will tell you all about **any** engine. It will certainly show you how the Davenport Multiple Compression Engine will pull when hooked up to any machine you wish to attach it to. Watch it work—watch it deliver the power then send it back if you don't want to keep it. Your choice of sizes: 4 H.P., 6½ H.P., 7½ H.P., etc.

Engine Prices Smashed

We now offer you an opportunity to get any of the Davenport Engines at the Rock-Bottom Price, the **same identical price that even the wholesale dealer would have to pay.** And we are offering them for the present **direct from the factory,** with every profit but a fair working profit to us eliminated. We can offer you startling gasoline engine values never equalled before in the history of the industry!

We Guarantee every one of our engines in every piece and part for five years.

Multiple Compression

That's it! That's the wonderful special feature of the Davenport Engine which makes this great offer possible. Our Multiple Compression Engines have become the sensation of the whole gasoline engine industry. Multiple compression! No wonder they out-pull everything they ever went up against. See here! On every engine we put a tag showing you just what horse power this particular engine has developed—and this tag is attested **by a Notary Public.** Find another engine in the world which gives you proof like this if you can. Write for our offer now.

Write Today---A Postal Will Do

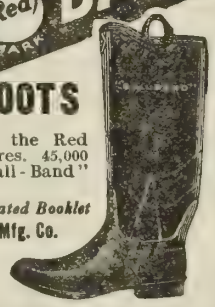
Just your name and address on a post card is enough. Merely say: "I want to know about your Multiple Compression Engine and your offer." We will send to you, absolutely free and prepaid, full particulars of this startling gasoline engine offer. We will also tell you about our Multiple Compression Engines and how they have revolutionized the entire gasoline engine industry. Also our offer to give you an engine on trial. But be sure to write today.

DAVENPORT ENGINE WORKS, Dept. 4502
Davenport, Ia.

THE man who looks for the Red Ball on the rubber footwear he buys and insists on seeing it can be sure of getting "Ball-Band" quality which means the best that can be made. Figure the cost of your rubber boots on the cost per day's service and "Ball-Band" Boots are not only the lowest priced but the best.

"BALL (Red) BAND" TRADE MARK

BOOTS



Look for the Red Ball sign in stores. 45,000 dealers sell "Ball-Band" Boots.

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337 Water St.
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"The House that Pays Millions for Quality"

Seeds and Trees

That Grow and Satisfy

We offer $100 cash premium at your State Fair. The big free catalog tells you about it. Write us.

Products of our seed won 1st premium for best collection of vegetables at Maine, Montana, South Dakota, Iowa and Michigan State Fairsin 1912

Gurney Seed and Nursery Co.
Box 115, Yankton, S. D.

Twentieth Century Farmer advertisers are deserving of your patronage. Read their ads and send them your orders as often as possible. Don't forget to mention this magaine when writing.

Cheap Saving of Corn Fodder

WHEN the question box was was opened at the annual meeting of the Kansas State Board of Agriculture one of the questions read was: "Is the silo the most economical way of saving corn fodder?" The question was answered in several different ways by as many different speakers. No two seemed to agree.

The question was not, "Does the silo produce the most succulent, appetizing and productive food?" This question could have but one answer. There is no roughage for appetizing quality, succulence and capacity for production that will compare with silage.

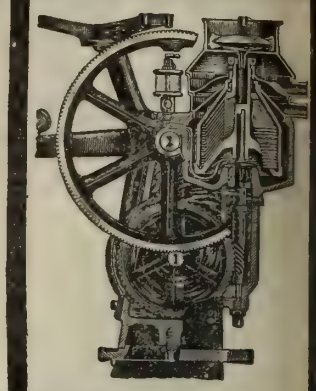
The person that propounded the question had something else in mind. It would be a very expensive matter to erect silos enough to save all the corn fodder that is grown in the cornfields of the corn belt states. Under present methods millions of dollars' worth of this valuable feed is permitted every year to go to waste. What is the most economical way of saving this amount of feed and preventing such an amount of waste? At present, and under present conditions, the most available and at the same time the most economical method for accomplishing this is to harvest the corn on the stock and shock it, and as soon as it is in proper condition pass it through a husker and a shredder. This process will involve only a little more expense than is involved in husking at the prevailing rate per bushel.

The corn grower will then have all of the material of the cornstalks in a pile of shredded corn fodder. This shredded feed, when fed in connection with alfalfa, makes an almost perfectly balanced food ration. The part of the fodder that is not consumed by the cattle may be used as bedding either in the stable or in the feed yard, and in this way be converted into fertilizer, and so be returned to the soil from which it came. This method, if given universal application, will save millions of dollars to every state in the corn belt, by preventing criminal waste in allowing the stalks to stand through the winter in the field and lose most of their value by weathering.

It is time that farmers of the corn belt give this matter serious consideration. If adopted, this plan will assist in conserving the fertility in the soil, and will also afford the means by which larger numbers of stock may be fed and wintered on every farm. This will have a tremendous, economic significance, and will materially increase the prosperity of every farm, and, more than this, will help to reduce the feared shortage in meat products.

During the last year the Ayrshire Breeders' association have had three cows qualify for advance registry with records of over 20,000 pounds of milk each. Two of them were from the state of Washington and one from the hills of Vermont.

A Perfect Separator Oiling System



In a machine which is operated at the speed required for a cream separator, perfect oiling is very necessary.

The new system of De Laval automatic oiling provides for a constant and liberal supply of *CLEAN* oil to every wearing surface of the machine at all times. There are no oil holes to fill up with dirt or perhaps to be neglected altogether, and every part is supplied with clean oil from the oil reservoir automatically and constantly.

In other, so-called, automatic oiling systems some of the parts have to be oiled by hand and no provision is made for getting rid of dirt that may get into the oil from the outside or of small particles of metal which come from wear, so that after a short time the oil supply becomes foul and injurious to the finely adjusted wearing parts.

DE LAVAL Cream Separators

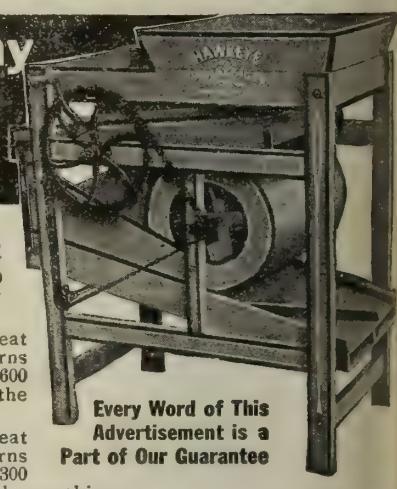
have the only automatic oiling system which provides for a constant supply of fresh oil and, at the same time, the constant discharge of the used oil together with all worn metal particles or dirt which may have gotten into the used oil.

The perfect system of De Laval lubrication means an easier running and a much longer wearing machine. Visit the local De Laval Agent and ask him to explain the advantages of De Laval automatic oiling.

The new 72-page De Laval Dairy Hand Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request if you mention this paper. New 1913 De Laval catalog also mailed upon request. Write to nearest office.

THE DE LAVAL SEPARATOR CO.
NEW YORK CHICAGO SAN FRANCISCO SEATTLE

Do You Know Any Easier Way to Make Money?



Every Word of This Advertisement is a Part of Our Guarantee

Grade and clean your seed oats with a HAWKEYE—increase your returns per acre more than $7—make about $700 *added profit* on 100 acres after paying for the machine

Grade and clean your seed winter wheat with a HAWKEYE—increase your returns per acre more than $6—make about $600 *added profit* on 100 acres after paying for the machine.

Grade and clean your seed spring wheat with a HAWKEYE—increase your returns per acre more than $3—make about $300 *added profit* on 100 acres after paying for the machine

Others have done all this. Many have done even better. *You can do it absolutely* by simply following directions for using the great wonder-working, money-makin

HAWKEYE Grain Grader and Cleaner

You can pay for this machine with the increased returns from three acres of oats, or little over three acres of winter wheat, or seven acres of spring wheat. You cannot ma anywhere near as much money on any other investment, and we say a HAWKEYE Gra Grader and Cleaner is the *most profitable machine you can buy.* No farmer can afford to b without it when it will do all this for him.

A Guaranteed Machine

You are *completely protected*—you don't have to keep the machine, or pay a cent for its us —if it doesn't do all we claim. Its *construction* and *service* are guaranteed by this company, and your dealer will tell you the MAYTAG guarantee is *good.*

The HAWKEYE Grain Grader and Cleaner grades and cleans corn, all kinds of small grains and grass seeds; separates grains into proper grades for planting; takes out all dirt, trash, etc.; selects good seed from bad—grades perfectly and cleans thoroughly, *a grader and fanning mill in one.*

Don't Delay—Write at Once Free printed matter tells how this machine is made—how it operates—what it will do for you—what it has done for others. It will actually be your biggest money-maker. Don't go into another season without learning about it. Ask your dealer, or write us at once for complete information.

THE MAYTAG COMPANY
Dept. 380, Newton, Iowa

Will you let us prove to you that this HAWKEYE Grain Grader and Cleaner will enable you to make *$7 more net profit* per acre on oats—over *$3 more net profit* per acre on spring wheat—over *$6 more net profit* per acre on winter wheat? Can you beat *that* for an easy money-making proposition?

Meat-Producing Animals Scarce

Preparing Stock for Slaughter

THERE is a seed time and harvest for every feature of farm production. If this provision for nature's fulillment of the opportunities within he control of man be neglected there vill result a shortage, a scarcity in upply of whatever feature of producion this neglect represents or influnces. The producer who at seed ime stands idly by asking himself, 'What shall the harvest be?" without lifting his hand in directing the ffairs of seed time and production, ecomes a contributor to poverty nd want. There are times in the istory of all people, of all countries, hat a sort of spontaneous influence sists in directing and guiding their lans in keeping down serious needs nd in keeping up an equilibrium in roduction.

There is a need now quite promient before the people of this coun-ry—the production of more meatroducing animals. This very prounced shortage will be felt more ext year than now, and each suceeding year for several years will is dearth in production, this shortge in supply, become a more sensive question for solution by the peole. It is conceded by all considerte thinkers and investigators that here is but one reasonable solution, nd that is increased production. It as become a problem to be solved by e land owners of this country. The nd is the basis of food supply, and ere are millions of idle agricultural nds in almost every state in the nion—lands that are now utilized the growing of crops or the proction of live stock.

The demands are becoming greater ch year; the increase in population estimated above 3,000,000 people. here is demand for not only ineased acreage in production, but ineased production on the present reage devoted to crop and live ock operations. The country is beming more interested in agricultral improvement in the production larger and better crops, and yet e prices obtained are an evidence at the common people are not well d. There are too many large, parally cultivated farms; too many idle rms, too many consumers and too w producers; there is an out-of-alanced condition of producer and nsumer, which it will take time to just.

The present live stock need is to onomize time and opportunity in creasing production. The pig crop r next spring should be as large as ssible. In hogs is the greatest opportunity for quick returns, and pork eat may be made the substitute for her meats, to a large extent, owing its curing and keeping qualities. nter every effort on the wiping out hog cholera and the lowering of eat prices by increased hog production. The corncribs of the country re full of corn; these, with the alfa fields, should contribute to a rgely increased supply of pork for xt year.

Preparation for Slaughter

Animals intended for slaughter ould be kept off feed from twenty-four of thirty-six hours. If kept on full food the system is gorged and the blood loaded with assimilated nutrients is driven to the extremities of the capillaries. In such a condition it is impossible to drain out the veins thoroughly when the animal is bled and a reddish-colored, unattractive carcass will be the result. The blood is the most easily decayed substance in the animal carcass and often causes trouble in the curing of meat. Food in the stomach decomposes very rapidly after slaughter and if the dressing is slow the gases generated often flavor the meat.

Water should be given freely up to the time of slaughter, as it keeps the temperature normal and helps to wash the effete matter out of the system, resulting in a nicely-colored carcass.

It is important that the animals be not excited in any way sufficiently to raise the temperature of the body previous to killing. Excitement prevents proper drainage of the blood vessels and, if extreme, will cause souring of the meat very soon after dressing. In no instance should an animal be killed immediately after a long drive or after a rapid run in the pasture. The flesh from animals overheated is usually pale in color and often develops a sour or putrid odor within three or four days after being dressed. The animals should not be chased or driven rapidly, nor should they be handled in such a way as to bruise the bodies. Bruises cause blood to stay in that portion of the carcass. A thirty-six-hour fast, plenty of water, careful handling and rest before slaughter are all important in securing meat in the best condition for use, either fresh or for curing purposes.—Prof. Andrew Boss, Agriculturist, University Farm, St. Paul.

The "Garden and Farm Almanac," published by Doubleday, Page & Co. of New York, is a practical handbook for every-day use. It answers nearly every question that farmers and gardeners find need to ask. That it is a veritable mine of information may be inferred from the fact that its index fills six full columns. At the low price at which it is sold—25 cents—it should be in the hands of every farmer. It will be worth a full term of school to every child upon the farm that will use it.

What He Knew

Wiseum—Honestly, now, did you learn anything while you were in college?

Graduate—I'm—well, I learned how to state my ignorance in scientific terms.

Nothing will brighten up your floors more attractively than Sherwin-Williams Inside Floor Paint

It is easy to apply, for it comes ready-mixed in liquid form, and it is made in a wide range of handsome, serviceable colors. No finish is better for kitchen, bedroom or hall floors, where a painted surface is desired. It is a paint that dries hard over night, and possesses remarkable wearing qualities.

Our new Portfolio of Plans for Home Decoration

will give you some valuable suggestions about the decoration of your home, both inside and out. It will be found just as interesting by the housewife who wants to brighten up a chair as by the farmer himself with the problem of house painting before him. You will be surprised at some of the effects made possible by the many Sherwin-Williams Finishes—and all at a low cost. We will be glad to send the portfolio free upon request.

SHERWIN-WILLIAMS PAINTS & VARNISHES

Best dealers everywhere. Address all inquiries to The Sherwin-Williams Co., 692 Canal Rd., Cleveland, O.

Cheap Profitable Farm Lands

For Stock, Poultry and Hog raising, Dairying, Fruit growing, Truck Crops, Alfalfa yields and General Farming, the SOUTHEASTERN STATES present soil, climatic and market conditions unsurpassed by any other region.

Farm land values are most tempting. Undeveloped tracts sell from $6 an acre up; improved properties range from $20 to $50 per acre.

THE SOUTHERN RAILWAY

Mobile & Ohio Railroad or Georgia Southern & Florida Railway

will help you find a desirable farm location where two and three crops grow annually. Alfalfa produces 4 to 6 tons, Corn yields 60 to 100 bu., Truck crops make $100 to $400, Apple Orchards $100 to $500 per acre, and Beef and Pork are produced at 3 to 4 cts. per lb.

Let us know in what state and branch of farming you are interested. Information given and free publications furnished on application

M. V. RICHARDS, Land & Industrial Agent, Room 94 Washington, D. C.

$150 A MONTH

and expenses easily made selling our modern line of family medicines, extracts, spices, soaps, perfumes, stock food, etc. — nearly 100 different articles in all.

We Start You in Business for Yourself

A Reliable Established Company, with a capital of $200,000.00. No capital required. We furnish the goods on credit. You pay us after customers pay you.

No experience necessary. We teach you the business. Position permanent. Exclusive territory. *Only line of goods sold on a sanitary free trial plan.* For full particulars, write at once to

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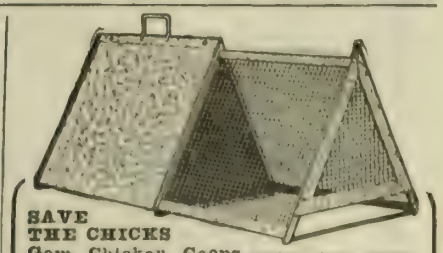

SAVE THE CHICKS

Gem Chicken Coops protect from everything—rain, cold, damp, mice, vermin, etc. Made of one piece galvanized iron. Strong and safe. Metal or wood floor. Yard adjoins coop at night. Eight feet floor space. Never needs painting. Instantly cleaned. Get full particulars and price. GEO. E. MAURER, Box 1000, Freeport, Ill.

DOUBLE QUICK

Seed Corn Tester

Make complete test in three to five days. Adapted to the saturation, the saw-dust or sand, and the Earth or Soil test in boxes 2½ to 6 bushels. This machine is also the

DOUBLE QUICK

Grain Sprouter or POULTRY SILO

Has prontincents for having been Also Starts GARDEN PLANTS Quickly A useful machine for every farm. Send for free information CLOSE-TO-NATURE CO., Colfax, Iowa.

PATENTS GET LIST OF FACTORIES who could use your Patent, FREE Manufacturing and Patent advice. SUES & CO., Att'ys, 630 7th St., Washington, D. C.

FIRE FROST HOW TO BUILD IN CEMENT WITH MATERIAL FOUND ON FARM, WITH UNSKILLED LABOR, WHERE OUTDOOR WORK CANNOT BE DONE IN THE BLOCKS SHIPPED DIRECT FROM SILO. WRITE FOR BOOKLET AND SPECIAL OFFER NO. 20 CEMENT & TILE SILO CO. KALAMAZOO, MICH.

SILOS and ROUND BARNS

EARLY BUYERS SAVE MONEY

DIRECT TO YOUR HOME TOWN

KALAMAZOO CO

Gangs Are Flexible in The Frame—

Boxings Wear Evenly From End to End—No Binding

Janesville (BUDLONG) Disk Harrow

Flexible where it *should* be —*in the frame!* The *only* disk that wears boxings evenly from end to end—spools are not cramped—there is no binding. That means *less* friction and *lighter draft.* The draft comes *only from the work being done.*

This is the famous **Budlong Harrow** used with greatest success for so many years and *now improved* for even *greater* success, better results.

Note These Other Advantages

Gangs roll on their bumpers at inner ends, so all side pressure is perfectly equalized—no strain on other parts of machine. Independent adjustment of each drawbar allows either side to cut deep or shallow—works perfectly on uneven ground. Disks made of open hearth rolled steel of heaviest gauge. Sharpened on both sides. Removable bearings made of maple or chilled iron and are oiled through tube extending up through weight boxes. Direct hitch to gangs, and eveners placed under pole. No neck weight.

Be Sure to Read Our Book Before You Buy Any Harrow

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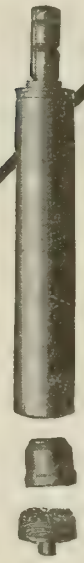
Read all facts. Note that Janesville Harrows are made in all styles and sizes; concave, plow-cut, spading or cut-out disks, one or two levers, with or without tongue trucks and transports, to cut from 5 to 10 feet in width, equipped with 16, 18 or 20 inch discs. Don't buy till you read our booklet.

The Janesville Machine Company
33 Center Street, Janesville, Wis.

BOOK FREE!



Talk About Simplicity!

Here are all the parts that go to make up the bowl of the

SHARPLES TUBULAR CREAM SEPARATORS

and with these three we guarantee Tubulars to skim 50% closer and to continue to skim 50% closer than any other separator made.

THIS BEING THE CASE—

Why should you have to wash up seven times this many pieces—twice a day?

That is a question that is easier to ask than to answer.

There has never a claim been made for Sharples Tubulars that could not be proven;—there has never a machine left our Factory that was not guaranteed *Forever.*

Mark that—not merely a year, or two years—or even five—but *Forever.* Look into these features before exchanging your old separator, or at the time you decide that there's money in selling the cream and keeping the skimmed milk on the Farm.

Write for our interesting Catalog 173 and arrange for a *Free test right under your own roof.* The people who ask questions are the ones who buy Tubulars.

The Sharples Separator Co., West Chester, Pa.
Branches: Chicago, Ill., San Francisco, Cal., Portland, Ore., Dallas, Tex., Toronto, Can., Winnipeg, Can.
AGENCIES EVERYWHERE.

Sharples 32 Yrs

Elkhart Vehicles and Harness

have a world-wide reputation for high quality and our prices have made them famous.

FORTY YEARS'

experience selling to the consumer means success. We ship for examination, guaranteeing safe delivery, satisfaction and to save you money.

Catalog shows all styles of pleasure vehicles and harness, pony vehicles and harness, spring wagons, delivery wagons and harness.

May we send you large catalog?

We also make the "Pratt" Automobiles.

Elkhart Carriage & Harness Mfg. Company
Elkhart, Indiana

Save $25

Trusting to Milk on His Pants
A Bad Udder from Infection

A WELL known dairy paper on the Pacific coast lately published a story that, briefly stated, was something like this: To secure a milder climate a hardware and machinery dealer, who had long done business in a region in the middle west, where his line of goods were generally sold for spot cash, started a store in his new home, offering for sale the same line of goods—mostly farm machinery.

Soon after opening his store a rather rough-looking man came in, saying that he lived on a ranch some thirty miles away and that he needed a certain kind of plow, which was promptly shown him; the rancher as promptly said he would take it and pay for it in three months. This was, in strict parlance, a new one on the merchant, and, excusing himself by saying that he had been called home, he said he would answer after dinner, or lunch, as most city men call the noonday meal.

On his way back to his store he called on a neighbor who sold dry goods and groceries, and stated the case to him. The groceryman finding that he did not know the plow buyer, cogitated a minute, then said:

"Look at his dress, and if there is milk on his pants, let him have it; he will pay for it, sure."

This is simply a story and does not even state whether the plow was paid for or not; but though I do not often gamble, I will bet my last and only hat that it was, for, generally speaking, there are none more prompt to meet all of their obligations than "the men who pull teats," and are not ashamed of it.

There may be a few exceptions, but this certainly is the rule, and a

N. S. FRENCH.

very safe one to apply.

A Bad Udder from Infection

A correspondent thinks that his cow has caught cold. She was fresh a month or six weeks ago and gave sixty pounds of milk; now she has quit milking in three quarters. The udder is not hard or swollen now, except that the left hindquarter has a large lump. It is probable that a germ infection has gained entrance to the udder and that it will never be as good as it once was. The best treatment that we can recommend is massage, or plenty of rubbing and working the udder by hand, together with a long continued application of very hot water. The hot water treatment should be continued not less than an hour at a time, and applied twice a day. Cotton, oakum or anything that will hold the hot water against the udder may be packed around the quarters. It can be held in place against the udder by means of a sling placed just in front of the hips. Four holes may be cut for the teats and the hot material will be held in place in good shape by this appliance. It should be as hot as is safe to apply.

DR. M. H. REYNOLDS.

Review of Live Stock Market

By A. C. Davenport

SELLERS of cattle could get very little satisfaction from the market last week. Prices everywhere, especially toward the latter part of the week, had a downward tendency and declines as compared with the previous week amounted to about 25c on an average, taking the different markets as a whole. The decline did not appear to be due especially to the size of the receipts, for while they were everywhere liberal, they could not be regarded as excessive. The greatest trouble seemed to come from the large eastern consuming centers. Complaints were general that current high prices for beef had reduced the consuming demand to such an extent that there was an accumulation of meat products in storage. Very mild and unseasonable weather over a good share of the country may also have contributed to the poor consuming demand. Whatever may have been the cause, or causes, the fact remained that the packers were unable to dispose of the product as rapidly as the live cattle were coming to market, and they were accordingly in a position to take advantage of the situation to pound the market, which they did, with the result that prices for the week were lower, as noted above.

No Material Change in Cattle Trade

General conditions governing the cattle trade do not appear to have undergone any material change. Recent information as to the number of cattle on feed in the country has furnished no occasion for changing previous estimates. The whole situation looks bullish, with the single exception that the market has been so high that consumers have been inclined to limit their purchases. Continued talk of the high cost of living in the public press has, by calling the attention of consumers to the subject, undoubtedly helped to reduce sales. At the present time the market on fat cattle may be said to be governed very largely by what the consumer can afford to pay for the product or what he thinks he can afford to pay. Still, the market on fat cattle is very high, especially when the quality of the cattle coming to market is taken into consideration. It must be borne in mind that a very large percentage of all the cattle now being marketed are of the short-fed or warmed-up variety that do not kill out any too well. The tendency on the part of the country has been to turn the cattle quickly, there being apparently a feeling among feeders that the cattle to begin with cost so much that it is better to unload them while it can be done at a profit. Fat cattle coming to market have been doing very well; that is, the feeders have been making a little profit over and above the price of the corn in spite of the fact that the original cost of the cattle was higher than ever before.

The lower tendency of the cattle market has undoubtedly made the country somewhat cautious about buying feeders at the extravagantly high prices that prevailed during the first half of the month. Accordingly the market on all kinds of feeding and stock cattle has shown a somewhat easier tendency during the last week. Still, prices are regarded as extremely high and a good many cattlemen do not hesitate to call them dangerously high. Most operators on the market would not averse to seeing stock cattle and feeders sell considerably under present prices, feeling, as they do, that the man in the country ought to have a wider margin between the cost of feeders and the selling price of fat cattle. Frequently

CURES LAME HORSES

While They Work
Without Leaving a Scar or Loss of Hair.

Mack's $1000 SPAVIN REMEDY

The Only Spavin Remedy in the World Sold Under a $1000 Bond.

FOR SPAVIN, RINGBONE, THOROUGHPIN, CURB, CAPPED HOCK, SHOE BOIL, SPRUNG KNEE, LACERATED AND RUPTURED TENDONS, SWEENY, ETC., it is **unsurpassed, frequently imitated, but not equalled.**

OUR FAITH is such that we can afford to **GUARANTEE MACK'S THOUSAND DOLLAR SPAVIN REMEDY** and furnish with every bottle a **$1000 WARRANTY BOND,** which insures to you the return of your money if the **results** from its use are not **entirely satisfactory,** and if it does not **overcome** all forms of **lameness,** from whatever cause.

Your Remedy Is a Wonder

Milwaukee, Wis., Mar. 21, 1912.

McKallor Drug Co., Binghamton, N. Y.

Dear Sirs.—I wish to advise that I have **entirely cured** the Curb on my driver in less than **three weeks** with your **Mack's Thousand Dollar Spavin Remedy.** It is all you claim it to be, and is the **best remedy I** have ever used. Yours very truly,

Wisconsin Lakes Ice & Cartage Co.
Per Jos. G. Meyer, Supt.

FREE Veterinary Advice

We have associated with us a Graduate Veterinarian to answer all questions regarding lameness in horses, free of charge. Mark a cross on picture of horse showing where lameness is located and cut out and mail same to us. You will receive instructions how to cure the trouble. If your druggist can't supply Mack's Thousand Dollar Spavin Remedy remit price direct to us and we will send at once, prepaid $5.00 per bottle—and worth it. Accept no substitute. Our valuable book, "Horse Sense," sent free to any address.

McKALLOR DRUG CO., Binghamton, N. Y.

PURE SEEDS FREE

are yours in one of Galloway's great bargain offers — a 50-cent collection free. Send 10 cents for packing and mailing. The name Galloway stands for "bargain" and quality. This is an extra special Galloway bargain.

TEST THEM FREE

Prove at our expense that these are the greatest seeds on earth. The Collection contains one 10-cent package each of **Champion Pickle Cucumbers; Matchless Tomatoes; Prize Head Lettuce; Southport White Globe Onions; Large O. B. Mixed Sweet Peas.** All come in a big Coupon Envelope which is returnable as 25 Cents in cash on future orders of $1.00 or more. Send now.

GALLOWAY SELLS ONLY BEST SEEDS

—No seconds or thirds—absolutely only the highest first grade. The Agricultural Stations warn you against store seeds which lay around on shelves and get stale. Buy fresh from growers and get live seeds—seeds that put new money into your bank roll. Every garden owner and farmer needs

OUR NEW SEED BOOK JAMMED WITH SEED FACTS

Tells you just exactly what you want to know about these seeds, just how to plant them, just how to compare them with other seeds. It tells you **why** our seeds are genuine, pure bred, true to name, tested, sure to grow. A great additional feature is found in the field articles by a great national seed expert **Prof. M. L. Bowman,** formerly professor farm crops at Iowa Agricultural College. This book is filled with handsome illustrations which show the largest selection of pure bred garden, flower and field seeds of extra special grade. The book cost a fortune to produce but you can enjoy it in your home **FREE** of all charge.

WRITE AT ONCE

for this great New Seed Book. Enclose 10 cts. to cover packing and mailing and we will send you **Free** the magnificent 50-Cent collection of top-notch Vegetable Seeds. Send **now**—don't wait.

Galloway Bros-Bowman Co. Seed Specialists, Box 416 C, Waterloo, Ia.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

POLAND-CHINA HOGS

CLEAR LAWN STOCK FARM

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of late there has been very little margin between feeders and the general run of fair to pretty good fat cattle. There have been occasions when feeder buyers have actually paid more per hundred pounds for the best feeding cattle to be taken back into the country and finished for market than the packers would pay for good beef steers ready for slaughter.

Hogs Absorbing Topic

Hogs continue to be an absorbing topic at the big market centers. The outlook at the present time is decidedly uncertain and there are almost, if not quite, as many bears as there are bulls in the trade. Still, the bulls are very strong in their belief and they do not hestitate to advise every man who has hogs to hold them until they are weighty and in prime condition for market. They argue that, with corn at present prices, the best use that can be made of it is to put it into pork. They also argue that the continued large marketings of light hogs must mean a shortage before the close of the season. As a matter of course many of the light hogs that are being marketed are forced in by the prevalence of cholera, which makes owners fearful that the disease may break out in their own herds, and rather than take the chances they sell their hogs while still light in weight. Some bulls go so far as to advise hog raisers under such conditions to have their hogs vaccinated rather than sell them before they have the weight. The bulls are also gaining confidence from the fact that the receipts of hogs at the five leading markets show a falling off for the first twenty-five days of January of over 330,000 head. Taking the eleven leading packing points into consideration, there is a falling off of 636,000 head for the same time. Still, the receipts at the eleven points are larger than for 1911 by 137,000 head.

Patrick Cudahy's prediction of a shortage of 2,000,000 head between November 1, 1912, and November 1, 1913, has attracted a good deal of attention and is being frequently quoted by the bulls.

The bears still maintain that there are plenty of hogs in the country and that in spite of the light hogs coming forward there is a tendency on the part of farmers to hold their hogs back and make them heavy.

Sheep Prices Higher Than Expected

It was pointed out some time ago in these columns that there was likely to be a moderate run of sheep and lambs in January; that prices would be very likely to show some improvement during that month and until Colorado stock should begin to move quite freely, when receipts might possibly become sufficiently large to weaken values. The advance came as expected. It put in an appearance on schedule time, but it proved to be very much greater than the most sanguine of the bull crowd had dared to hope for. In fact, prices of both sheep and lambs experienced a decided boom and went higher than was really for the good of the market. The product was carried to a point that seemed to consuming centers began complaining that the movement of mutton had become extremely sluggish. As a result prices on live sheep and lambs declined quite sharply last week, breaking anywhere from 25c to 50c at the different market points. Receipts, though liberal, were by no means large, and the total at the five leading markets show a falling off for the first three weeks of the month of 57,000 head, compared with January, 1912.

Holstein Sale—Last Call

This is the last call for the dissolution sale of Holstein cattle to be held at South Omaha, Neb., on February 4 and 5, 1913. This sale is being held for the purpose of adjusting the partnership existing between Messrs. Glissman & Son proprietors of Rock Brook Farms, Station B, Omaha, Neb. This is one of the oldest Holstein firms in the west. They have probably disseminated more good cattle over this western country than any other firm. This sale will consist of eighty head of registered cattle. There will be forty cows from 3 to 8 years old, all either milking or soon to be fresh. There will also be twenty head of yearling and 2-year-old heifers bred to three of as good bulls as the breed affords. The bulls are a splendid lot, all of serviceable age and mostly from A. R. O. dams. Besides the registered cattle, there will be forty-five head of high-grade Holstein heifers, either fresh or soon to be fresh. Anyone in the market for some first class cattle can make no mistake in attending this sale. Kindly mention this paper when writing for catalogue.

Right Now

is the time to give your horses, cattle, sheep and hogs

Pratts Animal Regulator It promotes digestion, and so saves feed; keeps the liver and bowels active; insures health, and increases profits

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HOLSTEIN-FRIESIAN

ROCK BROOK FARM HOLSTEINS
DISSOLUTION SALE
of
125 Head Holstein Friesian Cattle to Be Held at SALE PAVILION, UNION STOCK YARDS,
South Omaha, Neb., February 4 and 5, 1913

80 HEAD of Registered Cattle, consisting of **40 Cows,** 3 to 8 years old, milking or soon fresh, **20** yearling and 2-year-old heifers, all bred to **King Segis, King of the Pontiacs** or De Kol 2d's Butter Boy 3d; **10 heifers** under one year old, and **10 bulls** ready for service. There is more A. R. O. blood in these bulls than any ever offered in the west.

45 head of high grade Holstein cows and heifers, all milking or soon due to calve by registered bulls. Every animal over six months old is tuberculin tested. The result of 30 years of careful breeding is represented in this offering. Catalogue onw ready. **ROCK BROOK FARMS, Station B, Omaha, Neb.**

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I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers
50 1½-year-old heifers } Just being bred to a son of a 24-pound dam.
100 2 to 2½-year-old heifers
100 2½ to 3-year-old heifers } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

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Home grown registered Percheron Stallions of substance, 2 and 3 years old, good and heavy, big straight fellows that will pay you. Also one or two Jacks. Drop a card. FRED CHANDLER, R. 1, Swanton, Ohio.

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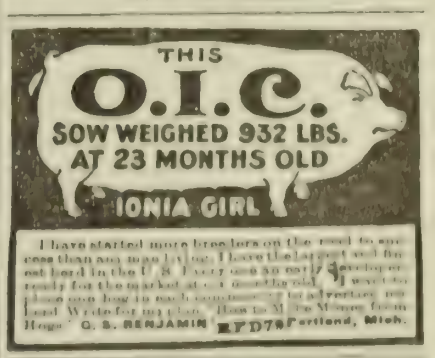
WINELAND FARM JERSEYS The Wineland Dairy herd of Jerseys contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

O. I. C. HOGS



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every sow is a prize winner, ready for the market at any time. If you want a boar that will please you and your neighbors, write me. I have one hog to ship that will weigh 1,000 pounds. Send for my plain talk, How to Make Money from Hogs. O. S. BENJAMIN, R F D 78 Portland, Mich.

DUROC-JERSEY HOGS

DUROC-JERSEYS

An Investment Worth While

There are those in every growing city who have made fortunes on inside real estate because they had the capital and foresight necessary. In other words, the increase in population and natural growth of the city has made them rich. Improved, centrally located, income-producing city property is regarded the world over as the most reliable value and the very best security. The great loan companies strive to make loans on inside real estate, and do so at the very lowest rate. It's choice security when they do; of that be assured.

Few men have the capital and skill sufficient to handle centrally located city property, so a number of them of moderate means may combine their capital and skill, buy and build apartment houses, the rents of which will yield a fine interest rate on the total cost, while the lot grows in value in a few years to several times its cost. It is easily apparent that from these two sources will come plenty of profit to make large dividends on every share.

This is a new form of investment. But it is one that is carried on in every large city. Many of these companies elsewhere have made marvelous records. Their assets often run well up into the millions. The foregoing suggests co-operation, and that is precisely what it is.

In a sense every corporation must be a co-operative body; that is, the members that constitute the corporation agree to aid each other in conducting their particular kind of business. The building and loan companies are good illustrations of co-operation, for here many individuals combine to sell shares and make loans.

The greatest life and fire insurance companies, with their hundreds of millions, are in effect combinations of individuals co-operating with each other. The fact is that co-operation may be applied to any business within certain limits prescribed by either state or United States statute. Hence, co-operation applied to purchasing centrally located city lots and building apartment houses thereon is feasible, safe and a very great profit-maker to those who own the shares.

A Bar to Development

Land speculation in the improved agricultural lands of the nation, with the consequent nonresident owners, is the most serious obstacle to agricultural development. There are wide reaches of arable land in various parts of the country that are not being developed, from which there is no production, simply for the reason that they are bought and are being held for the purpose of making money out of the transaction by the future rise in land values. If the agricultural resources of the country are to reach their full development, something must be done to change this condition. What the unoccupied territory of arable lands need is bona fide settlers, not absentee landlords. The best advertisement that any section of the country can have is satisified settlers, men who own the land on which they live and are rapidly pushing forward its production. Nonresident ownership, with the consequent nonimprovement and nondevelopment of land, gives any section of the country a desert appearance and, to those who pass through it, an impression that it is not and cannot be made to produce. As long as this condition endures a large section of valuable lands in this country, capable of profitable production, will be left unused, and the resources of the country will fail, by just so much, to produce the revenue that they otherwise might. This is something of more than state interest, it is of antional importance. Some means should be devised for changing this condition of land affairs.

A Good Excuse

Ethel has taken a great dislike to rice, and lately her mother has not offered it to her. The other morning she asked what Ethel would like for breakfast.

"Oh, give me some rice, so as I can fuss about it," was her reply.

Northern Pacific Territory Grows Prize Crops

¶Prizes were awarded at the Northwestern Products Exposition, Minneapolis, November, 1912 for the following exhibits of soil products grown along the lines of the Northern Pacific Railway:

¶$5,000 farm traction engine with set of plows offered by the Exposition Management for the best five bushels of wheat grown in the American Northwest, was won by Bridgman and Nash, Clyde Park, Shields River Valley, Montana. Their yield (which was the banner yield in the contest) was 59 1/3 bushels per acre on a 52-acre field of non-irrigated land cultivated by the dry-farming method.

¶$100 in gold offered by the Northern Pacific Railway for the best ten boxes of apples was won by F. F. Gray, North Yakima, Yakima Valley, Washington. His exhibit of Spitzenbergs scored 962 1/2 points out of a possible 1000.

¶Trophy cup offered by the Exposition Management for second best ten boxes of apples was won by J. D. Laughlin, Zillah, Yakima Valley, Washington. His Winesaps scoring 951 out of a possible 1000.

¶$50 in gold for the best bushel of flax offered by the Midland Linseed Products Company, Minneapolis was won by E. C. Leonard, Glendive, Montana. Grown on non-irrigated, dry-farmed land.

¶Trophy cup offered by the Northern Pacific Railway for best collection of forage crops was won by Crook County, Oregon, exhibit made by Prineville, Oregon, Commercial Club.

¶Trophy cup offered by the Exposition Management for best community exhibit was won by Walla Walla, Washington.

¶Northern Pacific states are rightly styled "The Prosperity States of America." They all produced banner yields in 1912. And they grow prize crops. The territory immediately adjacent to Northern Pacific and subsidiary lines wins out in quality as well as quantity.

¶There are approximately 40 million acres of government homestead land adjacent to the Northern Pacific available to you for proving up under the revised homestead law requiring only three years' residence and allowing five months' leave of absence each year. Similar land also on sale by reliable land dealers at low prices and on easy terms.

Low One-Way and Round-Trip Fares

¶Round-trip Homeseeker's tickets on sale first and third Tuesdays each month—25 days return limit.

¶One-way Spring Colonist tickets on sale March 15 to April 15. Both classes of tickets good for stopovers. Write for free copy of Government Land Pamphlet, List of Land Dealers and Literature about these "Prosperity States of America." Address,

A. M. CLELAND, General Passenger Agent or
L. J. BRICKER, General Immigration Agent
222 N. P. Bldg., St. Paul, Minn.

NORTHERN PACIFIC — YELLOWSTONE PARK LINE

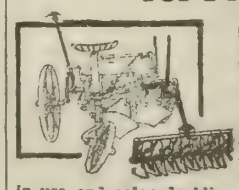
Northern Pacific Railway

115 Acres—$1,600
1,000 Apples Trees

The apple orchard now on this farm will make independent the owner who gives it proper care; chance to set many more apple and peach trees; all conditions ideal; cuts 25 tons hay, pasture for six cows, lots of wood; seven-room slate roof house, two barns, store-house; water piped to house and barn; owner's business calls him away and $1,600 takes it, part cash. Further information of this, and a 100-acre fruit and dairy farm, with buildings, for only $1,000, page 69, "Strout's Farm catalogue 35." Write today for free copy describing farm bargains through the Eastern States. Don't wait—take advantage of present low prices.

Heavy increase of population in the East is making our farmers prosperous through unrivaled home cash markets for al their products. Station 3128, E. A. Strout Farm Agency, Union Bank Bldg., Pittsburgh, Penna.

National Rotary Harrows for Plows



It will surprise you to know the low price that we are quoting the first ten farmers in each township on our famous Rotary Harrows for Plows to quickly introduce them. We refund the purchase price and pay freight charges if not satisfactory. 75,000 in use and sales doubling each season. Guaranteend to increase yield 20 per cent. Pays for itself on first five acres plowed. The new way of harrowing as you plow proved to the farmers last season that it saves time, labor and money in preparing the seed-bed.

Write us today for special introductory prices and circular B.

NATIONAL HARROW CO., Leroy, Ill.

Just an extra line or two, please, stating that you saw it in The Twentieth Century Farmer.

YOUR OPPORTUNITY
is NOW in the Province of SASKATCHEWAN Western Canada

Do you desire to get a Free Homestead of 160 Acres of that well known Wheat Land? The area is becoming more limited but no less valuable.

New Districts have recently been opened up for settlement, and into these railroads are now being built. The day will soon come when there will be no Free Homesteading land left.

A Swift Current, Saskatchewan farmer writes:—"I came here on my homestead, March, 1906, with about $1000 worth of horses and machinery, and just $35 in cash. Today I have 900 acres of wheat, 300 acres of oats, and 50 acres of flax." Not bad for six years, but only an instance of what may be done in Western Canada, in Manitoba, Saskatchewan or Alberta.

Send at once for Literature, Maps, Railway Rates, etc., to

W. V. BENNETT,
Bee Bldg., Omaha, Neb.

or Address, Superintendent of Immigration
Ottawa, Ont., Canada

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The Twentieth Century Farmer

for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

Are You a Renter?

Write us if you want to own a farm; we have the best proposition ever offered. Small amount of cash required, and balance on crop payment plan. We have a limited number of these farms, all located in one township in the best part of the Red River Valley. No better land can be found. We sell to actual settlers only. Get in on the ground floor.

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SHORTHAND—UNIGRAPH IS quickly learned, rapid and readable; excels all others; pays best; beginner's booklet, 10c. Unigraph Co., Omaha, Neb.

MEN AND WOMEN WANTED FOR government positions; $90 month; thousands of parcels post positions open; annual vacations; no "lay-offs"; common education sufficient; influence unnecessary; farmers eligible. Send postal immediately for free list of positions open. Franklin Institute, Dept. K 99, Rochester, N. Y.

COMMISSION MERCHANTS

TURKEYS, DUCKS, GEESE, CHICKens, rabbits wanted. Get prices before selling. Perry & Co., Omaha.

Be sure to mention The Twentieth Century Farmer when writing.

TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, February 8, 1913 | Number 635

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Why not write a note today saying you would like to have one.

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Chicago Kansas City Ft. Worth, Texas

Prattle of the Youngsters

No Problem to Mother

"You can't solve even the simplest problem, Arthur!" reproved the teacher. "Now, try this one. If your mother wants to boil eggs for supper, and she has seven eggs, and three of them break, how many can she boil?"

"She wouldn't boil any of them, please, teacher. She'd scramble them all."

Speeding Up

Arnold Bennett, the novelist of the English potteries, said one day to a New York interviewer:

"I don't see why it is that America should lead the world in manufactures. England, Germany, France—we make on the other side everything that you make here."

"No, you don't," said the interviewer, smiling. "No, you don't; and that's why we beat you."

"What don't we make, demanded the Englishman, "that you do?"

"Haste," replied the interviewer.

The Right Answer

The Sunday school lesson dealt with the Garden of Eden, and after the superintendent had told the story, with detail, he asked:

"Now, when God had made this beautiful garden, and all these wonderful animals, what did he do then?"

A little girl promptly answered:

"He made Adam."

"Right! Now, after Adam walked about the garden, and got very, very lonesome, and had nobody to talk to, what did God do then?"

Momentary silence, then a shrill cry of:

"I know, teacher. He made a lady."

Happy Conversation

Little Helen, just 4, sometimes has an original way of expressing herself. One day, hearing a canary singing in the next room, her mother said:

"Go to the door and you will hear a bird singing."

Helen, being very fond of "birdies," ran quickly and stood for some time listening intently. The bird had stopped its carolling and was twittering in its cage.

"Can you hear the bird sing?" inquired her mother.

"No, mamma," said Helen, "he's not singing now. He's just talking happy."—Sunday Tribune.

Stung

Little Harold wanted a bicycle. So his mother told him to pray for one, which he did faithfully every night. In the meantime both parents consulted and came to the conclusion that their son was too small to have a bicycle. They bought him a velocipede instead. After the little fellow had retired they placed it beside his bed and the next morning they watched developments from the hallway, through the half-opened door. Harold rose and sat upon the edge of the bed, his eyes directed to the velocipede, and in a voice of thorough disgust, he said:

"Oh, God, don't you know the difference between a velocipede and a bicycle?"

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Power on the Farm

THE next issue of The Twentieth Century Farmer will be largely devoted to the subject, "Power on the Farm." Just as in earlier days, farmers had to change from hand labor to the use of machines and horses, so in the near future the exigencies of profitable and economical production will lead from the use of horse power to the use of some other form of mechanical energy. The ordinary work about the farm buildings, which is now done by hand or not at all, will be made profitable by the use of some form of engine. The necessity for deeper and more thorough cultivation will inevitably lead to the use of some kind of mechanical power in cultivating the soil. Next week this paper will put these matters, in both their economic and their producing aspects, before its readers.

This issue will be well illustrated with pictures of machinery in actual operation showing the application of power to farm work. The cover page design and full page frontispiece will be in keeping with the articles on farm power.

Bright and Breezy

Fighting Blood

Two men who really did not want to fight, but who had got the idea that it would be disgraceful not to do so, fell to blows. Friends rushed in and held each contestant firmly.

Warrior Number One, seeing the extremely violent efforts of Warrior Number Two to break away, cried out:

"More of you men hold Swanson! One man can hold me!"—Everybody's Magazine.

Why They Were Wild Ones

Charles Grafly, the sculptor, was talking at his summer home at Folly Cove, near Gloucester, about the quaint humor of the Gloucester fishermen.

"In Gloucester one day," he said, "as I idled among the shipping, an old salt began to narrate his experiences to me.

"'Wunst,' he said, 'I was shipwrecked in the South sea, and there I come across a tribe of wild women without tongues.'

"'Wild women without tongues!' said I. 'Goodness! How could they talk?'

"'They couldn't,' said the old salt. That's what made 'em wild.'"

A Rebuke

An anecdote about the late Rear Admiral Melville was told the other day at a Washington club.

"Melville, one stormy morning at sea," said the narrator, "had occasion to rebuke a young officer for wearing soiled gloves.

"'But, sir,' the young officer remonstrated, 'the men have been so overworked in all this dirty weather one couldn't well ask them to wash gloves.'

"Melville took a pair of perfectly clean gloves from his pocket.

"'Here, wear these,' he said, quietly. 'I washed them myself.'"

Handsome Soldier's Last Request

Adjutant General Nathan B. Forest of the United Sons of Confederate Veterans told, at a banquet in Memphis, a military anecdote.

"A handsome young soldier," he said, smiling, "lay in the last agony upon a battlefield. To the friend bending over him he murmured hoarsely:

"'Tell Caroline my last thoughts were of her. Say I died with her portrait pressed to my lips.'

"He gulped and added:

"'Tell Minnie and Grace and Harriet the same thing.'"

Force of Habit

One of the French marshals who had been defeated by the duke of Wellington in the peninsula tried to insult the duke when the latter was visiting Paris. But in the ball room, as on the battlefield, the victory was Wellington's.

Louis Philippe of France had just introduced the marshal to the duke. Smarting under the memory of his defeats, the marshal thought to slight Wellington by ostentatiously turning his back to him. Louis Philippe was greatly displeased and apologized for his general's rudeness.

"Forgive him, sir[illegible]
"I taught him [illegible]
peninsula."—Y[illegible]

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

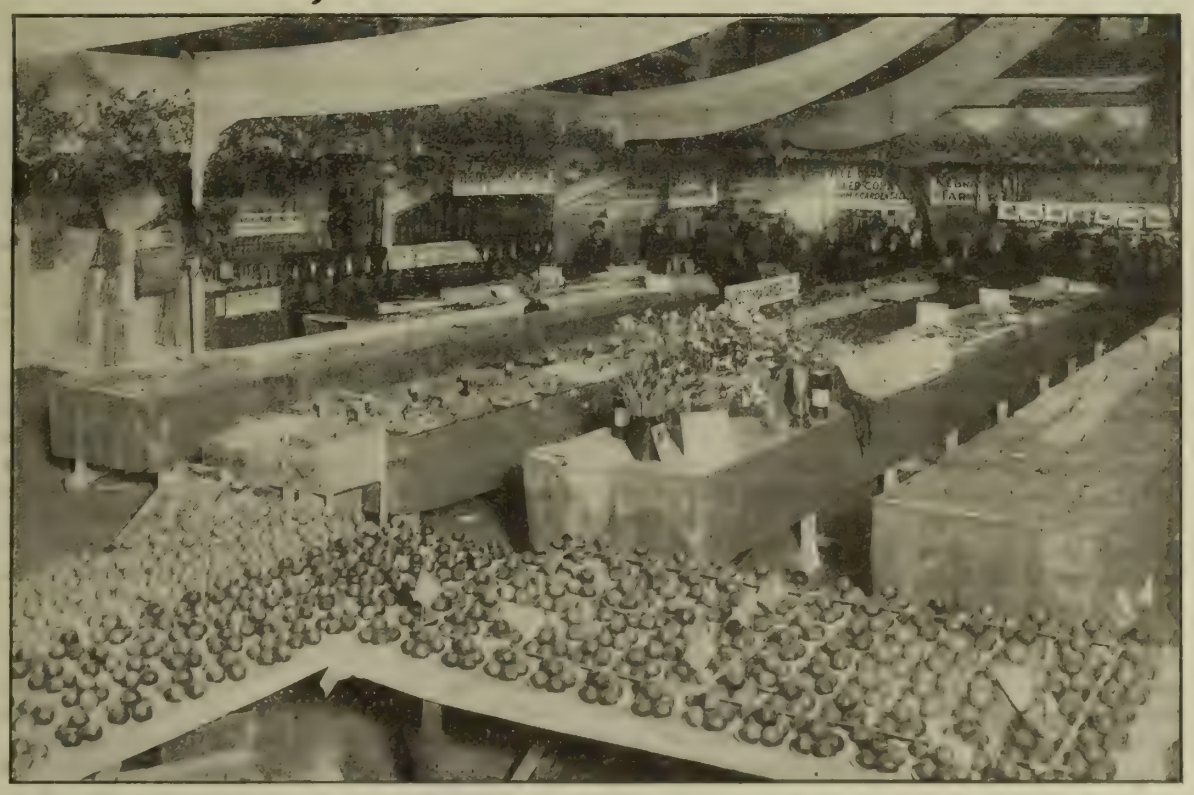
Work of Organized Agriculture in Nebraska

One of the State's Most Potent Educational Features, Embodying Study of Soil, Farm and Home

By G. W. Hervey

ORGANIZED AGRICULTURE has at last become an educational force representative of the producing and agricultural industries of the state. It has for years appealed to the people without receiving adequate consideration for the efforts put forth by the organizers, promoters and business energy of the state university and agricultural college. The principle of co-operative effort in education by the centralizing of the organized forces of agricultural endeavor, that represent the various lines of agricultural industry in the state, must appeal to every thinking citizen as an opportunity that cannot be overlooked without serious loss to the fund of practical information that these meetings are so liberally giving out.

Organized agriculture, as it is conducted in Nebraska, is the greatest organized educational feature in the state. It embodies into a system of short course instruction practically everything pertaining to the study of the soil, the farm and the home. There is no feature of legitimate producing industry in the state that may not become a part of this educational propaganda. That it has a future in advance of its present attainments there can scarcely be a doubt.



View Showing the Corn Exhibit Section of the Nebraska Horticultural and Corn Show

There are new exhibition features of production of the orchard, the greenhouse and the farm in line of corn exhibits, and these are strong factors in the entertainment of visitors. They appeal to the eye and are immediately telegraphed to the reasoning powers, where the work of reform is at once started, and the result is for better seed, better fruit, better stock or better system of work and management.

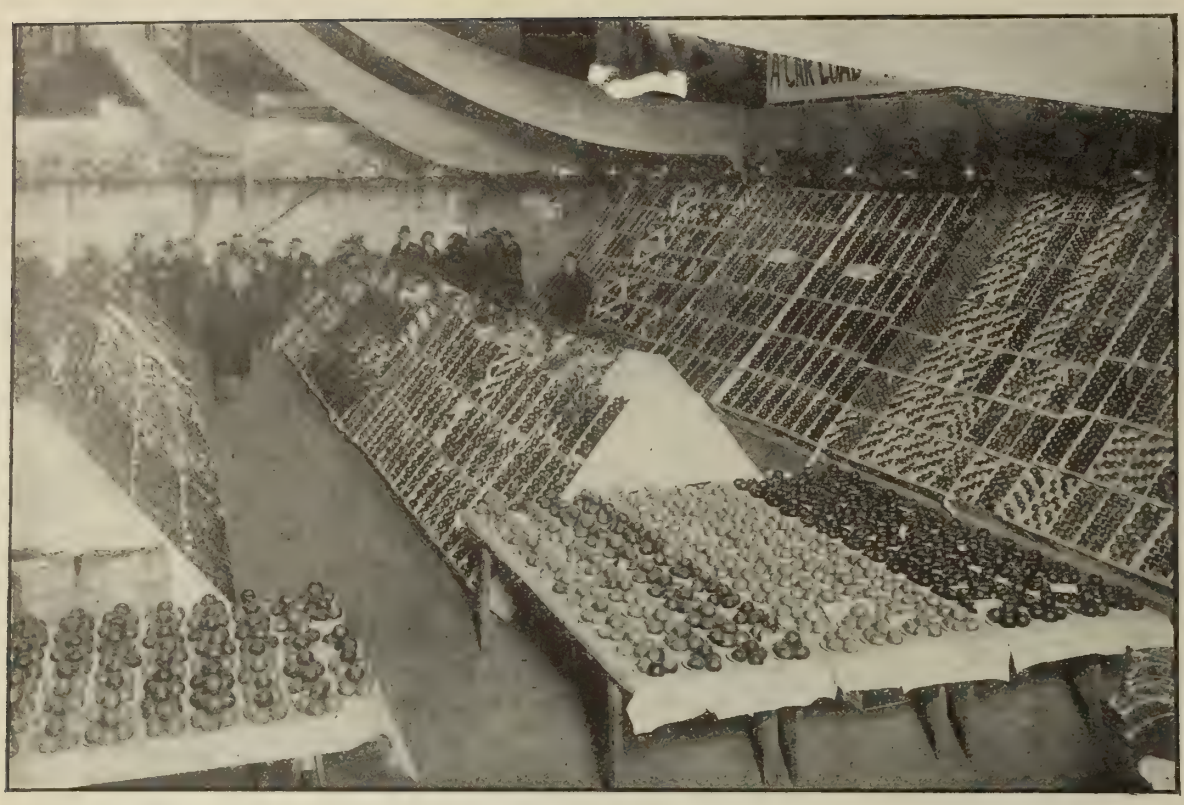
There is nothing that appeals to man so strongly for reform as observation. Then why not develop along these lines? Why not encourage an exhibition of live stock? The exhibition of the breeding animal, the type the farmer demands for best results in beef and milk production, is only a reasonable forecast of what the week of Organized Agriculture will develop. The people who attend this school of centralized agricultural interests and industries are not a common, sight-seeing, amusement-seeking class of people; they are the citizens of our state who are in the front, always on the firing line and looking out for improvement, advancement and a bettering of their crops and live stock in every move they make. These are the people that the pure-bred breeder, whether in live stock or grains, may well afford to entertain, and these are the people who demand the best and who are willing to pay for quality, understanding what it means and realizing that there is nothing too good for the progressive spirit of improvement.

Organized Agriculture was represented by the following state associations: The Beef Cattle Breeders' association, State Dairymen's association, State Swine Breeders' association, Horse Breeders' association, Sheep Breeders' and Wool Growers' association, Grain and Seed Growers' association, State Horticultural Society, State Florists' association, Bee Keepers' association, Corn Improvers' association, County Fair Managers' association, State Fair board and Home Economics association, and some others.

The feature of greatest attraction in point of display and interest in the meetings seemed to center in the apple-growing industry, thereby bringing the State Horticultural society prominently into notice. The apple exhibit made by this association in the city Auditorium was the largest, best and most attractive display ever witnessed in the state. It was largely a commercial exhibit and represented the carlot feature of apple production. The packing of apples in the box for sale and shipment was demonstrated by an expert apple packer. This show was largely in the interest of educating the apple grower in the most profitable methods of preparing his fruit for sale. The present-day demand is for the boxed apple, and the difference in price is so definite that no fruit grower, making orcharding a business, can afford to overlook this part of the business without subjecting himself to serious loss.

The meetings of the Horticultural society were of a very practical nature. The main features of interest to the orchardist were discussed and fully analyzed to the satisfaction of all present. The old things that have become stock-in-trade among fruit growers were not of sufficient interest to attract attention. The Nebraska apple grower knows now that he can grow trees that will produce apples; he understands the methods of cultivation and care of the orchard. What he wants is a quick, safe and reliable method or system of disposing of the crop to the best advantage for himself. Co-operation secured by means of fruit growers' associations for the handling of the crop from the orchard to the consumer is now the matter of special interest. It is one thing to produce, but another and entirely different thing to sell. The organization of an apple growers' association to provide means of handling the crop was formed at the close of these meetings.

The Corn Improvers' display of corn was a very interesting exhibit and occupied a section of the Auditorium. The boys' corn-growing contests demonstrated the interest being taken in this line of work and points to the need of more and greater incentives for not only corn growing, but a wider field of agricultural production. The following subjects were discussed: "How to Cultivate Corn," "Experi



Apple Section of the Nebraska Horticultural and Corn Show Held at Lincoln During the Week of Organized Agricul Right Hand Tier is a Carload of Nebraska-Grown Apples Packed for Market in Boxes of a Bushel Each

ences as to Time and Depth of Plowing," "Seed Bed Preparation," "The Fertility of Nebraska Soil," "The Relation of Bacteria to Soil Fertility," "How to Maintain the Productivity of Eastern Nebraska Soil," "Experience with Commercial Fertilizers and Manure" and "The Proper Handling of Barnyard Manure." The principal speakers were F. W. Chase, Pawnee City; William Lonergan, Florence; W. P. Snyder, North Platte; E. P. Brown, Davey; H. H. Waite, Lincoln; F. J. Alway, Lincoln; W. M. Jardine, Manhattan, Kan.; A. R. Wilson, Belvidere; J. D. Ream, Broken Bow; Ray Miller, Greenwood; John Herold, Lewiston, and C. Y. Thompson, West Point.

The floral display was a fitting decorative feature in the building and blended in well with the great walls of red and yellow apples that seemed to have no limit scarcely, in width or height.

The Beef Cattle Breeders held both forenoon and afternoon sessions in the stock-judging pavilion Thursday, January 23, and were accorded a liberal audience. The principal speakers were A. C. Davenport of the South Omaha Stockman-Journal, subject, "Who Will Produce the Feeders of the Future?" H. C. McKelvie, Fairfield, "Past Experience in Cattle Feeding;" H. R. Smith of the animal husbandry department of the University of Minnesota, on "The Production of Beef in Nebraska;" Prof. R. K Bliss of the animal husbandry department of

(CONTINUED ON PAGE THIRTY.)

Denver Stock Show Makes New Records

Total Sales of Feeder Cattle Almost $1,000,000 and Record Price Figure Hitherto Unheard Of

THE National Western Stock Show, just held in Denver, fixed new records in prices of feeder cattle and witnessed a sale of pure-bred Herefords that eclipsed any former sale in that class of stock. Total sales of feeder cattle ran almost to a million dollars, and the record price was $12.25, a figure hitherto unheard of for cattle just off the range. This was paid for a load of Hereford calves exhibited by Tom Mortimer of the Stanton Breeding Farm of Nebraska. The buyer was Frank Kimball, an Illinois feeder. Another car of calves that went above $12 was that exhibited by N. L. Harrison of Roggen, Colo., winners of the reserve championship, which brought $12.10, and went to A. W. Bragg, also an Illinois feeder. The grand champion feeders of the show sold at $9.40 to W. P. Carpenter of Tarkio, Mo. These were 2-year-old Herefords, just off the North Park range, in Colorado, owned by Hunter, Casteel & Hunter. The Meyers Land and Live Stock company, another Colorado concern, exhibited the champion yearlings, and these brought $10.50, going to J. W. Brock.

Most Sensational Auction

This, the most sensational auction of feeder cattle ever held, started with the grand champions. Two years ago, at the National Western Show, the grand champion feeders sold at $8, which was the high record up to December, 1912, when a new figure was set at the International show in Chicago. This was $8.75. Before the Denver sale it was predicted by cattlemen that top on feeders would be $9, and the show management would have been well satisfied with the establishment of that figure. When, however, bids on the grand champions ran up to $9.40, and the sale was just starting, it was apparent that the lid was off. The first lot to outsell the grand champions were the prize yearlings, which were bid up to $10.50 by Brock, an eastern feeder. This lot weighed 708 pounds and brought the remarkable price of $74.40 per head. The $12.25 lot weighed 550 pounds and brought $67.42 per head. The sporting blood of the bidders was up, which accounts as much as any other circumstance for the fact that values went beyond $10. The first ten loads to pass through the ring brought an average price of $9.15 per hundredweight.

Great Show of Carlot Feeders

The great show of carlot feeders and the subsequent sale, with its record figures, established Denver's claim as the greatest feeder cattle market in America. It has given an impetus to production on the range such as has not been experienced in fifteen years.

Aside from the sensational top sales, the high figures that prevailed generally were due as much to improvement in quality as to scarcity of and demand for feeder cattle. And for the quality the National Western Stock Show must have credit. This show was conceived and started eight years ago, with education as its basis. The originator was Elias M. Ammons, recently inaugurated governor of Colorado, a cattleman whose chief interest still is in the direction of making Colorado the chief of all live stock-producing states. Governor Ammons has been president of the Stock Show association since its beginning, and the fact that this show reached the zenith of its development just as he was inaugurated the state's chief executive is a compliment to his genius, as well as an omen of good for the future of agriculture in Colorado.

Future Plans for the Show

The plan now under consideration is to make the show a great midwinter educational exposition. It was this year composed of five departments—live stock, poultry, horse show, agricultural exposition and eugenics division—the latter being a scientific baby contest. It was unusual to combine improvement of the human race with that of improvement in live stock, but this feature of the show proved exceedingly popular. The start was made for a great national, or perhaps international, contest for the perfect baby, to be put on at the Panama exposition in San Francisco in 1915. But to return to plans. Two departments are certain to be added to the show—dairying and horticulture. The idea is to combine in one exhibition, to continue probably four weeks, all of the interests related to the soil in Colorado and neighboring mountain states and to have in connection therewith a school of agriculture that will reach thousands of farmers and their wives and children.

For the first time in the history of the show a balance is shown on the right side of the ledger. The week's attendance was 121,000, which, considering the comparatively sparse population of the mountain country, is a high figure. The directors realize that if they venture on a month's show they will have to give the people something worth while. Their idea is to make the exposition not only entertaining, but so decidedly educational that every farmer who attends will go home with ideas that will double production on his farm.

The directors will have the hearty co-operation of the Agricultural college in any effort that will help build up farming. This institution had a creditable display at the show, along lines calculated to improve farming practice.

Hereford Breeders Happy

Nobody left the show any happier than the Hereford breeders. The grand champion bull, exhibited by T. F. De Witt of Parshall, Colo., sold for $1,350, going to A. B. Cook, a well known breeder at Helena, Mont. De Witt is a retired army surgeon, who saw the value of mountain air, water and sunshine in producing a hardy, healthy strain of Hereford cattle. His herd, known as the Hermosa, is distinguished for its quality, which was quickly recognized by breeders from the corn belt, as well as those from mountain states. Several sales were made to Missouri and Iowa men, thus reversing the process so common five or more years ago, when our mountain producers went to Iowa, Illinois or Missouri for their breeding stock. This is another direct result of the National Western Show.

ALVIN T. STEINEL.

Profitable Protection for Western Farms

Farm with Shelter Belts or Windbreaks Has Increased Value Over the One Open and Exposed

By J. Gordon Dorrance

FORESTRY for the farmer is primarily a question of utilizing to the greatest advantage and profit those portions of his land which are not sufficiently remunerative for purposes of agriculture.

In the east, where there is much land of an inferior nature on every farm, wood lots of more or less value are more often the rule than the exception. But in the middle west, with which we are more directly concerned and interested, by far the greater part of every farm has so high a value for agriculture that the owner cannot afford to utilize large portions of it for other than farm crops.

In this part of the country, then, it is quite probable that tree-planting by the farmer will have a tendency to be confined to establishing shelter belts, or windbreaks, on his property. This he should certainly do. A middle western farm which is well protected from the piercing winds of winter and the continuous hot blasts of summer has a marked advantage and greatly increased value over one which is open and exposed on every side.

Space for growing useful trees in waste places should never be begrudged, for few realize the many benefits to be derived from a windbreak of trees. If the importance of the shelter belt were more fully understood, not many would think they could afford to do without it, and those who established forest protection for their homes would do so more intelligently.

Few farmers have carefully planned out the make-up and location of their forest plantations with regard to their own convenience and needs, some wood lots in the past being a source of actual damage to nearby farms. We have in mind one farm house which was protected by a shelter belt of trees only a few feet distant; the result was that in the first severe winter the house was buried for several weeks under large drifts of snow, collected and piled there by a windbreak poorly located.

However, such mistakes as the preceding are, fortunately, of rare occurrence, and easily preventable. The well-planned windbreak, in regions subject to cold, wintry winds and frequent blizzards, protecting, as it does, the house and barns and their respective occupants, and furnishing in addition to the protection fuel, posts and farm timbers, is indispensable.

In some situations a windbreak composed

The Windbreak and the Orchard. Fruit Trees Protected on the North by a Double Row of Eucalypts

of several different tree species proves most effective. In a belt of this sort the shortest trees are planted in the outside row, which is toward the prevailing winds; trees somewhat taller next, and in the third row the tallest. Here in the last row trees of flexible nature are considered very desirable, and white willow is used quite successfully as the background.

Double, and even single, rows of trees, nevertheless, are very satisfactory, and for the central western region many valuable trees are available. Among them we may mention the cottonwood, white willow, white and Norway spruces.

The white willow, being a tree of rapid growth, is soon mature and quite efficient as a windbreak; it shows the best growth in moist soil, but does well in a dryer situation if the soil is good. It can be grown in double rows, spaced about 6x6 feet, the cuttings being planted in a plowed furrow. Cottonwood thrives on the moist soil of sandy river bottoms, and cuttings of this are planted in the same way, but only two feet apart, the rows being separated by intervals of four feet.

Of course, windbreaks consisting of coniferous trees are really best, the white and Norway being especially good. White spruce is long-lived and hardy, furnishing good lumber when mature. Its growth is best on well-drained loam, the trees and rows each being planted ten feet apart. The Norway spruce is nearly as good, and does well on fresh, sandy loam.

Early spring, as soon as the frost is out of the ground, is the proper time for planting, and in work of this sort 2-year-old transplants are best. Though not really necessary, plowing and harrowing the planting site before introducing the young trees may well be resorted to, shortening, as it does, the subsequent planting operations, in addition to conserving the moisture of the soil, putting it in good tilth and inducing a rapid initial growth in the planted trees. The trees seldom need attention after the first two or three years, and very little during that time.

Windbreaks, well placed, occupy but little room, and serve many purposes. Perhaps they are most often regarded as a means of protection for the farm buildings, but they are just as valuable in their relation to the fields about the farm. With both fields and buildings they protect from the cold northwest winds of winter and the hot southwest breezes of summer. In the middle west in particular, protection such as this is by no means negligible, and tends to an increased value of both the farm and its products to a very great extent.

Should Avoid Snow Traps

In establishing a shelter belt, the case of the snowbound man should be remembered, for an open space of eighty feet to the leeward, and between windbreak and buildings, serves as a snow trap during winter storms. These open spaces, due to the accumulation of drifted snow, make ideal garden spots in summer, with an unusually large amount of necessary moisture.

From the standpoint of economy, the stock farmer who produces beef and pork cannot afford to leave his barns, stables and feed lots in an unprotected state. In winter it is only too true that more feed is necessary to fatten an animal exposed to a cold north wind than one well sheltered from blizzards, while in the summer the farmer's grain will be husbanded and money saved through the same windbreak, affording, as it does, protection and shade to fattening stock which would otherwise lose weight in extremely hot weather.

As for windbreak about a field, the benefits are scarcely less noticeable. High winds in summer lower the production of many a planted field. To prevent this there is no better defense than a shield of growing trees on the windward side. These trees act as a temperature controller for both field and crop, the fields in consequence of this protection heating and cooling more slowly and having the advantage of a more even temperature. The winds have a cooling tendency, and the fields shut off from them enjoy during the day a sort of superheating which is much to be desired.

Fence of Living Trees

A modern fence is one made with living trees as posts. Such posts will not rot in a few years and have to be renewed, and they likewise aid in conserving the soil moisture in nearby fields.

On an up-to-date farm in the Dakotas a shelter belt of cottonwoods causes the snow to drift considerably over an open field adjoining devoted to alfalfa. Of course, in addition to the protection, this produces a great deal of extra moisture in early spring and summer, and but a few years after the windbreak was established, one summer's yield in alfalfa on that particular spot proved to be five tons per acre.

Forest Protection for the Fields. Growing Alfalfa Sheltered by a Windbreak of Honey Locust

THE TWENTIETH CENTURY FARMER

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

There was produced in the United States during 1912 81,941,998 barrels of Portland cement, as against 78,528,837 barrels in 1911. Eastern Pennsylvania and New Jersey produce more than any other locality.

In order to prevent the introduction into the United States of the Mexican fruit fly the government has forbidden the importation from Mexico of oranges, sweet limes, mangoes, achras sapotes, peaches, guavas and plums. This fruit pest is doing much damage in Mexico, and it is hoped by the quarantine to prevent its introduction into the United States.

"The president, or dean or director, whichever he may be called, must not only administer his institution, but he must reflect the spirit of the institution; he must represent the state in which his college is located, in the specialty which his college represents; he must be big enough, broad enough, sympathetic enough and democratic enough to provide ways through which all the departments of his organization may independently each attain its highest efficiency. The efficiency of the executive office is measured, not only by the efficiency of the several departments which report to it, but also by the ability of the chief executive to make such efficiency available to the state." To all this The Twentieth Century Farmer says "Amen," while regretting that not all directors come up to this level.

Immature Specialization

The competent specialist is the result of three kinds of training. As a chain is no stronger than its weakest link, and will break and become comparatively useless whenever its weakest link gives way, so the specialist who lacks either of the three essential elements in his training is rendered thereby incompetent to answer to the higher demands of his calling.

In the first place, and obviously, he must have adequate training in the technique of the specialty to which he devotes his life. This is so evident that a discussion of the matter is unnecessary, a waste of time and effort. The physician that is not master of anatomy, hygiene, symptomology or materia medica would be no physician at all.

In addition to his purely technical training, if he is to be competent, he must have a trained mind. His mental powers, his powers of observation, his mental penetration, must all be highly developed. He must be able to trace effect to cause, to deduce proper effects from established causes; must be able to foresee in all of their relations the effects that probably will be produced by any action that he may take. For this purpose a well-rounded, symmetrical, full-orbed, mental development is absolutely necessary, if he is to make himself worthy of the confidence of the public, in the practice of his chosen profession.

In addition to the kinds of training already set forth, if he is to be fully competent in the highest sense, he must also have the teaching gained only from right experience. From this it follows that the beginner who lacks experience may not be regarded as fully competent. He must begin his work and do the best he can under the handicap of lack in experience. In due time, unless he proves an utter failure, he will gain this rare wisdom, which can be had from no other source than from the school of experience.

In the rapidly developing west all kinds of preparation are naturally crude. As its resources are developed, as it passes out of the rush of the boom period in development and settles down to the solid, enduring activities of life, these crudities will gradually disappear. Among the first to disappear will be the commercial schools that are turning out upon the public numbers of immature specialists, who have no adequate training for the demands made upon them. The purpose of any school is to fit its students for real public service in whatever walk of life they may choose.

The commercial school is not organized primarily for any such purpose; it is out solely for money. Most of these public schools publish to the world certain inadequate requirements for admission, for the purpose of giving them a standing in the eye of the world, and then in receiving students practically ignore or abrogate their own published requirements. If a student cannot pass the entrance examination creditably, but at the same time has the necessary money, he is permitted to "go ahead and do the best he can," merely for the money's sake. After such a student has covered the entire course of study, the school feels that it would not be fair to the student, after having taken his money for a term of years, to refuse him a diploma, and he is accordingly allowed to "graduate," no matter how defective his equipment may be, unless he has money enough, together with the inclination to spend it, to take further study in the same institution.

The result is that every year there are turned loose upon the public a large number of poorly equipped, poorly disciplined and poorly trained "specialists," who must get their living by hook or crook from this same unsuspecting public.

Unless these commercial schools change their methods and insist upon more rigid discipline and training, their end is not far to seek. The public, itself, through state schools, will undertake the education and training of all specialists that will be licensed to practice their chosen profession. The public is long suffering, but it will not always suffer, if there is a remedy in sight. It will then take matters into its own hands.

The completion of a thorough cultural course of study should be made the prerequisite to entrance to any professional school.

Now is the Time

Now is the time, when work is slack during the winter months, for the farmer to see that his tools are in condition for the spring work. It will cause a serious loss of time to wait until the season opens before getting his tools ready for their work. They should be carefully gone over, all burrs tightened and set, all necessary repair pieces secured and put in place, and everything made ready, even to the removing of the rust and dirt on all bearings. It would also be well at this time to lay in a supply of the bolts of various sizes that will probably be needed during the season. This will mean quick repairs and a saving of time when it is valuable.

Something has got to be done to increase the efficiency of the rural school. Some people are clamoring for a course of study that will place greater emphasis on the three "R's" by eliminating unnecessary subjects, while others are asking to have two more grades added to those already required. The logical solution of all these problems seems to lie in the direction of the consolidated school, to occupy a place midway between the rural school and the high school. Then those that require more education than is afforded by the limited rural school and cannot take advantage of the advantages offered by the high school may be provided for.

The system of taxation in certain states should be revised so as to prevent placing an unfair and unjust tax upon the farmer. It is right that every real estate mortgage should be taxed, but to tax the owner of the land for more than his equity in the land is unfair. When the farm is taxed for its full value, which includes the mortgage, and the mortgage is also taxed, there is a double taxation on the farmer, which is unjust and unfair.

New Line of Extension Work

At the meetings of Organized Agriculture there developed a new line of thought in the application of extension work, in some suggestions by Prof. Bliss of the department of animal husbandry of the Nebraska Agricultural college, in his address before the Beef Cattle Breeders' association, while discussing the subject, "The Selection of Breeding Animals." Prof. Bliss in expressing his anxiety to get acquainted with his new field of labors, having just come to the Nebraska school, said that he would like to get out over the state and meet the farmers and stock raisers in their own stock lots and barnyards and advise with them as to their needs in breeding animals, and help them to get started on the best scientific and practical basis for improvement.

This suggestion seems to be one of the most intelligent and useful propositions for live stock improvement that could be made, and its open field for application offers unlimited opportunities for the professor and the agricultural college to plant a few markers that will assist in popularizing of this department with the live stock interests of the state. The great need and the growing demand is to carry the information to the people. There are comparatively few engaged in the work of handling the soil and breeding of the farm animals that will, or can ever, come in contact with the college professor at his office and place of business. On the other hand, there are scores of grange organizations scattered all over the state that, with other forms of agricultural organizations, farmers' clubs, county fair associations, etc., could be made mediums of distribution of just such information as Prof. Bliss suggested.

The state of Nebraska is becoming well organized locally from the standpoint of agricultural interest, and no greater good can be accomplished at this time of beef cattle shortage, and the entering upon a period of activity in cattle-breeding, than the dissemination of knowledge of how to breed.

Prof. Bliss is a new man in Nebraska. He comes well recommended, but, notwithstanding, he finds conditions in Nebraska that he has not formerly encountered. He has here the farm and the range conditions almost distinct in their adaptability to live stoc production, yet blending together near the center of the state, east and west, forming a very peculiar and unusual physical condition, demanding at its extremes two distinct systems of management.

Prof. Bliss has made a good start. His unassuming yet positive personality has gained for him the general approval of all who have formed his acquaintance. He has a large field to cover, but the energy and activity of the man, we believe, is equal to the task. The live stock interests of the state should rally to the support of Prof. Bliss. The way to make good men more serviceable is to appreciate their efforts, and in doing this do not be too modest in letting them know that their work is appreciated.

Well-Bred Heifer Calves

There has been a great deal said about saving the calves and thus increase the cattle population of the country. Such a course, without limitation or restriction, would be worse for the country than the present craze of slaughtering everything from the veal to the baby beef classification. It is true that high prices have got the better of the sober, hard sense and good judgment of a very large per cent of the people engaged in cattle raising. The prices being offered for calves, weanlings and yearlings, during the last twelve months in particular have seemed so high as to unnerve the calf raiser, and he makes a quick estimate of cost of time devoted to the production and decides that the animal will never make a better profit than now, and he sells. The choice heifer calves go along with the balance. Time, feed and trouble of taking care of them, growing them to maturity, is a controlling thought.

This condition exists all over the country, and it can have but one result, and that is to put good breeding stock out of sight in price within a very short time. It also puts the future beef animal in practically the same situation. There is very little difference in results of supply of either breeding cattle or beef cattle, between the killing of the calves as fast as produced and not producing calves.

There is no money to be made in buying or breeding scrub stock. Choice heifer calves of the beef breeds or dairy breeds are good property to own. These choice heifer calves should all be saved, as the demand for young cows of good breeding will be much higher before these calves can be grown to cow age. An undesirable heifer calf or steer calf cannot be put to better use than veal. This is the system that has been responsible for cattle improvement in this country and should be practiced as formerly, notwithstanding cattle are scarce and high priced.

There will be no class of farm animals that will pay a larger profit on the investment for the next five or ten years than the heifer of good breeding developed to cow age. There is no danger in over-production; thousands of new land owners and home owners will have to be supplied, besides the great creamery and beef industries of the country must be kept up and supplied from the farm producer generally.

Some farmers are afraid that they will run short of feed before grass comes, and yet these same men are very wasteful and improvident in handling what feed they have. It is better in some ways to save than to waste. The average western farmer wastes what would make a New York or a New England farmer rich.

Is there hog cholera in your neighborhood? If so, are you going to immunize your hogs? If not, why not? Do you insure your house and farm buildings? Then why not insure your hogs? Do you lack faith in immunization? If so, look around you. Will you take a chance of losing your hogs sooner than expend a small sum for safety?

Farmer Boy Goes to the Front

New Manager of the Union Stock Yards at Denver Began Life on an Illinois Farm

JOSEPH A. SHOEMAKER, traffic manager of the South Omaha Union Stock Yards company, has accepted the position of general manager of the Union Stock Yards at Denver, to take place February 1. This is looked upon by Mr. Shoemaker's friends as a distinct and merited recognition of his ability in this line of work. Here is another example of the self-made man and a reinforcing of the argument that on the farm is a good place to start the boy.

Joseph Shoemaker was born on a farm in Illinois, where he grew into boyhood, when his father became inspired with the idea that, with his family of girls and boys, there was greater and better opportunities for him farther west and soon joined the western trend of frontier settlers. Iowa for a time became the home of this family, but when the enticing reports from sunny Kansas of its great crops of golden grain, that was heralded back over the prairie state, there was bred a feeling of discontent in the Shoemaker family, and Iowa and Iowa farming lost all their charm to them, and again the line of march was taken up in the wagon train over the prairies to western Kansas, where a home was again established and farming and milling became the occupation.

It was here, while the grain was slowly trickling from the hopper to the old-fashioned millstones, in their slow but everlasting grind, that young Shoemaker, though yet a boy, conceived the idea of becoming a stenographer and actually used his leisure moments, while waiting for the hopper to empty, in the old mill, studying and practicing shorthand. It was here, too, that he studied the hardships that the dry land farmer must encounter, facing the drouths that prevailed more generally than sunshine and shower. It was here that he outlined his future and imparted to his father his purposes of going to the city. The family decided to stick together and, guided by this young lad, sold out and journeyed back to Iowa, locating in Council Bluffs.

The study of shorthand was taken up and completed and a position secured with the Burlington railroad in its Council Bluffs freight office. After four years' experience with this company, occupying positions in almost all of its departments, he engaged with the old Elkhorn road, taking the position of second clerk in the superintendent's office at Norfolk, Neb., where he remained for four years, when he accepted a position with the Denver & Rio Grande railroad and was located at Salida, Colo., for three years.

His experience in the traffic department with the railroads fitted him for this line of work and his services were in demand. From the Rio Grande road he came to the Swift packing plant at South Omaha and had charge of similar work with this company. He later became employed with the Armour Packing company in its traffic department, and was later sent by this company to Chicago, to a better position in the same department. He resigned his Chicago position five years ago to accept the position of traffic manager for the Union Stock Yards company of South Omaha, where he has filled this position most acceptably up to the present time.

Joseph A. Shoemaker

Mr. Shoemaker has been very popular in his stock yards relations and has made hosts of friends, both personally and for the company. His ability as a writer and advertiser has made him friends with the daily press; his sense of news gathering was a resource to be drawn upon at any time; he traveled to see, learn and understand conditions and prospects and was always ready with news features. We regret most sincerely that he cannot stay in Nebraska and help advertise its live stock industries. We realize, however, that he is a Nebraska representative in the great and growing live stock industry in the central west, which the Denver stock yards now represents.

Denver is today the great feeder market of the country and will continue to develop in this line of industry—in cattle and sheep—as the years go by. We congratulate Denver and the western live stock country in securing so competent and efficient a person as Joseph A. Shoemaker to help supervise the work of carrying forward the market feature of the live stock interests of the west.

Use of Unappropriated Range

That there should be some uniform system of leasing the unappropriated range throughout the semi-arid country that it may be employed in the raising of cattle and sheep there is no reasonable basis of dispute. There are millions of acres of these lands scattered all over the Rocky mountain districts, extending from the British possessions south to Mexico, that should be utilized to the best advantage.

There is a difference of opinion among the live stock people as to how these lands should be handled. One faction favors the leasing by the government and under government supervision; another favors the ceding of these lands to the states, and the state leasing to the user. There is a third element termed the nomadic stockman, who prefers taking his chances under present conditions, without restriction.

It is this unsettled condition of opinions and interests that is holding back government action on the grazing proposition, under some form of title to grazing rights and privileges. This must influence against live stock production and at a time when a larger supply should come from these unused pastures.

The American National Live Stock association, at its last meeting, urged the appointment of a committee to present claims for a leasing proposition that would protect the rights of the homesteader and at the same time admit of these unappropriated lands being grazed. It would seem that such a temporary provision could be arrived at that would do justice to all and still give the homesteader an opportunity to test his ability to farm or to conduct a small live stock business.

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The REEVES Power Corn Sheller

will soon pay for itself and return you handsome yearly profits. *Makes quick work*, shells over 1,000 bushels per hour. *Shells cleaner*, because it has the most advanced type of suction fan. Will stand many years of the hardest use. Built on the cone cylinder type—has long ribs, chilled to stand hardest wear. The cob carrier swings to right or left or out ahead, throwing cobs clear of the machine and wagons. Let us prove to you how you can make big money this year, and also get higher prices for your own corn by shelling it *clean*.

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That's the Record of Great Western Spreaders for the Past 12 Years

Less Expense—Less Labor—Less Repairs—Longer Service

The cost of a manure spreader must be figured by the *years* of service it gives you and the *kind* of service you get out of it. The first cost of a **Great Western** may be a little more than the price of some shoddy, poorly-made, heavy-draft spreader, but it costs more to make a **Great Western**, and that extra cost is made up to you many times in the kind and length of service it gives. Based on the *cost per year*, the **Great Western** is the cheapest spreader you can buy. The extra dollars you pay at the start are paid for *quality*, and you'll get them all back, with many more.

Great Western—Low Down

embraces all the great features that have kept it ahead of all others for over twelve years. More than 100,000 farmers testify to the superiority of this machine. There's but one opinion regarding this spreader, and that is that it is the *one perfect* spreader.

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Wheels under the load—roller bearings—rear wheels track with the front—lightest draft — no neckweight — simplest direct drive—no hidden parts, no enclosed gears—individual rollers—strong, rigid oak beater rails — these are some of the points that put the **Great Western** in first place years ago, and have *held* it there ever since.

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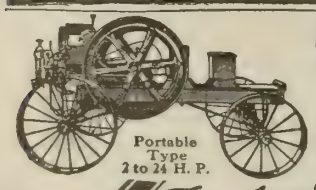

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Handling Soil for Production

IV—Extent of Plant Root Systems and Their Growth

IF ONE pulls up a wheat plant as it is approaching maturity, he finds attached to the crown of the plant a number of roots of various sizes only a few inches in length. Unless he is a skilled botanist, he concludes that these are all the roots the plant has, and that through these the plant derives its soil nourishment. Accordingly, he comes to the conclusion that wheat is a shallow-rooted plant.

Trunk Lines, Not Feeding Rootlets

These roots, however, furnish the plant no part of its nourishment; they are merely the trunk lines which receive the plant nourishment from the feeding rootlets and take it to the growing tissues of the plants; they are merely carriers, not gatherers, of plant food. The feeding rootlets, by means of which the plant gathers its soil nourishment, were broken off and left in the soil when the plant was lifted. Since the plant derives its nourishment from the soil in the form of solution, the rootlets that gather it must have a very delicate and penetrative structure to enable them to absorb the nutritive solution.

Feeding Rootlets of Plants

These feeding rootlets are generally invisible to the unaided eye; they must be fine enough to thread their way through the minute pore spaces in the soil in order that they may gather their nourishment from the surface of these soil grains. If one should examine the tip of the feeding rootlet with a microscope he would find it composed of a single cell, transparent and apparently of a jellylike consistency. The walls of the cell are of such a nature as to permit the free passage of the nutritive solution through them. As soon as the plant nutriment in the immediate vicinity of the cell is exhausted the rootlet puts out another cell in the direction from which plant nutrition is to be derived, and what was formerly the tip cell begins to undergo a transformation that will eventually convert it into a mere carrier of food and make it a part of a general trunk line carrier.

Extent of Feeding Root System

From what has preceded, it follows, as a matter of course, that the root systems of plants are much more extensive than has usually been supposed. It is now known that spring wheat, under favorable conditions, sends its roots from three to four feet into the ground; winter wheat from four to six feet; potatoes and other root crops from three to four feet, and corn from four to ten feet. From this it is evident that the growth of plants depends more upon the condition of the subsoil than upon the condition of the surface soil. The most successful grower will so handle his soil that the feeding rootlets may penetrate deeply into the subsoil, and there attain their greatest extension.

Roots May Be Led in Any Direction

As has already been stated, the tip of the feeding rootlet sends out a new cell in the direction from which it may gather nourishment for the plant. Sufficient water in the soil to dissolve the plant food that is in the soil is necessary to enable plants to take their nourishment. By controlling the water in the soil and locating it where it will prove of most benefit one may govern and direct the direction in which plant roots shall grow. They cannot grow in soil in which there is not sufficient water to dissolve the plant food; they will grow in the direction in which there is sufficient water. If only the surface of the soil contains the requisite amount of moisture the plant will have only surface roots; if only the subsoil has a sufficient supply of moisture, the plant roots will be found only in the subsoil.

Surface Roots Not Desirable

If the plant finds its nourishment, or, rather, finds sufficient water to dissolve plant food, only near the surface, it is there that the plants will distribute their roots. This surface soil loses its moisture rapidly by evaporation, upon exposure to the winds and to the sun. As soon as the water in the surface soil is gone the plants starve for lack of food. Some people advocate a manure mulch for fruit trees growing in the arid or semi-arid districts. This is bad policy. Under such a mulch the moisture is found at or near the surface, and as a result the roots of the trees are found at or near the surface. When the mulch is finally removed and the surface is exposed to wind and sun, the roots of the trees suffer, and the trees suffer accordingly. In the semi-arid districts, where some irrigation is necessary to the successful growing of trees, it is almost the universal custom to apply water to the surface of the soil; this, of necessity, brings the tree roots next to the surface, where the wind and the sun may play havoc with them.

Send Roots Down Into Subsoil

It would be a much better practice to apply the water where it is desired that the roots shall go. It is best for the tree that it root itself as deeply as possible. If the water is applied below the tree, instead of at the surface of the ground, it will permeate the subsoil, leading the tree roots whereever it goes, and in this subsoil it will be absolutely protected from evaporation by wind and sun, and the roots there located will also have the same protection. Then, so long as there is plenty of moisture in the subsoil to enable the plants to derive their nutriment there, it will not matter how dry the surface of the soil may become. This dry surface will act as a soil mulch and help to lock up the moisture in the subsoil, where it may be held indefinitely for use.

What is true of trees, as has just been set forth, is equally true of all ordinary farm crops. The purpose of the grower should be to make his plants deep soil feeders, instead of

surface soil feeders. In order to do this he must have moisture in the subsoil in order to attract the roots of plants in that direction. Water in the ordinary subsoil is secure against loss by evaporation. The grower may store up in the subsoil water enough fully to nourish his plants, no matter how dry the surface soil may be; they will then be able to endure the exigencies of heat and drouth much better than shallow-rooted plants. There have been instances where water sufficient for a two years' crop has been stored in the subsoil, and has carried crops through two seasons of heat and drouth.

Problem for the Farmer

The problem for the farmer, then, is to get a sufficient amount of water in the subsoil, and keep it there. This is practically true of the arid and semi-arid districts, but it is also in a certain measure true of the humid districts, because even in these districts there come periods of drouth, where the plant cannot thrive upon what little water remains in the surface soil.

These preliminary necessities in the soil for plant growth having been set forth, these articles will now proceed to show how the farmer may secure them, and particularly how he may store up in his subsoil moisture sufficient to enable his crops to thrive and mature, regardless of what the condition of the surface soil may be.

Getting Ready for Spring Work

The thoughtful farmer has his season's work all planned out for next season. He knows about how many acres he will put to each crop, how many milk cows he will keep, how many sows he will have to farrow. It is all planned except the details and filling in, which he must do as the work is done.

It is well to have the harness in good repair, the tools put in readiness, the seed corn sorted, tested and graded, the seed oats all fanned and everything in readiness for the busy rush of spring. Much preliminary work can be done of the many small things that in the aggregate are important.

Many springs are wet and unsuitable to do much work, so it stands us in hand to be ready when the opportunity presents itself, and all of this valuable time can be used in getting ready. Go around the fences—do what is necessary to keep the stock right where you put them. Poor fences make breachy stock. Clean the brush out of the way, so it will not bother in the spring. It is good to stop ditches from washing. It is business to haul out and scatter all the manure. By keeping all little jobs done and out of the way as soon as possible after they present themselves, we can easily keep our work up in first-class condition.

It is business to have the best of seed, stock or help. Anything that is poor grade cannot produce good grade of crops or results. In hiring a man get a dependable, intelligent one that does not need to be told everything; one who can take the lead and run the business should you be ill or away.

JAMES WILTSE.

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By R. E. Olds, Designer

In Reo the Fifth we bury at least $2,000,000 per year where few men ever see it.

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But years of use will always show one what this buried money buys.

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This extra hidden cost doesn't show in the price.

We save it by unusual factory economies. By building all our own parts—by not changing models. By carrying efficiency to an extreme.

We save 20 per cent in one way alone—by building a single model. And all those savings go to pay for things like these:

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In Reo the Fifth we use 190 drop forgings, to avoid all hidden flaws. Steel castings would cost half as much.

We use 15 roller bearings—11 of them Timken. The common ball bearings cost one-fifth as much.

We use tires 34x4, at a cost of $60 per car over smaller tires. But you save this cost over and over in lower tire upkeep.

We use a $75 magneto—a doubly-heated carburetor — a centrifugal pump—14-inch brake drums—2-inch, 7-leaf springs.

We use genuine leather upholstery, filled with the best curled hair. Flush electric dash lights. Nickel trimmings, even under the hood. A 17-coated body.

Costly Caution

Each lot of steel is analyzed twice. Gears are tested in a crushing machine, to stand 75,000 pounds per tooth. Springs are tested for 100,000 vibrations.

Each engine is tested 20 hours on blocks and 28 hours in the chassis. We make three unusual tests.

Parts are ground over and over. Tests and inspections are carried to extremes.

Then we insist on big margins of safety. All vital parts are given at least 50 per cent over-capacity.

And we limit our output to 50 cars daily so no man is ever hurried.

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The result is this:

Every buyer gets a flawless car. He gets a car fit for any strain. His cost of upkeep is cut to the minimum.

Men are learning the need for a car like this. The demand has grown far beyond our output.

Men who pay $3,000 and over expect a car built like this. But never was a car built better than Reo the Fifth. And the price is $1,095.

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The leading cars now have left side drive. Also the center control.

But in Reo the Fifth all gear shifting is done with one small cane-shaped handle. It is done by moving this handle only three inches in each of four directions.

It is done with the right hand, without any reaching. It's as easy as moving the spark lever.

Both brakes are operated by foot pedals, so both front doors are clear.

This feature alone—though it costs nothing extra—is worth, I consider, $100 per car.

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R. M. Owen & Co., General Sales Agents for Reo Motor Car Co., Lansing, Mich.
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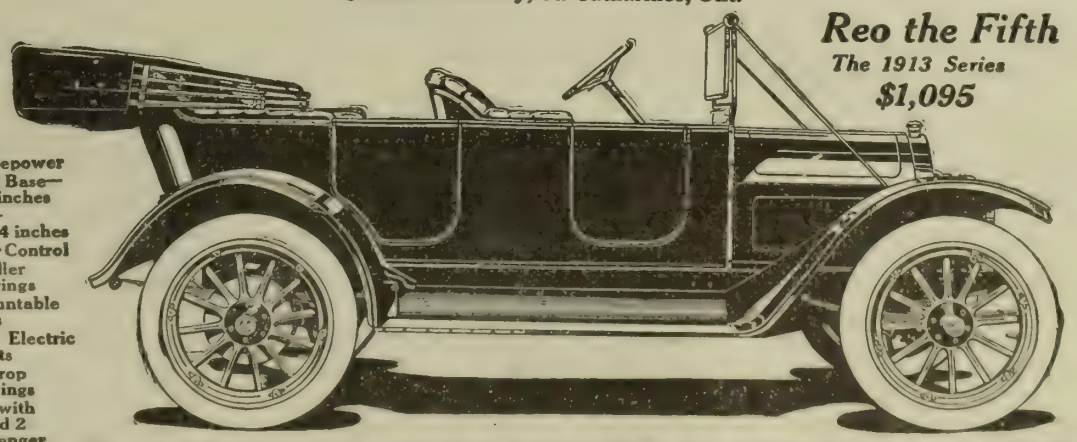
Reo the Fifth
The 1913 Series
$1,095



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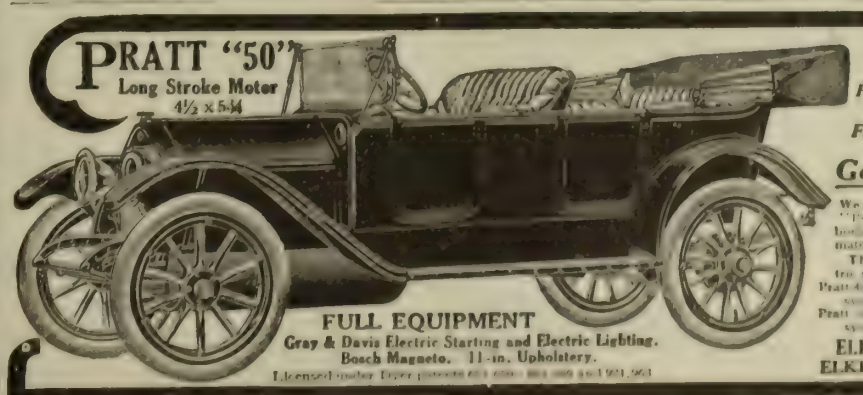

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The New Fuel : Denatured Alcohol

What Experience Has Taught Regarding It

MUCH was promised, and great things have been expected, of the new fuel, denatured alcohol. It was confidently expected to solve the warm weather problem for those homes in which a gas stove is an impossibility. Now, hundreds of anxious country women are asking, "Is it doing all that is claimed for it? Can I believe the glowing accounts of its achievements that I frequently read? Do you recommend an alcohol stove to me as a wise investment?"

From personal experience I cannot give the alcohol stove an unqualified recommendation, and my experience is backed by the fact that countless women have purchased these stoves with the highest of expectations and have pronounced them unsatisfactory. That this state of affairs is due more to the inefficiency of the worker than to any imperfection of the stove does not matter materially. Some very interesting accounts have been printed regarding the use of denatured alcohol. Some of these results I have been able to obtain; others I have not. On the face of it, it is hardly reasonable to expect to accomplish on two small burners what has hitherto required the whole top of a good-sized coal or wood range. Yet this is what many housewives appear to expect.

Produces a Quick Heat

The alcohol stove is a neat, light arrangement, weighing but a few pounds. It is easily carried and requires but little space on a table in kitchen or dining room. It works on the principle of a gas stove, producing a quick heat, which can be regulated from that sufifcient to cook steak to a slow heat for simmering. Upon lighting the stove a little alcohol is allowed to flow into the open pan under the burner. The heat from this burning alcohol generates a gas in the chamber above which burns when the valve is opened; after the alcohol in the pan is burned out there is no odor from the stove, and utensils used upon it may be placed directly upon the table, so free from smoke or soot are they. The stove is always ready for instant use, no tedious waiting for the fire "to burn up" before cooking can begin.

Alcohol is Safe

Alcohol is safe and clean to use; if by chance some happens to be spilled, it soon evaporates, leaving behind neither stain nor odor. Where alcohol can be purchased for about 50 cents per gallon, it is no more expensive than oil or gasoline, and gives a more satisfactory heat than either. Undoubtedly the majority of women would find this little stove excellent in doing the work for a family of one, two or three persons. But the majority of farm families during the warm season number many more than this, and the cook, after a few attempts with the "toy stove," goes back to the range, with its big, comfortable top, in spite of its dust and heat and discomfort.

Housewife Must Use New Mothods

This fact is of the utmost importance; if the housewife wishes her alcohol stove to be really useful, she must be willing to sacrifice some of her time-honored methods of cooking. If she is willing to experiment, to use new methods and new utensils, well and good; if not, she had better not purchase an alcohol stove.

Three things necessarily go with this little stove in cooking for a large family—a steam cooker, a small portable oven for use over one burner and a fireless cooker. A good steam cooker costs in the neighborhood of $6—almost as much as the stove itself—but it pays for itself over and over again in a saving of fuel. In it may be cooked an entire dinner of meat, vegetables, brown loaf and dessert, and with much less trouble than when cooked in separate utensils on the range. There is a great saving, too, of dishwashing, for the food may be served in the dish in which it is cooked, and just how much of a saving of work this is only a weary woman can appreciate.

The portable oven will cost from 75 cents to $1.50; for 15 cents a tinsmith will make a shallow baking tin, which just fits inside. This oven is large enough to hold a good-sized pieplate, while the large baking tin will hold sufficient biscuits or small cakes for the famly supper.

The Fireless Cooker

The fireless cooker may be nothing more than a home-manufactured hay box, if necessary. It will save both fuel and space on the little stove; into it will go anything that requires long, slow cooking. Common sense and a little practice will convince the most skeptical cook of its usefulness.

By means of these utensils—not commonly found in the farm kitchen—it is possible and practical to do the cooking for a good-sized family on the two-burner alcohol stove, with an occasional heating of the big oven, and at no great expense for fuel. It will insure a cool, comfortable room in which to work, freedom from dust and ashes and the carrying in of coal and wood, as well as the washing of fewer cooking dishes. But it also means the trying of new receipts and working along new lines, and some women seem to find this almost impossible. One excellent thing it will accomplish—a breaking up of the constant use of the frying pan, to which too many cooks are addicted. Each individual must judge for herself whether for her the alcohol stove will be a practical proposition.

The Alcohol Lamp

The alcohol lamp gives a clear, white light and requires much less attention than those burning kerosene. The alcohol heaters are said to be most satisfactory by those who have given them a trial. Certainly they must be easily cared for, as alcohol is never objectionable or "smelly" like oil.

So far as personal experience is concerned, I have always preferred using the big range on wash day Neither is the alcohol stove very satisfactory for heating irons unless a piece of tin is placed over the burner to distribute the heat and the irons are covered closely. An alcohol iron is much more satisfactory and is very inexpensive to run.

Two pieces of tin, one large enough to cover one burner, the other covering both, is a help. When using a large frying pan, this tin distributes the heat under its whole surface. The larger tin enables one to keep one kettle of food warm and to cook another with but one burner. All these points are items worthy of notice.

With study and attention the new fuel will do all, or most, of what is claimed for it. If used thoughtlessly it will prove an expensive helper and of little assistance.

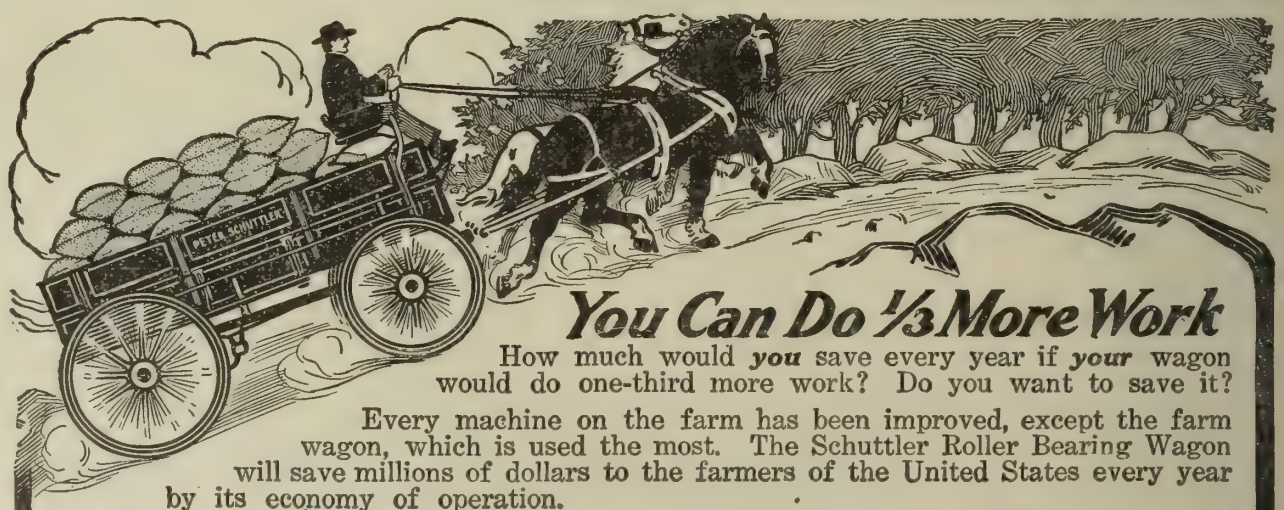
ALICE MARGARET ASHTON.

Cream Cheese

When your family tires of cottage cheese try fixing it this way: Heat the milk until the curd is rather dry, but do not let it boil; dip it out of the whey with a strainer, let cool, season with pepper and salt and a little anise seed, if liked, and plenty of good, thick, sweet cream to make not too soft. Make into balls as large as a pound of butter and set away to ripen. In a few weeks serve your family with a nice cream cheese.

Butter Cookies—One-half-pound of butter, two cups granulated sugar, one cup cream, sweet or sour; one teaspoonful of soda dissolved in a half cup of hot water, flavor with cinnamon, if liked, flour to make dough stiff enough to roll easily. These cookies will melt in your mouth.

MRS. A. TREMPER.



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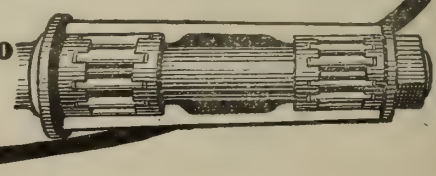

Rearing Boys on the Farm

III---Boys, Brain and Brawn

EVERY farmer knows that when he has a piece of ground lying on the side of a hill he needs to be very careful which way he plows, so that the heavy rains will not wear out a furrow and a ditch be formed.

It is so with the mind of a boy. The environment into which he is thrown starts habits which keep deepening the furrows in his brain until the course of a lifetime is set.

It is especially important that the boy forms the right kind of habits. In the formation of these habits the school plays a very essential part. Too much emphasis cannot be placed upon the public school. Unfortunately, in many instances it has been given too little attention. The position of school director has been one to be avoided, since it brings no financial returns, and often much trouble and criticism. There is a chance in every school district for some man, by giving intelligent, earnest effort to the supervision of the public school, to render a large service to the community. And then, too great care cannot be exercised in the choice of a teacher. Boys are hero worshipers, and the right kind of teacher can lead wherever she chooses.

We will never get very far with our country schools until we learn to pay more to those who train our children than we do to those who scrub our floors; until we show by salaries paid that we are as concerned with the proper cultivation of our children's minds as we are with the cultivation of our corn, and by the better condition of school buildings and surroundings that we think as much of our boys as we do of our hogs.

Next in importance to the school is the right kind of literature in the home. It doesn't cost much these days to provide a few good books and some of the best current literature. It is worth any parent's while to know what his child is reading. Papers like "The Youth's Companion" have worked wonders in the lives of thousands of boys. The farm home has been deluged with cheap advertising papers filled with coarse stories and coarser advertising. Such papers and magazines are a slander upon the intelligence of the American farmer. The best farm paper available, several good current magazines and a good daily paper will pay well for the investment.

As the boy progresses in his mental growth he comes to that crisis in his life—the 'teen years. Heretofore he has been a child. Very rapidly now he passes into manhood. If parents could only appreciate the importance of these years, physically, mentally, socially and spiritually, it would mean much for our boys. It is the period of stress and storm, and with no one is this truer than with the boy on the farm, who has to work out his own salvation with fear and trembling, often unaided and generally misunderstood.

The boy in his 'teens needs to be understood, for he does not understand himself. He is just coming out from that far country to which he will never be permitted to return—a country which leads the author of the "Court of Boyville" to well say:

Where is Boyville, by what track
Must we trace our journey back;
Up what mountains, o'er what seas,
Through what meadow lands and leas,
Must we travel to the bourne
Of the shady rows of corn
That leads down to the willows,
Where the day is always morn?

Heretofore the boy's religion has been that of his mother, his politics that of his father, and he has defended both with vigor born of conviction, but now he comes to prove everything for himself. He is preparing the ground for the man of independent thought later on. The wise parent recognizes these evidences of maturity and governs himself accordingly. We well remember the farm boy whose wise father allowed him to go to town alone to sell a load of hogs. This was one of the proudest moments of his life. The hogs may have brought half a cent a pound less, but what is a hog compared to a boy?

The 'teen period is the emotional age. Temper often palys havoc with the peace of the family, and especially with smaller brothers and sisters. A wise guiding hand is needed. It is the time of falling in love most enthusiastically and ardently. Some day, when we understand better, we will cease to poke fun at the 17-year-old boy in love and will come to learn that to have his life touched and hallowed by the right kind of girl is the greatest steadier in the life of any boy.

But coming out of all this crisis and turmoil finally emerges that most important thing of all—the boy's will. The farm is the greatest place in the world for will training. We learn to do by doing. We learn to will by willing. By placing responsibility on the bo-- in his later 'teens—not too much, not too little—let him learn the great lesson of bringing things to pass and permit him to know the joy of the knowledge of a thing well done through his own initiative. William Byron Forbush speaks of the "you must" and the "I must" boys. Let us so train our boys on the farm that their lives are directed from inner motives because they have learned the great lesson of "I must."

E. F. DENISON.

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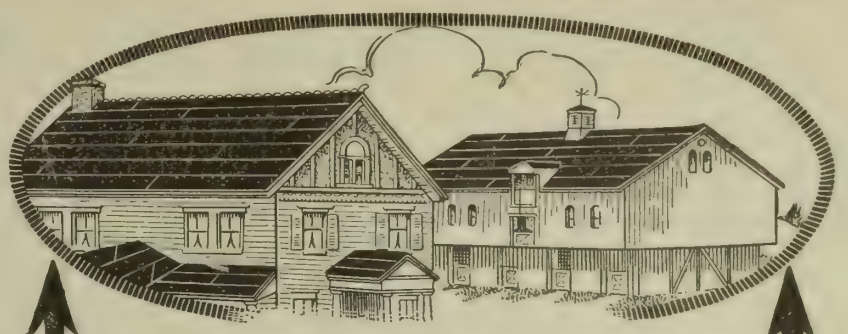
"But it doesn't," said the woman. "She doesn't have anything left to pay her board with!"



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American Soldiers on Mexican Boundary

By Frank G. Carpenter

LAREDO, Tex.—This is the first of a series of letters which I shall write about our sister country of Mexico. I have come to the boundary by the way of St. Louis and San Antonio, and am now here at Laredo, on the southern edge of Uncle Sam's land. I had this afternoon the peculiar experience of standing astride the two greatest of the North American republics. I was in the center of the old wagon bridge which here crosses the Rio Grande, and I had my left foot and hand in the United States, while my right foot was in Mexico. I know this was the fact, for behind me was one of the boundary posts which mark the outline between the two countries. This was a steel pyramid about a foot square at the bottom and six feet in height; it was plated with silver, and each side of it bore an inscription showing that it marked the boundary line. The carving on the side facing our country was in English and that on the opposite side in Spanish, but both mean the same. The English inscription reads:

"Boundary of the United States, Treaty of 1848. Re-established by treaties of 1884-1889."

Under these words is the following:

"Destruction or displacement of this monument is a misdemeanor, punishable by the United States or by Mexico."

The United States side of the pyramid is marked with the American eagle and on the Mexican side is the coat of arms of Mexico. As I stood facing the west, with my right leg in the United States and my left leg in Mexico, I observed the left perceptibly trembled. Perhaps it was for fear of the revolution, which has been so long going on on the southern side of bridge.

Our Boundary with Mexico

I turned around and looked to the west, my eye following the course of the Rio Grande as far as sight could reach; it is a ragged, muddy, dreary stream, with banks which are ragged and low, and bordered by vegetation as coarse and thirsty as that of the Jordan. The stream is not navigable, and its chief business seems to be to mark the boundaries between the two countries and to give a dreary and dangerous task to some thousands of United States soldiers.

The Rio Grande is winding; from here to the Gulf of Mexico its course on the map looks like the teeth of a saw, and, running northwest to El Paso, it curves in and out and makes great bends, covering almost double the lineal distance between those two points. At El Paso the river leaves Mexico and runs north into the United States, and our boundary from there to the Pacific coast is otherwise marked. The whole length of the boundary, with its many curves, roughly speaking, is quite as long as from New York to Salt Lake City, and this whole line, running through the most desert regions of the United States, is now patrolled by our troops.

On my way here I stopped at San Antonio and had a talk with the officers in charge of the post there; they tell me that the river is especially difficult to guard; it flows through a desert, and when its waters are low it can be easily forded; all along it the Mexican rebels have been trying to smuggle in arms and ammunition; boxes and crates, labeled "Agricultural Machinery," filled with guns, are

Our Correspondent Astride of the Mexican Boundary. Directly Behind is the Boundary Post

dumped off at some way station along the railway, and the Mexican raiders steal over and try to bring them across. The railways in most cases are quite a distance north of the boundary and the troops have to watch the trails and water holes to catch the brigands.

In addition to this there are many ranches not far from the river, to which the Mexicans will come to steal horses, cattle and food, and a continual outlook has to be kept for hundreds and thousands of miles. This is done with a small force. One man will patrol a line thirty or forty miles long, and there are detachments of troops at every eighty or one hundred miles.

The men live in little tents out in the desert, and one of the great troubles is to get supplies to them. Many of the camps are from fifty to one hundred miles from the railroad, and it takes a wagon or pack train from ten days to three weeks to make the round trip. There is practically no food in the country, and the men have to live on dried meats, canned stuff and hardtack. They boil and filter the water of the country and all are inoculated for typhoid fever before starting. The country is so arid that the only trails can be from water hole to water hole, and much of the work is watching these water holes.

Keeping Out the Smugglers

Another job which Uncle Sam has all along this boundary is the prevention of smuggling and also the keeping out the Chinese, Hindoos and others who are trying to sneak across into the United States contrary to our exclusion laws. Within the last two or three years many Chinese have been smuggled across at the rate of $500 per man, this being the price paid by each celestial for his successful landing. It is different now. The government has a band of mounted scouts, who are under the Department of Commerce and Labor, and whose only business is to run down and capture such characters. One of these men, Tom Gurley, has taken sixty-four Chinamen within less than a year, and in addition has captured a large number of smugglers. The Chinese are still attempting to cross over, and they are now offering as much as $1,000 apiece for a successful landing.

Right here at Laredo I met a large party of Hindoos who were trying to get into our country; they were on the southern side of the bridge, in the plaza which forms the center of the Mexican town of Nuevo Laredo; they were tall, dark-faced, strong, husky East Indians, and the chief was a turbaned Hindoo from the Punjab.

I asked him where they were going, and he told me he had brought the gang of forty-three with him from the Panama canal; they had traveled first to Guatemala, and had come by the Pan-American railway from there to Mexico; they had gone clear across that country to Laredo and are now hoping to go through Texas to California to find work on the farms and railroads there. The chief complained to me that the authorities at Washington had kept his party waiting for two weeks at Nuevo Laredo, and that he could not learn when they were likely to leave. I photographed four of these Hindoos; they were fine-looking fellows, all wearing turbans and Indian dress, and it seemed to me as though they might have been lifted up bodily out of the streets of Delhi and dropped down into the Mexican town.

The Only Gateway to Mexico

During a part of the last year this crossing of the Rio Grande at Laredo has been the only gateway to Mexico. Vera Cruz was closed by the revolution of Diaz, and El Paso had a long period of interrupted traffic on account of the rebels of Chihuahua and other parts of northern Mexico. The bridge at this point, over which the railroad trains went, has been poorly guarded, and I am told that the rebels with a few sticks of dynamite might have blown it to pieces. Uncle Sam has a fort here under the command of Colonel Brewer. The force consists of about 600 cavalry, who have recently come from the Philippines; they are husky, fine-looking fellows, and are ready to move at a moment's notice. In case of trouble their first work would be to seize and guard the railway bridge.

Mexicans in the United States

I am surprised at the Mexicans I find down here on the United States side of the boundary. The trains coming in are packed with peons or Indians, who are coming into Texas to work on the farms. I am told that something like 48,000 came into the United States last summer and fall to aid in harvesting the cotton and other crops. Thirty thousand came by way of Laredo, and more than 18,000 by way of Brownsville. These men were scattered all over Texas, and they got good wages during the harvesting season. Many of them have returned home

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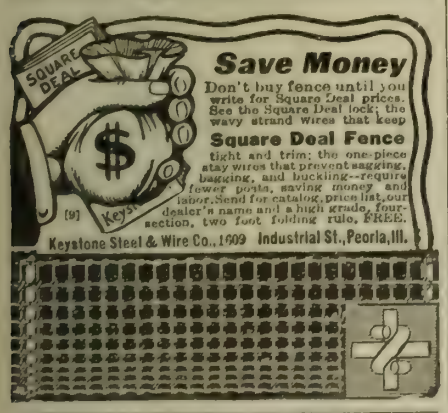

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loaded with money. The current wages for farm work in Mexico are something like 25 cents gold a day, but here in Texas the price for picking cotton is from 50 cents upward per 100 pounds. Many a man can pick 200, 300 or 400 pounds in a day, and these Mexicans, with their families, often make from $3 to $6 a day, and some even more; they spend almost nothing, and as a result are able to go back home with enough money to keep them for the rest of the year. The Texans are glad to have them, and I am told that there they are employed by the hundreds on certain estates.

In addition to this there are many Mexicans who have come over to act as servants in the towns of southern Texas. I heard of one who, with his family, was so employed in Brownsville; his wages were about $15 gold a month, and he had served the family at these wages for two years or more. Last summer he asked his employer if he might have a vacation to pick cotton, and, this being granted, he left; he took his family with him, and when he came back at the end of three months he showed savings of $360. He then took up his old job at $15 a month and will work at that until the next cotton-picking season. He spent his money to buy a lot at Brownsville, and his next year's savings will build him a house.

A Walk Into Mexico

It cost me just one nickel to get into the Mexican republic; this was the toll over the wagon bridge which crosses the Rio Grande into Nuevo Laredo. I was stopped on the Mexican side by three officials and asked if I had any guns or other ammunition, and in returning one of our customs officers asked me if I had any dutiable goods in my clothes.

The difference in the prosperity of the two republics was apparent as soon as I left the bridge. The first man I met was a blind beggar, who asked me for alms, and I met more poor people as I came up into the town and went through the narrow, unpaved streets. Laredo, Tex., is a city of the rich; many of its people have money to burn, nd they are raising gold dollars on the lands which lie all around them. The people of Nuevo Laredo seem to be just the reverse, although they are surrounded by a country equally good. The town is gone to seed, and its houses of brick, covered with stucco and painted all the colors of the rainbow, are battered and worn. The only sign of active life was in the plaza, where a gaily uniformed band was playing excellent music. I saw soldiers here and there, and now and then passed one of the federal infantry patrolling the streets.

Killed for His Hat

I understand that there is need of the federal and local police just now almost everywhere. The unsettled conditions as regards the government have made the thieves and other criminals more courageous than they have been in the past. Brigandage is common in many districts and travel in the mountains is almost everywhere unsafe. There are many thefts, and crime, which could be kept in check when the country was quiet, now goes on unpunished.

As an instance of this, the other night a rich Mexican, the owner of a large hacienda, was standing on the steps of a Pullman car; he was something of a dandy, and wore a beautiful sombrero, embroidered with silver and loaded with a heavy silver cord. Such a hat is worth $25 or more. The train had stopped at a wayside station and the man was standing, looking out toward the east, smoking a cigarette. It was evening, and the electric lights on the car made bright the silver trimmings of the sombrero. They caught the eye of a peon, who was sneaking up on the westward side of the train, and he, climbing the steps, stabbed the man in the back, snatched the sombrero and got away before he could be apprehended. The American who saw this tells me the stabbed man died.

I have been warned by several travelers to keep the curtains of my berth down when riding at night over the Mexican railroads, and when I asked why, the reply was that several rocks had been thrown into the cars aimed at travelers who sat by the windows. One such traveler was sleeping; the stone scattered the pieces of glass all over him and cut a gash or so in his face. His eyes were saved by the fact that he was sleeping when the stone came.

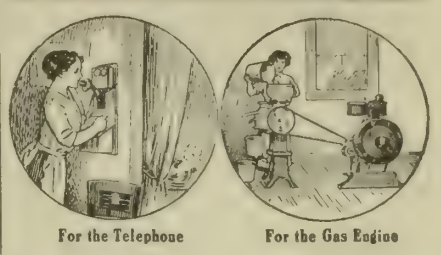
I would say, however, that these cases are extraordinary. Railroad travel in Mexico is undoubtedly more dangerous just now than in the past, and holdups in certain districts are common. I understand, however, that many of the roads have been running their trains uninterruptedly during the last year, and I hope to travel over the greater part of the Mexican republic without being robbed. I shall start south to Monterey tomorrow, and will write of conditions as I find them.

Fortunes in Onions

Before leaving Uncle Sam's country, however, I want to give you some of the big stories the Texans are pouring into my ears. They say their state is growing faster than the gourd of old Jonah. Right here in Laredo they have proved to my satisfaction that they are making fortunes in onions. Five years ago the land surrounding the town was practically a desert, and it could be bought for from $1.50 to $3 per acre. Now you have to cover it with greenbacks to get it. There are already more than 10,000 acres under cultivation, and much of this is in garden patches, devoted to onions, which in quality surpass those of Bermuda. The Laredo onion is as white as snow and exceedingly tender. It is often as big as the head of a baby. Last year 2,800 carloads were shipped away from Laredo, and this represented a value of between $2,000,000 and $3,000,000. These onions go to our northern markets.

I hear many stories about men who have come to this valley walking on their uppers and are now riding about in automobiles. The exports of vegetables are running high into the millions and over $175,000,000 of new money has been invested in the valley within the last seven years.

(Copyright, 1913, by Frank G. Carpenter.)



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Ideas of Women Brought Out at Lincoln on Home-making

GOOD movements are apt to gain in momentum as they progress. It has been thus with the Nebraska Home Economics association, which met in Lincoln during the week of Organized Agriculture. The attendance was greater than ever before and the interest manifested has never been keener. The program was well arranged and not overcrowded, as is so often the case in association meetings. It admitted of time for free and open discussion of the topics presented by the women in whose hands are the practical problems of the home. The discussions were quite as helpful as the original presentation of the topics, giving, as they did, the actual experience of thoughtful, painstaking women.

Mrs. R. L. Hoff of Bethany, Neb., read a paper on "Teaching Children the Ethics of Expenditure," and gave some very good ideas on teaching children the value of money.

Home Grounds and Gardens

In his presentation of the subject, "Planting and Arrangement of Home Grounds and Gardens," Mr. Dunman of the State Farm advocated the use to a large extent of the native trees, shrubs and plants—those which may be obtained by a trip to the woods, and which excel in hardiness and beauty. He advised using hardy Indian currant, sumac, bitter-sweet and dogwood for shrubbery; the white birch, catalpa, elm and oak for trees. The hackberry and honey locust were suggested for ornamentals, and among the evergreens the bull pine.

Mr. Dunman advised purchasing stock of reliable firms and recommended the hardy lilacs, bridle wreaths, hydrangias and snowballs. Old-fashioned perennials, such as the hardy phlox, peony, day lily, columbine, Japanese and German iris, were favorites with him and thrive well in Nebraska, resisting the cold winters.

"One of the first essentials for a successful home garden," said Mr. Dunman, "must be a well developed plan. The ideal landscape must have plenty of open spaces. Have the open space in front of the house, with a limited number of large trees, and group the shrubbery and flowers along the sides. Of course, the arrangement depends largely upon whether a fine effect is desired from the road or whether a screen of trees and shrubbery is designed to provide the privacy sought for the home.

"In planning a landscape you should make a picture. The lawn is the canvas, the house the center of the picture, the plantings furnishing the color. The picture should be framed with shrubbery. The lawn is very important, and the best way to spoil a lawn is to put a flower bed in the center of it," said Mr. Dunman.

For bold border effects Mr. Dunman suggested the hollyhock and the fringed poppies. His list of annuals for cut flowers included sweet peas, asters, pansies, cosmos and nasturtiums. For early spring flowers plant tulips, daffydils, narcissus and hyacinths, and these bulbs should be planted in the fall. He cautioned against combining too many colors, or inharmonious colors, and advised planting fewer varieties, selected with care.

Miss Loomis, head of the domestic sicence department of the University of Nebraska, very ably presented "Labor-Saving Appliances in the Home." She spoke of the plan and arrangement of the home itself, saying that few homes were in the past planned or built by women, but by those who had no idea of what was most convenient in keeping house. More and more the ideas of women are coming to prevail in house-building.

"It has been said that the home is 100 years behind the times in matter of labor-saving appliances," said Miss Loomis. This was attributed to the fact that many women do not know there are means of lightening their labors; many see no way of obtaining them, and some women are merely content to do as their mothers did before them.

Miss Loomis endorsed the plan which is in operation in some states of having a practice cottage in connection with the domestic science department of the university, in which devices and apparatus for the reduction of labor may be tested out under practically the same conditions as exist in the average home.

Among the labor-saving devices which were demonstrated or recommended were vacuum sweepers, dustless mops, bristle brushes of various styles, which are easier to use and more effective than brooms, and a variety of cooking utensils. Aluminum was pronounced the most desirable ware for cooking utensils. A teakettle of this material was shown which had a side-hinged lid that admitted of the insertion of a small wire steaming basket. The spout of this teakettle was larger than usual, permitting of its being placed under the faucet, so that the teakettle, partly filled with boiling water, may be filled at the faucet without danger of burning one's hands.

A Test for Sweeping Compound

Dust preventatives and sweeping compounds were discussed. To test a sweeping compound, place a little of it on a piece of clean, white paper and allow it to remain for a little while; shake it off and notice whether it has left a grease spot on the paper; if it has, it is not suitable for use on rugs or carpets, but is all right for use on an oiled floor.

Miss Loomis holds the opinion that the motor will in the future eliminate much of the drudgery in housework on the farm by furnishing power not only for the separator, but for the ice cream freezer, the electric iron, the vacuum cleaner, etc.

In some states co-operative laundries are being conducted in connection with the co-operative creameries. The motor which furnishes the power for the creamery will also run the machinery for the laundry, though they may be entirely separate, in different buildings.

Under the efficient management of Miss Loomis greater things are predicted for the future of the domestic science department of the University of Nebraska than has ever yet been realized. A period of growth and influence is opening for this branch of the university, which it seems will only be limited by the accommodations which are provided for its operation.

Prof. L. W. Chase of the State Agricultural college gave a talk on the "Water Supply in the Farm Home." Prof. Chase has made thorough investigation of farm conditions relative to this subject and has compiled figures from which he learned some interesting facts. In going from

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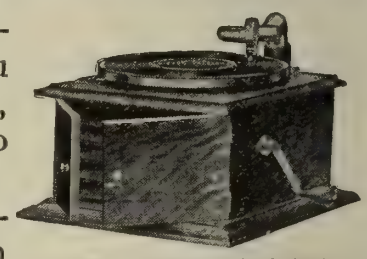

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farm to farm, taking a census of new farm equipment installed within the year, he found this as an average condition: The money expended upon outside equipment, for use in the farm operations, such as manure spreaders, pitchforks, etc., $623; the amount expended for labor-saving equipment within the home in a year, $9.20.

As an illustration of how an adequate water supply in the home will pay for itself, Prof. Chase gave some figures. It is estimated that a cooking pan, allowed to stand and dry, will require one and one-half minutes longer to wash than a pan which has been soaked. There are ten such pans, or dishes, used in the average home in one day, a loss of fifteen minutes. In one year this loss of time amounts to ninety-one hours, which, at 20 cents per hour, represents $18.20. Prof. Chase then explained several water systems which may be installed for that amount, and other water supply systems which may be had for very moderate cost.

Mrs. H. H. Wheeler spoke very instructively on "The Housewife's Side of the Baking Business." Mrs. Wheeler said that 85 per cent of the breadstuffs and pastries consumed in Germany are made in factories, while only 20 per cent of breadstuffs consumed in the United States are factory made.

"As conditions have changed," said Mrs. Wheeler, "the housewife has abandoned her home manufactures. So soon as she could purchase better cloth at a cheaper price than she could produce it she stopped weaving; so soon as she could purchase better lights cheaper than she could produce them, she stopped making candles, and just so soon as she can buy better and cheaper factory-made bread she will stop baking. But she must be satisfied on three points—cost, cleanliness and palatability."

A demonstration in the choice of textiles with reference to their purity and wearing qualities was given by Miss Davis of the home economics department of the university, who gave tests which may be applied to silk, woolen and linen fabrics, to determine their quality.

The election resulted in the following choice of officers: President, Mrs. M. R. Davison, Lincoln; vice president, Mrs. J. D. Ream, Broken Bow; secretary, Mrs. Mann, Bethany; treasurer, Miss Minor, Red Cloud.

Handy Kitchen Table

One never has too much table room in the kitchen, and this proves to be a handy device, especially in a small kitchen. Have a board, or boards, nailed together on strong cleats and have this fastened to any wall in the kitchen by means of solid wooden brackets about as high as a table. Cover the boards with zinc, having the cleats on the underside. This table can be any size adapted to the wall space. A piece of zinc 2x3½ feet costs $1.25, with the nails, and will be much cheaper in the end than the oilcloth, as well as more sanitary. The space underneath this table may be utilized for wood box, fireless cooker, etc.

MRS. A. G. YEAGER.

Fashions : Odd Garments for Both Children and Grown-Ups

How to Order Patterns

The Twentieth Century Farmer will supply readers with perfect fitting patterns; all seams allowed.

When ordering give number of pattern desired and the size.

When ordering for children give age in years.

4862—Princess slips have attained an important position in milady's wardrobe, combining, as they do, the offices of a corset cover and petticoat. In these days, when the fit of the outer garments needs a practical gymnasium suit. The great care must be given to the construction of the underwear; and with the slender figure in vogue any one garment that will take the place of two will be welcome indeed. The princess slip is particularly necessary under a thin gown, when it is desired that bands at the waistline should not show. Nainsook, lawn, China silk and crepe de chine are favored mediums for these slips, but taffeta and satin are used when the slip is reserved for wear under a certain gown. No. 4862 is in sizes 32, 34, 36, 38, 40, 42, 44, 46 and 48 inches bust measure, size 36 requiring 5½ yards of 36-inch material, with 2⅝ yards embroidery, 5¼ yards insertion and 4½ yards of edging. Price, 15 cents.

4311—The kimono has become an indispensable item in every young girl's wardrobe. While it is convenient as a resting robe, it will be in constant use during cold weather to be slipped on in the intervals of dressing and also as a bath robe. French flannel is warm and durable, while flannelet, owing to its small cost, is in great demand for negligees. A garment of this kind is so easy to make that the young girl herself could select it as her first lesson in dressmaking. No. 4311 is in sizes 14, 16 and 18 years, the 16-year size requiring 4 yards of 36-inch material, with 2 yards contrasting material for bands. Price, 15 cents.

4617—Of the advantages gained by making your own underwear first and foremost is exactness of fit. No matter how dainty the materials used, if the construction is poor the entire effect is lost, besides forming a poor foundation for a good fit in the outer garments. Then again, you can have the quality in material and trimmings that you like, and can elaborate the garments in any way that appeals to you. Nainsook, longcloth and lawn are the fabrics usually employed. No. 4617, sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 2⅝ yards of 36-inch material, 3½ yards insertion, 2¼ yards beading and 7 yards edging. Price, 15 cents.

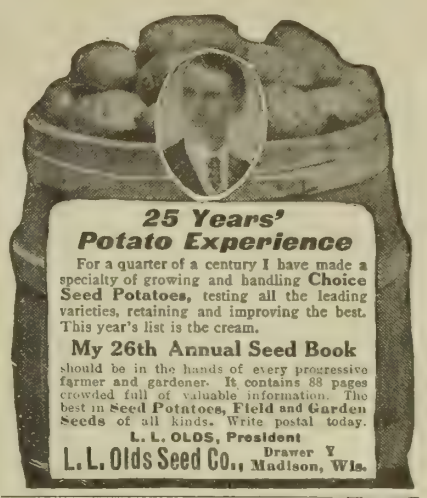
4886—Almost every school or college girl needs a practical gymnasium suit. The model illustrated has been designed with comfort, convenience and freedom of action in view. The materials usually selected for these suits are flannel, serge and pongee. No. 4886, sizes 14, 16, 18 and 20 years, the 16-year size requiring 3½ yards of 44-inch material and 5 yards of braid. Price, 15 cents.

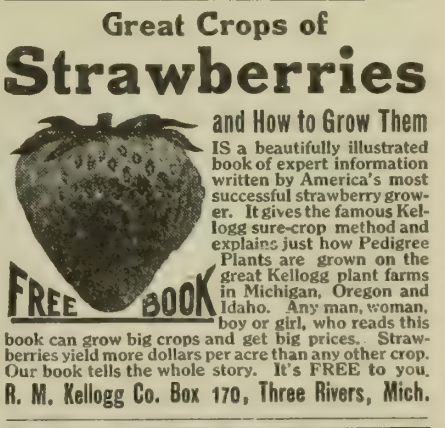
4883—Little aprons of this kind are a great saving on a child's dresses, and with a goodly number of them on hand the girl or tiny boy can always be kept clean and sweet. Gingham, chambray, percale and cross-bar lawn are most commonly used. No. 4883 is in sizes 2, 4, 6, 8 and 10 years, the 4-year size requiring 2½ yards of 27-inch material. Price, 10 cents.

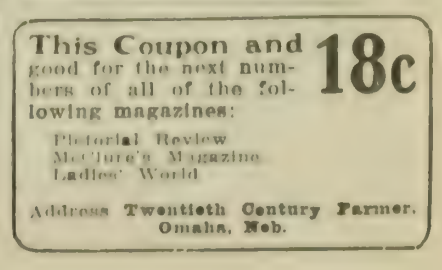
4901—A most practical and comfortable pair of rompers is shown under this number. They are cut in one piece from neck to hem, and in addition to the opening at the back, they may be unbuttoned under neath. Bishop sleeve are used and are perforated for shorter length, while the neck may be cut out in round or square outline. Gingham, kindergarten cloth, chambray and madras are the favorite fabrics for rompers. No. 4901 is in sizes 1, 2, 4 and 6 years, the 4-year size requiring 3 yards of 27-inch material. Price, 10 cents.

4861—A dear little nightgown design is illustrated here. It has a square yoke and a group of tucks below it, which impart the desired amount of fulness to the lower portion of the gown. One-piece bishop sleeves are used. Muslin, longcloth, nainsook, cotton crepe and flannelet are in demand for these litle nighties. No. 4861 is in sizes 2, 4, 6, 8, 10, 12 and 14 years, the 8-year size requiring 4¼ yards of 27-inch material. Price, 10 cents.

4880—A bath robe will be found a very convenient and a comfortable garment for the boy. Materials usually used are eiderdown, double-faced, woolen blanket cloth, Turkish toweling or flannelet. The use of the hood is optional and there are enough pockets to satisfy even the small boy. No. 4880, sizes 2, 4 6, 8, 10, 12, 14 and 16 years, the 8-year size requiring 2¾ yards of 36-inch material, with an extra ⅝-yard in the same width for the hood. Price of pattern, 15 cents.







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Of Interest to Our Women Readers

Valentines

Oh, wee little, dear little, country maid,
Oh, maid with the eyes of blue;
A lover comes through the forest glade
With a gift of love for you.
A simple scroll and a wild wood flower,
And a dimly-written line.
But your heart shall throb at its touch of power,
Your earliest valentine.

Oh, fair little, proud little, city maid;
Oh, maid with the eyes of gray,
A lover comes 'neath the turrets shade
With a gift of love today.
A bit of art that was bought with gold,
But his own hand traced the line
Of love, that dowers with a charm untold,
Your earliest valentine.

Oh, wee little, dear little, eager maids,
Wherever your homes may be,
With your golden curls or your raven braids,
And your hearts so fond and free!
May the flowers be fair and the givers true,
And the sun unclouded shine
On the gifts that whisper so much to you:
Your earliest valentine.

—L. M. Thornton.

Our Home Chat

Miss Loomis, head of the domestic science department of the Nebraska university, demonstrated some very practical devices and ideas for saving labor in the kitchen at the recent meeting of the Nebraska Home Economics' association.

A simple way for cleaning silver was suggested. Place a piece of zinc in a tin pan and partially fill with hot water in which has been dissolved one teaspoonful of salt to the quart of water; let the silver lay in this for a few minutes, and when removed they will be clean. Oxidized silver should never be cleaned in this way. Another quick method of cleaning silver is to boil it in an aluminum pan. The objection to this method is that a dark deposit collects on the pan which is difficult to remove. Chemical tests of the water used in both these methods show that no silver has been removed from the ware.

A covered dustpan upon a handle that made it unnecessary to bend the back when using it was exhibited.

A potato ricer was recommended, saving much time and energy in creaming potatoes. It was suggested that food be put away in glass jars, such as used for preserving fruit, through which the food can be seen, and thus not only keeping it free from moisture or contamination, but saving time often consumed in opening various cans to find the thing wanted. The kitchen wagon, or small table on casters, was advocated, its use saving many steps in setting the table and taking the food from the range into the dining room. After you have pasted the labels on the glass jars, if you give them a light, thin coat of varnish they will not come off, but will be impervious to moisture.

No woman can hope to do all of the work that there is to be done. The wise woman will choose those things which must be done, and do them well. And she is a wiser woman who avails herself of every help possible in the doing of these necessary things. THE EDITOR.

A System in Housekeeping

I am writing this thinking it may be a help to young housekeepers. I begin my week by doing the family washing, mopping the kitchen floor when I am through with the washing. On Tuesday I bake bread and do the ironing. If the ironing is not too large it is done by noon. Wednesday morning I churn, mop the kitchen floor and perhaps do some baking—cookies, pie or cake. Thursday I sew or do any extra work—work that happens to come up. Friday is baking day again; also the day for sweeping the entire house. Saturday I clean the kitchen and do any baking necessary for Sunday that was thought best not to do on Friday; the clothing is gathered up for Monday's wash as much as possible. Saturday afternoon we go to town to do our shopping.

In planning our work we usually have the most of the afternoons for sewing, entertaining company or going to visit the neighbors. We sell our cream, so only churn once a week, for our own use. have a washing machine, cream separator, a good churn and other conveniences. I am not a slave to my work; if it is necessary to put work I do so, but this is my program. MRS. D. CURRY.

Celebrating Midwinter Holidays

Patriotism among the younger generation seems at times to be at a low ebb. There are too many little folks who do not realize the reverence due to the anniversaries celebrated February 12 and February 22. The first lessons in patriotism should be taught in the home, and later followed up in school. Let us make Lincoln's birthday—February 12—a special day for the children.

The construction of a Lincoln log cabin, in miniature, from small wooden sticks, or even sticks of macaroni, if wood is lacking, joining sticks with glue, will keep the little ones busy evenings for a week before the date, and, besides amusement, will give a fund of information to several members of the family. The older members will brush up on any point in the history of Lincoln's life that has become hazy in order to meet the volley of questions from the younger set. A few of Lincoln's anecdotes would prove interesting for reading aloud, and the school children should be encouraged to hunt up some new ones to tell in the evening.

Though St. Valentine's day is fast losing prominence among the days set apart, its observance is still popular in youthful circles, and if the children wish to express their sentiments to playmates and friends on February 14 it is a pretty custom, but let their valentines be useful.

A pretty and useful needle book is made by covering four small cardboard hearts with satin, padding with a bit of soft, scented cotton. Beginning at the points, sew the hearts together half way up their sides; fold in two opposite hearts down the center so that when the remaining two are brought together at the top and tied firmly with ribbon strings the first two are hidden completely. Arrange assorted needles on inside padded lining, which is prettier if of a lighter shade than the covering.

A set of heart sachets, brown, white, pink and blue, may be accompanied by the following sentiment:

The blue is for 'kerchiefs so fine and so white.
Reserve for your glove box the brown.
The white is for lingerie. Hang the gay pink
'Mong the folds of your daintiest gown.
It seems that the stuffing's just cotton and scent,
With a wee bow of ribbon above.
But if you note closely, I'm sure you will find
They are filled with my tenderest love.

A cardboard arrow covered with gold or colored paper and decorated with tiny cupids makes a unique bookmark.

One of the most appreciated valentines I ever received was a daintily decorated envelope of flower seeds, which, the message ran, would reveal their secret sentiments only through proper care and the magic wand of spring. After months of anxious waiting I was rewarded by the beauty of a luxurious bed of giant cosmos. Not the least in the list of useful valentines is the cheery letter that will doubtless bring more joy to the recipient than any fancy bit of lace and paper.

DAISY CANNON.

The Girl That Everybody Knows

"You have undoubtedly met disagreeable girls who, without doing anything especially spiteful or mean, have impressed you as a girl to avoid. But have you ever met the girl that you, as well as everybody else, likes? You are unfortunate if you have not met her.

She is the girl that is not "too bright and good" to be able to find joy and pleasure all over the world.

She is the girl who appreciates the fact that she cannot always have the first choice of everything in the world.

She is the girl who is not aggressive and does not find joy in inciting aggressive people.

She is the girl who, whether it is warm or cold, clear or stormy, finds no fault with the weather.

She is the girl who, when you invite her to any place, compliments you by looking her best.

She is the girl who makes the world a pleasant place because she is so pleasant herself.

And, by-the-by, when you come to think of it, isn't she the girl who makes you feel she likes you, and therefore you like her?—Exchange.

To Clean a Sick Room

"In sweeping a room with a sick person in it, always use a damp broom to avoid raising a dust," said Mrs. Alice Marks Dolman, instructor in home nursing at the Oregon Agricultural college, in a recent lecture.

"Never use a feather duster to dust with, for this raises dust, but does not remove it," she continued. "A good solution to use on a dust cloth, to moisten it, is as follows: Dissolve one and one-half teaspoonsful of carbolic acid crystals in one quart of boiling water and add one ounce of glycerine. Be sure that the carbolic acid crystals are all dissolved, else there is great danger of a serious burn. This solution is a mild disinfectant and will not injure wall paper or furniture."

Getting Together on Live Subject
Economy in Children's Clothing

In these days we see and hear and read much of how the city is draining the country of its life blood. Ever the cry goes up against the vague longing and unrest which possess the younger generation in the country; the abandoned farm stands forth in all its lonely desolation; vainly Rachel weeps for her children who have slipped away from her; and yet never has there been a time when the farmer enjoyed so many of the comforts of life as now. What is wrong?

Well, for one thing, perhaps these very comforts have opened a wider vista, created a desire for more and better things, stirred latent ambitions, a longing to be and do and earn as they please. And then, there is the natural desire of youth for change and excitement and pleasure, for more friends and companions of their own age. Nothing very reprehensible in any of that, is there? And yet I have known parents who acted as though there were—and they lost out, because they imagined all they had to do was to forbid the children the city. Don't do it, my friend; wake up, be alive yourself and join heartily in the game. You cannot crush these longings, and you do not wish to. By ultraconservatism, lack of sympathy and indifference to youthful hopes and aspirations, you but defeat your purpose. Wisely direct them, encourage the boy and girl to want the best there is to make the most of themselves and to have just as good a time as they can. Let them visit the city as often as their duties permit and allow them to bring home city friends. They will acquire much wholesome knowledge, a truer estimate of life and what it means; they will find many new things to think about and to do; they will learn there are two sides to every situation, and tinsel will no longer appear as gold to them.

Nor will the benefit be all on the side of the country lad and lassie. The city boy and girl likewise need fresh viewpoints, larger horizons and the fresh, wholesome life of the country will do them good. Where the one acquires greater ease and polish of manner, the other will learn frankness and independence.

True, you may not hold your boy or girl at home, even with all these helps, but if the world's need is greater than your own, you have no right to resist the call. Be sure that for every bright moment you have given your child there will be an answering throb when the home call bids them come; they will return to you with joy and leave you with a regret that will fill the aching void in your heart for many a day. It has always been so; some must stay and some must go. Do your best, and trust God for the rest.

Remember, giving and taking are not all on one side. Everywhere we find the world-weary ones wending their way "back to Nature," and really there is no one so well qualified to get the most and best out of country life as the man or woman who has experienced both urban and suburban life, and it does not take so much money, after all—just pluck, commonsense and perseverance.

Get together, friends. Too long have country and city looked askance at one another. It is time we get together, saw things through the other fellow's eyes, noted his way of living and doing, let ourselves out in a larger sympathy and understanding and met in the spirit of fraternity, Haughty superciliousness on the one hand and humility, admiration or hostility on the other, are utterly misplaced. Why not get together and enjoy life? Each has pleasures and conveniences which would be the more enjoyable if shared with the other. We are no more two separate factors in the social life than are labor and capital. Without either the social structure could not stand. Our interests and pleasures should be interdependable. Why not make them so?

EVA J. DE MARSH.

Children's Clothes

There are so many ways of economizing in the children's clothing that they may be neatly and even stylishly dressed and yet not have anything really new in their wardrobes. The good cloth found in partly worn clothes can be fashioned into many useful garments for the children. If there is no small boy in the family, the best parts of old coats and pants can be made into serviceable garments for the small girl. We all admire prettily dressed children, but we admire the mother more who has the good taste and good management to evolve their pretty clothes from old garments that have already rendered good service in the household. Good patterns can be bought for a trifle, and garments made from old materials need only careful pressing and neat finishing to make them as nice as new garments. One must study the cloth in connection with the pattern before putting scissors to it. A good and nice dress skirt was made for one little girl from the tops of two pairs of pants, but the pieces were first washed clean and then colored a dark shade of blue.

Partly worn woolen shirtwaists and dress skirts may be utilized for making underskirts for the little girls, and if they are lined with flannelette they will be warm and comfortable to wear. A serviceable and stylish Norfolk jacket was made from a partly worn overcoat of all wool goods. The light cloth was colored a rich dark blue and the jacket cut by one of the late patterns. The best parts of a woolen dress skirt furnished the material for another pretty jacket after the pieces were colored a dark red. Flannel knickerbockers are in every way better than a heavy skirt, especially for girls in the country, and if they are not made of the same goods they can be of the same color as the dress.

When the children's mittens begin to wear thin turn them inside out and darn with ravelings of yarn or face with soft cashmere or other light material, and quilt this to the wrong side of the mittens. Nice leggins can be made from old pants cloth, and they are as nice as the bought ones if they are neatly finished. If the wrists and ankles are kept warm and dry the danger of contracting colds is much lessened.

When the knees of stockings begin to wear thin cut the leg from the foot part where the seam will be concealed by the shoe, and turn the front of the leg to the back and trim so as to fit the ankle. It is a good plan to line the knee portions and heels and toes of stockings with some soft material before they are worn and they will last twice as long.

I don't believe in encouraging vanity, but if children have nice, stylish clothes to wear to school it will help to encourage their self-respect. Children are sometimes made bashful, awkward and sullen by being forced to wear faded and outgrown garments. MARTHA.

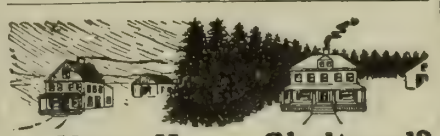
Big Opportunity to Profit On Increased Value of Government Irrigated Land

Time after time land in the great prosperous West has jumped from a nominal value to hundreds of dollars an acre when the first railroad tracks opened it up to the markets of the world. That is what is likely to happen in the Big Horn Basin of Wyoming.

Soil there, under proper irrigation has for years proven itself capable of making farmers rich with bountiful crops of fruit, alfalfa, grain, sugar beets, garden truck, etc. All it needed was an outlet to market. Now the Railroad is about to put a Line straight into the heart of the territory. Those who get in before the track is laid will reap the big profits.

You can now file on an 80-acre government irrigated homestead at no cost except the actual cost of the water right—and you are given twelve years to pay for that. Light payments the first five years. No taxes for three years. So you can get started with very little capital. The climate is mild and healthful; good neighbors, towns, churches and schools nearby.

This is one of the best chances I ever saw in all my experience. Write and ask anything you may want to know about it, and I will send you full information, illustrated booklet, map, etc. My service is free. Send me a postal quick. D. Clem Deaver, Immigration Agent, C. B. & Q. Ry. Room 350 "Q" Bldg., Omaha, Neb.



Is Your Home Sheltered?

Save dollars by saving heat. A wind-swept home is a cold home. Shivering cattle take on no fat. Cold hogs make the smallest gains. Wind-tossed chickens lay no eggs. Protected gardens get the earliest start.

TRANSPLANTED
100 EVERGREENS $7.50
Express Prepaid.

These trees have been transplanted and root-pruned, insuring an abundance of fibrous roots—nature's guarantee of life to young trees. They are backed by the fairest guarantee of any nursery in the United States and by the forty years' reputation of

IOWA'S GREATEST EVERGREEN SPECIALIST.

I ship direct from the ground on the day the order is received. The trees you buy of agents have been out of the ground often three weeks. That is why they don't grow. Buy direct of me and you will be satisfied. We can also sell you prize winning

"True-to-Name" Fruit Trees

and berry plants guaranteed to prove hardy or cost you nothing. Catalog of special bargains FREE.

Earl Ferris Prop.
EARL FERRIS NURSERY CO.
1111 Omaha St., HAMPTON, IOWA.

PROFIT

If you could invest in a machine today—and be sure that its proper use would **increase** your returns from the oats harvest $7 per acre—from winter wheat harvest $6 per acre—from spring wheat $3 per acre—over and above what you have **been** getting, remember, you wouldn't hesitate before investing.

Well, that's exactly the kind of profit you **can** make if you buy a **HAWKEYE** Grain Grader and Cleaner. On 100 acres of oats some of its users have cleared **$700 more**—on 100 acres of winter wheat **$600 more**—on 100 acres of spring wheat **$300 more.** The

HAWKEYE

Grain Grader and Cleaner

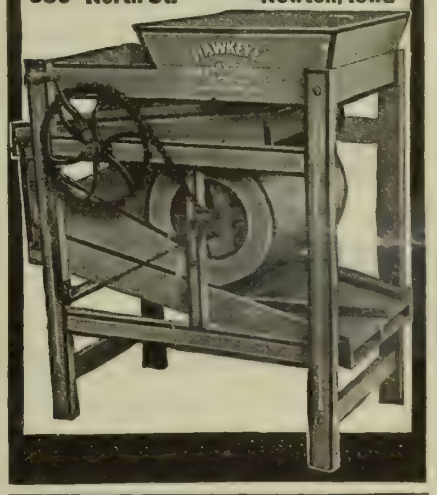
is the **surest** money-making machine on the market. It **grades** corn and all grains and grass seeds so you can plant **good** seed for big, profitable yields. It **cleans** thoroughly—two machines in one—**guaranteed** by the manufacturer to do all we claim for it, to satisfy you, to **make money** for you.

Don't go into another season without owning a **HAWKEYE,** so you can use it to improve the quality of your seed and the quantity of your yields.

Plant corn graded by the HAWKEYE and you'll have three good kernels in every hill 97 times out of 100—and an ear on every stalk when corn harvest comes.

Look into this proposition. Ask your dealer to show you the **HAWKEYE** and **write us quick** for full particulars so you can have one of these machines **this year.**

The Maytag Co.
380 North St. Newton, Iowa



COUNTY MANAGER WANTED

We want a reliable Manager in each County to secure and look after Canvassers to sell Mills SEEDS, PLANTS, BULBS, etc., (which are well known everywhere). Canvassers report to the County Manager and he reports to our office. Easiest kind of work to look after. It requires only a few days to establish a County Manager and will take only a small portion of time afterwards.

Excellent opportunity. Any reliable person over 21 years of age, located in the city, village or country who can qualify will be acceptable as our Manager. If interested apply quick for full particulars naming County desired. Address

Mills Seed House, Dept. 66, Rose Hill, N.Y.

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

ALFALFA

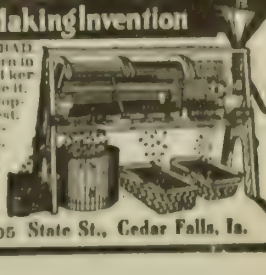
How to grow Alfalfa, how to feed it, how to harvest and care for it. Full information for corn belt farmers who wish to grow this most profitable hay crop will be sent free on application. Also a sample of our extra choice high grade seed.

IOWA SEED CO. Dept. 3 **Des Moines, Iowa**

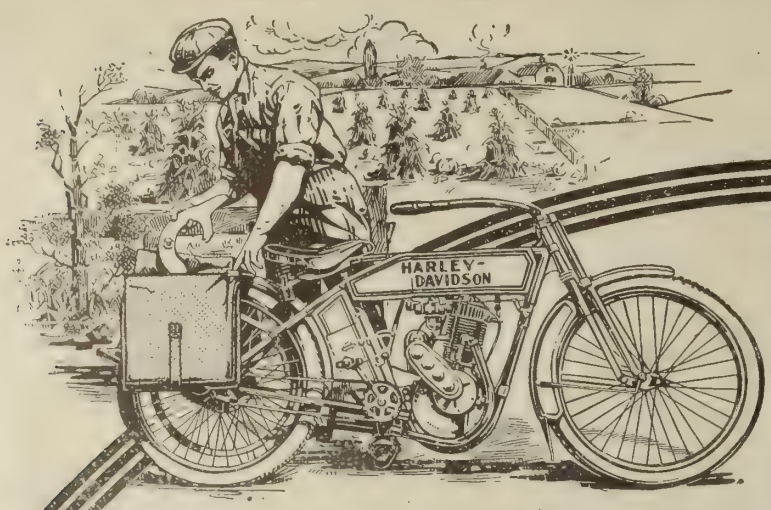
Trojan More-Corn Sorter

Wonderful Time Saving Money Making Invention

SAVES THE GOOD SEED, DISCARDS THE BAD. Increases both quality and quantity, sorts corn to uniform sizes so your planter will drop 3 good kernels to a hill 99 times out of 100. None other like it. Your boy or girl can operate it. Just fill the hopper, turn the crank and the Trojan does the rest. PAYS FOR ITSELF ON 4 ACRES. A small investment that is guaranteed to pay for itself on 4 acres. The price is cheap because it is sold direct from factory to you. Get my special low freight prepaid price, and my special free trial offer and guarantee. Write for illustrated circular and price today. Address



W. K. Voorhees, Mgr. Standard Mfg. Co., 405 State St., Cedar Falls, Ia.



To Town and Back for a Cent

ALTHOUGH the Harley-Davidson will travel about ten miles for a cent that is one of its smaller advantages.

It will place the country for miles around at your and your children's command. It is the best "keep the boy on the farm" factor ever produced. It never tires, costs nothing when idle, and is always ready in case of emergency. It is also a great horse saver.

The sturdy construction of the

HARLEY-DAVIDSON

together with its reliability, economy and the fact that it is the only motorcycle made with the Ful-Floteing Seat (a device that does away with all jar and vibration due to rough roads) and its other exclusive features make it the ideal machine for country use.

Adopted for carrying United States Mail by 3700 carriers. Adopted for use in nine different government departments.

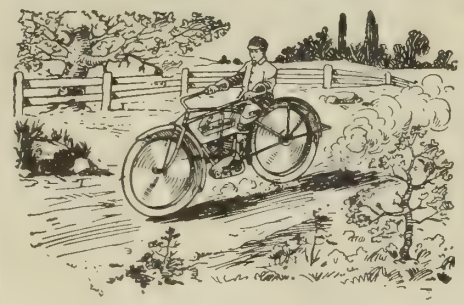
Call on the nearest Harley-Davidson dealer for demonstration or send for literature.

HARLEY-DAVIDSON MOTOR CO.

Producers of High Grade Motorcycles for eleven years.

681 A S-TREET MILWAUKEE, WIS.

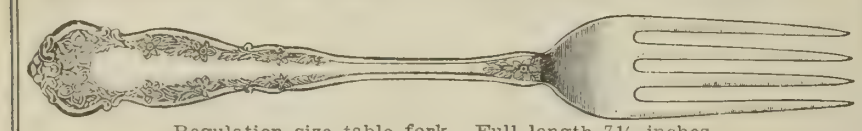
$250 Motorcycle Given Away



YOU see in this picture a boy riding one of the $250 Excelsior Motorcycles we are giving away. In other parts of the picture are the faces of several other boys. They are hard to find but by turning the picture about you will be able to see them. Mark at least two of the faces with a cross (X) and send the picture to me. Be sure to send me your name and address, for I will tell you all about the contest in which you can win the seven horse-power motorcycle and many other prizes.

1,500 Votes Free I will send you a special coupon good for 1,500 votes toward the motorcycle. All you have to do to get this coupon is to send your name and address at once. **PEOPLE'S CO., 536 Popular Building, Des Moines, Iowa.**

You have the spoons; now get the forks!



Regulation size table fork. Full length 7½ inches.

The Twentieth Century Farmer has been giving away handsome Wm. Rogers & Son's silver teaspoons. Forks of the same pattern have now been obtained. Because of the extra expense in handling the forks, and in getting the designs, the price for mailing is 20 cents. You may still get the spoons, each, for 10 cents. Complete your set of spoons, and also get the forks. Start now.

Use coupon below.

COUPON.
Plese send my fork to

Name.....

Address.....

Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

Address Silverware Department

Twentieth Century Farmer

OMAHA.

Stories by Our Young People

What Kind of a Boy Was Lincoln?

What kind of a boy was Lincoln?
Did he idle the hours away,
Shirking his every duty,
Spending his time in play?
No, when there was work he did it,
Faithfully did it, and well—
A painstaking boy was Lincoln,
So all of the histories tell.

What kind of a boy was Lincoln?
Was he cruel and rudely inclined,
Thinking politeness quite needless,
Ashamed to be gentle and kind?
No, Lincoln loved all God's dumb creatures,
He always was ready to do
Kind deeds for the sick and the aged,
The helpless and down-trodden, too.

—Gail Miller.

The Editor's Corner

Dear Boys and Girls: February might be called the Birthday Month, because so many distinguished men have been born in the second month of the year. Lincoln's birthday anniversary is almost here—February 12—and every patriotic boy and girl should be interested in the story of his life. Coming, as he did, from a very humble home located in the backwoods, he worked his way to the White House at the nation's capital. No man in our history did more for his country and his people, and to none do we owe a deeper debt of gratitude. Every boy who is ambitious to make the most of himself, to do something to make the world better, should study the life of Lincoln. THE EDITOR.

(Prize Story.)

Who Did It?

By Alma Schlichting, Aged 12, Cedar Bluffs, Neb. Original. Blue.

"Click, click," went the pretty little tumbler, as Mabel poured some boiling water into it. Her mamma had told her not to do this.

"Oh, dear, I didn't do it," said Mabel; "it was the water that did it; oh, you awful water, why did you do that?"

"Not I," said the water; "it was the fire."

'Oh, fire, why did you burn so hard and make the water so hot?" asked Mabel.

"Not I," said the fire; "the wood which has turned to ashes did it."

"Ashes, why did you make that fire burn so?" asked Mabel.

"Not I," said the ashes; "it was you; you put wood in the stove."

Mabel began to cry. Her mamma heard her and came into the kitchen.

"What does this mean?" she said, regarding the broken tumbler.

"Oh, I"—and what do you think happened? Why, Mabel awoke. She told mother all about it and she said:

"That was a queer dream, but it sometimes comes true. Be careful, and let it never happen to you."

(Honorable Mention.)

Mr. Duck and Mrs. Hen

By Grover J. Stutz, Aged 11, Monrovia, Kan. Blue.

Mrs. Hen and Mr. Duck were neighbors. Mrs. Hen would scratch for her babies, while Mr. Duck would proudly dive after fish and water insects in the river.

One day Mr. Duck got to boasting of the way he made his living, and saying that worms were only half a living, and if one catches a large fish, it does for several meals, and then he can rest during that time.

"But, pray tell me, Mr. Duck, how do you get fish in the winter? You are not strong enough to break the ice when the river freezes."

"Oh, that does not bother me," returned Mr. Duck. But finally winter came on one morning. Mr. Duck, feeling very hungry, went down to the river for his usual breakfast, and what do you think? The river was frozen.

"Gracious, what shall I do?" he said. Then a bright idea came to him.

"I'll go to Mrs. Hen."

But she was too busy scratching the hard earth to notice what he was saying, so the poor fellow had to go hungry until the sun melted the ice. His feet were not made to scratch like those of the hen.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE—Olive Pflug, Fort Crook, Neb.: If Uncle Sam bought a farm, would Connecticut the hay, and Arkansas the wood?

If the Queen of Hearts were in love, would the King Joker?

SECOND PRIZE—Carl H. Brehm, Sutton, Neb.: If Mark Twain was witty, was John Greenleaf Whittier?

Nettie Huber, Elmore, Kan.—When the Rocky mountains are covered with snow, can the Pacific coast?

V. L. Bates, Gray, Ia.—If the school board had a law suit, would it be a book case?

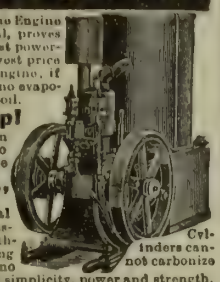
Additional Stories

Blue Side—Irene Hastings, Blair, Neb. Herbert Stelzer, Easton, Mo.; Esther P. Drexel, Auburn, Neb.; Helen Hutchison Valentine, Neb.; Bertha Van Eldik, Rock Valley, Ia.; Mildred Bordner, Pilger Neb.; Lillian Reninger, Hubbard, Neb.; Paulina Grosz, Scotland, S. D.; Guy Catlett, Fairview, Ill.; Willie McDougall, Raymond, Neb.; Claurice Herley, Winnetoon, Neb.; Majorie Spencer, Afton, Ia.; Emma Knapp, Hinton, Ia.; Ernest Allen, Hyattville, Wyo.; Kate Humphrey, Imperial, Neb.; Helen Driggs, Driggs, Idaho; Ruth Gordon, Stratton, Neb.; Marie Crouch, Millican, Tex.; Eulalior Hempfling, Millican, Tex.; Wanda Palmer, Wells, Nev.; Maud Wallin, Mainard, Mo.; Place Wallin, Mainard, Mo.; May Wallin, Mainard, Mo.; Lela M. Mosser, Shelton, Neb.; Aubrey Grier, Schuyler, Neb.

Red Side—Florence Hansen, Weeping Water, Neb.; Herman Renze, Hubbard, Neb.; Wilma Bryant, Pendleton, Ore.; Alma Muhlback, Ravenna, Neb.; Benedict Long, Hubbard, Neb.; Orrie Campbell, Hubbard, Neb.; Eunice Elenor McAlpin, Kiowa, Wash.; Thelma Havens, Bear, Ia.

Use KEROSENE Engine Free!

Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine, if not, pay nothing. No waste, no evaporation, no explosion from coal oil.



Gasoline Going Up!

Gasoline is 9c to 15c higher than coal oil. Still going up. Two cents of coal oil do work of three cents gasoline

Amazing "DETROIT"

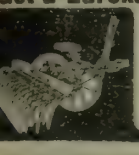
only engine running on coal successfully, uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Cylinders cannot carbonize. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Engine tested before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric lighting plant. Prices (stripped), $29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate the money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, you get special Extra-Low Introductory price. Write! (138)

Detroit Engine Works, 372 Bellevue Ave., Detroit, Mich.

THIS PLANTER DOUBLES POTATO — PROFITS

Reduces planting costs to a minimum. The Eureka opens the furrow, drops seed accurately any distance or depth desired, puts on fertilizer if wanted, covers perfectly and marks next row. Always plants uniform depth. Three sizes, one or two rows.

Get a Eureka Mulcher and Seeder



Creates dust mulch, cultivates and weeds, sows and covers grass seed, alfalfa, oats, etc. Prompt shipment from branch house near you. Write for Free Catalog.

EUREKA MOWER CO.
Box 775, Utica, N. Y.

LET THE WIND **PUMP** YOUR WATER **FOR NOTHING**

WHY PAY FOR GASOLINE WHEN WIND IS FREE!
Get a Big, Heavy, Powerful, Light Running, Double Geared

SAMSON WIND MILL

SEND FOR CATALOG

We also build Ideal Feed Mills, Pump Jacks, Hand Grinding Mills for Poultry Raisers, Gasoline Engines, Ensilage Cutters and Brass Candle Sticks

STOVER MANUFACTURING COMPANY
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Veterinary Course at Home

$1500 A YEAR and upwards can be made by taking our Veterinary course at home during spare time. Taught in simplest English. Diploma granted. Graduates assisted in getting locations or positions. Cost within reach of all. Satisfaction guaranteed.

WRITE FOR PARTICULARS

The London Veterinary Correspondence School
London, Ontario, Canada

Dr. E. H. Baldwin writes: "I took the course for my own benefit on the farm, but the success I had started me in practice and now I am going night and day. Your course has been worth thousands to me, and will be to any man."

10 DAYS FREE TRIAL

We ship on approval without a cent deposit freight prepaid. DON'T PAY A CENT if you are not satisfied after using the bicycle 10 days.

DO NOT BUY *a bicycle or a pair of tires from anyone at any price* until you receive our latest art catalogs illustrating every kind of bicycle, and have learned our *unheard of prices* and *marvelous new offers.*

ONE CENT is all it will cost you to write a postal and everything will be sent you **free postpaid** by return mail. You will get much valuable information. Do not wait, write it now.

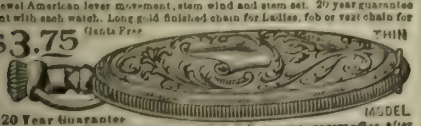
TIRES, Coaster - Brake rear wheels, lamps, sundries at *half usual prices.*

MEAD CYCLE CO. Dept. L 186 CHICAGO

This Beautiful 20 Year Watch $3.75

Specially engraved THIN MODEL, GOLD FINISHED double Hunting case, Jewel American lever movement, stem wind and stem set. 20 year guarantee bond with each watch. Long gold finished chain for Ladies, Fob or vest chain for Gents. Sent Free.

$3.75



20 Year Guarantee

EXAMINATION FREE. Let us send it C. O. D. to your express office, after examination, if you think it is a bargain and equal to any $15.00 watch, pay express agent our Special price $3.75. Mention Ladies', Men's or Boys' size.

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BIRD BOOK FREE

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Monarch School of Taxidermy
24 Monarch Bldg., Omaha, Nebr

Abraham Lincoln

Born in the midst of poverty, such as few of us have any idea of, Abraham Lincoln faced life with an indomitable courage and fearless integrity that won him a place in the heart of his country second to none. "The Great-Heart of the White House" he has been crowned, and the title fits him well. With his inexhaustible fund of humor, his limitless depths of sympathy and tenderness, he stands pre-eminent in the eyes of his country today, even as when, at the nation's head, he ruled so wisely and so well.

He had little or no schooling, but, with sturdy pluck and determination, he laid the foundation for his later life studying by the light of the fire after the work of the day was done, figuring and writing on an old wooden shovel, then whittling its surface clean, when there was no more room, and starting over again. His teachers were the Bible, "Assop's Fables," "Robinson Crusoe," "Pilgrim's Progress," a United States history and the "Life of Washington," with, later, Shakespeare and Burns. Feeling the need of an English grammar, he at one time, hearing of a family six miles' distant who possessed one, immediately set out and walked to them, obtaining the loan of it.

To a reporter who approached him in later life regarding material for a biography, he replied:

"There is no romance, nothing heroic, in my early life; the story can be condensed in one line, and that line you can find in Gray's Elegy—'The short and simple annals of the poor.'"

With all his wonderful gift of humor there was ever running through it a strain of sadness. Always his sympathy was with the downtrodden—the oppressed. At one time, upon being remonstrated with as to the advisability of granting a pardon to a young soldier, he replied: "If a man had more than one life, I think a little hanging would not hurt this one, but after he is once dead we cannot bring him back, no matter how sorry we may be, so the boy should be pardoned;" and on another occasion he cried: "If Almighty God has given a man a cowardly pair of legs, how can he help running away with them?"

His famous remark, "The Lord loves the common people—that's why he made so many of them," sounds, in clarion tones, the keynote of his power.

A commoner of the commoners, even when crowned with the highest gift it was in his country's power to bestow, he never lost sight of the human chord that makes of all men brothers, and binds them into one vast family.

Lincoln! We crown the name with honor and with love!

L. D. STEARNS.

The Reason

Father—Do you know why I'm going to whip you?

Tommy—Yes; because you're bigger than me.

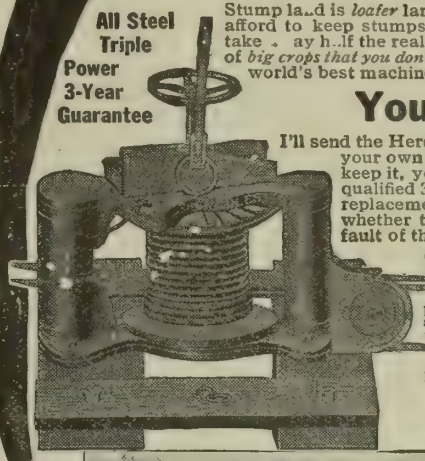
And he got away with it, promising to do better in the future.

Get My Low Price On The Hercules Stump Puller

SEND me your name if you have stumpy land, or even a few stumps in your fields. I want to make you a price that will save you at least 50% on the regular price of the famous Hercules! This is the best chance that you have ever had, to get rid of the stumps in the quickest, cheapest and best way.

Pull Out The Stumps!

All Steel Triple Power 3-Year Guarantee



Stump land is *loafer* land, *robber* land, *failure* land. You can't afford to keep stumps. They cost too much money. They take away half the realty value of your land—and they rob you of *big crops that you don't get!* Let me quote you my price on the world's best machine for clearing land.

You Take No Risk

I'll send the Hercules on 30 days free trial—you to try it in your own way, on the stumps in your fields. If you keep it, you are still further protected by any unqualified 3-year guarantee which insures the free replacement of all broken castings for 3 full years, whether the broken castings are *your* fault or the fault of the machine!

Write Quick For Big Free Book

You will be glad you wrote. You'll be pleased with the photographs, letters and facts about the Hercules construction. My price will make it easy for you to own a Hercules. Nothing to be gained by waiting—much to be lost. Write me now while my special price offer holds good. Address me personally,

B. A. FULLER, President.

HERCULES MFG. COMPANY,
355 21st Street, Centerville, Iowa.

FREE $1,000,000 Worth of Elegant Silverware

This magnificent silverware is of warranted quality and made by the celebrated house of Wm. Rogers & Co. You can get anything you want in silver, absolutely without cost. Write quick for illustrated circular from which to make your selection.

From Forest to Factory Direct to You **$6.75**

Our business has reached the enormous size where we own and operate our own forests, lumber mills, railways, factories, warehouses. Our manufacturing cost is the lowest on record. You get the direct and entire benefit. Not one middleman gets a profit. You buy of us at

Prices Lower Than Dealer's or Mail Order Houses Can Buy For

Just look at the prices of the 2 articles illustrated and remember these are goods of good dependable quality.

FREE to YOU

If You Answer This Advertisement

Drop us a line right now for our Bargain Book and circular from which to choose your free silverware. Don't give yourself a chance to forget!

30 Days' FREE Trial—

$2.69

C. O. D. if Desired—Everything you order of this great house must absolutely satisfy. We *guarantee* satisfaction. Send cash with order or one-fourth with order, balance C. O. D. Keep the goods 30 days. Use them, enjoy them, test them. If you aren't fully pleased, return and we'll refund all you've paid and transportation charges both ways. Already we have 1,000,000 satisfied customers. You'll like the Lincoln, Leonard prices, merchandise and silver. Send us your name today. Write us right now.

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Largest exclusive distributers of Home Furnishings in the world

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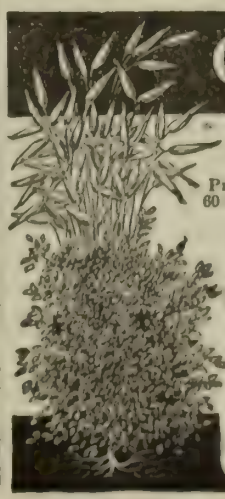
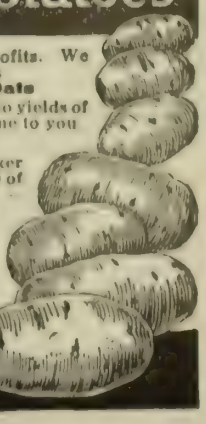
Oats, Alfalfa AND Potatoes





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Salzer's Rejuvenated White Bonanza Oats

Prize winning, heaviest yielding oats known. Sworn-to yields of 60 to 259 bush. per acre. Your land can return the same to you

Salzer's Hardy Alfalfa

Is the biggest, quickest, most dependable money maker Our alfalfa on Gov. Hoard's farm produced over $80 of hay per acre.

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Salzer's Earliest yielded 464 bushels to the acre for the editor of Rural New Yorker.

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containing valuable premiums for home, kitchen and farm.

For 10c we will gladly mail one package each $1,000 Prize Marquis Wheat, 20th Century Alfalfa, Bonanza Oats and many other farm seed packages, together with our great seed book. Now is the time to send your dime.

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The Oil Saving Toil Saving INCUBATOR
Saves three fourths the oil and nearly all hatching work. **Stop** burning 3 to 5 gallons to a hatch—the Rayo uses **one.** Quit being a drudge with old-style, lamp-on the side machines. Fill Rayo oil tank **once**—the Rayo completes hatch without trouble, muss or worry. *Simple—economical.*
One Gallon to a Hatch. One Filling to a Hatch.
See eggs and thermometer thru **double glass top,** which raises for airing, cleaning and turning eggs. Lamp under egg chamber gives **perfect radiation.** Double-wafer thermostat **acts on flame**—produces exact heat needed, **none thrown away.** Automatic ventilation. Turn eggs semi-automatically, without touching tray. Clean lamp without removing chimney or tank. Oil tank holds 5 quarts, month's supply. Strong redwood case; covered with steel, enameled like mahogany, making it fireproof and handsome. **Hatches every fertile egg.** Six years on the market—thousands of testimonials from enthusiastic, satisfied users. RAYO hatching chart and $1.50 Tycos hygrometer **FREE.** Low direct prices—**freight prepaid.** Ask for Free Catalogue No. 13.
RAYO INCUBATOR CO.
971 So. 13th St.
OMAHA, NEB.

125 Egg Incubator and Brooder $10 BOTH FOR
If ordered together.
Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. **Free** catalog describes them. Send for it today.
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Wisconsin Incubator Co.,
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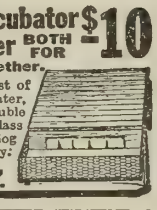

LATEST BOOK, "Profitable Poultry." 128 pages facts, 180 pictures. Latest improved methods to raise poultry. All about the world's famous Runner Ducks and 52 other varieties pure-bred poultry. This book, and lowest prices, fowls, eggs, incubators, etc., only 5c. Berry's Poultry Farm, Box 80, Clarinda, Iowa.

Foy's Big Book MONEY IN POULTRY and SQUABS
Tells how to start small and grow big. Describes world's largest pure-bred poultry farm and gives a great mass of useful poultry information. Low prices on fowls, eggs, incubators. Mailed 4c. F. FOY, Box 18, Des Moines, Iowa

About the Poultry House and Yard During Month of February

AN OLD saying is, "Whichever way the wind blows on Old Christmas determines the weather for the next six weeks." If this be true, as, in most of the central western states, on January 6, Old Christmas, it blew from nearly south, then all of January and half of February is to be warm and moist. If it is, that means more eggs, and earlier cluckers in the poultry flock, and one taking heart to begin will be getting the chick-hatching business well along and the worst of it over before the hot weather sets in. The early chick is considered by many poultry keepers the hardy chick. It escapes the gapeworm, and that pest of white diarrhea, if with the hens; and if chickenpox be rampant on the place, as it often is in southern poultry yards, it is often eradicated by hatching none but very early chicks.

The Incubator

If you are going to get the incubator out and set it this month, you must give it a good overhauling and make it good and clean as new. First, if you set it away anywhere that frost could reach it, and it is a hot water incubator, then you must test it to see that it does not leak, for just a small amount of water left in the pipes, if let freeze, may spring them open somewhere. Some incubators are made in such a way that it is almost impossible to drain them dry of water. I found this out one cold winter to my vexation and some expense.

Next, wash every part of the incubator out with some good disinfectant, and if the burlap on the bottom of the nursery is worn or dirtied, tack in new burlap. I save mine by keeping squares of old quilts on top of it while the chicks are in it; these are washed and boiled and put in clean each new hatch. When the weather is cold you must not expect the extra hatches you will later on, and if the incubator is slow heating up—that is, over a couple of days—then cover the bottom with a newspaper and block up the thermometer to about where the top of the eggs will come under the pipes, and if your incubator has bottom ventilation, turn these early hatching eggs often through the day, as they may stay cool too long on the underside, and this be the cause of a poor hatch. Remember that a cold current of air sweeps the floor of any room in cold weather; it means more work, but we cannot gain without work.

The Brooder

"Brooders are simply death traps," says one or more poultrymen. They certainly are unless you learn to handle them right. They have never proved death traps to my chickens. "I can hatch chicks in plenty in my incubators, to have them die in the brooders," declare so many If your hens are healthy and your incubator clean and free of the white diarrhea germs, then if your chicks die in the brooder it is simply because you allow them to get too hot, to smother, or something of the kind, for it isn't often they die because they get too chilly in an incubator. You must not expect all to live. There must be some weak babies among them; these will usually show up in a day or so and should be removed the minute they do show. Next, the slightest and first sign of a diarrhea chick should instantly be removed. Remove each of these as it shows, and, nine cases in ten, you stop an epidemic. Always keep better ventilation from the top than the directions call for, especially at night. Never overcrowd. If the brooder says 100 chick size, don't give it over 50 or 75 at the best when small. Bed with clean chaff, not sand, and bed clean every day if you fear the diarrhea. Place a box, or something that can be slightly dampened for them to run out of the brooder, and feed in. This cools the feet and saves them from brooder lameness and death. Too much floor heat is injurious to the tender legs. Feed very little soft food; it only too often ferments in the crop; this means diarrhea, or sudden death. Small cracked grains are best and surest. Of course, if I suspicion there might be, or has been, a case of white diarrhea in the little flock, I put in a small vessel containing a remedy against this disease. It is often best for it to go in at the very first.

The Ducks

In February the ducks begin laying unless the weather is extra cold and severe. It seldom pays to set the earliest eggs, as they are so easily and soon chilled after laying, and unless one is ready with warm brooding houses, duckling hatched too early soon die of rheumatism As ducks usually lay early in the morning, it is best to keep them shut up until after 9 or 10 o'clock in the morning. Breeding stock should be well fed up at this time of year From four to six ducks are mated with one drake, and alternating drakes will produce stronger fertility than by merely keeping one all of the time with the ducks.

Capons and Soft Roasters

This is the month of demand for capons and soft roasters. The demand for this last, with the market price paid for it, will increase from this on for awhile, then remain steady until the early broiler comes in. The capon market will remain firm until toward the last of March when the large demand will be over This year the capon market in most centers is running a good race with the turkey market price, and that means a good sum of money for each good-sized capon. There is more than one way to make money in the poultry business.

IDA M. SHEPLER.

Hen Health

Let's forget winter eggs and dis cases and balanced rations and stor age eggs and trusts for a while an consider just health—hen health Health goes with a clean body, within as well as without; to have the hen' body clean outside means a clean house, a clean floor, clean litter fo the stormy weather and for thes cold, frosty mornings; clean roosts of course, there are no mites, bu give roosts and nests a good soakin just because. Your hens have n lice, but it is a safe bet that an ail ing fowl has had its vitality sapped by lice and mites; give her a dose o

Your Winter Harvest in Eggs
There's not the slightest reason why every poultry raiser shouldn't have a harvest in eggs right now when eggs are high. Hens, *your own hens,* have a tendency to grow fat and lazy and the egg organs to become sluggish. This may be due to lack of exercise, the absence of green food and to other causes. But whatever the cause, remember that
Dr. Hess Poultry Pan-a-ce-a
positively tones up the dormant egg organs and takes the hens out of the loafer class and makes them lay eggs for market right when prices are the highest. It keeps hens hungry for their grain, so they remain busy all the time scratching for a living—and it's the busy hen that does the cackling and the more cackling the more eggs.
Dr. Hess Poultry Pan-a-ce-a contains:
Potassium Nitrate. An Eliminant.
Nux Vomica. A Nerve Tonic
Quassia. A Bitter Stomachic and Appetizer.
Hyposulphite of Soda. An Internal Antiseptic.
Iron (Sulphate). A Blood Builder.
Iron (Red Oxide). A Blood Builder.
Carbonate of Lime. An Antacid and shell forming.
Sodium Chloride. An Appetizer and Cleanser.
Under the supervision of Dr. Hess (M.D., D.V.S.) the above is carefully compounded and blended, with just enough cereal meal to make a perfect mixture.
Note the formula for Pan-a-ce-a in this advertisement; the definitions of ingredients are taken from U. S. Dispensatory and our best writers. With the formula on the label there can be no exaggeration of claims. You can look up the ingredients in any medical dictionary, and besides every Hess & Clark preparation is guaranteed.
Our Proposition:—Feed your hens Poultry Pan-a-ce-a right now when eggs are scarce; if you have the least shadow of doubt that it has not made your hens lay more eggs and kept them free from disease at a cost of only a penny a day for 30 hens—take to the dealer the empty package and he is compelled to refund your money. 1½ lbs. 25c; mail or express 40c; 5 lbs. 60c; 12 lbs. $1.25; 25-lb. pail $2.50; except in Canada and extreme West. If your dealer cannot supply you, we will.
Send 2c for Dr. Hess 48-page Poultry Book, free.
DR. HESS & CLARK
Ashland, Ohio
DR. HESS STOCK TONIC improves digestion, increases the appetite, expels worms. Bulletin No. 22, U.S. Department of Agriculture, says: "Only 60 per cent. of the food taken by stock is digested." You know yourself that you can fatten hogs on the corn that passes through the steers undigested. "The Dr. Hess Idea" is to save a part of this wasted feed by *increasing digestion.* The formula is on every package and the U. S. Dispensatory, or even a medical dictionary, will tell you whether the ingredients will produce the results claimed. And, besides, it's sold only on a written guarantee. 100 lbs. $5.00; 25-lb. pail $1.60. Except in Canada and extreme West and South. Send 2 cents for Dr. Hess Stock Book.
FREE. Dr. Hess (M.D., D.V.S.) will at any time prescribe for your ailing animals free of charge if you will send him full details. Mention this paper and send 2-cent stamp.
96-page Veterinary Book also free.
INSTANT LOUSE KILLER KILLS LICE

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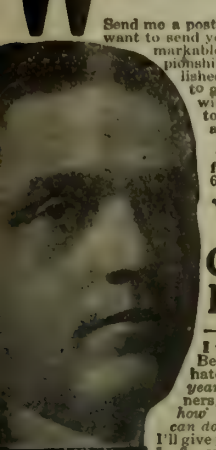

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—Less Than Losers Cost

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It tones the system, regulates the bowels, keeps chicks and fowls in fine condition. The best remedy for *Roup, Colds, Canker, Swelled Head, Cholera, Bowel Complaint, etc.* Actual figures show it reduces chick losses 90 per cent. Given in drinking water—no trouble. Price 50 cts. Lee's Egg Maker should be used by all poultrymen. Large protein, every ounce digestible. Brings eggs, makes chicks thrive. Lee's Lice Killer is sure death to vermin. Paint on roosts; it kills by fumes. Does not harm fowls. Lee's fine poultry books (2) free. Address

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More Chicks

Bigger, stronger and healthier, because hatched under right conditions. Send for catalog of the 1913 model automatic

QUEEN Incubator

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Sells at the lowest possible price on liberal trial plan. The Queen is used by successful poultry raisers everywhere. My book tells you all about it. Your copy is free. Send for it now, today.

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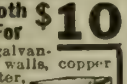
140 EGG INCUBATOR and 140 CHICK BROODER

Both For $10

The incubator is California Redwood, covered with asbestos and galvanized iron, has triple walls, copper tank, nursery, egg tester, thermometer, ready to use. 30 DAYS' TRIAL—money back if not O. K. Write for Catalog today—NOW.



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with Poultry and Farmers and Fanciers will help many Farmers get more eggs—better prices; make more and save more money; tells things few folks know on making money with hens. Find out about America's Largest Line of Incubators and Brooders, and get six poultry chapters written by Robert Essex himself—It's all in our Free Catalog—Write today. Address

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by lice and mites; give her a dose of powder; gunpowder if she is very sick, otherwise lice powder.

Now for the inside: A teaspoonful of epsom salts for each half dozen fowls about once in two weeks, in a warm mash; for the daily noon mash, cooked vegetables, the greater the variety you can furnish the better, and with these thoroughly mix bran, fine corn chop, a little oil meal, and season with salt. Use the proportions you find they like and don't give more than they will eat in a hurry. To make them jump for this feed only a little small grain in the morning, and with this grain plenty of exercise; the forenoon should be spent in the gymnasium.

At night cram them so full of corn that they will need an elevator to lift them up to the roosts. Don't crowd; allow plenty of fresh air; clean, fresh water, and milk, if possible, and if all this don't bring lots of 50-cent eggs it is not your fault; anyway, sleep easy, for you are probably getting as many as the other fellow. W. E. VAPLON,
Colorado Agricultural College.

Big Conservation Congress

The meeting of the fourth annual Nebraska Conservation Congress, which is to be held at Lincoln on February 19 to 21, promises to be the largest gathering of the kind ever held, not excluding the National Conservation Congress. Director Condra announces the following list of eminent speakers: Captain J. B. White of Kansas City, a former president of the National Conservation Congress; "Uncle Henry" Wallace of Des Moines, also a former president of the national body, and Mrs. Philip N. Moore of St. Louis, former vice president of the national organization and president of the National Federation of Women's Clubs. O. H. Benson of Washington, D. C., government expert in charge of rural school industrial work, will be a prominent factor in the meetings of the educational section, to which State Superintendent Delzell is inviting delegates from the schools from all over the state.

Many sectional meetings will be held in connection with the study of vital problems concerned with the public health and education; the State Board of Health, in co-operation with the State university, is preparing extensive exhibits on vital resources; among these will be exhibits of forestry, fruit-growing, seeds, fish and game, dairy husbandry, poultry husbandry, wild bird life, etc. The school department will be a great exhibit of the modern re-direction of education on industrial lines; the women's exhibit will be a feature which will enlist the co-operation of women's clubs from the entire state; the commercial section will consider the basis of commercial and industrial surveys with reference to community development, publicity, water power development, "blue sky" promotion enterprises, etc.

Numerous exhibits, lantern entertainments and moving picture shows of an educational nature will occupy the rooms at the university temple.

Test the Simmons Line By These Tools

You can't afford to dig post holes in the old way this spring when you can buy a Keen Kutter Post-hole Digger at such a low price. This digger has sharp, jaw-shaped steel knives that stick deep into the hardest ground and yank up a big load of dirt in a jiffy. You can make more post holes with this digger in a couple of hours than you could make in a whole day with a bar and shovel.

KEEN KUTTER Quality Tools

Pitching manure with a Keen Kutter fork is an easy job, because there is "give" or elasticity to the tines and there's heft to the handles. You can test the quality of the whole Keen Kutter line of tools and cutlery by these two money, time and labor saving tools. Be sure you see the trade mark before you buy.

"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered. —E. C. SIMMONS.

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St. Louis New York Philadelphia Toledo Minneapolis Sioux City Wichita

Pratts 160-page Poultry Book 4c by mail

Put the "KICK" in the Eggs

If you want big hatches of husky chicks, the kind that live and grow. Infertile eggs and small hatches of weak chicks are the rule when the breeding stock is in poor condition, weak and run-down.

Pratts Poultry Regulator

will quickly correct this condition in your flock because it acts directly on the digestive and reproductive organs, strengthening them, toning them up, invigorating them. 25c, 50c, $1; 25-lb. Pail, $2.50; 100-lb. Bags, $9.
After the chicks are hatched you should raise them all.

Pratts White Diarrhea Remedy

25c, 50c

controls bowel troubles. Use it for all broods as a preventive.

Pratts Baby Chick Food

makes chicks grow at an astonishing rate, with big bones, plenty of muscle and unbounded strength and vigor. You can rely upon this scientific food mixture to carry through the critical period all worth-while chicks, and give them that favorable start upon which future profits depend.
In boxes and bags, 25c up. "Your money back if it fails."
Get Pratts Profit-sharing Booklet
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PRATT FOOD COMPANY
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Plant Clean, Graded Seed

Increase the size of your crops by putting *good* seed in the ground, and you'll find the machine that makes this increase possible the most profitable one you own.

Such a machine is the Crop Maker Fanning Mill—the one that cleans, separates and grades any and all grains and seeds, taking the good from the bad, dividing one kind from another, working accurately and profitably all the time. We want you to understand the liberal 30-day Free Trial proposition that we are ready to make you.

CROP MAKER Only Fanning Mill with Roller Bearings

You are not asked to buy the Crop Maker until after you have given it a real test on your own farm. Use it for a month without obligation of any kind, and if at the end of that time you do not say it is a great machine, and a big money-maker for you, then ship it right back at our expense.

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EMERSON CORN PLANTERS

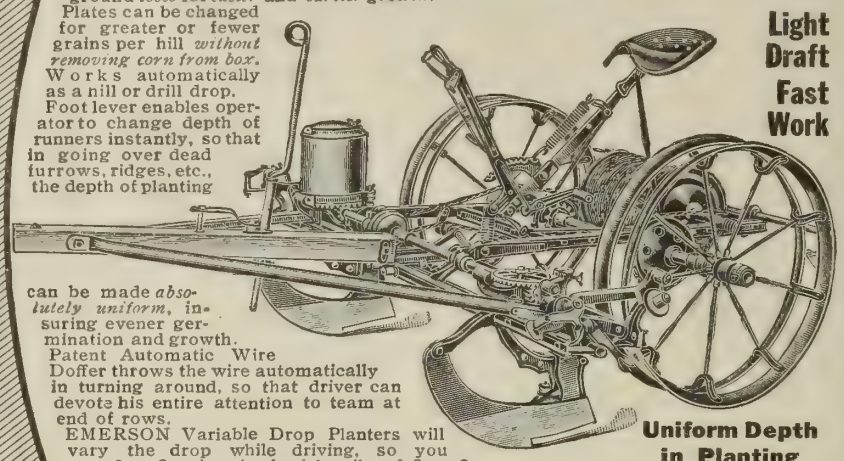
PLANT MORE ACCURATELY

THE EMERSON Edge Drop Planter shows by actual comparative tests that it has a *more accurate drop* than *any other*. This means even stands, no "skips", more corn.

The *reason* is because the EMERSON patented Seed Box and Plates are *different*. The plates are larger in diameter than others, and allow *ample* time for corn to enter the cell, no matter how much the corn varies in size or how fast you drive. You can plant more acres per day with the EMERSON, because the Emerson is a *very* light draft planter. It is easy to get an even stand and accurately checked field with the EMERSON.

Open Center Wheels of the EMERSON pack the dirt firmly *around* the corn, but not *over* it. This leaves the top ground *loose* for *easier* and *earlier growth!*

Plates can be changed for greater or fewer grains per hill *without removing corn from box.* Works automatically as a nill or drill drop. Foot lever enables operator to change depth of runners instantly, so that in going over dead furrows, ridges, etc., the depth of planting



Light Draft Fast Work

can be made *absolutely uniform*, insuring evener germination and growth. Patent Automatic Wire Doffer throws the wire automatically in turning around, so that driver can devote his entire attention to team at end of rows. EMERSON Variable Drop Planters will vary the drop while driving, so you can drop 3 or 4 grains in rich soil and 2 or 3 in lighter soil if you wish, insuring maximum crops.

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illustrates and describes fully the many superior advantages of the EMERSON Edge Drop Corn Planter, the EMERSON Variable Drop Corn Planter, the EMERSON Planter for Corn, Kaffir Corn and Milo Maize, the EMERSON Planter for *Cotton*, Kaffir Corn, Milo Maize and Sorghum, the EMERSON 3-Row Drill Planter. All of these Planters are backed by the 60-year-old EMERSON reputation for *highest quality*. It *pays* to get the *best*. Don't wait until the last minute. Drop us a postal NOW for the EMERSON catalog on *any farm machine you want*, then you will have plenty of time to investigate fully and *make sure* of getting the *best*.

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Largest Line of Farm Machinery In The World.

Plows, Harrows, Pulverizers, Listers, Spreaders, Planters, Drills, Cultivators, Mowers, Hay Tools, Baling Presses, Corn Shellers, Gas Engines, Farm Tractors, Steam Traction Engines, Threshing Machines, Road Rollers, Wagons and Vehicles. 2925

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Mayer Honorbilt Shoes are made for lasting service. Excellent stock and fine workmanship make this possible. If you want the biggest shoe value, ask for Honorbilt Shoes. If your dealer cannot supply you, write to us.

WARNING—**Be sure and look for the Mayer name and trade mark on the sole**

We make Mayer Honorbilt Shoes in all styles for men, women and children; Drysox, Yerma Cushion Shoes, and Martha Washington Comfort Shoes.

FREE—Send name of dealer who does not handle Mayer Honorbilt Shoes and we will send you free, postpaid, a handsome picture, size 15x20, of George or Martha Washington.

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

For Stronger Organization

C. W., Silver Creek, Neb.: While lawyers, doctors, merchants, bankers and the men of scores of other professions and callings are organized for their own protection, it is a well known fact and a fact often commented on, that the farmers are not organized and have at hand no means of acting together, either offensively or defensively. It is true that there are various organizations among them, some twenty of them will meet in Lincoln this week, but not one of them, or all of them together, can speak authoritatively for the great mass of the farmers of Nebraska. The farmers are more numerous than all these other classes of people; they are the solid foundation on which all the institutions and industries of the state rest; paraphrasing a saying attributed to Louis Napoleon, they are the state. And yet they are exploited and preyed on; preached to and doctored; boosted and boomed, and even reviled and abused as a lot of addle-pated chumps who do not know enough to throw dirt in a mudhole.

Usually the farmer takes it all meekly like a lamb going to the slaughter and answers back not a word. But there is a limit to human endurance, and if our legislature now in session does not sit down on a lot of ill-advised schemes for putting more grievous burdens on the backs of the already overburdened farmers, something is going to happen. While I hold no commission to speak for the farmers of Nebraska, having with my own hands tilled Nebraska soil for more than forty years, I think I come pretty near to knowing what they want and what they do not want. They do not want to be taxed in the sum of $140,000, or in any other sum, to buy Mr. Clemmons' school at Fremont; they do not want to be taxed in the sum of $600,000, or in any other sum, for a building for the Historical society; they do not want to be taxed in the sum of $3,000,000, or in any other sum, for the removal of the state university, and above all, they do not want the legislature to make any law providing for a state highway commission and a scheme of state road-building which would eventually cost us untold millions of dollars and be a useless burden on the farmers of the state forever.

In my own behalf, and in behalf of the farmers, nine out of ten of whom I know would agree with me in all I have said, I appeal to the gentlemen of the legislature, and particularly to the farmer members of the legislature, for protection. We wish you to provide well for the legitimate expenses of the state government, for the wards of the state and for the education of the children of the state by making our schools better instead of making more of them.

If farmers would write their members of the legislature as to what they want and what they do not want, it would have a very great effect.

Man with the "Silo Fever"

E. C. K., Kearney, Neb.: I would like to ask, through your columns, what is the experience of silo users who have fed the feed to hogs, and what is their opinion of the health of the hogs so fed, especially in regard to worms and cholera. Some farmers object to so much corn going into the silo. It occurs to me that a shredder with a cutter head, as some are advertised, would be a good stunt, the snapping rolls being allowed to snap the ears, which could then be put in the center of the silo, and easily separated when the silage is taken out, and the ears fed to the hogs, or as the farmer desires. I would like to know whether a reader has done this. I also would like to know whether a user of a plastered underground silo or a cement silo has observed any chemical action on the cement by the acids of the silage. Is a plastered silo a permanent thing? Rather, is cement plaster a permanent finish for an underground silo? Answers to these questions would materially help one who has the fever (silo fever).

Answer—Readers of this paper who have had experience with the subject matter of these questions are invited to send in their answers. It is an easy matter to keep hogs free from worms by the use of any common vermifuge. The only protection against cholera is derived from the use of hog cholera serum. This is safe and sure.

At least 75 per cent of the men who now have silos in the corn belt, and who are raising swine, are feeding the corn ensilage to their swine. The amount of data regarding the use of this food for hogs is somewhat wanting, but the experience is plentiful. In a broad sense, corn silage may be used with swine as good pasture grass would be used. This would mean that pigs, sows and all animals not in the fattening pen could use a certain amount of silage in their daily ration. Many farmers are very strong in their endorsement of corn silage for sows nursing pigs, and their conclusion is certainly logical, as it is a succulent ration, cooling and stimulative to milk secretion. For fattening swine the ration, if any, of silage should be small, as it occupies too much space in the stomach, and is not condensed enough for the desired purpose.

No farmer who knows the benefit and use of ensilage will object to the corn going into his silo, because all grain which goes into the silo is rendered more digestible and assimilative than it could be in any other form. Nearly every farmer who has a silo raises more corn several times over than he uses in his silo, and he therefore has sufficient grain in the dry state. In other words, he should hold in mind that when grain goes into the silo it is not lost, but, if anything, increased in value.

It would be advisable to plaster

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nson-Omaha Nursery, Benson, Neb., Drawer 4.

the underground silo, as the excessive moisture of the ensilage will tend to soak and dissolve the clay, and in this way cause caving and damage. In fact, if the silage be put in in the proper stage it would carry sufficient moisture to greatly damage the earth walls.

The acetic and lactic acids will work on the cement, and in time will destroy it, but as to the length of time required for this will depend upon the skill in mixing the cement, the quality of the cement and the complete slacking at the time of mixing. Time only will tell what is the best method of treating the underground silo. There is still a question regarding the advisability of such a structure. The formation of carbo-dyoxide gas in the silo during the process of fermentation is well known, and all silos of the pit nature are liable to obtain this gas at some time or another. The labor of getting the ensilage out of such a pit is liable to offset the cheapness of the structure, also the inconvenience of a structure which cannot be transported or moved. The renter should, therefore, not use such a structure.

Time to Gather Red Cedar Seed

H. F., Valentine, Neb.: Would you please let me know, through The Twentieth Century Farmer, the proper time to gather red cedar berries for seed; also the proper way to plant them.

Answer—The berries may be gathered at any time after they are mature; that is, after the first severe frost. Before planting pour boiling water over them and leave them in the water until it is cool; then plant about two inches deep in well prepared soil. Plant as soon as the ground warms up a little in the spring, about the time that plum trees and cherry trees bloom.

Sweet Clover Seed.

E. O. T., Machsville, Kan.: Can you tell me where I can get some sweet clover seed? How much should be sown to the acre?

Answer—Sweet clover seed may be had from almost any seed house. The sweet clover that has a white blossom is much to be preferred over the yellow blossomed sweet clover. It should be sown at the rate of from twenty to thirty pounds to the acre, according to the condition of the soil.

Inquiry About Nevada

C. Z. S., Sheridan, Wyo.: Will you please tell me what kind of a stock country Nevada is?

Answer—Your question is too indefinite. Nevada is a big state, some parts of which in no way resembles other parts. Part of it is good agricultural land and part of it is good stock land. Stock raising is at the present time the principal agricultural industry there.

Where Sweet Clover May Be Had

F. C. C., Jefferson, Ore.; I notice in your paper an item about sweet clover. I should like to ask where it may be had and what it will cost per pound?

Answer—It may be had from any of the large seed houses and will probably cost, in small quantities, 25 cents per pound. If you write any of our advertisers, please mention The Twentieth Century Farmer.

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WITHOUT A THOROUGH INVESTIGATION

You would not if you were going to buy more horses, you would insist on seeing them. You would look at their teeth, you would satisfy yourself that they were strong of limb and sound of wind. You would learn their behavior in harness—in fact you would not buy until you knew all about them—to the smallest detail.

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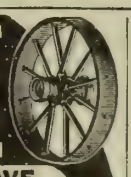

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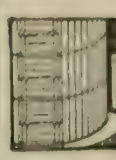

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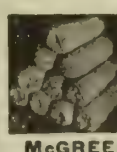

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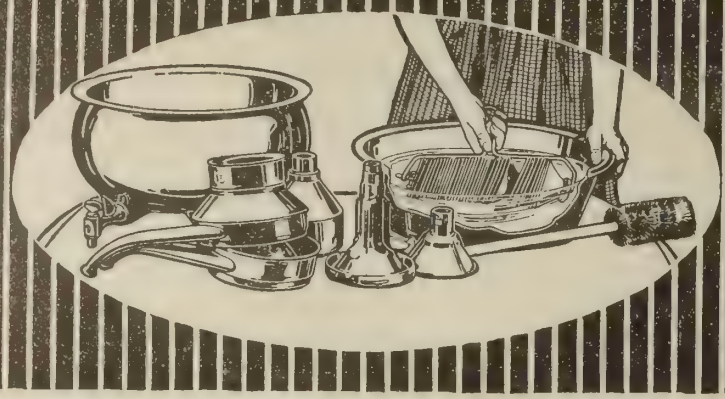

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ARE EASIEST TO WASH

The construction of the De Laval bowl is such that it can be completely taken apart for washing.

The discs, bowl parts and tinware have no tubes, crevices, holes or corrugated surfaces such as are found in other machines and which are very hard to clean.

The De Laval discs are washed as a single piece and the whole machine can be thoroughly

CLEANED IN FIVE MINUTES

There is no part of the De Laval bowl which cannot be easily reached and seen, so that the operator can always tell whether or not every part has been properly cleaned.

The ease with which the De Laval can be thoroughly washed and kept in a sanitary condition is one reason why creamerymen prefer De Laval to other separator cream, and is likewise one of the reasons why butter made from De Laval cream has scored highest at the National Dairy Show for over 20 years.

The new 72-page De Laval Dairy Hand Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request if you mention this paper. New 1913 De Laval catalog also mailed upon request. Write to nearest office.

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Our Silos made of best material. Shipped on approval Don't accept if not exactly as represented BUY DIRECT and SAVE $25 to $75 on the cost of your Silo. Postal card brings free catalog and price list WRITE today.

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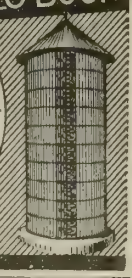

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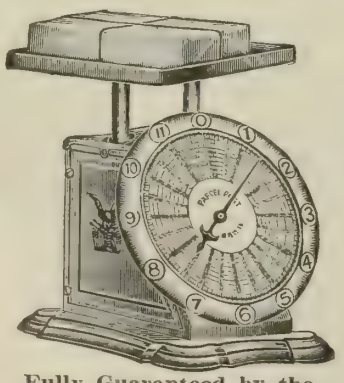

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THE TWENTIETH CENTURY FARMER

OMAHA, NEB.

Influence of the Sire in Calves

Forming Dairy Bull Associations

IT IS the law of breeding, which has now become pretty well established, that when conditions are equal the male calves exhibit the distinguishing characteristics of the dam, and the female calves the distinguishing characteristics of the sire. This law does not govern in all cases, because conditions are not always equal. Either the sire or the dam may be more vigorous or more prepotent than the other, in which case the characteristics of the more vigorous and prepotent ancestor would appear in the get.

This law of breeding is of great importance to the farmer that milks only a few cows. Its operation will enable him materially to increase desirable production. If he has a cow of a beef type, and breeds her to a bull that comes from a heavy milk-producing strain, the male calves, "taking after" their dam, will exhibit the characteristics of beef animals, while the female calves will develop increased capacity for milk production through their heritage from the sire.

This is precisely the state of affairs that the average farmer wishes to bring about. He wishes cows of great milk-producing capacity, but he wishes his steers to be such as it will pay to feed for beef. The operation of this law affords him a chance to accomplish just what he most desires to accomplish.

If he has cows of a distinctively beef type, let him put at the head of his herd a dairy bull whose ancestors have uniformly been great milk producers. Then, as the male calves have a tendency to resemble the dam, he will be able to grow good beef steers. At the same time, because the female calves are most likely to take on the characteristics of the sire, he will be able vastly to improve the milk-producing capacity of his future cows.

Here is a chance for the farmer to make money by the judicious expenditure of a little money. A good dairy bull cannot be had for less than $100 or $150. The farmer that has been in the habit of paying only $30 for an inferior bull will think this price prohibitive, but such a bull in two years will pay for itself in the improvement of the herd. More than this, after two years of service on the ordinary farm, he can be sold for as much as was paid for him in the first place. From this it follows that the price paid for the bull is not money expended, it is merely money invested, with a certainty of a large yield of profit.

Dairy Bull Associations

The dairy division of the Department of Agriculture has assisted in forming a few associations of this kind. The territory of the association is divided into four breeding blocks of not more than sixty cows each, for each of which the association purchases a bull. At the end of two years, the bulls are changed from one block to another, so that each block has the use of a bull for eight years, using the same bull only two years. This insures the breeders the use of four bulls for the price of one.

In sections of the territory which The Twentieth Century Farmer is trying to serve it might not be feasible to attempt the formation of such associations on a large scale. It suggests a modification of the plan, which will adapt it for use by farmers who wish to improve the quality of their stock.

Let four farmers, going together, buy four bulls of practically the same type and of the same quality. By purchasing this number at once a profitable reduction in price might be secured. Then, every two years let the bulls be changed from one farm to another in such a way that each farmer would in the end have had the use of all four bulls, though using none of the four for more than two years. Each farmer by this means would have the use of four bulls for the price of one.

This plan would have the added advantage of producing a nearly uniform type of cattle on each of the four farms. This practice, if continued, would result in the production of a neighborhood type of advanced quality, which would command the highest price on the market. The neighborhood would soon be known for the quality of cattle that it produces, and buyers would know where to go to get what they wanted.

Let some of our progressive breeders think this matter over and get together on it.

Economical Beef Production

An experiment in economical beef production conducted at Lincoln proved that where alfalfa was used in connection with cornmeal and silage, or cornmeal and prairie hay, large gains were made without the use of a concentrated protein food. The gains in both experiments where alfalfa was fed were larger, less costly and much more profitable. From this it follows that the farmer that can grow his own protein is foolish if he buys manufactured concentrated protein.

Around the Horse Stalls

Stall, curry and handle the colts.

Keep a barrel handy to toss the cobs into.

Repair all troughs so they will not waste the grain.

Single box stalls are warmer, safer and easier to keep clean than double stalls.

Bedding should be free from all cobs, sticks, etc., and spread evenly over the stall floors.

Warm, snug quarters are of great importance in the horse stalls.

Constant standing in the stall is apt to be productive of joint ailments. Daily, open-air exercise must be given the horses regularly.

Since the horses spend much more time standing in the stalls now than in summer, they should be made as

omfortable as possible for the ani-
ials.

See that the stalls all are well
rained at once, so they will not be
o soft and mucky when the spring
haw sets in, which means not only
leaner stalls, but no danger of
heumatism.

Keep all treacherous nails and
plinters knocked off about the
talls; they are not only apt to cause
ainful, perhaps dangerous, wounds
n the horses, but may gouge out an
ye for you or the horses.

Stalling a shod horse on a brick,
tone or cement floor with little or
o bedding or other material be-
veen his feet and the floor is one
f the most common causes for the
oundation of serious hoof troubles.

Where the stalls are somewhat
pen at the ground, they should be
romptly banked up with old straw,
ay and manure. Wind that sneaks
and strikes the inactive animals
ell down on the lower limbs is
hat does the most damage.

More than likely, there are scores
f small cracks and knot-holes about
he stalls; these admit a great
mount of cold air and should be
romptly stopped with small strips
f lumber, shingles and pieces of
oofing or building paper—odd
ieces from some other job.

As the horses begin to stand in
tall more, it will be well to level up
he floors, if they be of cement or
lay, patching up broken boards if
he floors are of lumber, so the ani-
als will rest better at night—not
rench their feet—and so the stalls
ill be easier to keep clean.

Tack up a few good-sized spike
ails somewhere about the stalls. It
almost impossible to get the horses
ll attended to in daylight during the
inter months, and a lantern set
own or hung up just any old place,
apt to be the cause of burning the
arn down. Have these nails for it
then keep it there.

All mangers ought to be made
eed-tight, so they will catch and re-
ain the seeds that are shattered off
he hay while being fed. In the
pring this refuse may be cleaned
ut with the fanning mill, and often
urns out a large amount of good
timothy and clover seeds, which
ring a good price, and will be un-
sually high this coming season.

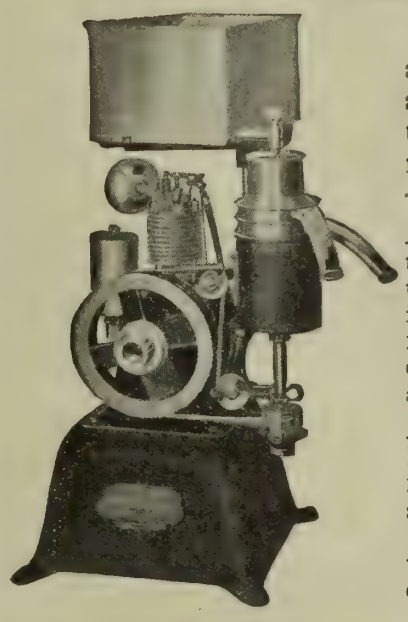
Where manure and bedding are
llowed to accumulate in the rear of
he horse stalls it soon has the
orses' hindquarters elevated till the
reater part of the body is higher
han the head. This is pretty sure
o wield a detrimental influence on
he digestion of the animals, as it
hrows the digestive organs all out
f their natural position, making it
difficult for the food to pass from a
ower to a higher point.

Plenty of good bedding not only
aves much dusty and disagreeable
currying, but the horses will have
etter health than by sleeping in
lamp and filthy quarters. Stalls
with a generous amount of bedding
are also easier cleaned out. It is
well, however, to see that the
manure and dry bedding are thor-
oughly mixed when cleaning out the
stalls, so the bedding will rot before
spring and form a good fertilizer
that will be available for next
season's crops.

M. A. COVERDELL.

"The 1913 • " Cream Automatic Separator

Compels Attention



The "Automatic" is the one great stride forward in dairy appliances since Babcock's invention. It overshadows all others. The idea of combining in one efficient unit the separator principle and gasoline power, to skim more evenly, more closely, more quickly, with *no* effort —was a big one. It startled the whole dairy industry.

In all parts of the world dairymen installed the "AUTOMATIC" to test it. Agricultural colleges and Experiment Stations tried it thoroughly. Everybody saw its possibilities, if successful. And it has been wonderfully successful. For over two years "AUTOMATICS" have been in steady operation in all parts of this country, in Europe, Australia, South America—wherever cows are being milked and butter made.

In point of operation the engine has worked without a hitch. It has been trouble proof. In point of close skimming, the "AUTOMATIC" has broken all records. No hand crank machine can possibly skim so close, because the speed of hand power varies. The "AUTOMATIC" skims even, absolutely even, the speed being maintained without variation. The result is more butter fat and smoother cream; to say nothing about a great saving of time and labor.

Self Powered: Engine and Separator In One

Wherever ten or more cows are being milked hand power is doomed. No up-to-date dairyman will put up with the drudgery and expense of cranking a separator when he can have it done quicker and better with gasoline power *compactly built into the machine itself.* He won't burden his family with a backbreaking grind, if he can help it; and he won't hire extra help—not at present wages. You don't have to tell him about the advantages of gasoline power. He knows them. The problem was to build into the separator itself an *efficient* gasoline engine. This has been done. The "AUTOMATIC" is a perfect combination of the two. It is a smooth running unit, with a self contained motor specially designed and adapted for separator use. The design is patented: nothing like it on the market The bowl spins *without a trace of vibration* This is a very different matter from the makeshift of hitching up a hand cranked separator with any ordinary gasoline engine.

When the Milking Is Done, Skimming Is Done

The "AUTOMATIC" will handle over 700 lbs. of milk in an hour, for any number of hours. It skims faster than ten men can milk, at a high even speed. No hitches or variations. The engine requires not the slightest attention; runs continuously for six hours without replenishing of fuel. Starts by the pulling of a cord. No chance to kick. The separator is simplicity itself. Crankless and gearless. No complicated parts to get out of order. Little to wear out. With ordinary care it should last a lifetime.

1913 Model Equipped With Magneto

This is our latest improvement. Makes ignition more certain. The battery and coil system has worked very well—given universal satisfaction. But it is not as scientific as a suitable magneto. The problem has been to design a suitable magneto for the "AUTOMATIC." This has been done. The magneto perpetuates itself—never needs recharging. With this latest improvement the "AUTOMATIC" has been rendered more completely automatic. Not even a battery to renew, nor a coil to adjust. We are also manufacturing battery equipped machines and selling them with a special trade allowance of $15 for old separators taken in exchange.

If you are milking eight to ten cows or more you ought to know about the "AUTOMATIC" Cream Separator. See it in actual operation. Then you won't go on cranking a hand machine any longer. You cannot afford to.

By writing us you can obtain full information by mail. We will tell you where you can see the machine in operation—of what dealer you can buy one. Give us the name of your dealer.

Standard Separator Company

288 Reed Street **Milwaukee, Wisconsin**

New Heider Tractor

With All Latest Improvements

The economical, practical tractor for modern farming. Light in weight, strong and powerful, easy to operate. The real one-man tractor for belt or field work.

Special Heavy Duty Tractor Motor

Long stroke type. Large crank shaft, connecting rods and bearings. One piece cam shaft. The Heider is the pioneer light-weight tractor and no experiment. Will do any kind of farm work more cheaply than horses.

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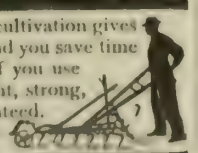

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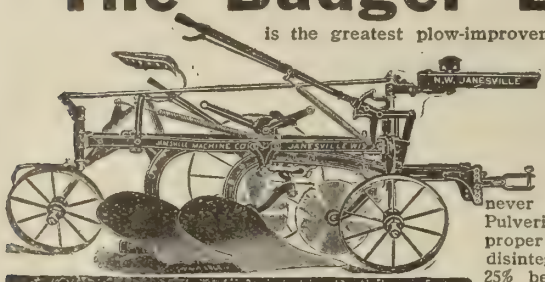

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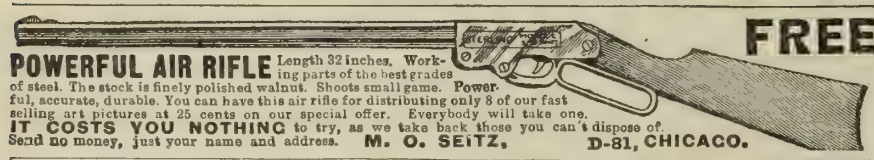

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Timely Items Relative to Field, Stock, Garden and Orchard

FEBRUARY is the month to begin active plans for the next season's garden. It is well to send for seed catalogues from a number of seed houses and plan to have everything just right. Do not put this off, for if neglected the time for use will come and you will be compelled to buy packet seeds from the grocer. These are quite likely to be of an inferior quality. Seed selection is the most improved method of improving our crops, and many farmers who are having very good success claim that it is due in a large measure to the fact that they test their seed for germination during the winter. In buying seed this saves them many dollars that would otherwise be paid for worthless seed and insures a good crop if it is properly cared for and is not destroyed by adverse weather conditions. Everyone should have a few good hotbeds; they are inexpensive and are a source of great satisfaction and profit. Late in this month seeds for early crops of celery, cabbage and many other crops may be sown.

***

All are familiar with the San Jose and other kinds of scale or bark lice and realize that if we are to get the best from our orchards they must be eradicated. This can only be done in the winter time by spraying. It is important, therefore, that if this work has not yet been done that it be attended to before the spring catches us unawares. Spraying is best done upon a quiet day, and it is important that every part of the tree, even to the topmost twig, be touched with the solution.

***

There is nothing that will give us as much comfort and convenience next summer, besides practical value, as a good supply of ice. It will pay any farmer to haul ice several miles in order to put up this supply. If there is no place to store this ice, it is not too late to build a structure. An expensive building is not necessary. Where neighbors are backward in storing ice, often a man can pay all expenses for his own ice and building by selling ice to his neighbors. An excellent plan is for several in a neighborhood to build houses and change work in filling; this reduces the actual cash cost. Every farmer who once tries ice never fails to put up a supply each suceeding winter.

***

All wood should be made and hauled in from the wood lot; this should be piled neatly and a temporary roof built over it. It is not right to leave wood so that rain can fall directly upon the pile and run down in where it will not dry out for weeks. A roof can be easily erected over this with little trouble by placing four posts and covering with overlapping boards; this does not interfere with a free circulation of air and serves to keep the moisture out of the center of the pile.

***

In removing ensilage from the silo, that which may happen to be frozen around the edges should be chopped away and removed with the rest of the daily amount. At least two inches should daily be removed from the entire surface. Any time in latter part of February we are liable to get a thaw, and if only that which is loose is removed from the center, this sudden thaw will loosen that around the edges and cause it to fall in. This will fall loosely, causing no end of trouble, as it allows the free admittance of air and will spoil before it can all be used. It is much more satisfactory and easy to chop away a little each day and avoid trouble. Frozen ensilage should be allowed to thaw before being fed to animals.

***

Do not forget that sheep need salt

Power FREE!

I'll Give You the Use of a Genuine Galloway Gasoline Engine on Your Own Farm for Three Months ABSOLUTELY FREE! Read My Great Offer NOW!

1¾ H. P. to 15 H. P. $29.75 Up

Listen! Read this carefully! There isn't one farmer in the country—no, not a single one—who can afford to miss this offer. I positively know this to be the most liberal engine offer that has ever been made. I'll let you take a genuine Galloway Engine—let you pick any size or style you want from 1¾ H. P. to 15 H. P.—let you take it right to your own farm for 30, 60 or 90 days' trial **absolutely free.** Yes, I mean it, **absolutely free;** you don't take a **cent's** worth of risk. Don't take anybody's word about a gasoline engine—find out the truth for yourself. Get my engine and put it right to work. Use it just as though it were your own. Test it any way you want to. **Make it prove its SUPERIORITY to engines costing two or three times as much!** Take your time. I won't hurry you—don't you let anybody else hurry you. If you aren't ready at the end of a month, tell me and I'll let you keep it two or three months longer—all free. **Then you'll know!** Then you'll either tell me, "Galloway, I know I can't beat your engine at any price"—or you'll send it right back to me and I'll pay the freight both ways, so that **you won't be a cent out of pocket!**

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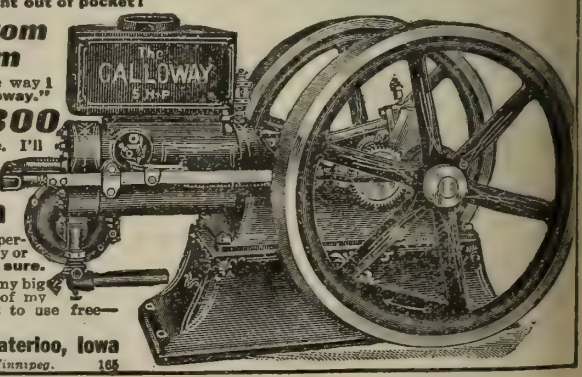
I'm going to turn the engine world upside down with this offer. It's a wonderful offer— the most liberal engine offer anybody ever thought of. But that's the way I do business. I won't take a man's money until he is thoroughly, absolutely and permanently satisfied. That's why 125,000 farmers say: "The **only** way is the **Galloway.**"



Here Is the Strongest Proof of All

E. L. Davis, South Gibson, Pa. I wish to say that the 5 H. P. gasoline engine I bought of you has given perfect satisfaction. I have used it on a three-horse threshing cleaner this fall, and have recommended your make of engine to everyone, both in price and quality. Two parties, especially, who own an engine, admitted to me that my Galloway Engine was much simpler than theirs and run just as nice. I will do what I can for your business in my neighborhood.

Joe A. Oliver, Seneca, Neb. Received your 5 H. P. engine about six months ago and it has never given me a minute's trouble since. Had an _____, a _____ and a _____ but the Galloway has them all skinned a city block. Have been working two days on another make to get it to run, but it isn't built to run.

Em Probst, Kennedale, Texas. I received the engine all O. K. and it is the simplest and smoothest running engine I ever saw. I have been running engines over 25 years and I would not give the 5 H. P. Galloway for any one I ever saw. Everyone that sees my engine says its a dandy. I am running a ten-cow dairy and I run a cream separator, and churn and pump, sausage mill and grist mill and am to get me a wood saw and an emery wheel and grindstone attached to engine. Anyone can run it. I can start it and go about my work, and I want to say it has the best governor that I ever saw.

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If you do keep the Galloway, you won't have to pay for anything but **pure engine** value. I'll sell it to you **at actual cost to make** with just one small factory profit added. I'll save you all the middleman's profits—**put $50 to $300 in your pocket right at the start.**

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Big Engine Book FREE A postal or letter brings you a copy of my big 1913 Engine Book and full explanation of my Special 1913 Proposition absolutely free. Get this catalog—pick out the engine you want to use free—that's all. Now don't wait. Let me hear from you RIGHT AWAY.

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winter as well as in summer. me claim that it is best to have lt where sheep can get it as they ant it, while others say that it is st to give it to them at intervals. o as you please about it, but do not il to give salt in some way.

***

Many profesisonals will start their cubators this month, and where operly equipped with brooders ll have good success. It is none o early for the amateur to begin experiment with his machine and t "onto the hang"" of running it fore the eggs are placed within. a new incubator is to be bought, time should be lost in ordering so that it will have ample time to rive and so that the purchaser will ve time to test it a little before king the season's profits. Eggs tended for hatching should not be lowed to become chilled, and in cold weather this will necessitate very frequent gathering.

***

If grapes were not pruned in the fall, this can still be done, but no time should be lost, as the sap will soon flow and the wounds should be healed as much as possible before this time. Look to the mulch on the strawberry bed, for it is now that one is really needed, when alternate thawing and freezing may be expected at any time. Be sure, however, that no mice have been having a good time under the mulch. Very often these little pests burrow around under the mulch, all unknown to the owner, and by spring have the patch practically ruined by eating the tender buds and plants. Poison or other effective remedy should be used without scruple of any kind against these mice. They deserve it. C. J. GRIFFING.

In and About the Barn

Keep a good sprayer about the rn.

***

A reliable ointment for gall and re-cut is lacking around too many rns.

***

Any doors or gates about the barn d lot that are sagging or otherse dilapidated should be straightd up before rush spring work.

***

Every farmer ought to have a ace somewhere about the barn to ep a good hammer, and never to low it taken any great distance ay from that place.

***

Place several small lumps of salt ound the barn, near where the rness hangs, as the briny taste in e leather is what the mice are ter when they gnaw the straps.

***

We find an old broom to be one the very handiest things a man n keep about the barn for sweepg out odd nooks, troughs, mangers, ibs, granaries, wagon boxes, feedays, etc.

***

Clean the trash and filth away om all doors and gates every day it aws a little. If these obstructions e left there till the spring thawt they will form almost bottomless uckholes for man and beast to ade through.

***

A system of spouting around the rn and other adjacent buildings, l emptying into a cement cistern, ould prove a very handy water pply and would play an important rt in taking one through a drouth, in taking the place of other water urces that fail.

***

Always keep a good, strong rope d pulley about the barn; they me in mighty handy in lifting some avy object, or for using in swingg up some animal that gets on the ft and requires a swing or support rest in. Such rope-and-pulley fts are fine for handling wagon xes and hayracks in changing em around.

***

Have good hooks, spike nails and naps all around the barn in such places as the horse stalls, dairy barn, corncrib, etc., where you use the lantern most, and hang it on one of these every time you let go of it. This makes it convenient, and at the same time avoids the danger of accidental fire by the lantern being set down and tipped over while lighted.

***

Break off all protruding nails, snags of boards, and every other such article that is a menace to the life and limb of man or beast moving about the barn or lots. Pregnant animals, especially, are apt to be seriously injured on such things, and more especially pregnant ewes, while considerable valuable wool will be lost from the sheep fleeces by their rubbing against them and by the crowding and jamming about of the animals.

***

Instead of swinging or sliding open the large, heavy barn door every time you wish to leave or enter the barn, cut out a small door in one of the larger ones, swinging it on hinges and arranging a latch on both the inside and outside of it; this will prove mighty handy, especially at feed time, and will save the wear and tear on the larger door in opening and closing them so often. With a small hand hole cut in this little door, one latch on the inside will serve as a means of entrance and exit.

***

The barn and surrounding buildings usually furnish the harbor for rat pests, which destroy grain and raid the chickencoops at night. By having a cement foundation under the barn, then no open spaces beneath crib and granary floors (or else have these on cement posts high enough to offer no hiding place beneath), it will be a discouraging outlook for the rats. Piling old rails, scraps of boards, fodder, hay and straw in promiscuous confusion here and there about the barn also affords safe places for these rodents to hide. Keep all such rubbish cleaned up and you will have little need to scrap the rats from season to season, nor grumble at the ravages of these pests.

M. A. COVERDELL.

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Use Big Ben All Day Long

Big Ben not only gets you up on time every morning, but he serves the whole family all day long as a reliable clock to tell the right time by.

He's really two good clocks in one—a crackerjack of a time-keeper—a crackerjack of an alarm.

He can ring you up in the morning just when you want, and either way you want—five straight minutes or every other half minute for all of ten minutes.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five-minute call and you can slumber then without the get-up worry on your mind.

Then when you're up and doing, carry Big Ben downstairs into the living room so that the whole family can use him to tell the right time by. He stands seven inches tall and his great big open face can be seen distinctly across the largest room.

Big Ben is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is $2.50 anywhere in the States, $3 anywhere in Canada. If you can't find him at your jeweler's, a money order mailed to *Westclox, La Salle, Illinois*, will send him anywhere you say, express charges prepaid.

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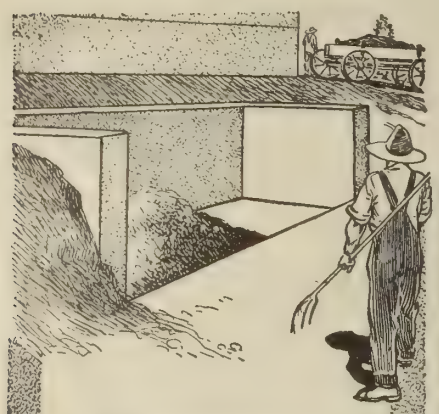

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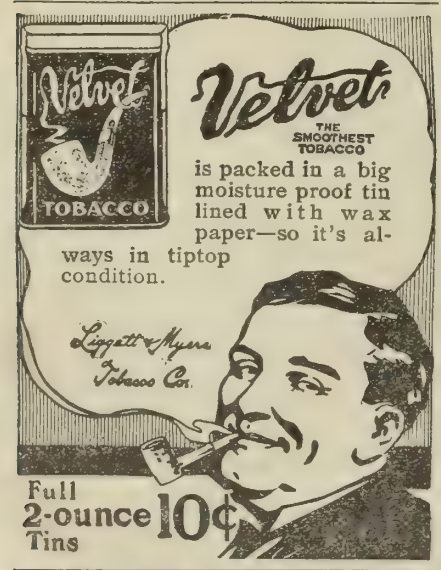

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Organized Agriculture in Nebraska

(CONTINUED FROM PAGE SIX.)

the University of Nebraska on "The Selection of Breeding Stock;" A. F. Stryker, secretary South Omaha Live Stock exchange, on "Co-Operation of Live Stock Men and Their Interests;" Charles Graff of Bancroft, on "History of the Red Polls." These topics were ably discussed and highly appreciated by the hearers.

The Nebraska State Fair board, or State Board of Agriculture, as it is officially announced, held its 1913 annual meeting in the New Commercial club building at Lincoln January 21 and 22. The attendance was fully up to the average of former years. The business to be transacted consisted of hearing reports of the secretary and treasurer and the election, or re-election, of one-half of the board whose term of office expires each year.

The members elected by congressional districts are: First, C. H. Rudge of Lancaster and L. W. Lecrard of Pawnee; Second, John F. McArdle of Douglas; Third, W. C. Caley of Knox, Charles Graff of Cuming and W. W. Cole of Antelope; Fourth, Edward Danielson of Polk, C. H. Gustafson of Saunders, William James of Saline and H. V. Riesen of Gage; Fifth, I. W. Haws of Kearney, L. H. Cheney of Harlan, George Jackson of Nuckolls and C. G. Crews of Hitchcock. There was practically no opposition to the candidates selected, and a very marked degree of harmony prevailed throughout the sessions.

According to the report of the treasurer, the total receipts for the year of 1912 amounted to $104,330.20. On hand at the beginning of the year was $38,016.40, which amount brought the sum total handled by the treasurer up to $142,346.70. Expenditures were made to the sum of $119,720.72, leaving on hand at the beginning of this year $22,625.98.

The old officers were elected to fill the same positions they held last year—I. W. Hawes, president; Joseph Roberts, first vice president; J. A. Ollis, second vice president; C. H. Rudge, chairman board of managers; Peter Youngers and J. F. McArdle, board members; W. R. Mellor, secretary. These seven officials constitute the acting board of managers for the supervision and management of holding a state fair.

State Breeders' Association

The meeting, called for the purpose of organizing a state breeders' association, proved a success in matter of attendance, the carrying out of the program assigned and also the organization of an association, the election of officers, etc., and otherwise launching the first Sheep Breeders' and Wool Growers' association ever listed in the interests of sheep growing in Nebraska. Robert Taylor of Abbott was elected president, Charles Lemley of Rising City vice president and Ellis Rail of the Nebraska Agricultural college secretary-treasurer. This new association is full of the spirit of progress, and plans were formulated to have a strong membership before the next annual meeting of Organized Agriculture.

The State Swine Breeders are possibly a little wider awake, appreciate more keenly the situation in which their industry is placed in the matter of hazard, risk, liability to disaster from contagious disease influence than any other of the farm industry occupations or allied interests. This association was well represented at all its meetings. Farmers and land owners may have their specialties, but all are interested in the hog. The Nebraska hog raiser, and this means every farmer in the state, is interested in the health feature of hog production.

The question of how shall the swine be protected against the disease of hog cholera in a way that will guarantee the best possible results from fatality. The making and distribution of hog cholera serum seems to be surrounded by commercial influences that need pruning by legislation. Nebraska must take hold of this proposition and eliminate every feature of unreliability that in the least interferes with the prosperity and security of swine raising by the farmer. Reliable serum manufactured by the state and put out in a way, and through such reliable safeguards as to produce the best possible results, is the demand. Too much attention cannot be given this industry now by the present legislature. Every law-maker should have a selfish interest in cheaper meat, if not a sympathy for his fellow man who produces swine and those who are consumers of pork.

"Establishing and Handling a Pure-Bred Herd of Swine," "Prolific Swine," "Feeding Experiment," "Swine in Nebraska," "How Hog Cholera Serum is Made and Used," "Developing the Swine Industry" and "The Control of Hog Cholera" were among the topics discussed by the swine breeders' meetings. Those listed on the program for addresses were Sam McKelvie, Ellis Rail, W. P. Snyder, C. H. Sloan, Dr. K. W. Stonder, Manhattan, Wis., and Dr. Paul Fisher, state veterinarian of Ohio.

Horse Breeders

Horse breeders had a large and interesting session, consuming all of Tuesday. The subjects discussed were: "Growing the Draft Horse in Nebraska," "The Shetland Pony and the Child," "Future of the Horse Market," "Horse Breeding," "Horse Judging Demonstration and Contest." Those taking part were Frank Howard, H. J. Gramlich, Joseph C. Rhea, J. A. Ollis, W. J. Thompson, H. J. McLaughlin and Frank B. Graham of Kansas City.

The State Dairymen's association is a live organization, and one of great interest in Nebraska, owing to the rapid development in milk production, having extended to the common grain farmer who is not equipped with dairybred cattle, but uses his beef-bred cows to raise their calves and assist in paying part of their expenses above this duty in butter-fat. The topics discussed were: "One Season's Experience in Farm Demonstration Work," by Prof. V. S. Culver; "Operating a Dairy Farm and Introducing Dairy Cattle Into a Community," by E. W. Frost; "Ice Cream, a Dainty and Nourishing Product; Its Relation to the Dairy Industry," by R. W. McGinnus; "Cow Testing Association," by W. Forbes, United States Department of Agriculture; "Cow Testing Associations in Nebraska," by Prof. Frandsen.

County Fair Managers

The State Association of County Fair Managers held its annual meeting at the Lincoln hotel, with its usual accompaniment of banquet, and a free-for-all discussion of county fair interests. This was one of its largest meetings in attendance and was enjoyed by everyone present. The expression seemed to prevail that the county fair is one of the strongest local influences in the promotion of agricultural education. The officers of the preceding year were re-elected to conduct the affairs of the association for 1913, as follows: H. P. Wilson of Geneva, president; Charles McLeod, Stanton, vice president, and W. H. Smith, Seward, secretary-treasurer.

The State Bee Keepers held a very profitable session and discussed many features of interest to the bee and honey people. It is generally conceded that this branch of farm industry is not receiving the attention it deserves. This is attributed mainly to a lack of protection from contagious bee diseases, such as foul brood. The common bee owner does not know how to fight against this ailment and will sacrifice his apiary rather than enter into its study and practice of treatment. This industry needs and deserves all the legislative help that can be given it.

The banquet idea has taken hold of the state organizations as one of the best means of social intercourse in cultivating acquaintance of its members. It is conceded that association members should be acquainted; that the more closely this relationship exists the greater influence the organization is capable of wielding for the good of its members. There were banquets given by a number of the state societies during the week of Organized Agriculture.

The Improved Corn Growers' association held a very enjoyable dinner and speech-making session at the Lindell hotel Monday evening, January 20. This occasion was presided over by W. G. Whit-

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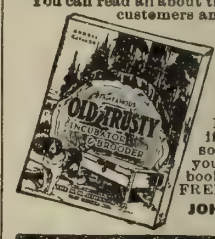

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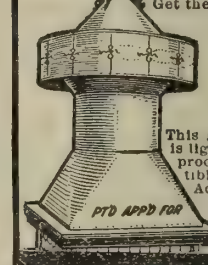

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re of Valley and was strongly characized throughout by the blending of wit l sentimentality, to which this gentlen is endowed to a degree that guarces all his efforts a success as toastster.

. C. Robinson of Waterloo, one of the gest seed dealers in the country, adssed the meeting on the quality of Neska-grown seed and outlined some eet corn experiments he has been conting. Mrs. H. H. Wheeler of Lincoln, orge Coupland, state regent; E. N. own of Davey and Lieutenant Gov- Roy McKelvie of Lincoln responded toasts.

he State Horticultural society held its nquet at the Lindell hotel Tuesday ening and was largely attended by asiation members and visiting horticulists from over the state and adjoining tes. There is probably less timeing and more educational effort manit in the meetings of the horticulturists n any other organization. Commercial barding has become a money-making position, almost verging onto speculan so intent are the orchardists in suvising the produce from the orchard the consumer. Apple buyers and leasof orchards are numerous among the hard owners.

Honor Dean Bessey

he honor banquet tendered Prof. arles E. Bessey of the State university s the crowning feature of the banquet this occasion, and was given at the ncoln hotel banquet hall Wednesday ening by the general rank and file of ganized Agriculture. There were about of Prof. Bessey's ardent friends and mirers present to lend their support l endorsement and express their apciation of the many kind things said praise of Dean Bessey and his great rk performed in Nebraska, for Neska and for its people, and all this in spirit of duty, friendship and loyalty the cause of education and the upilding of the state. This was a great asion in the life history of Prof. Bes-, and if there is nothing more said or itten of this distinguished educator ring his declining years, he has reason appreciate that his life has not been in n, that his monument has been built by his own hands and that the inscription thereon has been written by the people of Nebraska, "Well done, thou good and faithful servant."

Dr. Bessey spoke of his visions of great progress in the not far distant future, how the state will help save the soil, save the waters to be the heritage of the people, help in marketing the products of the farm and insure pure seeds and pure food for the people. He looked forward to comfortable, ideal homes, with trees, birds and children, good roads and good books, and, again, children. He saw in this vision the agricultural press, clean and diversified in contents and without petty politics and crime. He saw the rural school become a home school, open twelve months in the year, housing the library, as well as other neighborhood activities, and thus solving the entire agricultural educational problem.

The Dream of an Optimist

He continued: "And I dreamed again and again of stately buildings, trees, shrubs, clean, pure air and the quiet that should go with study. It should not be in the clatter of the street cars or the roar of passing trains. With 5,000 students and 500 teachers it will give an opportunity for the young men who are to fill all the various activities of life in the state to meet and touch elbows and know what they are mutually thinking of, so that when they are in the stress of life they will know and respect other men. The literary man will become more practical and the practical man will become more literary. This is the vision I have of the future of the university, and this is the vision I have of the future of the good and great commonwealth we call Nebraska."

The State institute banquet, held at the Lindell hotel Friday evening, the closing of the week of Organized Agriculture, was given to illustrate that pure, unadulterated sentimentality is not all there is in life.

The State Farmers' institute banquet was held at the Lindell hotel Friday at 6 p. m. It was one of the most interesting events of the program of Organized Agriculture given in the city during the week. E. P. Brown presided as toastmaster. The speakers were Dr. A. L. Bixby, who spoke on "Poetry and Pork;" George Liggett of Utica on "Why I Don't Believe in Farmers' Institutes;" Mrs. L. W. Chase, Lincoln, on "How to Handle Bees;" Rev. V. E. Shirley of Central City on "Care and Feed of the Horse," and a cooking demonstration by L. W. Leonard of Pawnee City.

The following announcement regarding the event was made by the extension department of the State Agricultural school, which was in charge of the arrangements:

"Senator Brown will preside, unless he makes himself obnoxious to the members, in which case he will be recalled. He promises to do his best Dr. Bixby needs no introduction to Nebraska people; his fame as a farmer extends beyond Nebraska's borders. Liggett of Utica is a banker; he claims red and black pigs fight because they are of different colors; he farms the farmers, and does it well. Mrs. Chase at one time saw a hive of bees on her fatherin-law's farm and made a study at close range. Rev. Mr. Shirley is president of the State Poultry association; he knows a little about chickens, as do all preachers; preachers can talk about anything. Colonel Leonard as an auctioneer and Nebraska lecturer has gained by experience an intimate knowledge of many different methods of cooking; he will demonstrate the best. No one is required to sample any of his dishes. You are expected to ask all the speakers embarrassing questions."

A Bachelor's Reflections

You can jolly more out of people than you can club out of them.

All a girl cares about, when she falls down skating, is if there are no holes in her stockings.

Sometimes a man can get his salary raised without his family taking more of it than it amounts to.

Having a husband is a great help to a woman for the way it teaches her she must do things for herself.

Just because there are as good fish in the sea as have been caught is no sign you have a chance on earth to catch them.

What makes a fat woman suspicious of the scales is when she was young everybody was afraid she might go into a decline.—New York Press.

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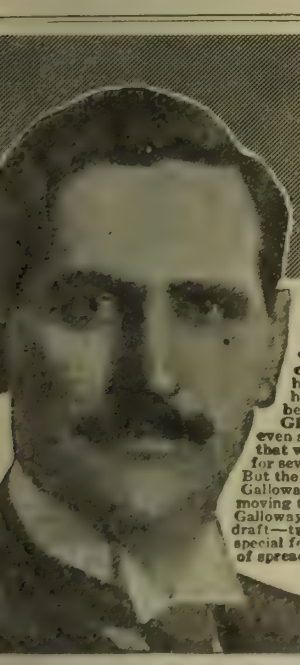

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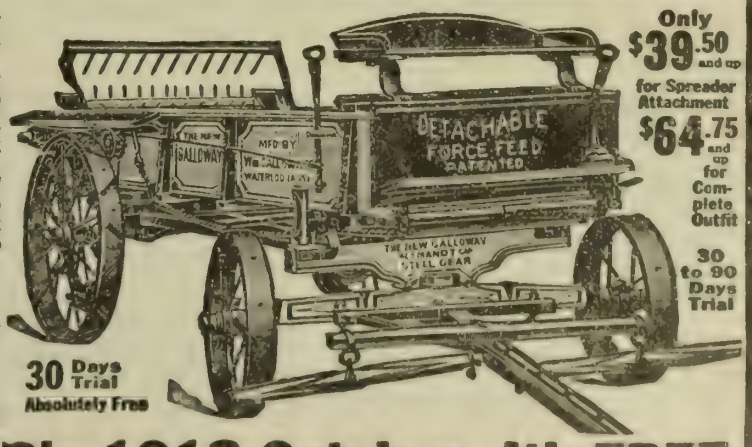

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Gentlemen: My Galloway Spreader was ordered about the first of February, 1909, and is a 50-bu. machine. I have run over a thousand loads of manure through it. Perfectly satisfied.—W. G. SUTFIN, Dundee, Ill.

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Review of Live Stock Market

By A. C. Davenport

CATTLE during the closing days of January had their ups and downs. The last week began with prices at the low point of the month, but under the influence of a somewhat better buying demand and more moderate receipts prices gradually firmed up, so that at the close the market was quoted 10@15c higher at most points than the close of the previous week. Butcher stock possibly showed more improvement than that, being as much as 10@25c higher. On the other hand, feeders, which broke early in the week under the influence of the lower prices on beef steers, failed to recover the loss, most points quoting the general run of fleshy feeders a little lower than they were the week before.

January did not prove to be a very kind month for the sellers of cattle. A number of circumstances combined to give sellers the worst of it. Foremost among these adverse conditions might be mentioned the extremely mild and unseasonable weather that prevailed during the greater part of the month in almost all sections of the country. That unseasonable weather will reduce the public appetite for meat products to a very great extent is a fact too well understood by stockmen to need any demonstration. Another reason for the market not being any better than it was, was the general inclination on the part of stockmen in all sections of the country to sell their cattle prematurely. There seemed to be a spirit of unrest, or perhaps it might better be termed nervousness, on the part of feeders of cattle regarding the future of the market, and they were disposed to unload their cattle without waiting to finish them. In this they were aided and encouraged by the high prices prevailing on the market, which made it possible for them to dispose of their half-fat and warmed-up beeves at a profit.

Thus the total receipts of cattle during the month of January showed a falling off of almost 40,000 head at the five big markets as compared with a year ago. Still, the supply of half-fat and inferior grades of beef was so great as compared with the decreased demand, due to unseasonable weather, that values eased off considerably during the month. At the close prices on beef steers at the different points show a decline of 30@60c, the amount of the decline depending upon the kind of cattle.

Another feature of the market that had no small bearing on the trade was the disposition on the part of the packers to reduce the cost of beef by buying the cheaper grades of killers. Thus it happened that there was during the greater part of the month a better demand, relatively speaking, for cows and heifers than for beef steers, and in consequence of this the market on butcher stock, barring occasional fluctuations, remained very nearly steady throughout the month, closing fully as good as it opened.

Cattle Prices High

Considering the quality of the cattle marketed and the unfavorable weather conditions, the trade for the month as a whole was by no means in bad condition, and cattle prices were really very high; in fact, as high as anyone could reasonably ask for. Even the feeders of cattle, notwithstanding the fact that they paid extravagantly high prices for their cattle last fall, as a general thing were able to report profits on the cattle disposed of during the month. In other words, most of the cattle coming to market have been making the feeders a little money, and to that extent at least the market has been satisfactory.

As to the future, opinions differ somewhat, but there is a general feeling that there will be plenty of cattle during the next month or two. This belief is based on the assumption that the country will continue running its cattle just as fast as they show sufficient flesh to be turned into beef. There is also a pretty general feeling that liberal receipts for the two months to come will make a big hole in the country's supply of cattle and that receipts later in the spring will in consequence be far from large. Some, however, are pointing out that a good many of the warmed-up and half-fat cattle now coming forward, instead of being turned into beef, are being sold and taken back into the country the second time to be finished for the spring market. The bulls, however, point out that the selling of warmed-up cattle for feeders to be taken back into the country a second time is nothing unusual, it having been the practice every season for years back, and that the sale of such cattle is no greater this year than usual.

Hogs Not So Numerous

Hogs did not prove to be as numerous on the market during January as a good many had anticipated; in fact, the bulls had the best of the argument all the month. Receipts of hogs at most points were quite moderate and the five big markets, taken as a whole, show a loss in receipts as compared with January of last year of about 355,000 head. The moderate receipts, taken in connection with a good consuming demand and stock of provisions that were by no means burdensome, caused the market to gradually work upward. The improvement in the market, though amounting to only about 25c or 30c for the month, was very gratifying to sellers.

The bulls in the hog trade are as confident as ever, believing that supplies of hogs in the country have been reduced to a point where receipts are not likely to prove very burdensome for any great length of time. As a matter of course, it is to be expected that there will be days, and possibly weeks, when receipts will be large and when prices may be broken down sharply, but the bulls do not believe that such large runs, or that the breaks, can be long maintained. On the other hand, it is fully realized that the price of hogs is now high, and it may not be possible to bring about any very great advance above present figures for some little time to come.

Sheep Advance and Decline

Sheep receipts during January were very spotted. Some markets show heavy decreases, while at some other points they were very liberal, the latter being the case especially at Omaha, where January receipts were the largest for that month in the history of the market. Taking the five big markets as a whole, however, there was a decrease for the month of 90,000 head or over. During the early part of the month prices advanced very rapidly, as had been expected; in fact, they advanced more rapidly than anyone had anticipated, the advance being so great as to have a depressing effect upon the consuming demand for the product. It seemed as if consumers would rather go without mutton than pay the advance, with the result that a reaction set in which, during the latter part of the month, wiped out a good part of the advance. A decline for the latter part of January and the early part of February had been anticipated, as it was expected that the receipts would show a considerable increase about that time. The decline came as anticipated, but from a different cause, as noted. Weather conditions, that proved so detrimental to the beef market, had the same effect on the mutton market, which was a still further influence in causing a break in prices.

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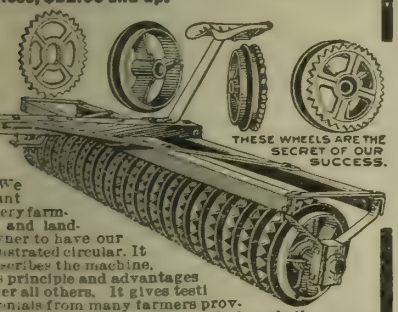

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Without doubt one of the very best herds of Duroc-Jersey hogs in the west is that of A. W. Lamb of Albion, Neb. His herd has been a consistent winner at the leading shows of the west. He is a constructive breeder in every sense of the word and has perfected a type throughout his herd that is hard to beat for size, bone and quality. He holds his regular annual bred sow sale on February 12 and will offer fifty head of the very tops of his herd. The facts in the matter are that this will be one of the very best offerings to be sold this year. The offering will be bred to Belle's Crimson Wonder, champion boar at Nebraska, 1910; B. & L.'s Wonder 2d, prize junior yearling at Nebraska, 1911; Dusty Crimson, by Belle's Crimson Wonder, and Riverview Wonder, by Wallace's Wonder. If you are in the market for a bred sow, you can make no mistake in attending this sale. Write for catalogue, mentioning The Twentieth Century Farmer.

DeClow's Jacks, Stallions and Mares

We desire to call attention to the following communication from W. L. DeClow, the well known breeder and importer of Cedar Rapids, Ia. Mr. DeClow's hundreds of satisfied customers are the best evidence of what may be expected in dealing with him. Here is what he says: "I have as fine a line of Percheron and Belgian stallions in both imported and American bred, and imported Percheron and Belgian mares, as can be found anywhere. I believe I can quote lower prices to customers than any other importer, for the reason that I am selling a large number of jacks, as well as stallions and mares, and can therefore live on a smaller margin of profit. To parties who are wanting imported mares I believe I can show better mares than they can find anywhere and at the lowest prices consistent with the quality offered. I want to sell 100 jacks and stallions within the next thirty days and will give especial bargains to those who will come and buy from me within that time. It is to every person's interest who wants a jack, stallion or mare to come and see me before buying. W. L. DeClow, Cedar Rapids Jack and Stallion Importing Farm, Cedar Rapids, Ia."

Riley Bros'. Shorthorns

While at Albion last week we called on Riley Bros., the well known Shorthorn breeders of that place, and found everything in a flourishing condition. They have about seventy-five head of bulls ranging in age from 6 months to 3 years for sale at this time. They can also supply any number of females up to carload lots. The bulls are both Scotch and Scotch-topped and are sired by the $1,000 Royal Goods, Headlight, Matchless Goods and others. The females are by Imp. Royal Victor, Victor of Orange Blossom and others. These cattle are in just good breeding condition and are certainly being priced worth the money. Write them for further particulars, mentioning The Twentieth Century Farmer.

Breeders' Sale Report

Following is a condensed report of breeders' sale of Percheron and Belgian stallions and mares, held at Lincoln, Neb., January 22 and 23, 1913. Thirteen head of stallions 2 years and over sold for $8,185, with an average of $629.80. Eleven head of stallions 1 year old and under sold for $1,863.50, with an average of $169.41. Nineteen head of mares 2 years old and over sold for $8,040, with an average of $423.30, and nine mares 1 year old and under sold for $1,800, with an average of $200. Fifty-two, total, sold for $1,988.50, with an average of $382.47. Stallions were a little slow in selling, but the mares and young stuff sold readily and brought good prices. This being the first breeders' sale held in Lincoln, it was considered a splendid success.

Burress Bros'. Horse Sale.

Burress Bros., the well known draft horse firm of Carroll, Neb., will hold a sale of twenty-five head of Percheron, Belgian and Shire stallions at their barns in that place on February 11. The writer inspected these horses a short time ago and can say that they are a nice, clean lot. There will be several state fair prize winners among them. They are mostly home-breds and mostly pasture-raised, and as a consequence thoroughly acclimated. Write them for catalogue, mentioning this paper.

Wineland Farm Jerseys.

Twentieth Century Farmer readers who are in the market for a Jersey bull or a few choice females will do well to keep in mind the Wineland Farm herd owned by H. C. Young of Lincoln, Neb. This is one of the really good herds of the west. They are representatives of the very best families of the breed. Write Mr. Young for particulars, mentioning this paper.

Stallions and Jacks for Sale

If you are in the market for a Percheron, Belgian or Shire stallion, or a jack, write Henry Beck, proprietor of Fairview farm, at Litchfield, Neb. These horses and jacks are of a class that should appeal to prospective buyers and he is pricing them worth the money. Write him for further information mentioning The Twentieth Century Farmer.

When Hog Cholera Rages It's a Fine Thing to Know YOUR Hogs Are Safe

E. Myers, President, E. Myers Lye Company

Next time you read in your paper about an epidemic of hog cholera, how it is killing off hogs like flies and causing the loss of thousands and thousands of dollars, and you are beginning to wonder where it's going to break out next, just remember this: You can assure the safety of **your** hogs by taking this inexpensive precaution—go to your dealer and get a few cans of

Merry War Powdered Lye

Mix it with the hog's feed or drinking water according to the directions printed on the label and feed it **twice every day. This treatment has prevented hogs from catching cholera, even though raging right in the neighborhood.** It has been **proved** time and time again. Here is just one example among hundreds of similiar ones:

"We have had hog cholera all through our district. Those who have been using Merry War Powdered Lye have missed it. One man in particular who buys it by the case has cholera all around him, but so far his hogs have escaped." **C. M. COOPER, Prop., "The Right Place," Dawson, Nebraska.**

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Don't experiment with an old-fashioned, ordinary lye. Get MERRY WAR POWDERED LYE—the **time-tried** remedy—the specially prepared lye that is **safe** to feed to hogs—that actual **experience** has **proved** to be the **safest, most dependable preventive** of hog cholera the world has ever known. **Insist** on the genuine and **refuse substitutes.**

Costs only 10c a can—enough to protect a hog from cholera, keep him free from worms and make him strong, healthy and on his feed for **two months.** Tones up digestion and prevents feed waste by changing every pound into firm flesh and juicy fat. Produces the kind of hogs that bring top notch prices. At the price of **5c per month, per hog** you insure against sickness and greatly increase the size of your hogs.

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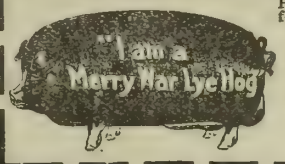

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100 2½ to 3-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B.; Gilberts, Kane Co., Ill.

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Don't you want a good grandson of the great Katy Gerben, The Champion cow of the breed for five consecutive years. We have some fine ones out of splendidly bred A. R. O. dams.

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SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets —in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.

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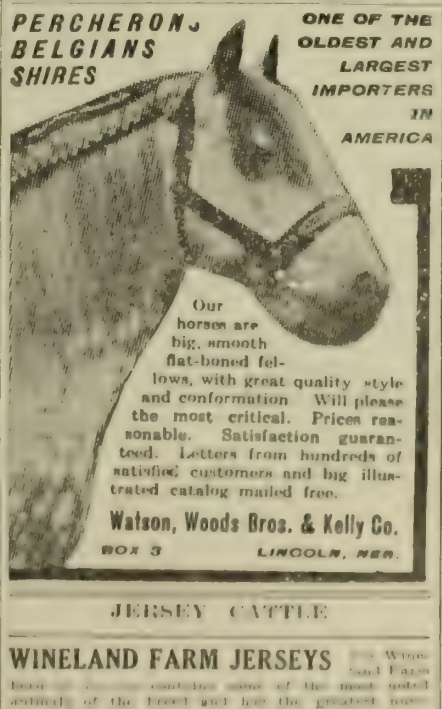
JACKS, STALLIONS AND MARES.

I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. **W. L. DeCLOW, Cedar Rapids, Iowa.**



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WINELAND FARM JERSEYS [illegible] Wineland Farm has been [illegible] contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

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Raise mules and get rich. 18 Jack and Mule farms under one management, which can be seen 420 head fine large Jacks, Jennets and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address KREKLER'S JACK FARM, West Elkton, Ohio. Branch barns: Clinton, Ind.

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Have for sale Registered Percheron Stallions of substance, 2 and 3 years old, [illegible] and blacks. Big straight fellows that will prove [illegible] per cent of Ocoba. Drop a card. FRED CHANDLER, R. 1, Chariton, Iowa.

O. I. C. HOGS

We're Going to Send 10 Farmers to Bitter Root Valley

They must be married and the larger the families they have the better. They must be honest, industrious and have practical knowledge of farming. These 10 families will be placed on farms of their own that can be paid for out of the earnings and will be given good wages to help take care of our commercial orchards.

This is the "poor man's chance." He will have every opportunity to make a fortune in a few years on lands as good as can be found anywhere—land that will be worth $1,000 per acre when he gets it under cultivation, land that will net him $200 to $300 per acre every year in fruits or vegetables.

You will need only a small capital to start with. You can pay for your farm land out of the profits after the second year. Remember we can send only 10 families, so write at once, if you think you can qualify. This is "The Poor Man's Chance."

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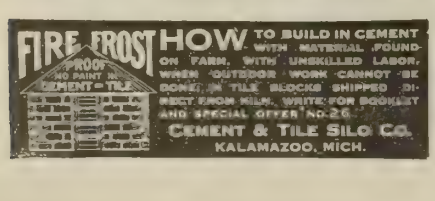

Investments

An Uncommon Proposition

The trend of legislation is to protect the general public. The pure food and drugs act was made for this very purpose. The Sherman anti-trust law is intended to do the same thing, while the United States has done a number of things along this line, the states have not been idle. The fact is, every state has its own laws regulating banking, building and loan and insurance companies of all kinds; that is, the laws of the state limit what these companies can do by statute. Should their articles of incorporation propose to conduct an insurance business, the same company cannot engage in banking or other outside business, but must confine their efforts to the line named therein.

In other words, when a company gets a license to do a particular kind of business it is obliged to stick to it or file amended articles which must set out just what is proposed to be done. Hence, the articles of incorporation are the foundation upon which the business is to be built. It is very important that they be protected. There is always a lurking danger in any articles that propose to do many things requiring skilled operators in each line. In other words, that company has the most elements of security that proposes to do but few things, because the executive of it has the ends of everything in his hands so he can govern same readily.

That company is the safest, therefore, that proposes to do few things. Now, if it can only do the fewest things and deal only with those things that are the most stable in intrinsic value, you have a thing with the very utmost security.

An Omaha company proposes in its articles of incorporation to do two things, and these two only; that is, it buys inside city lots adjoining the retail district of the city and builds apartment houses thereon, to be occupied by choice tenants of good pay. You see how this limits what this company can do. It can't buy a farm adjoining the city, lay it out in city lots and sell same to others. It can speculate in no kind of property. It can deal only in the two things noted, and as they have stable values, it is apparent the result of their growth must be sure, as both are certain to produce great profit; the aggregate yield must be marvelous. The record of like companies in other large cities easily bears out this view.

A Good Sleeper

The lawyers got a tartar when, in a recent trial in a southern city, they summoned to the stand an aged darkey who had been an eye-witness of a fight that had occurred between a number of persons.

"Tell us what you know about this fight," said counsel, when old Mose had been placed upon the stand.

"Fight?" asked Mose, apparently greatly surprised. "What fight?"

"You know very well what fight is meant," said counsel. "Tell us about it."

"I don't know nothin' about no fight," insisted the witness. "What was it?"

"See here, Moses!" exclaimed the lawyer; "no trifling! That fight day before yesterday. You know all about it. Tell us——"

"Oh, de fight day befo' yisterday," said Moses. "Well, suh, you see, I'se slept since de day befo' yisterday, and I never kin rickoccelt anything after I'se been asleep."

And that was all they could get from him.—The Green Bag.

His Temperance Sermon

The temperance reformer was justly proud of having converted the biggest drunkard in a little Scotch town, and induced him—he was the local gravedigger—to get on the platform and spout his experiences.

"My friends," he said, "I never, never thocht to stand upon this platform with the provost on one side of me and the toon clerk on th' ither side of me. I never thocht to tell ye that for a whole month I haven't touched a drap of anything. I've saved enough to buy me a braw oak coffin wi' brass handles and brass rails—and if I'm a tetotaler for anither month I shall be wantin' it."—Dundee Advertiser.

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These 2 Great Books Will Reduce Your Building Expense

You can build a new house and barn or repair or remodel your present building and **buy your material at wholesale.** Don't pay the local dealer high prices. **Deal Direct** with us. Highest qualities, safe delivery and satisfaction **guaranteed.** Send for these two free books today.

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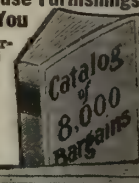

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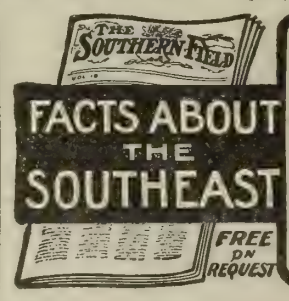
Early potatoes are one of the best-paying crops raised in Southern Alabama, Western Florida, Tennessee and along the Gulf Coast. Good prices are always obtainable and demand for same beyond the supply. Read what a farmer at Summerdale, Ala., has to say on this crop:

"My yield of salable potatoes this year, per acre, was 150 bushels, which sold readily at $1.50 per bushel, this being the first crop on the land. I followed this crop with sweet potatoes and sweet corn and then planted cow peas. *I raised three crops* on the land in one year, all of which brought good prices."

Sweet potatoes produce big returns and are usually planted after Irish potatoes have been dug. Two to three hundred bushels an acre are produced and bring from 50 cents to $1.75 per bushel. Let me send you our illustrated booklets and learn what can be done in a country where fertile land can be purchased cheaply and where there are 312 working days a year. Low round-trip fares 1st and 3rd Tuesdays each month. (203)

G. A. PARK, Gen'l Imm. and Ind'l Agt., Louisville & Nashville R. R., Room 309, Louisville, Ky.



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SEND 15 CENTS FOR LATEST HIT—Words and music, "Little Cow-Girl 'Bill'." Mrs. R. E. Miller, Seneca, Neb.

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EARLY SEED CORN FOR WESTERN and central Nebraska-Dakota grown corn book free; 5 sample packets—5 earliest kinds—postpaid, 10c. L. N. Crill Seed Co., Elk Point, S. D.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Haggiund, Essex Ia

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MISCELLANEOUS

GOOD TEETH—SEND ME M. O. FOR $1 and I will tell you how to make a splendid tooth paste; also how to care for your teeth. G. H. Edgington, Dentist, Syndicate Bldg., Waterloo, Ia.

LUMBER

LUMBER—ENORMOUS SAVING IN buying direct from mill. Send list of material for estimate. Write today for catalogue No. 22, Keystone Lumber Company, Tacoma, Wash.

TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, February 15, 1913 | Number 636

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MONTGOMERY WARD & COMPANY
Chicago Kansas City Ft. Worth, Tex.

The Highest Peak in Bargain Town.

attle of the Youngsters

Off Again, On Again

Your face is nice and clean, oy," said the Sunday school ner; "but your hands are horri- dirty. How ever did you get like that?"

washin' me face, miss."

The Usual Thing

our-year-old Dick was tired of g questioned by the visitors, be- whom he was unwilling to show

And so you go to Sunday school y Sunday?" came a final tor- ting question. "And what do study there?"

Lessons, of course," Dickie wrig- in reply.

His Great Aunt

alter found his mother talking portly lady.

Valter," said his ma, "this is great aunt."

Yes," said Walter, looking at ample proportions; "she looks

Home Work

Willie, why couldn't you find result of these examples you home?" inquired the teacher, sharp voice.

Please, ma'am," replied the ing boy, "me father says they too hard for him, an' would mind giving me a few easier to do?"—Woman's Home Com- on.

As it Sounded

other eager, if mistaken, boy- tudent gave a queer reply to an ent question. From a discus- of recent affairs in China the passed to the fate of a man was eaten by his savage ene- Anxious to enlarge the lim- vocabulary of her students, the er asked the name given to who ate other human beings. bright-eyed boy piped forth y:

Manchus!"

A Vivid Diagnosis

one of the meetings of the Fever association in New pshire Dr. L. C. Cuthbertson, hay fever expert of Concord,

recently had a case of hay in a little child of 5 years. cases are comparatively rare. urchin, the morning of his at- gave, I thought, a vivid defini- of hay fever.

Oh, muvver,' he said, 'bofe my is leakin', and one of my noses go.'"

Conforming to Proprieties

little girl aged 3 had been left ne nursery by herself, and her er arrived, to find the do r d.

wants to tum in, Cissie," said

But you tan't tum in, Tom."

But I wants to."

Vell, I's in my nightie-gown, an' says little boys mustn't see girls in their nightie-gowns."

ter an astonished and reflective ce on Tom's side of the door, miniature Eve announced tri- antly:

You tan tum in now, Tom; I ed it off!"—Ladies' Home Jour-

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Our Seed Number

THE first step in getting ready for a new crop is providing the right kind of seed. The next number of The Twentieth Century Farmer will give especial attention to farm and garden seeds. It takes up this matter at this early date in order to bring its influence to bear upon prospective users of seed in time to produce some results preparatory to putting seed into the ground. There are many aspects of this matter regarding seeds that should receive consideration at the hands of the man that uses them. These concern the right kind of seed, pure seed, the elimination of weed seed, the separation of devitalized seed, the use of acclimated seed—seed that is adapted to the conditions under which it is going to be used. Garden and flower seeds will also receive due attention. In this matter of seed selection the motto holds true, "Well begun is half done." The Twentieth Century Farmer will try to start the users of seed right in this matter

Bright and Breezy

Of Course He Wasn't

Lady—I want a box of cigars for my husband.

Clerk—Domestic?

Lady—Not very.

His Sense of Humor

"Don't some of the decorations on women's hats amuse you?"

"Yes; the plumes, especially, tickle me very much."—Woman's Home Companion.

Just for Fun

A man entered a drug store in a hurry and asked for a dozen two-grain quinine pills.

"Shall I put them in a box, sir?" the clerk asked.

"Oh, no," said the man. "I am going to roll them home."

She Was Still There

The sick man had just come out of a long delirium.

"Where am I?" he said feebly, as he felt the loving hands making him comfortable. "Where am I? In heaven?"

"No, dear," cooed his devoted wife, "I am still with you."

Stock Joke

"Here's an item," observed Rivers, who was looking over the exchanges, "to the effect that the king of Sweden raises prize dogs on his farm."

"I suppose he uses them," suggested Brooks, "to drive his Stockholm."

The Ghost and the Meat

We have all heard of the French school boy who, asked to translate into English the French of "To be or not to be," evolved this:

"To was or not to am."

Another school boy has equaled this translation, according to the London Chronicle, in recovering from German the text, "The spirit indeed is willing, but the flesh is weak," in the form, "The ghost, of course, is ready, but the meat is feeble."—Youth's Companion.

A Comeback

There was a meeting of the new teachers and the old. It was a sort of love feast—reception, or whatever you call it. Anyhow, all the teachers got together and pretended they didn't have a care in the world. After the "eats" the symposiarch proposed a toast:

"Long Live Our Teachers!"

It was drunk enthusiastically. One of the new teachers was called on to respond, and modestly accepted. His answer was

"What on?"—Everybody's Magazine.

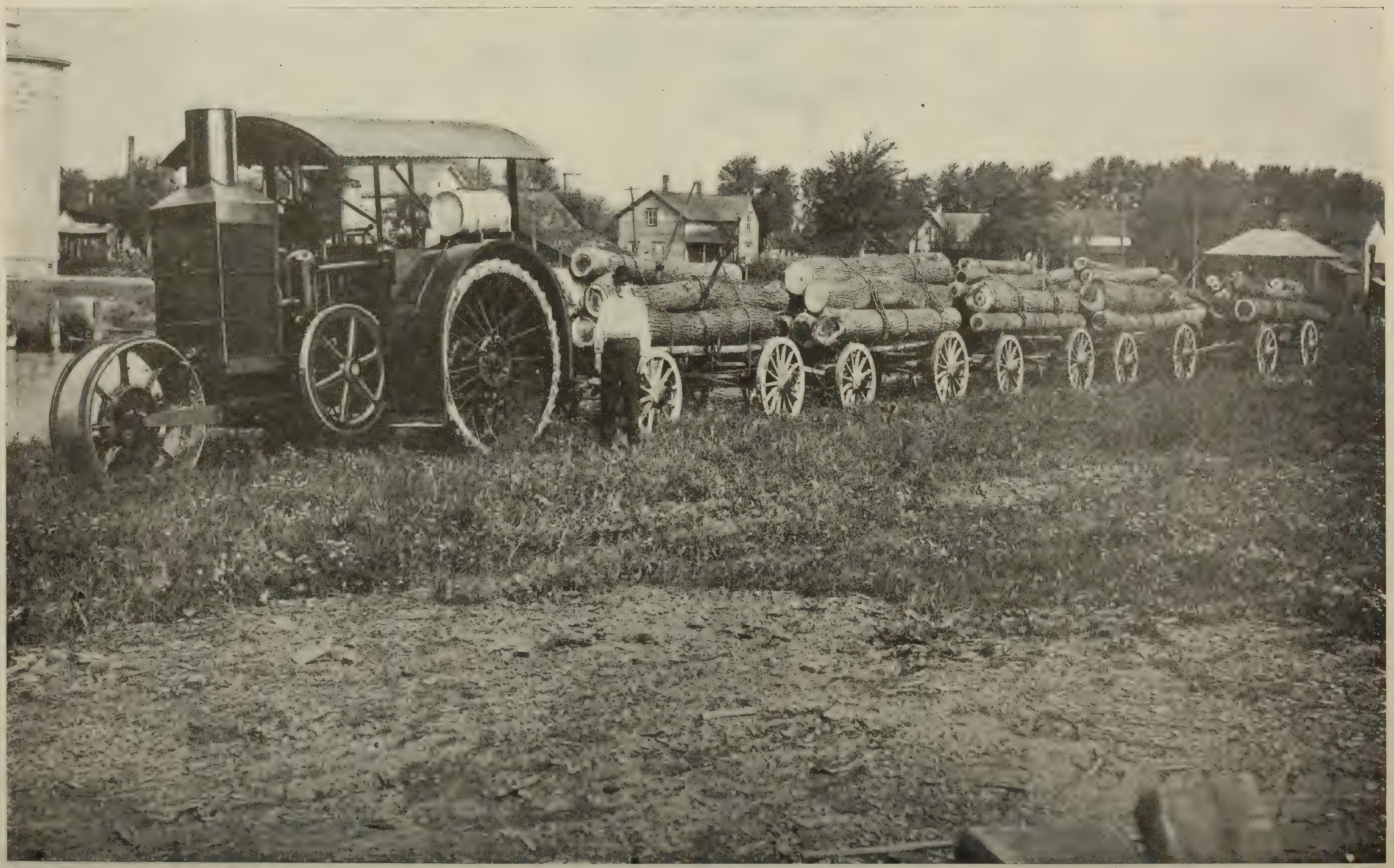
Ending the Strain

"Miss Dubbkins—Marietta—" stammered Wimpleton nervously, "er wow will yuh—you mum—mum—marry me?"

"Don't you ever ask me a question like that again, Reginald Wimpleton," replied the girl, proudly.

"Buh—but whuh—why Mum—Marietta?" stuttered Wimpleton. "I lul—lul—love you dud—devotedly and—"

"Because," the fair girl answered, firmly, "because it will not be necessary for you to subject yourself to the nervous strain. I will."—Harper's Weekly.



Tractor Has Great Possibilities for Heavy Work

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Supreme Need of Eradicating Hog Cholera

It All Depends Upon What the Corn Belt State Legislatures Do in Way of Appropriations

THE corn belt states are confronted by the most serious business situation that they have ever been called upon to meet. A grave national economic disaster is impending. A great meat-producing industry of the nation is threatened with extinction. A terrible, incurable epidemic disease, during the last season, has been taking off hogs by the hundreds of thousands. If this condition is permitted to continue, the production of hogs in the corn belt will be definitely and certainly brought to an end. Either the ravages of hog cholera must be arrested, and the disease eradicated, or the time will come when no more hogs will be raised. This will be more than a national disaster; it will be world-wide in its disastrous effects.

The situation should be promptly and effectively met. The disease is incurable, but it may be absolutely prevented. It may be totally eradicated if proper measures are taken and continued for only a comparatively short time. Whether this industry shall be stranded, whether this incalculable loss shall be permitted to continue, is a matter that can be determined only by the legislatures of the several states, working in co-operation with the general government. The solution of the problem is theirs to undertake. The future will hold them responsible for what they do in this connection, and for what they fail to do.

The loss during the season just closed is appalling. In Iowa alone the loss of the farmers is estimated at from $12,000,000 to $15,000,000. In four states—Iowa, Missouri, Kansas and Nebraska—the loss during last season will average not less than $8,000,000 in each state. The infection of the last season may survive until next season, and then, unless immediate action is taken, the epidemic will be more appalling than ever before. The question is, is this loss to continue? It is for the legislatures in these states definitely to answer this question.

There is not now an epidemic fatal disease of human beings that may not be, by the adoption of prompt measures, controlled and eradicated. Yellow fever, the bubonic plague, typhoid fever and diphtheria have now lost most of their terrors, because the possibility of rapid control has been demonstrated. Hog cholera may just as easily be controlled, if the same methods of control are adopted.

In view of the grave danger impending, this is no time to count pennies. Money should be liberally brought out for this purpose. With proper means at disposal, this disease may be controlled at once, and within three years the possibility of another outbreak may be totally eradicated. It is simply and solely a question of money—money enough successfully to meet the exigency. An appropriation in each state of $100,000 for each of the next three years will meet the demand, and will practically guarantee the eradication of the disease. The same amount for five consecutive years would insure this result. This would mean, at the larger estimate, that each state would spend only $500,000 to prevent a loss of not less than $40,000,000; that is, counting the annual average loss of $8,000,000 for five consecutive years. This would be spending only $1 in order to prevent the loss of eighty times that amount.

In the first place, a provision should be made for a rigid quarantine of all infected herds. This quarantine should extend to all herds upon farms immediately adjacent. Every owner of hogs that are sick should be compelled to report the fact that he has sick hogs at once to the proper authorities, so that they may take the proper preventive measures. Failure to make this report promptly should be severely penalized. This is no time for quibbling or for evasion. Whenever hogs begin to die, one after another, it may be safely assumed that they are suffering from cholera. The name "epidemic pneumonia" is an invention of interested persons to excuse their spreading the contagion by the use of virulent blood, accompanied by impotent and useless serum. Full police power in the premises, both as to quarantine and as to all other necessary regulations, should be given to the proper authorities. The disease should be given the same vigorous attention that is given to outbreaks of fatal epidemics that prey

(Continued on Page Forty-One)

Power and the Man

A MAN is measured by the power that he uses.

"The Man with the Hoe"—"almost a brother to the insensible clod he stands upon"—is a type of the lowest plane of human effort. His body only is alive; his mind is dormant.

Continued exhausting physical exercise deadens mental activity and prevents mental development.

"Grant me but to see, and Ajax asks no more," was the cry of the blinded hero in the thick blackness of the hostile camp. That cry typifies the yearning of every man that struggles toward a higher plane of effort.

Brain power indefinitely multiplies muscular power, and finally supplants it. The discovery of the use of the lever and of the inclined plane, which made the powerful screw possible, marks a new level in human achievement. The engine, the product of man's brain, doing man's work for him, touches the highest level of achievement in human labor.

Brain power emancipates man from the brutalizing drudgery of mere physical toil.

Brain power makes possible the cultivation of the humanities, and the art of living.

Economical Use of Power on the Farm

How the Farmer May Accomplish More, with a Saving of Labor and Money

THE time is already at hand when the farmer should seriously consider how he may get the greatest results with less expenditure of either time or money. In the early days, when farm labor was plentiful and cheap, nearly all the operations on the farm were conducted through the medium of hired help. Conditions have now changed to such an extent that the farmer finds it impossible in many cases to secure help enough, so that he may get his work done during the time which he can afford to give it. Farm labor is not only scarce, but is getting to be more and more high-priced. In some cases it will become necessary to change the methods employed in farm operations to enable the farmer to accommodate himself to new conditions. In many cases farmers have been obliged to abandon the old system of heavy cropping, because they found it impossible to secure sufficient farm help, at such wages as they could afford to pay, to conduct their farms according to the plan that they had for years been following. Driven by this necessity, many farmers have practically abandoned cropping their land, have put it down in grass, and have turned all their attention to stock growing, merely because stock may be successfully handled with much less help than is required under a cropping system. Anything that will relieve the farmer from the necessity of hiring expensive help should receive his careful consideration.

Again, there is much work that might profitably be done on a farm that is entirely omitted at present, owing to the fact that the average farmer has not facilities for doing such work effectively and inexpensively. As an illustration, very few farmers grind the grain that they feed. This matter of the possible economy in grinding has received considerable attention from the several experiment stations, and, taken as a whole, has received a doubtful answer. This result has been due to the fact that the expense of grinding, because the farmers, as a rule, are not prepared to do their own grinding, has been placed at altogether too high a figure. Of course, if the farmer has to haul his grain to the nearest mill and have it ground at the current prices per 100 pounds, it makes grinding too expensive, so that this expense overcomes and counterbalances the economic advantages to be derived from grinding. But if the farmer has upon his own farm facilities for doing this work, and he arranges his work in such a way as to be able to do his grinding at odd times and on rainy days, it becomes an altogether different matter.

As a general principle, it may be stated that whatever exertion is saved to an animal, permits a corresponding increase in flesh production. The animal that has to grind its feed for itself consumes in the grinding a certain amount of mechanical energy that, were it not so used, might be converted into so much flesh production. If the feeder grinds the food for his animals and thereby saves them the expenditure of mechanical energy that would be necessarily used should they grind it themselves, he enables them to make so much greater gains. Nearly all experimenters are agreed that it pays to grind grain for fattening swine. It is bad economy to feed corn upon the ground. Much of the corn so fed is wasted, and the hogs in eating it take with it filthy, unsanitary and unpalatable material, besides breathing large quantities of dust, which is in the last degree unhealthful. If shelled corn is fed in troughs, the hogs eat it so rapidly that much of it, improperly masticated and made ready for digestion, passes through them in such a way that its food elements are not assimilated. Then, the hogs work over their own excretions to gather up and make use of this unassimilated food—a practice that is unsanitary and unclean to the last degree. If the food should be ground and fed in troughs, made into a slop thin enough so that they cannot ea it too rapidly, and thick enough so that the cannot drink it rapidly, more pounds of fles will be made from the same weight of grai than when the grain is fed whole.

If the farmer is equipped with a grinde and with power to operate the grinder, he wi find that the saving in grain, necessary to pr duce the weight that he desires, is much mor than sufficient to pay the interest on the inves ment required for such facilities.

Farmers are now feeding their hogs alfalf They find it profitable to do this. A ton c alfalfa hay in food value is equal to a ton c wheat bran. It is uneconomical to feed alfalf whole. It is also, under ordinary condition throughout the territory covered by this pape uneconomical to feed alfalfa mea The only logical reason for grindin alfalfa is to reduce bulk for shipmen Any farmer may prove to himse that he can get more pounds of por from a ton of alfalfa run through cutting box, with the shortest poss ble cut, than he can from a ton the same alfalfa reduced to a mea Most farmers already have a cuttin box on the farm, and by the additio of requisite power can cut their a falfa for all stock, and by so doin effect a great saving, as well as pr duce much larger gains.

It will be necessary in the futu to pay much more attention to t seed that the farmer sows. This se must not only be free from weed chaff and other dirt, but should graded so that only the plumpes best grains may be used. Unless is made clean, it will not feed even through the planting machinery, an as a result a poor and uneven stan will be had, which will material reduce production. One of t great problems that farmers have face is the problem of getting rid weeds. The first step in weed era ication is to stop sowing weed seed. Hen the necessity for taking weed seed out of th grain to be sowed. A good fanning mill wi do all this required seed work. But a fannin mill, as used on the ordinary farm, requir three men successfully to operate it—one furnish the power, one to feed the mill and o to take care of the grain that passes throug the mill. By the use of power to operate t fanning mill, and requisite appliances, ine pensive and easily devised, for feeding the mil the whole operaton may be easily and rapid performed by one man, thus eliminating tw men in the process. In this one matter the u of power will demonstrate its economy.

There are numerous other uses for pow

Coolness and Comfort in Mid-Summer. Good Shade and Pure Water Necessary Accessories to Every Farm

Baling Thirty-Five Tons of Hay Per Day with a Baling Press Driven by a Tractor

The Tractor in the Harvest Field, with a Relay of Binders, Doing More Work Easier Than with Sweaty Horses and Stinging Flies

the farm which may be turned to profit—ood sawing, separating cream and pumping ater are among these. In addition, if a farmer ready has the power on the farm, at a comaratively slight expense, he may install an ectric dynamo, to be operated by this power, r the generation of electricity with which he n light his house and farm buildings at night, id during the daytime may operate small doestic machinery, such as a washing machine, clothes-ringer or a churn. The same current ay be used for electric flatirons, so that the rmer's wife will not have to spend a day over heated stove in a hot room in midsummer to et the week's washing ready for wear. Bedes, by so doing he would avoid the danger at always accompanies the use of kerosene.

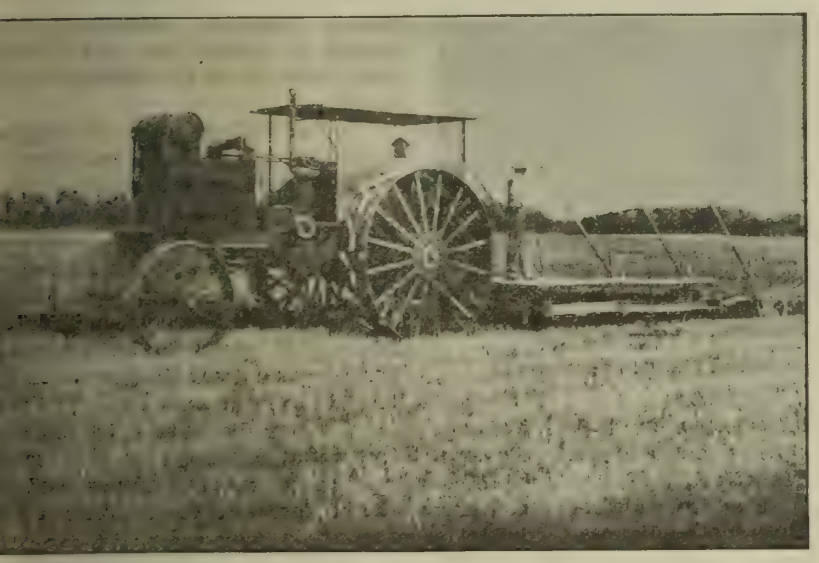
Whatever has been said refers merely to what may be accomplished on the farm by the use of a stationary power plant, such as a stationary gasoline, steam or oil engine. The farmer in purchasing such power would do well to consider all the purposes for which power might be used on the farm, beyond those already enumerated. And in purchasing he should select the kind of engine that will do all the work that he will need to have done by power. If he wishes to use an ensilage cutter, a shredder, a threshing machine, or do any work that requires more power than the simple operations about the farm buildings, it would be well for him to purchase the engine best adapted to all his needs, and so avoid being obliged to purchase more than one.

One may not urge too strongly that in purchasing, the farmer use his own best judgment, after considering all his needs, in selecting the engine that will best meet them all. It is said that a good salesman will sell the ordinary man almost any kind of appliances, whether he wants them, or needs them, or not. The wise buyer will withstand all these wiles of salesmanship, and will use his own best judgment in making the selection. The initial outlay will seem to him large, but when a continuous profitable use through a series of years is possible, and taken into account, the initial expense will not seem so heavy as to be prohibitive.

The farmer must increase his production. He must also, as far as possible, reduce his expense. Human labor to do the same work is more expensive, both in time and in money, than mechanical power. The wise farmer will make economical substitution wherever possible.

Where Power Supplants Use of Horses

Reasons Why Man's Best Friend Should Make Way for Tractor on Most Farms in Our Territory



Good Work, Easy Work, Fast Work, and Lots of it. This Beats Straining Horses, with Their Heaving Sides

A String of Tractor Plows Turning Over Two Thousand Acres to Make it Ready for Crops

KEEPING a work horse costs on an average in the Missouri valley territory, when all items of expense are considered, $82 per year. This estimate is based upon careful investigation, and may be regarded as reasonably reliable or the territory named. In other sections of the country this annual cost will robably be found to be considerably larger, while in other sections it will be considerably ess. This item must be given full force in conidering whether horse power is the most ecoomical power to be used on the average farm.

The heavy work upon the farm—the work hat requires the exertion of the most power—s done during the heated period, when horses nust be treated with consideration, and their work correspondingly decreased, in order to protect them from danger of overheat. Horses must have a certain definite amount of rest between heir hours of labor, or they will ot long stand up against it. Horses re subject to disease, may be cripled by accident and are comparatively short-lived, since the average period of full work activity for work orses does not exceed four years.

The farming of the state must be ore thoroughly and more efficiently done, if the land is to be kept p to its present rate of production. f the production is to be increased, he necessity for thorough, efficient ultivation is correspondingly increased.

Until now, by our lax and careless method of cultivation, the resources in the soil, and the real capacity for production, have merely been scratched upon the surface. Deep plowing—plowing that is actually deep—that is, plowing from ten to fourteen inches deep, or deeper—must come into general practice. A new method of soil handling must be adopted if the present rate of production is to be maintained. Thorough work must supplant the careless, indifferent work that has usually been done, or the current rate of production will never be increased. The increase in acre production will soon be recognized as a national necessity.

The question, then, becomes this: "Does horse power provide the most economical means for this kind of plowing and this kind of cultivation?" The answer is not far to see. An ordinary fourteen-inch gang plow, plowing to a depth of five inches, requires five horses for steadily progressing work. This means an annual outlay of $410, merely for keeping the horses that are required for one plow. The average value of such horses in this territory is not less than $200 apiece. The team for such a plow, then, would cost $1,000. Add to this the expense of keeping the team, the depreciation in the team, and the total expense would amount to more than $700 a year.

For such plowing and such cultivation, as has already been described, double the number of horses would furnish no more than the adequate power. This, of itself, would double the expense of farm power and make it over $1,400 a year.

It is apparent at a glance that the interest on an investment for adequate mechanical power would be much less than this. But there are added arguments in favor of mechanical power. It is impracticable and unwise to attempt to use ten horses on a single plow. Some farmers find it more than they can successfully do to handle five. They would fall completely down in attempting to handle ten.

But suppose, for a moment, that it was a practical thing to handle ten horses on a single gang plow: the power plow would do many times more work in the same number of hours than any such horse power could possibly do.

In the hill lands of the Missouri valley the subsoil is what geologists call "till." This subsoil was deposited on the underside of the glacier, and subjected to the enormous pressure that was superimposed

Tractor Used for Road Grading

upon it. As a result, in many places, it is very hard, so as practically to be impenetrable to the ordinary plow, and yet, when broken up and thrown out, is very fertile. Owing to the shallow cultivation, most of the top soil on the hills has been washed away, leaving this subsoil very near the surface, if not actually exposed. The upper part of this subsoil is harder and more compact than it is lower down. Improved agriculture and the improved production that follows improved agriculture, imperatively demand that this subsoil, which in many localities is erroneously called "hardpan," be broken up and thrown open to the action of air and rainfall. Horse power is economically inadequate to do this work as it should be done. The right kind of a tractor is the only economical power that is adequate for this purpose.

Horse power can be used only a part of the time. Horses have to rest at noon and at night, and if the work is severe, have to be stopped for rest many times during the day. The tractor may be kept at work constantly, during the noon hour and during the night even, if work is pressing. In figuring the economics of this question of farm power, the amount of work that may be done within a given time must be taken into account.

The different kinds of work must also receive consideration. The work that may be successfully and economically done by a tractor is not confined to plowing on old ground. There may be put behind the tractor disk harrows, spike tooth harrows, a roller and a drill, and the whole work of plowing, preparing the seed bed and seeding be done at a single operation. More than this, the heavy hauling required in road work, handling the road grader and in hauling a trailing string of loaded wagons to market, may all be successfully and economically performed by the use of the right kind of a tractor. It is necessary for the average farmer if he wishes to accomplish what should be the aim of every farmer—the securing of the greatest production at the least expense—that he should take this matter into serious consideration. But in considering the matter, he should give careful study to the various tractors that are on the market, with a view to determining what particular design of tractor is best adapted, economically, to meet his individual needs. The farmer in the hill country, with its obdurate subsoil, who owns only a quarter section of land, or less, will probably find that certain tractors are better adapted to his needs than certain others. The man that has a section of land under the plow, upon the great loess plains, or in the alluvial bottoms, or upon the wide prairie expanses, where there is no obdurate subsoil to resist his effort, will undoubtedly find that he needs an entirely different tractor, with entirely different appliances, from the man that handles only a small farm under other circumstances.

Leveling Down a Hill with Scrapers Hitched to an Oil Tractor

The intending purchaser, if he is wise, will see to it that his tractor furnishes him adequate power to meet all the demands made upon him, and at the same time does not furnish him more power than he has any need of. He must see to it that the tractor that he buys delivers the highest number of power units, in proportion to the heat units consumed. There is a great difference between tractors in the amount of power delivered from a certain specific amount of fuel consumed.

If he wishes to use his tractor for other purposes than merely cultivation, he must see to it that the power that he buys must be adaptable to the work that he demands from it A tractor may be specifically adapted to work on the land and still not be adapted to other work that the purchaser may wish to have done by it. He should also see to it that his tractor is so constructed as to be easily understood and operated at the least possible expense for breakage and for repairs. Not every farmer is machinest enough to operate improved modern machinery. He should be careful not to buy what may prove to be an elephant on his hands.

In conclusion, when the character of the work that is necessary to be done is taken into consideration; when all the expense connected with doing the work is accurately summed up, the average farmer, in average circumstances and under average conditions, will find that mechanical power is less expensive and more efficient than horse power. Let the average man think this matter over carefully and be guided by his conclusions. The initial expense may seem great, but the difference in annual expense and in efficiency will be found to counterbalance this initial expense.

Farmer Putnam Has the Time of His Life

Congenial Missourian Visits Denver Stock Show and Renews Acquaintance with Colorado Friends

WELL, I sure had the time of my life at the National Western Stock Show in Denver. I knowed lots of the fellers that is managin' the show, especially Fred Johnson, the secretary, and Governor Ammons, the president. Me and Ammons is old pals. I knowed him long before he expected to be governor, when I first come out to Colorado, to look up the climate and other natural resources, six years ago. They had a time gittin' him inaugurated governor. He was raised on a ranch, and he never had been city broke, so when they brought him a dress suit and says:

"Here, Governor, you git into this. You gotta be a swell now," he just up and says:

"Darned if I do! I'm goin' to be governor in my plain clothes or throw up the job. I'm liable to be called out to the ranch any time, and I allus want my chaps ready and a cow pony hitched in the state house yard, so's I kin git out to Littleton in a hurry to help the boys brand calves, or take care of some critter that's sick. No dress suit fur me!"

But they kept persuadin' him, till finally he says he'd wear one just onct at the inaugural ball. They got one to fit him, and I swear if it didn't make him perk up and look like a English lord. His wife ain't much on society, either, and she looks at him in his new clothes and says:

" 'Lias, you do look too funny fur any use. Who'd a-thought you'd ever come to this! What'll the boys at the stock show say?"

Well, the boys took it all right. I was thar with 'em and heard 'em discussin' the governor. Here's about the way they looks at it:

"We've got a governor now that's got a heart fur the cattlemen and the farmers, but we know he's got to be governor of all the people, and if onct in a while he puts on swell togs and comes out in society, it's only because that's part of the job. We're willin' to give him up to the swells fur the 'naugural ball and some of them society affairs, but when it comes to the cowboy dinner he's ours through and through."

Well, I seen that they was right, fur when they had a mess wagon dinner in the stock show arena the governor was thar in his workin' clothes, and he made 'em a old-fashioned cowboy speech.

Baby Show in the Lead

But now about the show. It was in five departments—stock show, horse show, chicken show, baby show and agricultural show. The baby show was a peach. The grand champion kid give the grand champion calf a run fur his money. This idee of havin' a baby show along with a stock show come about in this way: People has been claimin' right along that everybody is more interested in developin' a good breed of cows or pigs then in children, and maybe there's truth in it. Anyhow, many of us farmers pays more attention to our herds then we does to our families. We leave the kids to the old woman to tend to and they grow up just as best they can. Of course, with our live stock it's different; that costs us lots of cold, hard cash, and we got to be mighty careful not to lose it.

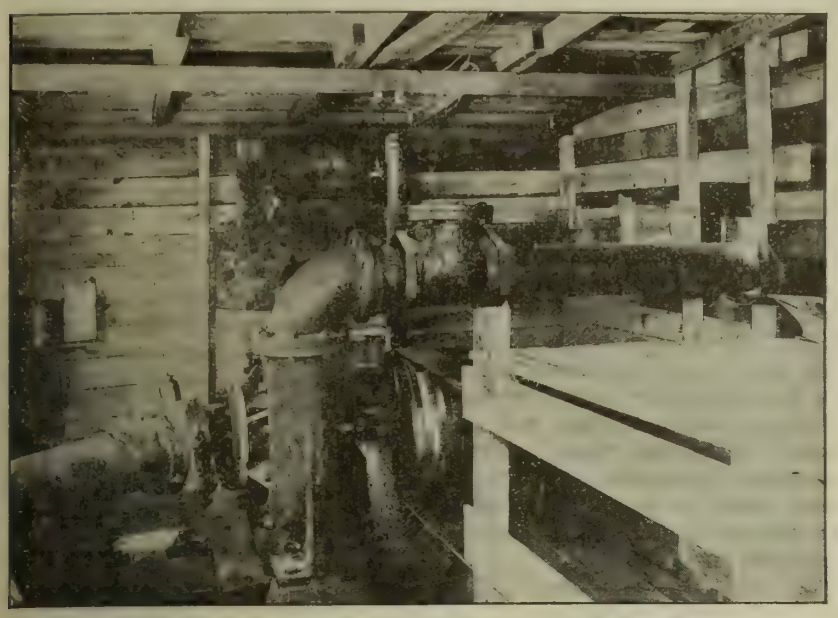
That was about the idee the show people had in mind when they decided it was time fur people to find out that the farmer does care fur his children and is anxious to learn something about 'em. So they got Mrs. Mary T. Watts, from Audubon, Ia., to give 'em pointers on how to make a scientific baby show, and she come out to help judge the babies. And such a show it was! Talk about proud fathers and mothers—they had our Hereford breeders skinned when it comes to bein' proud of their exhibits. What I seen of the baby show give the lie to them stories that a farmer is prouder of his cattle, hosses and hogs then of his children.

They scores the kids just like you would a steer or a heifer, regular cards bein' printed, with so many points fur conformation and so many fur this and so many fur that, the total makin' a hundred per cent. Some of the babies come near makin' a hundred. I had to laff at one of them stockmen. He come in from the

(CONTINUED ON PAGE FORTY-TWO)

Making Garden Spots of Swamp Lands

How Soil from Surrounding Hills is Inexpensively Transported to Swamps by Use of Centrifugal Pumps



The Centrifugal Pump at the Foot of the Hill, Forcing 2,000 Gallons of Water Per Minute to the Top of the Hill

A View of the Cutting Operation. The High Pressure of the Stream Makes it Necessary to Hold the Nozzle with a Rope Fastened to a Tree

MUCH has been written about reclaiming arid lands by irrigation, and by this means vast areas of unproductive soil have been transformed into farms of great productivity. Where mountain streams, which can be used for the distribution of the water supply by gravity, are not available it has been necessary to pump the water to the irrigated sections. The gas engine and electric motor-driven centrifugal pumps used for this service have made it possible to change thousands of acres of desert into orchards and farms which are now adding enormously to the rural wealth of the country. The greater part of this work has been done in the west where arid conditions prevail.

Although it is not so generally known, the eastern sections of this country also contain large areas of waste land, which can be made as productive as this western soil. It also has the advantage that it is nearer the large city markets, where the farmer, fruit grower or gardener has the advantage of low shipping rates and no spoilage. Here, however, the prevailing condition is just the opposite of that met in the west. The waste lands in the east and central sections consist principally of swamp lands. As the level of a greater number of these swamps is as low as that of the rivers of the sections in which they lie, ditch drainage is impossible. Here again the centrifugal pump has made reclamation possible, and it is an interesting evidence of the growing appreciation of land values that work is now being aggressively started to reclaim these lands.

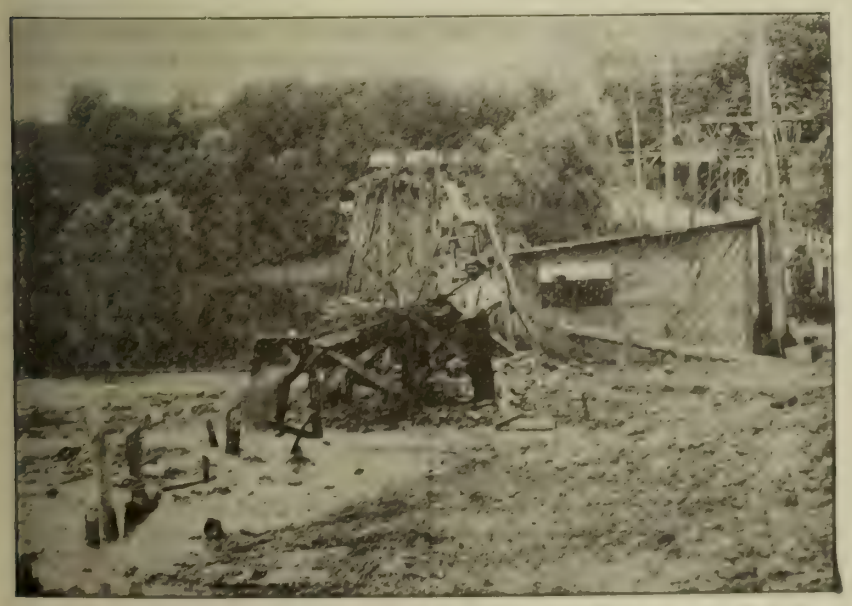
One of the best examples of swamp reclamation is now being completed in the vicinity of Rochester, N. Y. This swamp is located at the upper end of a lake and is surrounded by hills containing a sandy clay soil. The proposition of the company undertaking the work has been to separate the swamp from the deeper portions of the lake by throwing a dike across at a section where the water stands at a depth of about ten feet. This dike had to be made a little less than a quarter of a mile long and was built about eighty feet wide, the intention being to lay it out in building lots for the gardeners and truck farmers who will occupy the land.

The water above the dike, or building lot section, will be pumped out by a centrifugal pump driven by an electric motor. By regulating the pumping, any desired amount of moisture can be kept in the soil, so this section will not be dependent on the rainfall. With the fertile soil of these swamp lands and absolute control over the moisture, the ideal conditions of truck farming and gardening will be obtained in this section.

In the reclamation of this swamp the hardest part of the work has naturally consisted in construction of the building lot section which separates the lake from the reclaimed land. It is interesting to note that here again the centrifugal pump has demonstrated its general utility. By using two of these pumps the hill used for constructing the dike has been literally pumped into the swamp; and it has been done in an incredibly short time at a low cost.

The method of doing the work was as follows: At the foot of the hill a centrifugal pump was installed. This pump discharges an eight-inch stream and has acapacity of 2,000 gallons per minute.

The pump drew water from the swamp and forced it to the top of a seventy-five-foot hill through a 900-foot pipe line. Near the top of this pipe a part of the water was diverted by a small centrifugal pump, which raised the pressure to a point sufficient to cut the soil of the hill loose. This water was conducted through two sections of hose, the nozzles of which were directed into the soil. This water and that flowing from the large pipe flowed back into a flume, carrying the loose soil with it. This flume led back to the dike in the swamp where the soil was deposited. At the dike end of the flume the fluid contained 30 per cent solids, and the dike, nearly a quarter of a mile long by eighty feet wide and ten feet high in the deepst part of the swamp, was made in a little over two weeks. The entire cost, including labor and the power used, amounted to but 5 cents per cubic yard.



A Part of the Filled-in Land and the Flume Discharging the Water and Soil Into the Swamp. The Large Centrifugal Pump is Located in the Shed at the Right of the Flume

A View of the Hill That is Being Cut Away, the Pipe Line Carrying the Water Up the Hill and the Stream of Water Flowing Back to the Flume, Carrying the Loosened Soil with it.

THE TWENTIETH CENTURY FARMER

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During the last year more than $19,000,000 was spent in the war against tuberculosis. This a commendable work done in a commendable way.

The United States senate has passed the Page vocational education bill as a substitute for the Lever bill by a vote of 31 to 30. This does not mean that the Lever bill is defeated. This bill passed the house by unanimous vote. Now both bills go to a conference committee. It is to be hoped that the Lever bill will finally be adopted.

About $3,000,000 was spent last year by fraternal organizations, labor unions and insurance companies for the treatment of their tuberculous members and policy holders. Four fraternal orders have established sanitoria for the care of tuberculous members. This is attacking the white plague in an effective manner.

In order to lead to a greater use of stock yards manure, the best fertilizer known, the Kansas City Stock Yards company has reduced the price to $2 per car. The railroads have also reduced rates on shipments of manure, so that farmers and truck gardeners within 200 or 300 miles of Kansas City can secure this manure at very nominal figures. Here is an opportunity that farmers within the radius from Kansas City should take advantage of at once. Their worn land needs the vegetable matter contained in such fertilizer.

Suggestion and a Question

Somebody has stated that whatever the feeder can do for the animal that he feeds, instead of forcing the animal to do it, produces an economical gain in the animal. We now know that all energy that the animal exerts is derived from the food that it eats. The carbohydrates in the food are used to produce animal heat, then to produce mechanical energy, and then, if there is any surplus left after these demands have been supplied, this surplus is stored up in the body in the form of fat.

Manifestly, then, whatever saves expenditure of either heat or energy on the part of an animal permits the transformation of the food that he uses into a greater supply of fat. For this reason, some feeders argue, that since an animal has to grind his feed in order to get it ready for digestion, if the feed is ground for him, he saves the energy that would be expended in grinding it and converts it into fat. The only question is, can the animal grind it more cheaply than it can be ground by mechanical means? This is a question about which there may be some doubt, and which every feeder must settle for himself.

When an animal drinks ice cold water it must use up a part of the heat of the body to raise the temperature of the water to body heat. This will require the use of a considerable portion of the food that he uses. Would it not be cheaper and more economical to heat the water, using the waste material on the farm to produce the heat, rather than compel the animal to generate the same amount of heat from feed that has a definite market value? Manifestly, there is only one answer to this question. If heat for the water may be had from waste material on the farm, it may be produced more cheaply than would be possible for the animal to produce it, fed on high-priced foodstuffs.

The tank heater is the proper means to be employed for effecting this saving. Thoughtful farmers who make it a point to save, as well as to produce, will give this matter serious consideration. The kind farmers who wish to save their animals from physical shock will also think it over. An animal that has its water warmed for it will consume more food, and get better results from what he consumes, than the animal that has to warm its own water at the expense of body heat.

Lower Cholera Serum Price

The authorities of the state farm in Nebraska have decided to reduce the price of hog cholera serum to 1½ cents per cubic centimeter. This price will hold until such time as they may find that they can produce it for less. Then the price will be reduced practically to the cost of production. The cost must, of necessity, depend somewhat upon the volume of production, as certain overhead charges are the same regardless of the volume.

This will be good news to the Nebraska farmer. It is hardly fair to charge the farmer, who pays the taxes that support the serum manufacturing plant, more than the cost price. The farmer that needs the serum is already under disadvantage enough, without being obliged to pay for a profit on the production. It is to be hoped that the authorities at Lincoln will soon be able to make a still further reduction in price.

One of the reasons that stands in the way of a more extensive use of a hog cholera serum is the price of the serum, which puts upon the farmer that proposes to use it what he regards as a great burden of expense. If the serum might be sold at actual cost, many more farmers would use it, and as a result many more hogs would be kept alive and finally sent to the market, and the revenues of the state would be correspondingly increased. To try to make a small profit on serum at a large expense in the loss of hogs is rather poor state policy.

Retail Lumber Organization

The prosecution by the United States government of the so-called Retail Lumber Dealers' association has brought out some interesting facts. The owner of several mail order houses engaged in lumber business charged that this association had bribed his employes in getting information as to how he got his business. He said he was not sure that it was not concerned in burning down one of his plants three years ago. Such tactics will not be permitted by the public for a long time. Some means will be devised for protecting dealers against such despotism, and the public against the enormous profit of the charges made possible by such an ironclad association.

If the retail dealers are sensible, they will anticipate the public in reforming their methods. They are between two fires; the manufacturers, on the one side, are getting ready to try for their scalp, and the consuming public, on the other, is loudly demanding relief.

As an instance of the burden they place upon the consumer, it may be stated that a certain dealer bought ceiling of a certain kind, for which he paid $23.50 a thousand feet, delivered to his station. He sold this ceiling at $45 a thousand, thereby exacting a profit of nearly 100 per cent.

This is inequitable, unjust, despotic. Such methods cannot long prevail. The consuming public must, and will have relief. Already plans are being made for manufacturers to establish center yards in nearly every county seat for the purpose of themselves going into the retail business. The manufacturers will also profit by being relieved from the despotic domination of such a close corporation.

A word to the wise should be sufficient. If the members of the Retail Lumber Dealers' association wish to continue indefinitely in business, let them take upon themselves the matter of reforming the methods of business adopted by the association. Unless they do this, the long suffering public, aided by the manufacturers, will put them effectively out of business.

Workshop for Every Farm

Every farmer, so far as possible, should do his own repair work. It will save him both time and money to do this. Altogether too many farmers in the Missouri valley, if there is only a slight breakdown in the equipment, have to stop work, drive to town, have the work done for them, lose a half day's time by so doing, besides being obliged to pay for the work done. Here is a loss of both time and money. If such an one should provide himself with a few tools, such as are necessary for doing the ordinary repair work on the farm, and should do his own repairing, he would save where he now loses. Besides, there is a certain satisfaction in profiting by one's own work.

There is an added advantage in the fact that the youngster upon the farm may then be taught the proper use of tools, and may be trained in using them. This will be a valuable addition to any child's education. Some children develop their minds better through the development of muscular dexterity. Boys upon the farm can be trained to saw in a straight line, as well as hit a nail squarely on the head. Most boys are natural tinkers, but the results of their efforts are generally too crude. With a well furnished work shop on the farm, they can be trained to do as nice work as anybody, and to take pride in doing a good job. This is the beginning of good citizenship.

A good saw, a good ripsaw, a brace with bits of the various sizes, a couple of planes, a keyhole saw, an automatic screwdriver and a drawing knife are among the necessary tools for woodwork. A small portable forge, a blacksmith's vise, an anvil and a machinist's hammer, with chisels and punches, a drill with drill bits of the various necessary sizes and taps and dies for the various sized bolts are necessary for the iron repair work on the farm, and will save money and many a trip to the blacksmith's shop. One of the modern improved carborundum grinders will enable him to do the best kind of work in the shortest possible time, in keeping all his edge tools in first-class condition.

These tools, so necessary on every farm, may be had at prices within the reach of everyone, and will pay for themselves over and over again. The farmer that has not them now should procure them at once and should learn to use them properly. They will help him to reduce the high cost of living.

Split-Fee Medical Practice

The cat is out of the bag at last. It has come to light, and so far there has been no attempt made at denial, that certain city doctors and surgeons, as an inducement for country doctors to send them patients, agree to split the fees with the country doctor. This will be interesting enough to most of our readers. It will lead them to look with suspicion upon any general practitioner who seems to be unnecessarily ready to recommend his patient to go to the city either for treatment or for operation. If the general practitioner divides the fee with the city

specialist, or with the city surgeon, his readiness to recommend such a course is at once explained. It means just so much money to him. From now on it would be better for the home practitioner to treat ingrowing toe nails himself, rather than recommend an expensive journey and operation to his patient. Such a course would allay a suspicion for which there is already ample ground.

Henry T. Clarke

Henry T. Clarke of Nebraska is dead—he was one of the most widely and favorably known men in the state. He was known to the laboring man as well as to the capitalist. He was a man of strong personal friendships and attachments, at the same time, considerate of the rights and privileges of the most humble citizen. Few men were endowed with a higher sense of moral and religous duty. His genial, pleasant manner, devoid of harshness and criticism, made him an easy man to meet.

An Omaha mechanic and shop man, on reading the announcement of his death, remarked: "Henry T. Clarke was a born aristocrat, though a consistent friend of the laboring man. He was never above recognizing labor, and when he once knew you, he always knew you."

Henry T. Clarke was a persistent promoter and advocate of Nebraska's material interests, too busy to be a politician, too ambitious to be an office seeker. He had an abiding and lasting faith in the soil resources of Nebraska, that admitted of no such thing as agricultural failure. He was prominent in many matters of national consideration, among these the opening up of navigation to the deep water harbors. He had abiding faith in the ultimate opening up of navigation on the Missouri river and he never relinquished or faltered in the least in its accomplishment.

He was a native of New York state, coming to Nebraska in 1855. He spent fifty-seven years of activity in helping to build a progressive commonwealth, whose citizens honor him as one of its most valued pioneers.

Greenhart is wood that outlasts iron and steel when placed in water. All the gates, peers and jetties of the Liverpool docks, and practically all of the lock gates of the Bridgewater canal in England, are made of it. It grows principally in British Guiana, where the supply is being rapidly exhausted. There are certain other woods of the same botanical family that are sold for Greenhart, but they by no means are as durable or answer the purpose as satisfactorily.

Job never had to take a share off from a riding plow. If he had ever tried such a stunt as that, his reputation for patience would not have stood the strain. Manufacturers are trying to save the patience of their customers. They have invented a plow share, and put it on the market, that is removable by loosening a single bolt, and that is so placed that the farmer can sit in a Morris chair while performing the operation.

Marketing Grain on the Farm

There has never been a time when the conditions of the country emphasized more plainly than now the importance of farm consumption of the farm crops. The high prices that all classes of farm animals are commanding in the markets is the principal basis of estimate. This within itself introduces another line of advantage in production—that of breeding and rearing these animals on the farm. The farm to properly represent all its features of advantage and opportunities should enter as fully as possible into complete and finished production in all lines of producing industry consistent with its safe management. Each farm has a safe average crop-producing ability. This in like manner has a safe average live stock-carrying ability. Immature, undeveloped, or half-finished animals should not be forced to leave the farm. The farm should be the finishing, graduating institution for all its creation. Each animal that leaves the farm should be in the best of finish for the position it is destined to occupy in service or article of trade. It does not pay to raise stock cattle or stock hogs for some other fellow to profit off your opportunities, because you have neglected to plan or provide to fit your needs.

There is nothing but this finished product of meat-bearing animals, dairy products and similar concentrated production that is not needed on the farm to keep up the fertility of the soil. There is nothing in the way of fertilizer that can be produced on the farm that will take the place of that produced by the farm animals. This form of fertilizer, besides being of superior quality, is acquired through the operation of conducting an industry that in itself is highly profitable, making the fertilizer feature a strictly side issue and attended without cost.

There is no way to add to the fertility of the soil that will equal the keeping of farm animals. There is no way of increasing land values equal to the addition of barnyard fertilizer. There is no question so fully and understandingly taught by experience and practice as that of farming to keep stock and keeping stock to enrich the land.

"Made-in-Nebraska" Show

The "Made-in-Nebraska" show starts at the Auditorium in Omaha on March 5, and continues for twelve days. It will be open every day from 10:30 a. m. until 11 p. m.

"Lincoln-made" day will be March 12, and will be under the auspices of the Lincoln Commercial club. The Hastings Commercial club and Manufacturers' association will have the floor on March 14. The opening night will be in charge of the Omaha Commercial club and the tri-city boosters, who have prepared an attractive program. The University of Nebraska, the University of Omaha and Creighton college will each have a special night. Saturday, March 8, has been set aside for the Boy Scouts and for the pupils of the Omaha and South Omaha schools.

Every form of manufacturing done in the state will have at least one representative exhibit in the building. Wood turning and carving, cracker and biscuit demonstrations, manufacturing of hats and caps, ice machine plants, tile and brick making, stone cutting, jewelry manufacturing, printing and book binding will all be shown. In fact, the show will make a complete educational revelation to the visitors of the many varied Nebraska-made goods.

How to Make Farmers

New York state has a bill introduced before its legislature for an appropriation of $500,000 to be used in the purchase of two large tracts of land, one near New York City and the other near Buffalo, where there will be erected suitable buildings and equipment for carrying on an agricultural college farm for the training of boys in the knowledge of farm work.

Any person under 16 years of age who has been a resident of the state for more than a year, and has no criminal record, may be entered in the training school. Each pupil, or student, is to live on the farm and must render personal service in farm duties. For these services he will receive from $7 to $10 per month and board, the compensation to be graded on class standing.

The bill authorizes the appointment of a commission of five members to be named by the governor and approved by the state senate, these commissioners to purchase land as designated convenient to New York City and Buffalo, aggregating 1,000 acres or more in each location. This is believed to be a practical means of making the boy without means self-sustaining, and at the same time of equipping him with a knowledge of a business that will help him in going out in the world, fortified to take a part as a producer and at the same time maintain the dignity of skilled labor.

As fine a bunch of young Hereford bulls as has been seen for many a year in the South Omaha stock yards was there last week. They had been bought in Iowa by Colonel Coffee of Chadron and were on their way to his pure-bred Hereford herd on the Hat Creek ranch. The colonel knows a good thing when he sees it and takes nothing but the best. It has taken him quite a while to make his selection, but the time has been well spent. He may have to take several trips yet before all his wants are satisfied.

Henceforth, under Regulation 44 of the Department of Agriculture, public stock yards will be considered infectious and no interstate movement of swine therefrom shall be made for feeding or stocking purposes. Swine that are not diseased, but have been exposed to disease, may be shipped interstate to a recognized slaughtering center for immediate slaughter.

The Department of Agriculture at Washington is undertaking a vigorous campaign against bark beetles, which are causing great ravages on the western slope of the Rocky mountains by killing trees that produce merchantable timber. On 87,970 acres of treated area the number of trees killed by these insects decreased from 37,178 to 1,698.

Big Money in Feeding

That there is pretty good money in the feeding business this winter is proven by some of the reports coming to the surface from sales already made. It is not an infrequent thing to hear something like the following from the feeder who has just been on the market with a part or all of his stock. J. E. Sullivan of Niles, Kan., in the Drovers Telegram, says of a shipment of Angus steers: "I bought these steers a little over a year ago—700 pounds average at $4.75—roughed them through last winter and ran them on grass, and they have been well handled through the present feeding season. They weighed when sold—January 7—an average of 1,413 pounds, more than doubled in weight and brought $8.50, or $120.10 per head. The cost price was $33.25 per head. The advance per steer over the first cost was $86.85. This represents the interest on investment, pasture, feed and care, say nothing of the fertilizing advantage they left on the farm."

This estimate may be above the average, but in the general report of the feeder of cattle, hogs or sheep there seems to be a feeling of content and satisfaction. This is just as it should be. The man who invests his money and time in preparing stock for the meat trade should be well paid for his effort and enterprise. It must be understood, however, that the feeding business demands care in buying, care and skill in feeding and an exercise of judgment in selling. It is not a business for the stupid, indolent, unmethodical farmer. Most land owners should be able to raise and feed out their own surplus stock, but to become feeders, in the sense of buying and selling, there are principles involved which require skill and business ability not possessed by those who may otherwise be very successful farmers.

There is no question but this country is now approaching a period in its live stock and meat-producing history when there will be less speculation between the producer and the consumer, less opportunity for the middleman or speculator to find employment in the manipulation of trade and traffic in these food products. There will be less fluctuation in prices, less risk for the feeder in getting a reasonable profit for his feed and labor, in the handling of stock from the producer to the packer.

On January 1, 1912, the number of each class of farm animals in the United States was less than on January 1, 1911. On January 1, 1913, the number of farm animals, with the exception of sheep and swine, was greater than it was on January 1, 1911. The total value of all animals on January 1, 1913, was estimated at $5,501,783,000.

The Illinois Stallion Registration board has just issued its report for the year. It contains a list of the licensed stallions in Illinois during the year up to October 31, 1912. The introductory matter contains much valuable information for horsemen. All owners of horses will find the book of great value for reference.

"How I Use My Gasoline Engine"

MANY readers doubtless already own gasoline engines, and probably not one of them who owns one would think of farming without one.

To those who have not yet purchased one, I wish to say that I do not know where a man can invest the same amount of money in anything that will do so much work at such a small cost as a gasoline engine. On any well equipped farm there is hardly a day but there is some work that it could do. Just let me illustrate, for instance, what my engine does for me in the course of a year.

I will commence with the spring, when that pile of wood needs sawing the first pleasant days, so that I can get it split for the kitchen range before spring work rushes me. I saw the body wood with a crosscut and use the buzz-saw on the limbs. If I possessed a drag-saw, the work would be easier yet. After the wood is sawed I take the engine back to the pump, as I have no windmill, and there it does service for about two hours every day.

Next comes the cleaning of our seed oats, and with the elevator attachment one man does the work of three, as my oat bins are on the second floor. A spout brings the oats to the fanning mill and all I have to do is to take the bags off the elevator as fast as they are filled. I generally do this work in the evening, thus saving that much time in the morning.

After the oats are cleaned, the engine goes back to pumping again until the ground feed runs low, when it is again taken to the granary and belted to the corn sheller and the feed grinder. I generally grind enough to last two weeks. With my three horse power I grind from ten to fifteen bushels per hour, depending on the fineness and condition of the grain. I think I have saved enough feed by feeding it ground to pay for my whole outfit.

I see I am getting ahead of my story and not giving the engine the credit it deserves; it has been running the cream separator twice a day, and the washing machine every Monday all of this time. This work alone is more than worth all the gasoline it will consume in a year.

The next work is drawing up hay, and here the gasoline engine saves us a man and a team. The hay is taken in at the end of the barn, as many others do, and the hoisting is done with a friction clutch and a drum on a line shaft run by the engine.

From a machine shop I procured a steel drum twenty-four inches long and five inches in diameter, with twelve-inch collars, fitted on one end with a cone friction clutch and a brake pulley. The drum was fitted to a steel shaft seven feet long, the clutch being fast to the shaft and the drum being loose. On the other end of the shaft I put a wood pulley thirty-six inches in diameter, with a six-inch face, which is belted to the gasoline engine.

As we take up hay in two barns, we wished an outfit we could move. So we took three pieces 8x8 and made a frame 7x14 feet and bolted at the corners. The long pieces were sawed bevel on the ends like runners to allow it to be moved.

This frame is about sixteen feet from the barn and the center of the drum is lined with the pulley from the barn. By taking three pieces 6x6, eighteen inches long, and laying on the frame at each side and bolting with long rods, we secured solid bearings for our shaft Boxes were put on top of the 6x6 pieces and the shaft was put in place, the pulley being on the inside of one box and the friction clutch near the other end, with the drum between.

Engine Driving the Binding Machinery on a Harvester, with a Water Tank Above for Keeping the Engine Cylinder Cool

The friction clutch is operated by a 2x4 lever four feet long, a rope being run through the top and a knot tied on each side. One rope closes the clutch and the other releases it.

The brake-collar also has a 2x4 lever four feet long, with one rope to it. This rope and the two from the friction lever are three-eighths-inch and are run through awning pulleys on the end of the barn, the ends hanging down nearly to the ground. Small weights are attached to the ends to keep the ropes taut. The pulleys are at the front end of the load and short ropes three feet long are attached to the main ropes on the other side of the load.

Now as to operation: We drive up with our load of hay, then start our engine, which is on the other end of our skid. The shaft revolves, but the drum does not. We set our fork and pull our friction rope from either side of the load, which starts our drum and winds up the rope. The load is raised much steadier than a horse ever raised it. When the car reaches the desired point we pull the opposite rope, releasing the friction and trip the fork. We pull the fork back as usual and repeat the operation.

The brake we do not use very much, but it is very convenient in case something goes wrong. We can hold the fork of hay at any point or let it back to the wagon by inches if we so desire.

I think by another year I shall put on another drum to pull the fork back with the engine.

After haying the engine is back to its old work of pumping and grinding until threshing time, when it is again taken to the granary, where it elevates the oats to the second story.

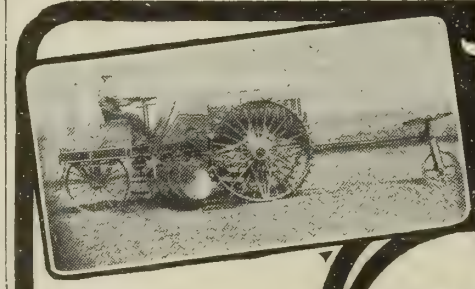
Perhaps there are some renters who pump water for their stock three or four times a day by hand who will read this and still shake their heads and say they cannot afford a gasoline engine. Yet many of these same renters will have other high-priced machinery that they use only a few days out of the year and store the rest of the time. The gasoline engine will earn its cost price back sooner than any other piece of farm machinery, if you will only give it a chance; it is always ready, winter or summer.

E. R. SMITH.

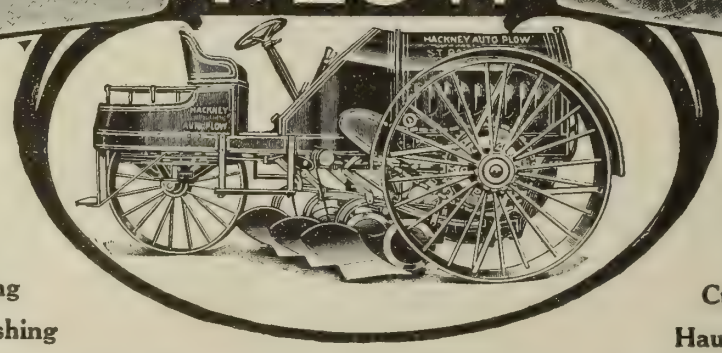
Spelling Not Involved

Mother (looking over her boy's shoulder)—Your spelling is perfectly terrible.

Little Son—This isn't a spellin' lesson; it's a composition.



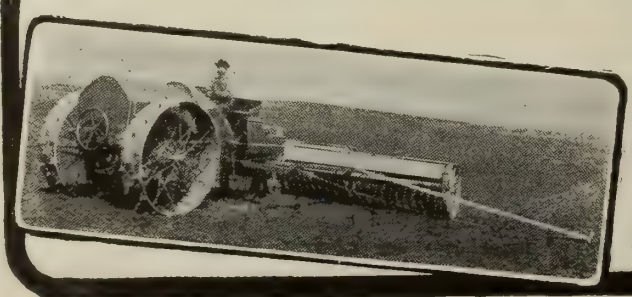
HACKNEY AUTO PLOW



Plowing
Seeding
Discing
Harrowing
Harvesting
Threshing

Wood Sawing
Orchard Work
Road Grading
Feed Grinding
Cutting Ensilage
Hauling Loads, etc.

DO your Plowing, Seeding, and all other work on the farm where power is needed, with a **HACKNEY AUTO PLOW**—the great **One-Man** machine—universally known as the greatest labor-saving device for the farmer ever invented, the **only** tractor that can be worked **economically** on farms of average acreage. It eliminates drudgery, solves the vexatious labor problem, and enables you to do your work better and cheaper—when weather, soil and crop conditions are all in your favor.



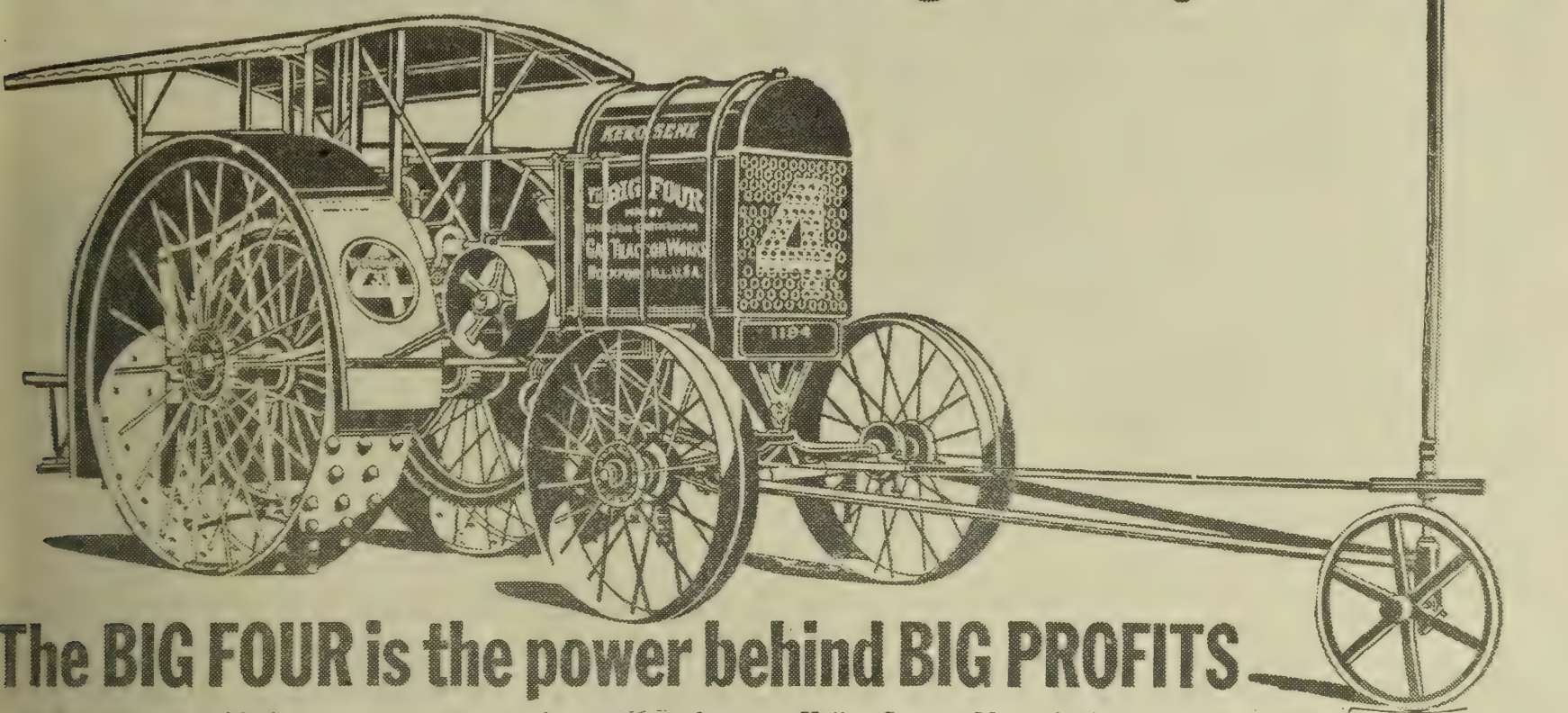
The Hackney Auto-Plow may be equipped with disc plow, disc harrow or road grader attachment—attached in same position as mould board plows shown above.

Before you buy a tractor we want you to investigate the Hackney Auto-Plow—the one-man outfit. Our catalog, describing the machine in detail, photographs and testimonial letters from users will be mailed on request.

Hackney Manufacturing Company
574 PRIOR AVENUE, ST. PAUL, MINN.

The POWER behind the PROFITS

of Successful Farming Today!



The BIG FOUR is the power behind BIG PROFITS

It furnishes you with the *surplus* power you often need to do a great amount of work in a very short space of time, thus taking every possible advantage of weather conditions.

With the BIG FOUR you can plow, pack, drill and drag at *one operation*, (ordinarily the work of 30 horses and 10 men) putting your crops in *right behind the plows*, when the soil is soft and moist, aiding earlier germination.

You can work the BIG FOUR day and night, if necessary, for it can work 24 hours a day just as well as 8 or 10, making your seeding a matter of *hours* instead of *weeks*. Mr. E. F. Luebke, Valley County, Mont., broke, packed and drilled 100 acres in three days and nights with his BIG FOUR "30."

The BIG FOUR enables you to plow *deeper*, utilizing the rich sub-soil, now seldom touched, to increase your yields. Mr. J. A. McMillan, of Crookston, Minn., who farms with a BIG FOUR, says his wheat threshed out *more than double* per acre than his neighbors, who farm exactly the same kind of land with horses.

With the BIG FOUR you can harvest your grain 100 acres or more per day, before half your crop is lost through delay. You can furnish your own power for threshing, at a cost of 2 to 3 cents a bushel. You can run *all* the machinery on your farm at *least* cost.

The Big Four "30"

The BIG FOUR "30" is the most economical, most efficient, most reliable farm power in use today. No farmer who has ever used the BIG FOUR or seen it work, will have any other. You are not buying an experiment when you buy the BIG FOUR—its long record of results has *established* its efficiency and economy!

The BIG FOUR was the *first* successful farm tractor. It is still the first. It is the first to utilize the efficient, continuous power stream of the four-cylinder principle. Its mammoth 56-inch drive wheels give it tractive power far greater than any other tractor of equal weight and rating, and enable it to work in soft ground better than any other tractor.

SOLD ON APPROVAL
Steers Self, Saves One Man.
First Four-Cylinder Tractor.
Uses Kerosene, Gasoline, Etc.
Most Power at Lowest Cost.

SOLD ON APPROVAL!

It must make good on *your* farm, on your test, before you pay out a cent. It has a self-steering device, possessed by no other tractor, that steers in plowing better than can be done by hand—saving one man's wages and costing you not one penny extra. "Thursday, my boy plowed 52½ acres with the BIG FOUR"—Ole H. Bang, Oslo, Minn.

The BIG FOUR uses kerosene, gasoline, benzine, naphtha, distillate, or alcohol with unequalled efficiency and economy.

The horse no longer has a place in economical farming. His limitations, his uncertainty, his enormous cost compared to his productiveness, have finally and for all time rung down the curtain on his usefulness to the scientific farmer of today.

The BIG FOUR "30" is the one biggest unit—the one greatest asset—in modern farm economics—the very cornerstone of the foundation of greater farm profits.

The BIG FOUR "30" is the *first step* for any farmer to take who has determined to abandon expensive, uncertain, hit-and-miss methods and to get the benefits of the increased yields, better quality of crops, and larger profits his land is capable of producing.

Don't make any mistake. *Investigate* the BIG FOUR "30." It will stand the test. Write us NOW for the BIG FOUR BOOK.

Emerson-Brantingham Implement Co., 431 Iron Street, Rockford, Ill.
(INCORPORATED)

LARGEST LINE OF FARM MACHINERY IN THE WORLD
Plows, Harrows, Pulverizers, Listers, Spreaders, Planters, Drills, Cultivators, Mowers, Hay Tools, Baling Presses, Corn Shellers, Gas Engines, Farm Tractors, Steam Traction Engines, Threshing Machines, Road Rollers, Wagons and Vehicles.

Electric Lighting on the Modern Farm

Another Indication of Progress

IN AN editorial in a recent issue of a farm paper it was remarked that "We are going away from the things our fathers did because we must. In this onward march better conditions in everything on the farm are going farword." And what is found in the farm journals of today is another striking example of progress itself. The subject of lighting on the farm is one that has received considerable attention during the last five years or so. Progression from the inefficient tallow candle to the smoky, odorous and dangerous oil lamp, to the acetylene gas burner, then to the electric light, has marked a part of the better conditions referred to above.

After a number of more or less successful years of experience in the making of electric lighting units for the farm, it is now an established fact that electricity is almost a necessity. The cheerful, clean and odorless electric lamp is making its appearance in the rural districts in all parts of the country. The electric manufacturers have learned the exact conditions under which farm lighting units are to be operated and have made them simpler, more compact, and because of the greater number being sold have been able to reduce the prices also. Just as the gasoline engine caused trouble when it was first introduced, so also did the electric lighting unit, but as both have become more common, their characteristics are understood and the makers better understand how to make them to suit farm conditions.

Farm electric lighting outfits furnish low voltage current, being rated as 24 volts, or 30 volts, as the case may be. In the city where current is supplied by a large lighting company it is usually of a higher voltage, about 110 volts for residences. Where storage batteries are used in connection with the lighting generator, a lower voltage, as in the case of the farm unit, is supplied. There is one advantage in favor of the lower voltage as used on the farm, and that is that the tungsten filament lamps made for use on these systems are more rugged than those made for 110 or 220 volts. The life of the farm low voltage tungsten incandescent lamp is about 660 hours of burning, which is over a year.

One of the newest electric lighting units (for which a patent has been applied for) consists of a generator, a switchboard and two crates of batteries, all connected up and permanently assembled on skids so that two men can lift the entire unit and set it anywhere. The engine is not furnished as part of this particular plant, as the gasoline engine already found on most farms can be belted to the generator for a few hours when the batteries need charging. In the summer, when the days are long, the batteries will not need to be charged but two or three times a week, while in winter, when electric lights are especially desirable, and when the nights are long, more frequent charging is required.

The matter of wiring up the farm house and putting in the electric fixtures is not one that should cause much trouble, although it is often thought that the installation of wires means considerable expense and dirt. It used to be easy enough to get a contract for wiring a house that was being built, but a house already up and occupied was another matter. It has changed now and there are probably as many old houses being wired as new ones, because it really is a simple thing.

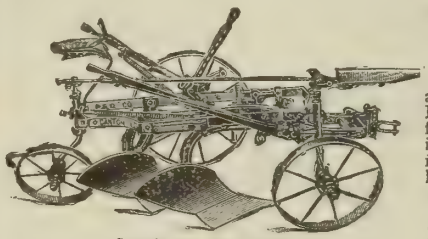
Farm outfits are usually rated according to number of lamps that can be burned at one time and give their full quantity; that is, a 12 to 16 candle power lighting unit does not mean that you can only have twelve lamps in your house and barn, but that more than twelve should not be burned for any length of time together. In the ordinary house there will seldom be more than ten burning, although there may be a total of from twenty to twenty-five lamps in the house, outside and in the barn.

GEORGE C. KIRCHGASSER, E. E.

P&O

LIGHT DRAFT PLOWS

THE draft of a plow depends nearly altogether upon the construction of the bottom, the shape of the share, the curve of the mold, and the position of the side plate. These necessary details must be worked out on a scientific basis, the secrets of which can only be discovered by actual experiments in the field. As the soil differs, so also must the shape of the plow. The greater the variety of soils the greater the number of plows necessary to meet the conditions.



P&O Gang Plow.

P&O Light Draft Plows have been on the market since 1842, and all the experimental work in designing plow bottoms was accomplished years and years ago. Today there is a P. & O. plow for every kind of soil, for every condition of these soils, in all standard sizes—walking, riding and engine gang, with every kind of attachment.

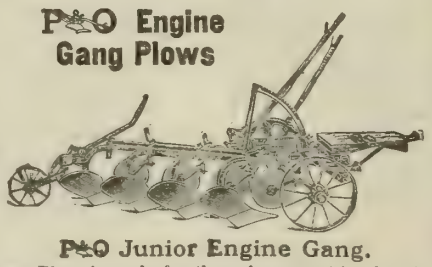
P&O Light Draft Plows are standard and supreme—made so by the use of the highest priced material, and our advanced methods of manufacture.

WE make no tools in which we take a greater pride than in the P. & O. Engine Gang Plows, made in several styles, both Mold and Disc, and in sizes from four to twelve furrows.

The P&O Mogul

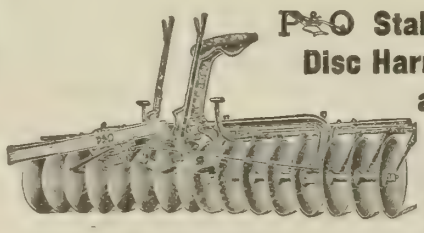
is made with an individual lever for controlling each bottom. The levers all point to the center of the platform. This and five other patented features are exclusive, and cannot be found on any other make. The Mogul is made from five to twelve bottoms.

P&O Engine Gang Plows



P&O Junior Engine Gang.

The P. & O. Junior Engine Gang Plow is made for three furrows with a fourth bottom as an attachment. All bottoms are controlled with one lever. One man can operate both engine and plow. The P. & O. Disc Engine Gang is made with four or six discs, and with a platform for the operator.



P&O Stalk Cutters, Cultivators Disc Harrows, Corn Planters and Potato Diggers

We make a complete line of tillage implements, suitable for all soils and conditions. Remember that P. & O. Implements have been used by three generations of American farmers, and that everything we make is

Backed by an Unqualified Guarantee.

ASK YOUR LOCAL DEALER for P&O Implements and then insist on getting them. When you are ready to invest in farm implements, buy the best—the P&O line. We will gladly send P&O catalogs and other literature to any address. Write us your wants.

Parlin & Orendorff Co., Canton, Illinois

P&O

MOST IMPORTANT

Surely nothing is so important, nothing so imperative, as to have power, plenty of power, and so always be prepared for any contingency and always be ready.

The secret of successful grain farming is "Ample Power." Plowing calls for power and lots of it; discing, harrowing and seeding call for power, harvesting calls for power, threshing calls for power, hauling calls for power.

It's the same story over and over again. Plow and plow deep to retain moisture. Seed and seed quickly to get your crop in timely. Harvest and harvest quickly to insure against shrinkage and crinkling. Thresh with your own power to insure getting done in time. All require power.

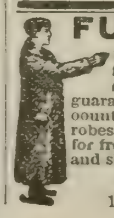
"Ample Power" is the best insurance for "Bumper Crops." Don't cheat yourself by trying to run short of power.

The Pioneer "30" first costs half what horses cost and thereafter saves half the amount usually spent for farm power. Investigate.

Eight Exclusive Pioneer Superiorities

1. Vibrationless four-cylinder double-opposed motor.
2. All gears entirely encased, run in oil baths.
3. All transmission gears machine-cut from solid steel.
4. No troublesome power-losing, bevel transmission gears.
5. All working parts, including the motor, entirely housed.
6. 3 forward gear shifts providing big speed range.
7. Non-corrosive sectional radiator of brass and copper.
8. Comfortable operator's car can be entirely enclosed.

Pioneer Tractor Mfg. Co., 18 Power Ave., Winona, Minn.

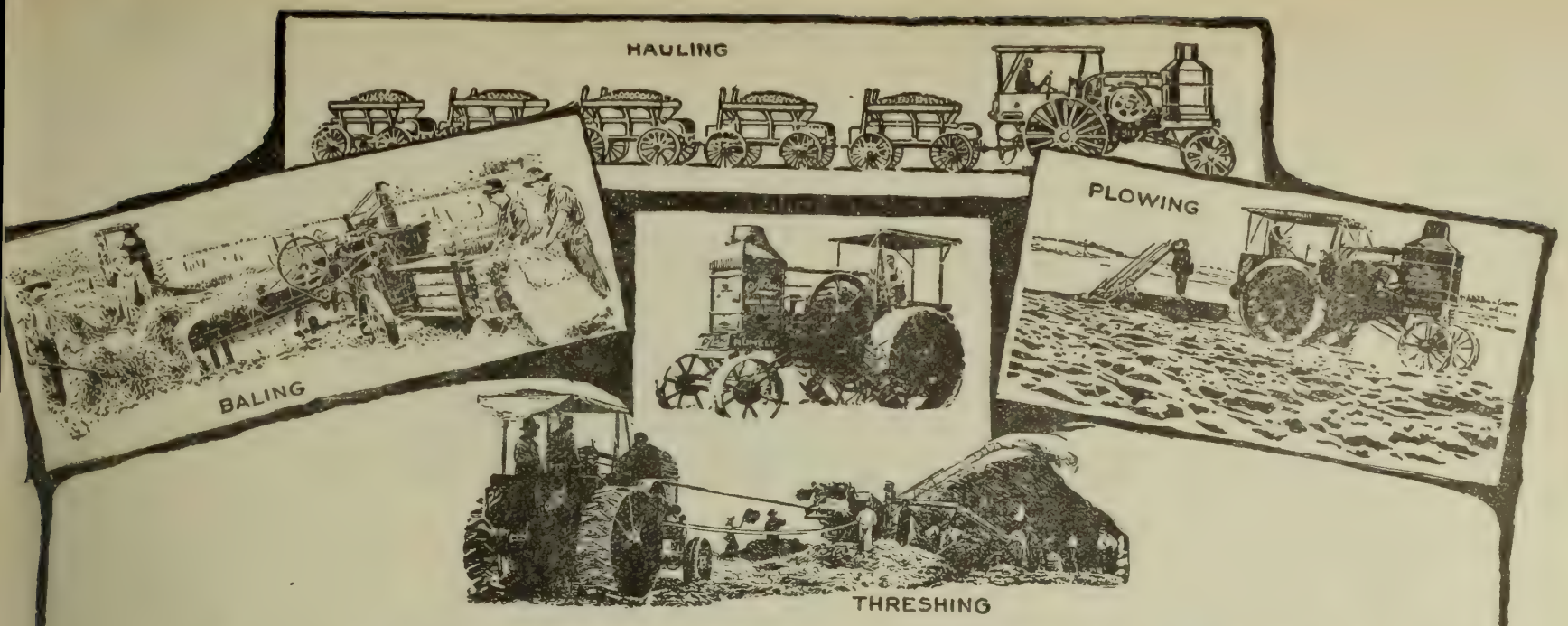


FUR COAT, $12.50

We tan the hide and make your coat for only $12.50. Complete coat (we furnish hide), $18.00. A square deal, all work guaranteed. We are pioneer tanners of this country of cattle and horse hides for coats, robes, rugs, harness, lace, leather, etc. Write for free booklet of information on handling and shipping hides; also price list.

BAYER TANNING CO.
114 S. W. 9th St., Des Moines, Iowa.

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento. CALIFORNIA



AN ALL-WORK TRACTOR

Man did his first plowing with a wooden stick. If you plow with horses, this looks queer to you. But the farmer with a tractor looks upon working horses as queer too—except for small jobs—to him it means waste.

Get these Tractor Facts in your mind

One man's work on a farm with one horse is limited to 25 acres—one man with a tractor handles 400 acres. You can't afford to plow and till as deeply with horses—nor as well. It costs too much to keep a lot of horses standing idle most of the time.

A tractor will save $1 an acre in plowing—besides it will harrow, haul, thresh, bale, saw, etc.—pull any machine or drive it with a belt. A horse eats 10,000 pounds of food a year. One acre out of every five under cultivation goes to feed farm horses.

A tractor works 24 hours a day if necessary—a horse 10 hours at best. Horses get sick—tractors don't. A plague struck Kansas last year—20,000 horses died in six weeks. To plow an acre is a day's work for a man and one horse—30 minutes' work for a man with a tractor. The tractor is as far ahead of the horse as the railroad is ahead of the stage coach.

Here is the whole tractor argument: LESS WORK—BETTER CROPS—MORE PROFIT!

It makes a Difference what Tractor you have

Some prove costly—some cheap. We build a tractor the right way. For simplicity, power and adaptability, it is the equal of any tractor. For strength and cheapness of operation, it has no equal. It really costs less because it lasts longer.

For all-round tractor ability pick the

RUMELY OILPULL TRACTOR LA PORTE IND.

It is the only tractor that burns kerosene successfully under all conditions of climate and load. It is built with the right idea—to use cheap, abundant fuel—and make it give the same results as gasoline.

Think of the saving in fuel cost—$1.50—$3.00 every day you use it.

Here are some OilPull Facts

FUEL—The OilPull burns any liquid fuel. It will burn kerosene in any climate—at any load. ENGINE—The O.P. 30-60 h.p. is a four-cycle engine with two cylinders of ten-inch diameter and twelve-inch stroke. O.P. 15-30 h.p., a single-cylinder engine with same diameter cylinder and same stroke. CYLINDERS—The cylinders are singly cast and have individual heads. CARBURETER—The Secor-Higgins Carbureter is used—which regulates the supply of fuel under all conditions. There are no springs nor internal mechanism within the carbureter. IGNITION SYSTEM—Low tension make-and-break ignition with standard magneto.

LUBRICATION—A combination forced and splash system of lubrication is used. GOVERNOR—The governor is actuated by bevel gears which are driven by reduction shaft within the crank case, affording perfect speed regulation without stopping to readjust carbureter or governor.

GENERAL—The material and design of the gearing, crank shaft, crank case, valves, axles, etc., is of the best. All working parts are accessible and still thoroughly protected. The OilPull combines endurance, dependability, simplicity, and low running cost with the fullest capacity for self-regulation.

OilPull is made in two sizes—30 tractive h.p., 60 brake h.p., and 15 tractive h.p., 30 brake h.p.

The Dreadnought Steering guide, which makes the tractor self-steering, is furnished with every OilPull.

We are also able to furnish a complete line of power-farming machinery—gang-plows, threshing outfits, automatic balers, saw mills, etc.

Write for data-book on the OilPull

PLOWING HAULING THRESHING REG. U.S. PAT. OFF.

RUMELY PRODUCTS CO.

(Incorporated)

Power-Farming Machinery

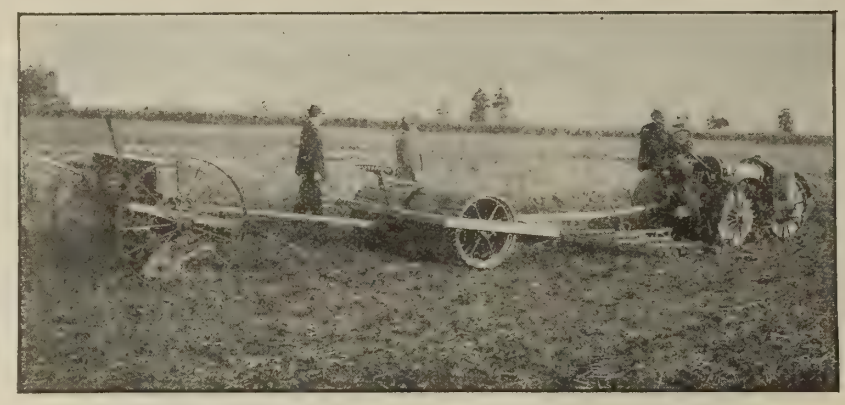
LINCOLN, DES MOINES,

HOME OFFICE: LA PORTE, IND.

No. 443

Small Tractor Problem Hard to Solve

THE small farmer is asking for a small tractor and does not understand why he cannot have one. While manufacturers are thoroughly conversant with the tremendous demand, mechanical and economic difficulties make it an awfully hard problem to solve. If Mr. Farmer could go through the graveyard of small tractors extending from New York to the Pacific coast he would know that the manufacturer is doing his utmost to solve the problem for him. This cry comes from the farmer himself, from the editor, the professor in the college—from so many different sources that tractor manufacturers are accused of being indifferent to the actual needs of the public, for, after all is said and done, we have not solved the small tractor problem.



Harrowing, Rolling and Seeding at One Operation by the Use of a Tractor

Far From Being Solved

Our manufacturers have solved the big tractor problem, and even in Europe, where the tractor problem has always been a small tractor problem, and where agriculture is on a smaller and more intensive scale than we have yet reached in this country, even in the eastern states, the small tractor problem is far from being solved.

Practically every idea that has been offered by European inventors and manufacturers has been duplicated in this country. Practically every idea ever put on paper has been embodied in a working machine, yet in France, according to M. Silbernagel, the leading French exponent of moto-culture, only four designers out of twenty-seven who have shown their machines in public are able to deliver finished working machines, and the ratio of freaks to commercial successes is just about the same in this country.

Here in America we have had the big tractor problem, which they have never had in the older nations of Europe. We have developed the big tractor, made it do an infinite variety of work successfully and economically, and from the big machine we have gradually worked down to what not a few practical men consider the lowest feasible limit of size and power.

Tractors Are Used Everywhere

We have a large body of manufacturers who are selling their tractors to all parts of the world for successful use in every variety of work. Tractors are used for plowing, seeding, harrowing, disking, drilling, and even for cultivating the crop; are used for harvesting, for threshing and for hauling. They help to build the highway and the railroad; are used to drive the clover huller, the hay baler and the corn shredder; to move buildings and tear up trees; to fill the silo and shell the corn, to saw wood and pump water; are used summer and winter—on all kinds of roads, in all kinds of weather, on the mountain tops and in the valleys. They are used everywhere, for every purpose and under all conditions.

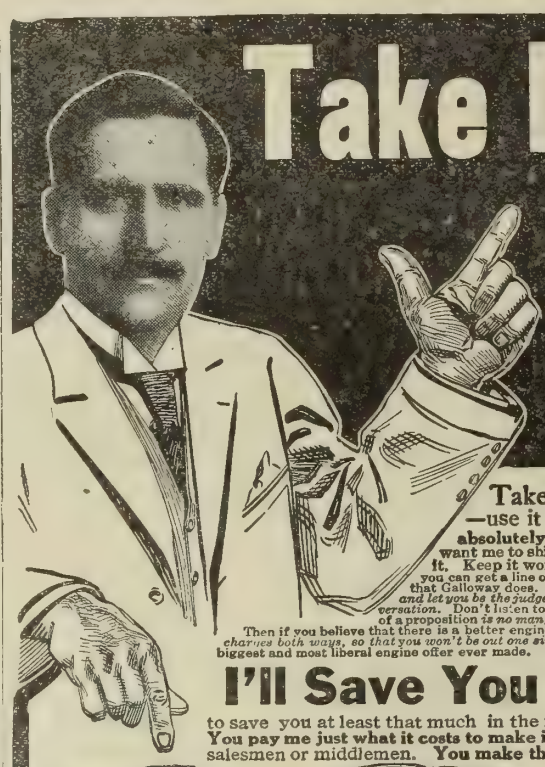
A Good Word for the Horse

Unless horses get much higher in price than at present, it is doubtful whether the farmers' ideal of a four-horse tractor can be realized for the same investment as horses would require. This is not because it is not possible to make a four-horse power engine cheaper than to raise four horses, but because horses are much more flexible and can do much more in an emergency than an engine of equal power under ordinary conditions. Therefore, a horse will get through conditions which a tractor of the same normal power would not get through, and in order to provide for emergencies an excess must be provided. Even then it is difficult to find the farmer who will not invariably load his tractor practically to the limit, leaving nothing for emergencies. The tractor will stand working to full capacity day in and day out; the horses will not. Therefore, there is a reserve of strength on the part of the animal that we cannot hope to get with the tractor until the machine is thoroughly understood by every farmer.

Gives the Farmer an Option

There are dozens of light jobs about the farm which do not require four horses, and the farmer has the option of using one, two, three or four horses, making a very economical unit in any case. With a tractor he would have to use the whole machine, because he could not divide it up into smaller parts. The tractor is most economical when worked well toward its maximum power, and would not compare favorably in operating cost if it were used ordinarily at one-fourth to one-half its rating.

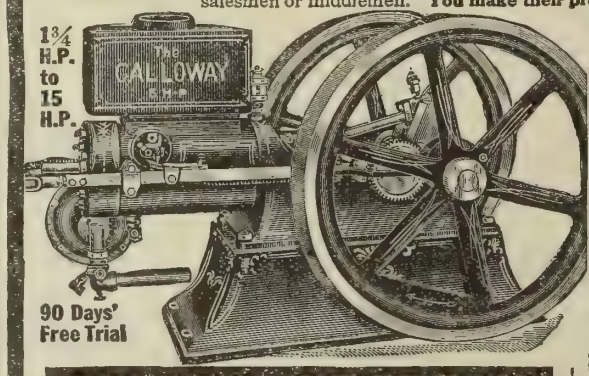
It seems as though the small tractor, as a small machine which will utterly and entirely replace animal power, is a dream that we shall never realize. The horse is too convenient and too economical for small jobs. But some day the advantage of mechanical power on the farm



Take My New Engine —Use It 90 Days FREE!

Take one of the wonderful new 1913 Model Galloway Gasoline Engines —use it right on your own farm for one month, two months or three months **absolutely free.** Write at once for my 1913 catalog—pick out the size and style engine you want me to ship you on this free offer—I'll ship it **immediately** Put it to work on your farm the day you get it. Keep it working every day. Watch it carefully Compare it with any and every engine on the market that you can get a line on *no matter what the price.* If anybody else is trying to sell you an engine, tell them to make you the same offer that Galloway does. Tell them Galloway is willing to put his engine right side by side on your farm with any other engine in the world *and let you be the judge.* Tell them you don't want any engine salesman trying to influence your judgment—you're buying *engines* not conversation. Don't listen to a man who isn't willing to let you judge his engine on its merits. The man who is afraid to meet me on that kind of a proposition *is no man for you to do business with.* Keep my engine a whole month or even two months or three months if you want to. Then if you believe that there is a better engine than the Galloway anywhere in the world at any price, tell me so and I'll take it back and *I'll pay all the freight charges both ways, so that you won't be out one single cent for anything.* If you do decide to keep the Galloway, just tell me so and I'll give you the benefit of the biggest and most liberal engine offer ever made.

I'll Save You $50 to $300 Sure! I'll make you an actual present of $50 to $300. I'll positively guarantee to save you at least that much in the first cost alone. I'll sell you a Galloway direct from my factory where it is made. **You pay me just what it costs to make it** plus one very small profit—**that's all!** There are no jobbers, wholesalers, retailers, salesmen or middlemen. **You make their profits yourself when you buy a Galloway.**



1¾ H.P. to 15 H.P.

90 Days' Free Trial

The Only Way Is the Galloway

That's the way to buy an engine, **and it's the only way that's absolutely fair to you,** and that's the only way that I'll sell an engine, because I won't keep a dollar of any man's money **unless he would rather have my engine than the cash.** When a man will tell me that—**then and not until then do I consider a sale as made.** Every single man who does business with me is absolutely protected by my

$5,000 Challenge—$25,000 Guarantee

I back every promise, every statement and every claim with $5,000 **in cash.** I protect every one of my customers by a $25,000 guarantee of **absolute satisfaction.** Understand, I don't say **reasonable** satisfaction but **ABSOLUTE** satisfaction —**AND YOUR WORD is always good with me.**

Special Service Bureau FREE

My force of high salaried Engine Experts are at your command absolutely without charge. They will tell you how to select exactly the engine which is best suited for your particular purposes; how to test and judge an engine; how to use one to best advantage; how to fit up a power house—besides answering fully and completely any question about the care and operation of an engine. This is absolutely free to you whether you buy a Galloway or not.

20,000 REASONS

Here are a few expressions from farmers now using Galloway Engines. Twenty thousand others have had exactly the same experiences. These are men just like yourself. **Before they bought a Galloway they were in exactly the same position as you are now.** You will say exactly the same as they do after you get your Galloway.

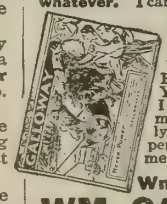
Alex. McLachlan, Argyle, Mich. I received my Galloway Engine last week and it is all right. Everybody says it is a dandy engine. **Some of my neighbors got bit on other engines** by paying $400 for a 9 h. p. and $460 for a 10 h. p. I like your engine dandy.

Fred Ruthardt, Mt. Vernon, S. D. I must say the engine is all right. **I saved about one hundred dollars in** buying from you. I don't want to be without the engine, not at all. I use it for shelling corn and grinding feed.

Frank Peck, Dorchester, Neb. My Galloway Gasoline Engine does lots of work for me. It shells corn, saws wood and grinds feed. I have no trouble with it. It is simple and easy to start. **My twelve-year-old boy starts it easily.**

Important! Get My 1913 Proposition

This year, I've got something better to offer than I ever had before. **I've got a plan by which you may get your Galloway Engine either wholly or partly free and, besides, without any soliciting or canvassing, whatever.** I can't explain it now, but I tell you all about it in a personal letter when you write me.



Engine Book FREE

Now, don't wait a minute. Get my Engine Book and my special 1913 offer right away. You won't be under any obligations at all—I just want you to fill out the coupon or mail me a postal or letter, that's absolutely all I ask. If you haven't got a pen or pencil handy, go and get one and write me right away.

Wm. Galloway, Pres.

WM. GALLOWAY CO.

415 Galloway Station, WATERLOO, IA.

Mail This Coupon

to Wm. Galloway, Pres., Wm. Galloway Co., 415 Galloway Sta., Waterloo, Iowa.

I want to get your Engine Book, on your 90 Day Trial Offer and full particulars of your special 1913 proposition all free.

Name .....

Town .....

R. F. D. ..... State .....

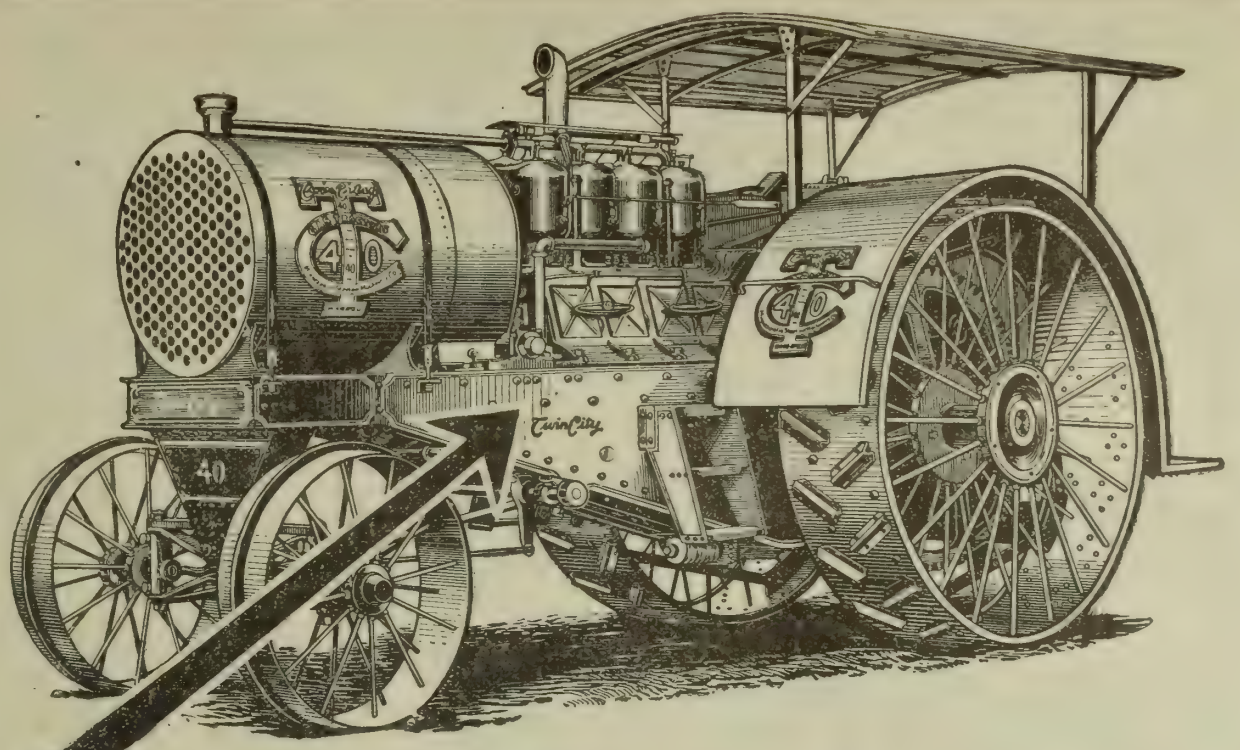
Big 144 Page Book of Furniture, Buggies, Harness, Implements, etc., goes to you FREE.

(155) *Engines Carried in Stock at Chicago, Kansas City, Council Bluffs, Minneapolis and Winnipeg.*

will be so universally recognized that farm methods will be changed whenever possible to allow of more jobs being done by the tractor, thus reducing the number of horses to the lowest possible lim'. The horse will be kept busy 2,000 or 2,500 hours a year, instead of less than 1,000, as at present, and the horse cost per hour of work will be much reduced. The tractor, which does not cost anything except interest when not in operation, would be available to do all jobs requiring extra power, and because it would be used to a larger percentage of its capacity it would be economical of operation.

There is a question just how small a tractor can be economical. One great factor is the weight of the machine. It is possible to put a thirty horse power motor on a tractor weighing not more than 8,000 pounds. However, in order to make that 8,000-pound frame carry all of the parts, it must be made more compact, of more carefully selected materials and must be refined much more carefully; all of this increases the manufacturing cost, tending to offset the saving in the cost of materials. Past experience has shown, unless exceptional care is taken in manufacturing, the light automobile or the light vehicle of any kind does not stand up as well as one that is heavier; and the farmer must always remember that the whole cost includes not only the cost of fuel and the cost of labor and lubricating oil, which he can count up every day, but also the first cost of the machine divided by the total amount of work he gets out of it, plus the interest and repairs. By the use of finer metal, more compact design and better workmanship, the small tractor can be made a mechanical possibility. By such means it can be made to develop less horse power than the big machine and still plow out its own width. If the weight of the tractors is objectionable, as many have conscientiously urged, then it would be more objectionable if this weight must be moved over the ground several times in order to plow out a given strip of ground equal to the width of the tractor. A tractor of thirty horse power at the drawbar will usually plow out its own width in sod plowing, and considerably more than its width in stubble; one of half that power will usually plow out its own width in stubble and may be two-thirds of it in sod. If we again reduce the power of the tractor, we may also reduce the width, but not in the same proportion; and it would be doubtful if a tractor of seven or eight drawbar horse power could be made to plow out one-half its width in the average field. There is another difficulty to overcome, and that is the matter of steering the tractor when the load is pulling heavier to one side.

The small tractor costs more in proportion to build, sell, buy and operate. Its costs get closer and closer to that of the horse, and nobody can expect a farmer to dispense with a reliable form of power which he has in the shape of horses for the sake of taking up one with which he is not fully familiar, and which offers no remarkable saving.



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And yet even with its unusual strength and steel construction it is a lighter tractor per horse power than any other tractor. Uses less of its power to pull its own weight—has a greater pulling power.

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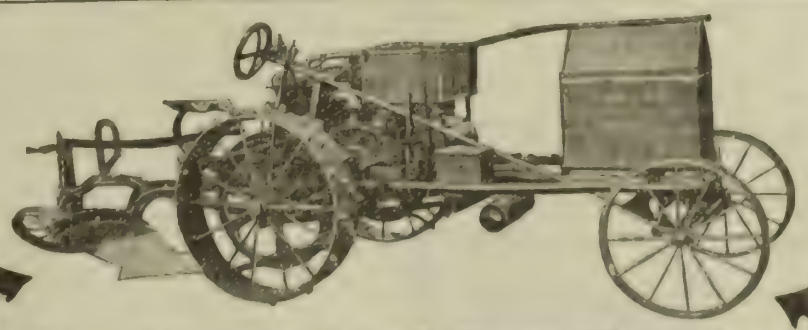

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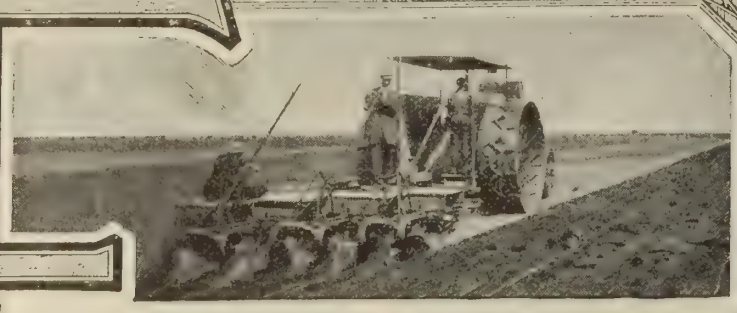

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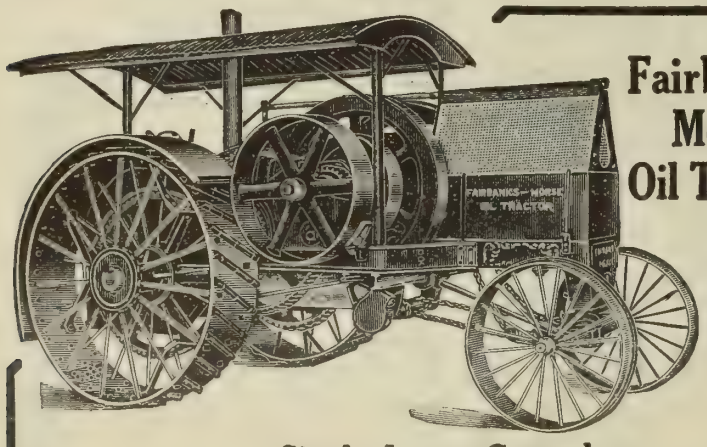

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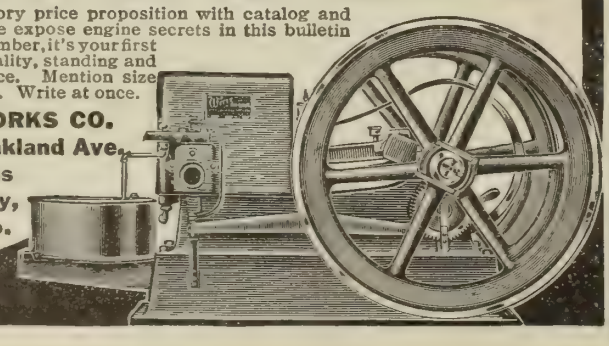

Handling Soil for Production

V—Storing Water in Subsoil—Deep Plowing

IN ORDER to get water into the subsoil it is necessary to keep it from running off the surface and hold it there until such time as gravity can draw it down into the subsoil. In nearly all sections of the country, except in the extremely arid regions, there is sufficient precipitation to raise some kind of a crop, providing the water is held where it falls and prevented from running off and being lost. The problem then for the farmer is so to handle his top soil that it will take and hold the precipitation that falls upon it, until such time as it can pass down into the subsoil. There is only one way in which it is possible to do this.

How to Hold Water in Top Soil.

If the top soil is loosened to a depth of two inches, these two inches of loosened soil will hold water up to the point of saturation. Then if any more water falls upon it, the excess will run off and be lost. Four inches of loosened soil will hold as much again water as two inches. But unless the rainfall is very scant, four inches of loosened soil will not hold all of it. The soil must be loosened to such a depth as will enable it to take and hold all of the rainfall possible. Of course, in all regions of the country, there come occasional violent storms, in which there is an excessive rainfall, such that no amount of loosened soil can take it and hold it. It comes with such a dash that the surface becomes compact, so that it sheds water like a roof. But soil may be so handled that it will take and hold all of the ordinary rainfall.

It follows that the depth to which ground must be plowed in order to enable it to take and hold all of the normal rainfall is determined with more or less accuracy, according to the nature of the soil, by the amount of rainfall. It has been found that with a rainfall ranging from twenty-five to thirty inches annually, the best results may be obtained by plowing from twelve to fourteen inches deep. This enables the loosened surface soil to hold the rainfall of ordinary storms until it can penetrate into the subsoil. If the surface soil becomes compact by the force of the storm, it should be again loosened up, in order that it may take and hold the water from the next storm. In this way, the water that falls during one storm is held until it can soak down into the subsoil, and the surface soil is put in condition to take and hold the water from the next succeeding storm. By this means, sufficient water may be stored in the subsoil, more than enough to supply the demands of growing crops.

Another Advantage of Deep Plowing.

One of the chief losses of fertility in the soil is due to erosion of the soil, caused by running water. Plant food that is in a condition to be available for plants is soluble in water. Whenever water begins to run on the surface of cultivated soil, it dissolves and carries away a portion of the plant food, which becomes irretrievably lost. More than this, the rushing water carries away with it immense quantities of the very best soil. In time this wash produces a cut in the soil that grows deeper and wider as time goes on, until it becomes a serious bar to the cultivation of the land. The deeper one plows, the more water he will be able to hold in his surface soil, and the less there will be to run off, causing the loss of both fertility and soil. By failing to take advantage of the facts that have just been set forth, by shallow and shiftless cultivation, the farmers of the rolling country adjacent to the Missouri valley are responsible for the fact that their best soil has long since been washed into the Missouri river, from which it can never be regained. Deep plowing, plowing to a depth sufficient to enable the top soil to take and hold all the water that falls upon it, except that which is precipitated by the most violent storms, will prevent this unnecessary wash, this irretrievable loss.

Another Benefit of Deep Plowing.

Where the top soil has been washed away, it is necessary to make a new top soil. This may be done by a deep plowing of the subsoil, throwing it open to the action of the elements, of air and rain and frost, so that the crude plant food that it contains may be oxidized, and in this way be made available for plant use. All that this new soil will then lack will be a sufficient supply of vegetable matter, which may be readily supplied in a manner that will hereafter be set forth. Then this new made soil will be as profitable and productive, and in every way as valuable as the old top soil that was either worn out or carried away. There are many old worn farms that may be regenerated and renewed by such deep plowing as here described.

Where there lies near the surface a refractory and infertile subsoil, this subsoil had better be left where it is. Besides, doing no good, it may do harm to bring it to the surface. Under such circumstances, a subsoil plow may be used to loosen the subsoil and render it capable of holding the necessary amount of water, which is the chief end to be sought by deep plowing on ordinary soil. Where deep plowing is not advisable for this reason, the subsoil plow will answer the same purpose, though at the expense of more labor and the using of much more power.

Obdurate Subsoil May Be Redeemed

It may be profitable to attempt to deepen a shallow soil that is underlaid by an obdurate or unfertile subsoil by throwing it out to the action of the elements by plowing, at the same time mixing with it a sufficient amount of vegetable matter so that when the vegetable matter becomes thoroughly incorporated with the subsoil, it becomes friable, easily worked and productive. Of course, such a process would take more than one season; more than one plowing. The end sought could not be obtained except after the right kind of treatment for a period of years. But,

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even then, it would be a highly profitable undertaking. Hard clays and shales may be converted by this means into valuable, easily worked and productive soils. Some farmers have completely regenerated a shale bed by deep plowing, accompanied by merely filling every furrow with coarse vegetable matter, like cornstalks. Any waste roughage may be used for this purpose. If sufficient is spread upon the surface and turned under by deep plowing, it will in the course of time become thoroughly incorporated with the clay or with the shale, and will render either, or both, friable, productive and grateful to growing vegetation. By treatment in this way the principal objection to bringing this refractory subsoil to the surface by deep plowing will be met and negatived. At any rate, the experiment is worth trying. If it is successful, it will answer the purpose sought in this chapter, of providing means for getting water into the subsoil and keeping it there. In addition to this, such a method will add just so much to the valuable productive soil of the man who carries it to sucessful completion.

An Objection Met.

It has been argued that where the subsoil is open and porous, although containing all the elements of fertility, deep plowing is not advisable because such a subsoil will not hold the water that penetrates to it. It has been stated that such a subsoil will take all the water that is given to it, and cry for more, letting it pass through its coarse structure far beyond the reach of plants or trees. There is a certain amount of truth to this objection, especially when applied to the first few years of cultivation. But this must be borne in mind, that in such cases, the water that penetrates to the subsoil carries with it fine particles of earth that in the end are caught and held in the lower soil spaces in such a way as ultimately to convert such a subsoil into the finest possible reservoir for water. In this way, by deep plowing, by catching and holding all of the rainfall, by permitting the water to carry into the subsoil fine particles of earth, it will eventually fill the soil spaces. This natural condition of the subsoil unfavorable to production may be changed to a most desirable condition.

Water in Subsoil a Prime Necessity.

Certain objections to which there is considerable force are urged against deep plowing because in certain respects it produces results not to be desired. Most of these objections may be successfully met. If deep plowing leaves the soil too loose for successful cropping, it may be compacted so as to meet the necessary condition for growth. The throwing up of new soil may result in a disproportionate vegetable growth, due to the excess of nitrogen, that is thereby made available. But it must always be borne in mind that water in the subsoil is a prime necessity, is of first importance, and that all other considerations must be made to yield to this one requisite. To this one end every tiller of the soil should devote his effort.

In a following article it will be shown how this deep plowing may be done at the least possible expense.

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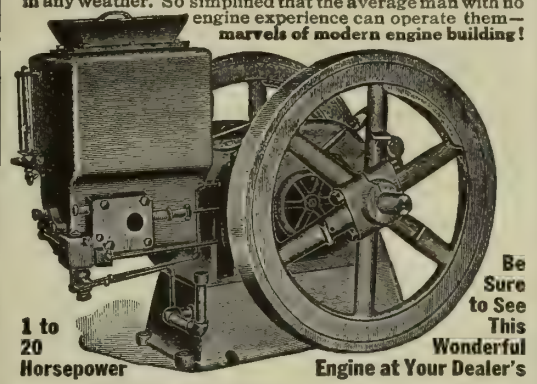

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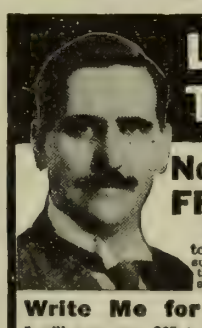

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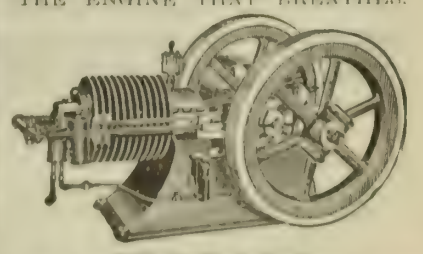

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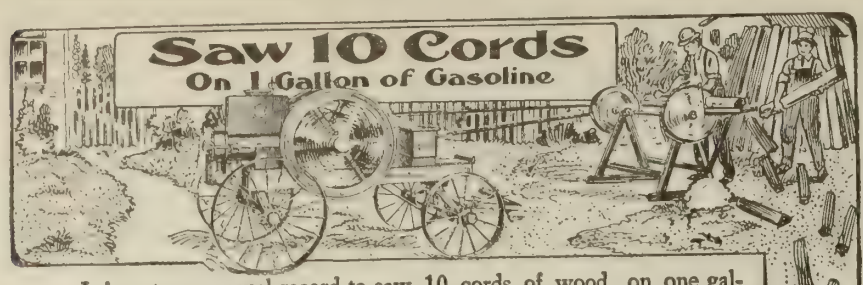

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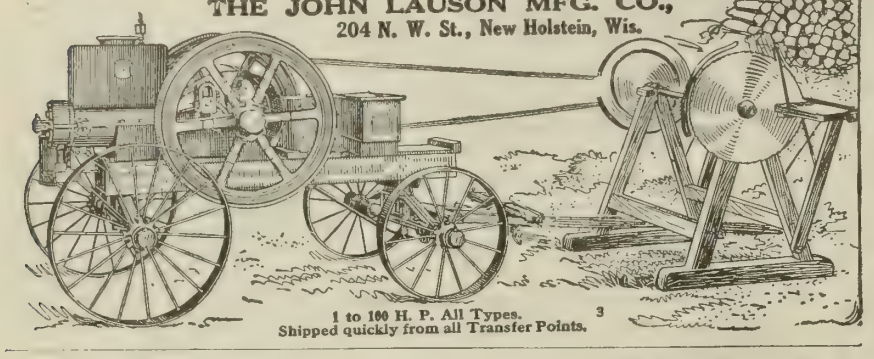

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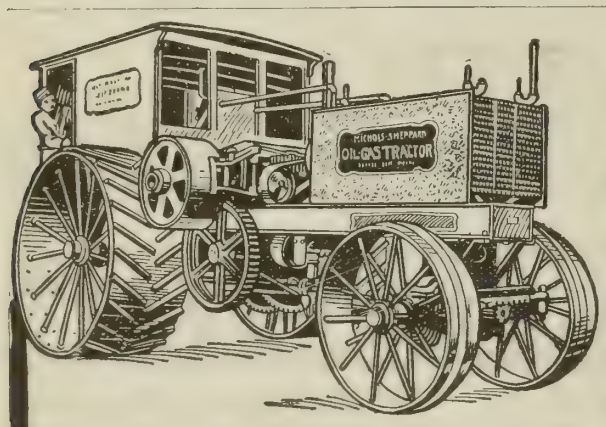

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Will not shake itself to pieces. Does not drive through bevel gears. Guides as easily plowing as it does on the road. Get full particulars by writing for Oil-Gas Tractor Catalog No. 3.

Nichols & Shepard Company, Battle Creek, Michigan

Builders of the Red River Special Threshers and Steam and Oil-Gas Tractors

Farmers' Favorite Grain Drills

Among the many styles and sizes of Farmers' Favorite Grain Drills you will find just the machine to do your sowing as it should be done. The vital thing is to drill the seed in the soil at an even depth, to sow an equal amount of seed in every furrow without skipping or bunching and cover it well. If your land is trashy, if you sow in cornstalks, if your ground is hard, loose, sandy, sticky—in short, it makes no difference what your seeding conditions may be—you can get a Farmer's Favorite Drill that will do your work in the best possible manner.

The Grain Feed sows all sizes and kinds of seed, both large and small. The Fertilizer Feed handles all brands of Standard Commercial Fertilizers. Send for a Farmers' Favorite Catalogue. Read it and go to a local dealer and insist on seeing the drill that is warranted to do all claimed for it.

THE AMERICAN SEEDING MACHINE CO.
INCORPORATED
SPRINGFIELD, OHIO, U.S.A.

Rearing Boys on the Farm

V—How Much Education is Required?

SOMEONE asked Abraham Lincoln how long a man's legs should be. Mr. Lincoln's characteristic reply was that he supposed they ought to be long enough to reach from his body to the ground. We well remember when it was a question of serious discussion just how much education was required for the boy who expected to remain on the farm and the general conclusion seemed to be that he needed enough arithmetic to carry on the ordinary business transactions of the farm, with sufficient knowledge of grammar and English composition to compose a fair letter, and enough skill in penmanship to write a legible hand. Fortunately, we have made great progress since those days in our point of view regarding education. We know an Iowa farmer who thought he had done especially well with his boys in giving them a common school education and in truth he had done much better than most of his neighbors.

In these days, judging from a strictly utilitarian standpoint, we have come to see more clearly the need of higher education. We are rapidly passing from the period when muscle and will were considered the only assets for the successful farmer. Brains count now as well as brawn, for scientific farming has changed the whole situation.

Demand a Larger Outlook.

As boys come to the period of adolescence their minds become more alert and they demand a larger outlook on life. The making possible of this outlook determines largely whether or not the boy shall remain on the farm. First in importance in securing this larger vision, after the home, is the country school. It is not enough in these days to employ the first neighbor's girl who needs a job. It is necessary to secure competent trained teachers and this means larger pay. The country school presents many problems. The tendency for larger and larger farms decreases the number of possible students, but the country school must still play a very important part in fixing the ideals of our boys and girls, giving them the vision for larger things.

And then, after the country school, comes the high school. In many instances it means either sending the children away from home or moving to town, and many a family has paid a dear price for moving to town. Parents who have led an active life are unsettled and unhappy, while the children, freed from the restraints of farm life, with the conditions incident to the town or city, often fail to grasp the opportunities presented to them.

Matter of Early Training.

This whole matter of keeping the boy steady up through these years of school life is largely a matter of early training. It is well to keep our boys green. Many times the boy just in from the farm has a pretty hard time of it, but in the great corn fields of the middle west the good, sound ears are those which have been permitted to keep green well into the autumn, until the proper time of maturing. An early frost ripens the corn and make it look seared and hard, but investigation shows it to be soft, light and chaffy. It is the country boy, kept green to a proper maturing, who does the world's work.

Blessed is the father and mother whose own minds are alert enough to keep pace with their developing boys and girls and thrice blessed is the boy whose mother has for a husband a man who recognizes the importance of giving his wife adequate time for rest and improvement. Many failures can be laid to overtired mothers whose husbands were more concerned with enlarging their barns or adding to their acres than they were to the proper mothering of their boys.

What Is Education?

But we will not grasp the importance of this question until we understand the meaning of education. After all, education in its best sense does not mean training a man to make a living, but rather training him to live. One may be a farmer, a lawyer or a preacher, but he is first of all a man. What he needs is to be taught to live. With this in mind no education short of the best is good enough for the man who expects to spend his life on the farm. The college trained man will make a better neighbor, father and citizen; he will also make a better farmer. The agricultural colleges are doing a wonderful work these days, sending back to the farm a large percentage of the young men and women. The lifting of the intellectual tone of farm life means more than anything else in keeping the best grade of boys on the farm. Boys do not leave because of hard work. The best boys have left in large numbers in the past because of the call of the higher intellectual life. Bring this life back to the farm, as it is rapidly coming back, and the boys will remain in increasing numbers.

Should Increase Efficiency

The purpose of education is not merely to teach a boy to live; it should also teach him how to live efficiently. His education should be conducted in such a method as to accomplish this end. The current method of education is devoted altogether too much to training the memory merely. But it is not enough that a boy be taught how to remember; he must be taught to know and to do. Education develops what the old educator calls "the capacity to bring things to pass." The thoroughly educated boy, if he should forget everything that he had learned from his books, would be able, by virtue of the power developed in him by his education, to make a text book for himself. The world is full of jobs that are actually crying to be done. Education should develop the capacity to do these jobs, and a restless desire to undertake the doing of them.

Engineers Hold Meet at Chicago

The conservation of energy necessary in agricultural industries was the principal subject discussed at a meeting of the American Society of Agricultural Engineers held recently in the Great Northern hotel, Chicago, Ill. College professors, experts

L. W. CHASE,
President

employed by manufacturers of agricultural implements and students of agricultural colleges, all took a lively interest and an active part in the exercises. The annual banquet was presided over by B. F. Harris of Champaign as toastmaster and R. B. Swift of Libertyville, Ill.; Prof. C. F. Hirshfield of Cornell university and F. I. Mann of Gilman, Ill., were the principal speakers.

At the annual election the following officers for 1913 were chosen:

President—L. W. Chase, University of Nebraska, Lincoln.

First Vice President—Dr. Edward Rumely, Laporte, Ind.

Second Vice President—J. A. King, Chicago.

Secretary—I. W. Dickerson, Urbana, Ill.

Treasurer—J. L. Mowry, St. Paul, Minn.

Council—J. B. Davidson, Ames, Ia.; J. I. Stewart, St. Paul, and W. A Kavanaugh, Chicago.

Keep Your Tools Sharp

Everyone who uses edged tools at all knows that he can do only half a job when his tools are dull, besides taking him a lot longer. It means wear and tear on both you and your tools when you try to worry along with tools that are only half sharp.

On most farms the only article for sharpening these tools is the old-fashioned grindstone. This has been in use for centuries, and the grindstone of today is practically the same as the one that was in use at the time of Columbus. Most farmers have tried to get away from it, but they found that emery and other "natural" grinding substances are not even as good for their purpose as the grindstone. Nearly every farmer has on his scrap heap some old emery grinder that he has had to discard just because it destroyed more tools than it was worth.

Of late years, however, there have been invented a number of other abrasives that have shown themselves far superior to emery, and from ten to twenty-five times as fast cutting as the grindstone. These abrasives are made in huge electrical furnaces where a heat of 7,000 degrees Fahrenheit is produced by means of an electric current of extremely high voltage. This gives to the substance the hardness and temper of the diamond itself. Every little particle that goes into the grinding wheel is so hard that it keeps sharp and never wears smooth. By always having a sharp, clean cutting edge it is able to shave away the steel in minute shavings, cutting freely and without heat. Emery is mined from the earth, and as such is full of impurities that cannot be remedied. The other being a manufactured substance, the ingredients can be fully controlled so that there are no impurities in it to cause friction or heat.

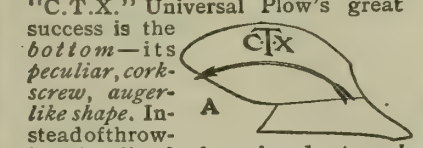
Wyoming has a mountain 14,000 feet high in Fremont county. The lowest point in the state is on Belle Fourche river, which has an elevation of 3,100 feet. With the exception of Colorado, Wyoming is the highest state in the union.

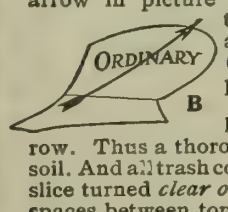
The Perfect Plow Has Come

When, after 4 years' use, a plow proves equal to every possible need, on thousands of farms, in all kinds of soil, at all depths up to 8 inches, it can be nothing less than perfect. Yet the Rock Island "C.T.X." Universal Plow has done all this—and more. For it has also shown a practical way to guard against drought, a way to save manure, a way to lessen harrowing. Just read the facts set forth below and then judge for yourself if any farmer can afford to do without this remarkable plow.

How It Works

The secret of the Rock Island "C.T.X." Universal Plow's great success is the *bottom*—its *peculiar, corkscrew, auger-like shape.* Instead of throwing the dirt *backward* and *upward* like the ordinary plow bottom (see arrow in picture "B"), the dirt travels backward and ***downward*** (see arrow in picture "A").





Thus an absolutely clean furrow. Thus a thoroughly pulverized soil. And all trash covered. And each slice turned *clear over flat.* No air spaces between topsoil and subsoil.

And, remember, the Rock Island "C.T.X." Universal does this whether on *tame sod, stubble* or *trashy corn ground*; whether in *gumbo, heavy clay, loam* or any *other* kind of *soil!*

Makes You Money

Yes, sir, it *makes you money!* Look at the pictures below. See those air spaces in picture No. 1, left by the *ordinary* plow? Now, look at picture No. 2. No air spaces there, because the Rock Island "C.T.X." Universal doesn't leave any air spaces.

No 1

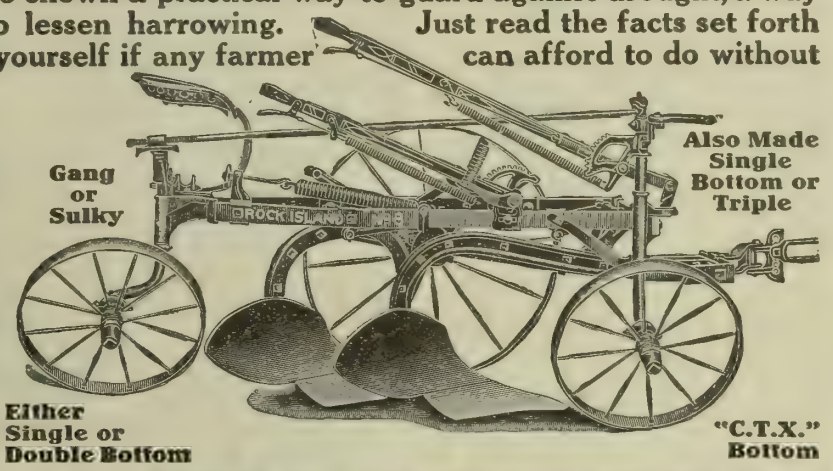
AIR SPACE—ordinary

Air spaces are *dangerous.* For in dry, hot weather, those air spaces cut off moisture from coming up from below and your crop suffers for want of water.

No. 2

NO AIR SPACE—"C.T.X."

On the other hand, land plowed with the Rock Island "C.T.X." Universal has none of those air spaces. The *topsoil lies flat against the subsoil.* Moisture comes up from below, when needed, just like kerosene comes up the wick of a lamp. The weather may be blistering hot, it may not rain for weeks and weeks, but your crop lives and grows. Don't think that by harrowing you can do away with air spaces. You can't. You can't get down deep enough with your harrow. Land plowed with air spaces between top and subsoil will have air spaces the rest of the season.



Rock Island (C. T. X.) Universal Plow

How It Saves You Money

This plow *saves* you money in *four ways*:

First, by doing all kinds of plowing. For it does perfect work on any land in any soil that can be plowed. No need of more than one plow. Saves buying a plow for sod, or an extra bottom.

Second, it saves a lot of work and time. Because it thoroughly pulverizes the soil. Will save you at least one harrowing.

Third, it saves manure. Because the soil is so thoroughly pulverized that very little manure leaches away. *Manure stays where it's "put"!* With manure as precious as it is, you can't afford to waste any.

Fourth, its light draft saves horses and harness. Strong, durable and longer life. Better material and less repairs.

A Reasonable Price

Don't get the impression that the Rock Island Universal is a *high-priced* plow. With all its perfections, with all its success, with all its advantages and saving, ***it costs practically the same as ordinary plows.*** Beware of imitations. The "C.T.X." is patented and "C.T.X." is stamped underneath on every bottom.

Our Output Limited

Even though, each season, our factory facilities have been greatly enlarged to care for an increasing demand, there is a limit to the number of plows we can make. Skilled, expert workmen, such as our methods require, are not plentiful. The indications are that our output for the coming year will be far oversold. So, if you are at all interested in plowing right and making more money from your work, you had best ***act at once*** and

Send Name Now for Latest Free Catalog

You will be interested in the pictures and descriptions of the greatest plow invention in 40 years. We will also tell you the nearest place you can see the Rock Island "C.T.X." Universal Plow. Then you can judge for yourself the plow that's won world-wide fame. Your own practical experience will show you why.

Fill out and mail the coupon below—or simply write these words on a postal, "I am interested in plows." Then add name and address and send postal to us.

ROCK ISLAND PLOW CO.

385 Second Avenue (112) **ROCK ISLAND, ILL.**

Coupon for Free Books

Rock Island Plow Co.
385 Second Ave., Rock Island, Ill.

Please send me the complete books on the "C. T. X." Universal Plow.

Name _____

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CYCLONE LAWN FENCE

is the highest grade fence on the market, heavier, stronger and closer spaced than any other—rust-proof, durable, and made by the exclusive Cyclone method of weaving which makes it sag-proof.

Cyclone Fence *COSTS LESS* than inferior makes because it is made in enormous quantities in one of the biggest fence factories on earth.

CYCLONE VICTOR FARM GATES

are heavily galvanized, built for strength, reliability and convenience. Heavy tubular steel frames and rust-proof fabric. Double raising device; automatic stock proof lock; adjustable stretcher bar holds fabric tight and leaves frame free from holes that weaken it.

Big Catalog and information FREE. Write today.

CYCLONE FENCE CO., WAUKEGAN, ILL.

Dept. 32

GET Square Deal PRICES

On Square Deal Fence First

Send for this catalog and price list. See what it means to you to buy a fence woven at the mill that makes the wire.

Square Deal Fence is elastic, springy—made from wire that is hard but not brittle. The wavy strand wires keep Square Deal fences tight and trim the year 'round. The one-piece stay wires help support the fence—keep it from sagging between posts and from buckling at the bottom to let the pigs under—requires fewer posts, saving money, time and labor.

The Square Deal Lock—"the knot with a grip that will not slip"—locks every strand securely so stock can't spread the wires. No brittle welds to snap—locks are all self draining—moisture will not remain in the knot and rust the wires.

Drop Us A Postal Today—get our catalog, price list, local dealer's name and a high grade, four-section folding 2-foot rule—all FREE.

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STRONGEST FENCE MADE
FROM FACTORY DIRECT TO FARM

26-inch Hog Fence,....14c.
41-inch Farm Fence,...21c.
48-inch Poultry Fence...22½c.
80-rod spool Barb Wire, $1.55

Many styles and heights. Our large Free Catalog contains fence information you should have.
COILED SPRING FENCE CO. Box 124 Winchester, Ind.

FARM FENCE
11½ cts. a rod
for a 26 in. high fence; 17 1-4c. a rod for 47 inch high stock fence: 28 1-2c a rod for a 50-inch heavy poultry fence. Sold direct to the farmer on 30 Days Free Trial. Special barb wire, 80 rod spool, $1.55. Catalog free.
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41 INCHES HIGH
100 other styles of Farm, Poultry and Lawn Fencing direct from factory at save-the-dealer's-profit-prices. Our large catalog is free.
21 CENTS A ROD
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BROWN FENCE
For all purposes. Direct from factory, freight prepaid.
Bargain Prices—13c per rod up
Get our new fence book before you buy fence for Horses, Cattle, Sheep, Hogs, Poultry, Etc.
Also Lawn Fence and Gates
We save you *big money*—give you highest quality. Mail postal *now* for Big Fence Bargain Book
Dept. 69 THE BROWN FENCE & WIRE CO., CLEVELAND, OHIO

Bird's-Eye View of Our New Sister Republic

By Frank G. Carpenter

MONTEREY, Mexico — Stand with me on one of Monterey's three-story sky-scrapers and take a look at the Pittsburgh of the Mexican republic. That mighty stack off at the right belongs to the biggest steel plant south of the United States boundary. It has a capital of $10,000,000 and is now turning out steel rails for the new roads which are building. In another direction are the huge smelters, controlled by the Guggenheims, which represent a capital of millions, and still farther over is a great brewery which looks as though it might have been lifted bodily up from Milwaukee or St. Louis and dropped down here on this Mexican plateau.

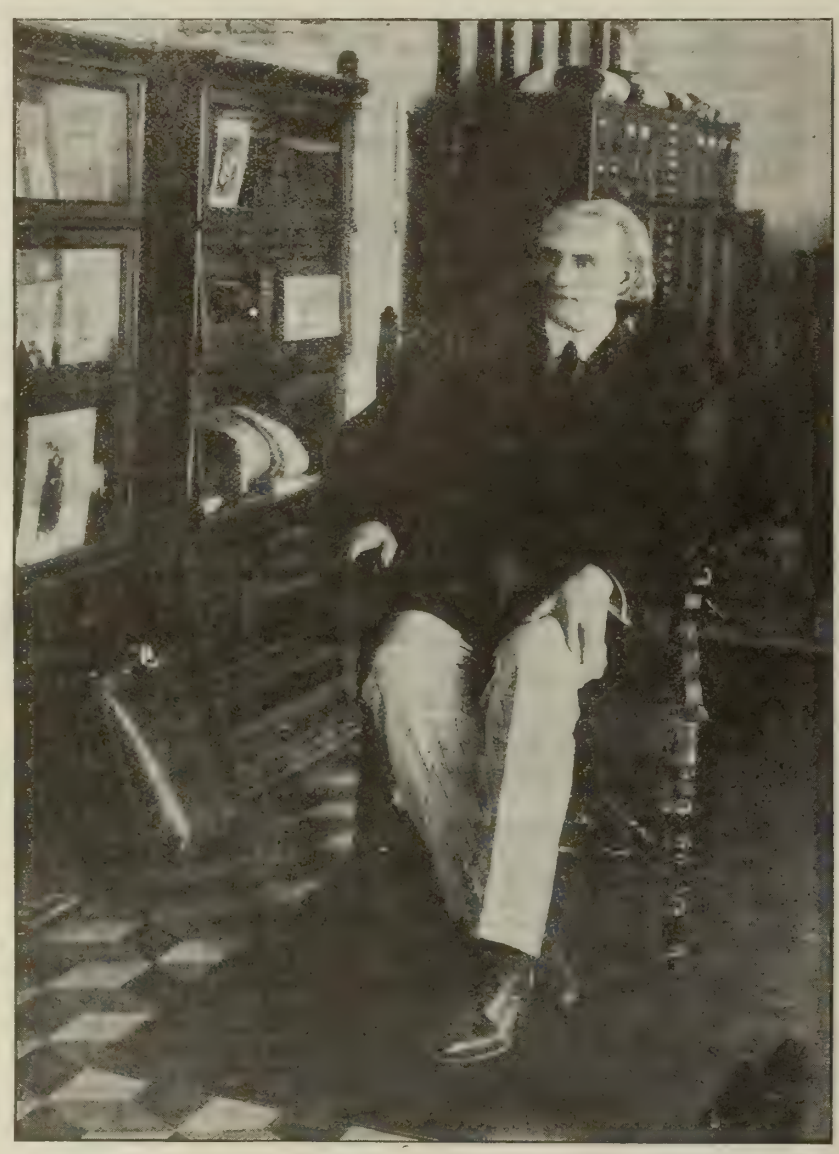
Monterey lies in a rich mineral country. The mountains about it yield silver and gold and its railroad facilities are such that it has coal and iron. The most of its industries are highly protected, and the steel it makes costs almost double what the price would be if no duty were paid.

Metropolis of Northern Mexico.

Now take a look at the city itself. Monterey is the metropolis of northern Mexico and it is a fair sample of an up-to-date city this side of the line. It lies six hours by train from the United States boundary, in a beautiful valley, which is as high above the sea as the top of the Blue ridge.

The valley is surrounded by mountains as ragged as those of the Rockies, which now shine in opalescent hues under the rays of the semi-tropical sun. One of the peaks looks just like the hump of a gigantic camel and another has a head like a bishop's miter. The Sierra Madre, or Mother range, in this clear air, seems to be a great etching cut by the stencils of the gods.

The slopes of these mountains are thirsty and dry, but the valley is green and the Santa Catarina river, which runs through it, gives it irrigated fields. It also brings floods which, at times, carry away buildings and drown hundreds of people. Only about three years ago it swept away hundreds of houses and destroyed over 5,000 people.



Consul General Philip C. Hanna, Uncle Sam's Chief Representative in Northern Mexico

Monterey lies on both sides of the river. It is a flat city of perhaps 90,000, mostly made up of one or two-story buildings, built close to the streets, the rooms running around courts or patios, in which are all sorts of vegetation. A little American boy here, in writing back home about Mexico's buildings, said:

"In the United States we put a yard around the house. Here in Monterey the people build the house around the yard."

This well expresses the sight we have from the house top. Every building incloses a yard, and we can see banana trees, bushes and other vegetation growing out of the houses. The roofs are all flat, and the city is more like one of the orient than of the North American continent. At first sight it reminds one of the Spain of a hundred years ago, but this impression fades as you see not far from the principal plaza a million-dollar hotel of reinforced concrete and some big business blocks of the same material, while further out are many new villas of American style.

Now turn your eyes to the streets. They are narrow, and they cross each other at right angles, with plazas or parks here and there. The town is paved with brick, and it has a brick factory, which is turning out tens of millions of brick every year. In some sections American buildings are going up made of brick, and the age of brick and concrete seems to be crowding that of adobe and stucco. The concrete construction is largely the work of an American architectural engineer, J. F. Woodyard, who has been installing such buildings all over Mexico.

Fat Investment for Canadians.

As we look at the streets we can see the electric cars flying through

A DIFFERENCE

It Paid This Man to Change Food.

"What is called 'good living' eventually brought me to a condition quite the reverse of good health," writes a New York merchant.

"Improper eating told on me till my stomach became so weak that food nauseated me, even the lightest and simplest lunch, and I was much depressed after a night of uneasy slumber, unfitting me for business.

"This condition was discouraging, as I could find no way to improve it. Then I saw the advertisement of Grape-Nuts food, and decided to try it, and became delighted with the result.

"For the last three years I have used Grape-Nuts and nothing else for my breakfast, and for lunch before retiring. It speedily set my stomach right and I congratulate myself that I have regained my health. There is no greater comfort for a tired man than a lunch of Grape-Nuts. It insures restful sleep, and an awakening in the morning with a feeling of buoyant courage and hopefulness.

"Grape-Nuts has been a boon to my whole family. It has made of our 2-year-old boy, who used to be unable to digest much of anything, a robust, healthy, little rascal weighing 32 pounds. Mankind certainly owes a debt of gratitude to the expert who invented this perfect food." Name given by Postum Co., Battle Creek, Mich. "There's a reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.—Advertisement.

them, and this reminds me of the fat contract which McKenzie & Mann, the Toronto capitalists, have gotten out of this town. They came here four or five years ago and obtained a concession for putting in water works, sewers, electric lights and the street railways, and in payment made a contract with the government for bonds equal to the amount invested at 10 per cent interest for ninety-nine years. The contract was so worded that the more money they spent the better the bargain, and I am told that the improvements were made regardless of cost. The money was borrowed in England at low rates of interest, and remittance men and other second sons of the lenders were sent over and given fat jobs. Not a few of these hired men lived in state, having their own saddle horses, and among the crowd promenading the plaza at night could be seen these men striding about in their riding clothes and puttees.

McKenzie & Mann also planned the building of a big hotel at the Topo Chico Springs, near here, and they have also a farm of over a thousand acres which they are fertilizing with the city sewage. I understand that they are experimenting with Egyptian cotton, and that the estate promises to be a valuable one.

As to the debt incurred for these public works, Monterey will be loaded with this interest for a long time to come, and, whether it will be able to pay the principal remains to be seen.

Americans in Mexico.

There are several thousand Americans here in Monterey. They are interested in the stores, in plantations and in other business. There is a newspaper published in English and Spanish, and a number of our citizens have bought lands along the road from here to Tampico. I had a talk with Consul General Phillip C. Hanna, who has had charge of our foreign business in northern Mexico for the last thirteen years. He has his office in this city and has twelve consuls under him, stationed in different parts of the northern half of the republic, from whom he receives frequent reports. He tells me that Mexico was on the edge of a boom at the time the revolution broke out, and that the republic had then at least 50,000 Americans who were engaged in business of one kind or another. There were 20,000 or 30,000 in northern Mexico and little colonies in every city of size. Since the revolution, some of these people have left, but the exodus was composed chiefly of the wives and children of those Americans who lived in out-of-the-way districts and of Americans who have gone away on account of the depressed business state which the unsettled conditions have caused. There are still many American business men scattered all over Mexico. General Hanna thinks the number is perhaps 80 per cent of that before the revolution began. He tells me that the opportunities here are great for the investment of American capital, and predicts that there will be an American invasion as soon as the country is stable.

He also estimated that there are something like 200,000 Mexicans in the United States, and that there are perhaps 130,000 in Texas. There are many in Arizona and New Mexico. The sons and daughters of the better Mexican families of the republic are now being sent to our country for their education, and there is scarcely an American college which has not its Mexican students. Many of the boys are taking engineering and agricultural courses, and at the same time many agricultural experts are being brought here from the United States to give advice to the farmers and to show how to make the big estates pay. Some of these are exclerks of our Agricultural department, who are paid double the salaries they have been getting at home, and others have come from our state agricultural colleges.

Mexico in 1913.

I am surprised how little the average citizen of the United States knows about Mexico. We send 150,000 Americans to Europe every year, and they spend an average of a thousand dollars apiece, or a total of $150,000,000. They tramp themselves tired in the galleries, and scratch Holland, France, Germany and Italy as with a fine tooth comb for strange customs and costumes. They do not find them. The truth is the Europe of today is all one. It is practically the same as the United States, and if one would see the big things of travel he had better go to the lower part of our own continent.

This Mexico is a world in itself, and it is a world of strange sights and strange people. It has a population of more than 15,000,000, and of these at least 12,000,000 are Indians, the descendants of the Aztecs. They cannot read or write, and in many respects are about the same as the Aztecs of the Montezumas. The other 3,000,000 Mexicans are the descendants of the Spaniards or of those with a large admixture of Indian blood. They also have their queer costumes, and as one rides through the country he sees a new picture at every turn of the eye.

Picturesque Scenes.

Coming here from the Rio Grande, I saw lusty, brigandlike men wearing great sombreros, the crowns of which rose a foot above their heads and whose brims were a foot wide all the way around. Some of these hats had hoops of silver about them as thick as your wrist and gorgeous in trimmings of silver and gold. Not a few wore coats or short jackets, oranamented with bright silver buttons. The trousers of some of the men were striped with silver braid, while not a few had silver-mounted revolvers hung to their hips. At some of the stations men so dressed galloped up on horses, also gayly appareled, and, looking across the country, we now and then saw troops of cavalry dashing over the fields.

The lower classes were even more picturesque. The Indians wore high hats of straw and blankets or serapes of all colors of the rainbow, and the women had dark blue cotton shawls over their heads, so draped that only the upper half of the face showed. Not a few had bright red skirts and bright waists and some were barefooted, showing a little more of the ankle than the prudes of America allow.

World of Mexico.

This is one of the human phases of this world of Mexico, a world which was born when the Spaniards began to marry the Aztecs in the days of the Montezumas. Physically there is no fairer world in this universe of matter, and in natural resources there is none richer. Let me give you some idea of its extent. There are only four other republics on this hemisphere which have as much land. Mexico is equal to the whole United States east of the Mississippi river, and its coast line on the Atlantic and the Pacific is so great that if it could be joined it would extend from San Francisco to London and leave some to spare. It would more than reach from Los Angeles to Manila in the Philippine islands. The country is about as long as from New York to Salt Lake City, and its breadth at the top is as great as the distance between Philadelphia and Indianapolis. The land is shaped like a great horn, the roots of which are fastened to the United States, and the tip of which is Yucatan. It slopes from both sides to the top, and there are ridges with great mountains upholding a vast rolling tableland, the most of which is a mile above the sea. The mountains comprise some of the highest of the Rocky mountain system, Mount Orizaba being over 18,000 feet high and Popocatepetl only a few hundred feet lower. Mexico has volcanoes as high as Pike's Peak, the names of which we hardly know, and it has more than fifteen which range from two miles to three and one-half miles in altitude.

Crops All the Year Round.

This land is one of many climates, and of almost every crop desired by man. In the low coast lands are all the fruits of the tropics, and American companies are now setting out banana plantations not far from the Mexican gulf. A little higher up coffee grows, and in other sections rubber can be profitably raised.

Here on the plateau the climate is like an Ohio June all the year round.

(CONTINUED ON PAGE FORTY.)

CURES LAME HORSES

While They Work

Without Leaving a Scar or Loss of Hair.

Mack's $1000 SPAVIN REMEDY

The Only Spavin Remedy in the World Sold Under a $1000 Bond.

FOR SPAVIN, RINGBONE, THOROUGHPIN, CURB, CAPPED HOCK, SHOE BOIL, SPRUNG KNEE, LACERATED AND RUPTURED TENDONS, SWEENY, ETC., it is **unsurpassed, frequently imitated, but not equalled.**

OUR FAITH is such that we can afford to **GUARANTEE MACK'S THOUSAND DOLLAR SPAVIN REMEDY** and furnish with every bottle a **$1000 WARRANTY BOND,** which insures to you the return of your money if the **results** from its use are not **entirely satisfactory,** and if it does not **overcome** all forms of **lameness,** from whatever cause.

Your Remedy Is a Wonder

Milwaukee, Wis., Mar. 21, 1912.
McKallor Drug Co., Binghamton, N. Y.
Dear Sirs:—I wish to advise that I have **entirely cured** the Curb on my driver in less than three weeks with your **Mack's Thousand Dollar Spavin Remedy.** It is all you claim it to be, and is the best remedy I have ever used.
Yours very truly,
Wisconsin Lakes Ice & Cartage Co.
Per Jos. G. Meyer, Supt.

FREE Veterinary Advice

We have associated with us a Graduate Veterinarian to answer all questions regarding lameness in horses, free of charge. Mark a cross on picture of horse showing where lameness is located and cut out and mail same to us. You will receive instructions how to cure the trouble. If your druggist can't supply Mack's Thousand Dollar Spavin Remedy remit price direct to us and we will send at once, prepaid. $5.00 per bottle—and worth it. Accept no substitute. Our valuable book, "Horse Sense," sent free to any address.

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are made of our patent, porous, Ventiplex fabric. It's full of little air passages, allowing a free circulation of air. Absorbs moisture like a blotter. Draws it right through to the outside from whence it quickly evaporates. Easily washed. They keep the horse's neck and shoulders clean, dry and free from sores, galls, etc.

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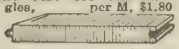

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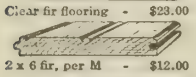
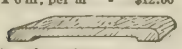


2 x 6 fir, per M - $12.00



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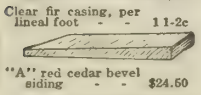
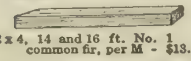


"A" red cedar bevel siding - - $24.50



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We need all you can send, **right now. We pay the prices we quote;** give liberal assortment, do not undergrade, and **remit cash in full same day shipment is received.** We charge no commission. Send today for our free price bulletin quoting highest cash prices which we **actually pay,** free tags and full particulars.

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If so, three things are necessary in buying your material. First, quality; second, service; third, price. When it comes to quality, that's our hobby. Service, no one is better prepared. Price, "We are there." No one is as well equipped as we to ship your entire wants in the Building Material line from one place, in one shipment, at one time. In addition our stock is centrally located, which means a big saving in freight rates. We make a business of shipping Lumber, Millwork, Hardware, Paint, Cement and everything required for any kind of building direct to the consumer. If you are going to build, it will pay you well to get our catalog and prices.

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prevent damage to eggs, garden truck, fruits, live stock on road to market. Make any wagon a spring wagon. Soon save cost—produce brings bigger prices—wagon lasts longer—horses benefited—thousands in use—"my wagon rides like auto" says one. Get a pair at dealers. If not at dealer's write us. Insist on Harvey's. 40 sizes—fit any wagon—sustain any load to 10,000 lbs. Catalog and fistful of proofs free.

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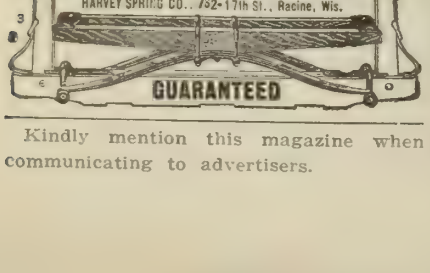

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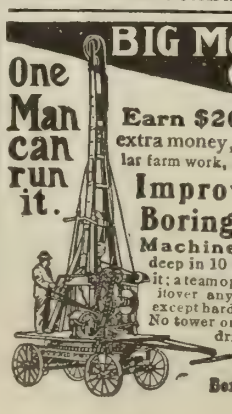
One Man can run it.



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Improved Powers Boring and Drilling Machine. Bores a well 100 ft. deep in 10 hours. One man can run it; a team operates it and easily moves it over any road. Bores everything except hard rock, and it drills that. No tower or staking; rotates its own drill. Easy terms; write for catalog.

Lisle Mfg. Co. Box 520, Clarinda Iowa.

Kindly mention this magazine when communicating to advertisers.

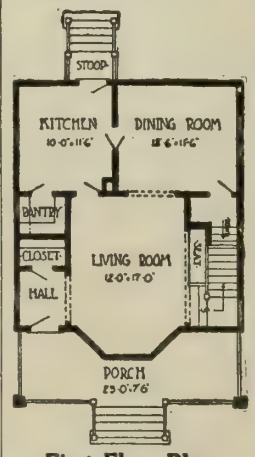
Modern Homes for the Farmer

WE BELIEVE that every one of our readers is more or less interested in home-building and home adornment. Practically every farmer who is in a position to think of building a home likes to get ideas and suggestions along this line, and therefore it is our idea to give our subscribers the very best plans and ideas that we can get hold of—homes that can be built thoroughly and attractively at a small cost.

We have shown on this page one of the most attractive homes for the farmer that we have ever seen. It is large enough to accommodate the average size family and is equipped with every convenience that the most up-to-date home in the city has.

This Attractive 6-Room Home Can Be Built for $1,952

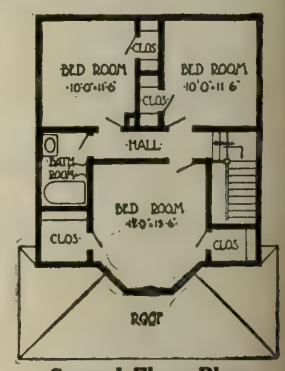
In the picture shown above we have not been able to give you as clear a conception of this attractive little home as we would like, but it will answer the purpose and convey to you what can be done with a small sum of money if the money is properly handled. This six-room cottage is considered by many farmers who have built it to be the most practical and best arranged home that they could build. The interior arrangement is especially pleasing. From a large porch extending across the long front of the building one enters into the reception hall and from thence through a wide-cased opening to the main living room. The living room is large and pleasant with its handsome staircase and built-in seat. Then there is a bay window that extends across the front of this room and makes a very nice place to sit in on dark, gloomy days. The kitchen and pantry are unusually well lighted and very conveniently located with reference to the dining room.



First Floor Plan

Now, on the second floor of this tasty little home there are three spacious bedrooms and each one of them has a closet larger than the ordinary house of ten rooms. The spic-and-span tiled bathroom on this floor makes another big up-to-date feature of this modern cottage, and is equipped with every modern convenience.

The finishing of a home of this kind is one of the most important features and you will not be one bit disappointed when you see how thoroughly attractive the designing of this house is. Your reception hall, living room and dining room are trimmed with oak, have fine oak floors, oak doors and a handsome oak staircase leading to the second floor. All of the other rooms of the house are finished with high-grade, southern yellow pine which can be shellaced and varnished and given just as much polish as the best oak trim you ever saw. On the outside of this cottage two coats of paint are all that is needed and, of course, this will be a matter determined solely by your own individual taste. But just imagine for a minute what a pretty place this would be painted in white, with a dark green stain on shingles and on the roof of the porch, with the windows and other trimmings put in dark green. Who wouldn't like to have a home like this? Where is there one of our readers who wouldn't be mighty



Second Floor Plan

Allcock's PLASTERS

A UNIVERSAL REMEDY

For Pains in the Back.

Equally effective for all sorts of aches and pains the result of taking cold, overexertion or strain.

Allcock's Lotion

—Rubs right in.

Something new and good. For rubbing where it is inconvenient to put a plaster. Wonderful in cases of croup, whooping cough and all local pains. Guaranteed to be an A-1 Liniment. Price 50c. a bottle.

Send 5 two cent stamps for sample bottle.

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Brandreth's Pills

Entirely Vegetable.

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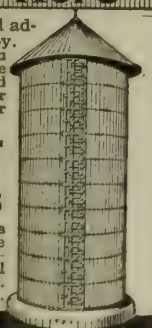
Send us your name and address at once for your copy. Learn about the silo door you can open and close with one arm. Most convenient, and safest. Lets you keep silo door closed airtight protecting your silage all year around.



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Reduces planting costs to a minimum. The Eureka opens the furrow, drops seed accurately any distance or depth desired, puts on fertilizer if wanted, covers perfectly and marks next row. Always plants uniform depth. Three sizes, one or two rows.

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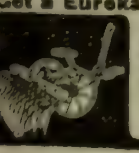

Creates dust mulch, cultivates and weeds, sows and covers grass seed, alfalfa, oats, etc. Prompt shipment from branch house near you. Write for Free Catalog.

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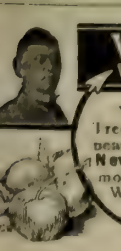

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WE GROW AND GUARANTEE THEM

We offer 500,000 First Quality Trees. All varieties of apples, peach, pear, cherry. Evergreens by the million. **New Catalog for 1913 just out**—Save money. Get our wholesale price list. Write today.

WRAGG NURSERY CO.

Des Moines, Ia.

pleased to bring his friends along the road and say, "Yes, sir, that's my new house, and I'm mighty proud of it, too?"

Now about the price of building this six-room home.

In order that we might be in a position to tell you just exactly what this home would cost and render to you the very best service possible, we have gone into this home-building department very thoroughly and trust that a large percentage of our subscribers will see fit to act upon our suggestion to get the plans for these homes that we will show from time to time. It is not an expensive procedure to erect a house like the one shown on preceding page; in fact, when we tell you how cheaply this six-room house can be built we wonder if you will appreciate how really good it is.

If you have a fifty-foot lot, or have been wanting to put up a home on your farm, just let us tell you right now, you cannot do better than build a home like we show you herewith. All the material complete necessary to build this six-room house, consisting of all lumber, lath, shingles, doors, windows, trim, mill work, guttering, tin work, sashweights, hardware, nails and painting material—absolutely everything complete. Mr. Reader, except the actual labor of the building, brick, cement and plaster—the cost for all this is only $890. Just think of that! Only Eight Hundred and Ninety Dollars! for such a snug, cozy place as this. To build this home complete and include the labor, bricks, cement and plaster, it will not cost you a cent over $1,952, and if you are in a position to get men at this time of the year who will work cheaply, you might even be able to reduce this figure very materially.

This is just one of the attractive pictures and plans that we have here in our office, and we expect to feature these houses from time to time for the benefit of our readers who are determined to get all modern city conveniences on the farm.

Editor's Note—Any of our readers who are interested in the planning or building of houses or barns will be furnished with full information free as to the cost of plans, etc., by writing the editor. We are always glad to hear from our readers and to advise them about such matters. Why not write in tonight and take advantage of the excellent service and cooperation that this paper offers you?

Buckeye Boys Great Boosters

Run Corn Special from Ohio to National Capital

NO ONE can boost so enthusiastically as a boy, and no one can boost so effectually as a boy who has proven his ability to do something, and so it happens that Ohio could not have had a better advertisement than the trainload of 300 boys which it sent to Washington in December. Three hundred Ohio farm boys, who can raise corn better than their fathers—and their fathers know something about raising corn, too—300 boys who went boosting for Ohio, singing Ohio songs and yelling Ohio yells.

The corn contest was inaugurated by the Ohio State Board of Agriculture, a trip to Washington being offered to the boys raising the most corn in their respective counties on a one-acre tract. The business men of Ohio—the bankers, the grain dealers, the grangers and other farmers' organizations—willingly furnished the money to run the corn special to Washington, and 1,000 boys, and even one girl, entered the contest, while half of this number and the one girl finished. And they must have done some hard studying and careful planning, as well as having worked hard, for while their fathers have averaged a corn yield of about thirty-five bushels to the acre, these boys averaged eighty-five bushels, a gain of about fifty bushels to the acre over their fathers; and ninety-three of them produced more than 100 bushels to the acre. And not one of these boys was more than twenty years old, while the average age was only 16.

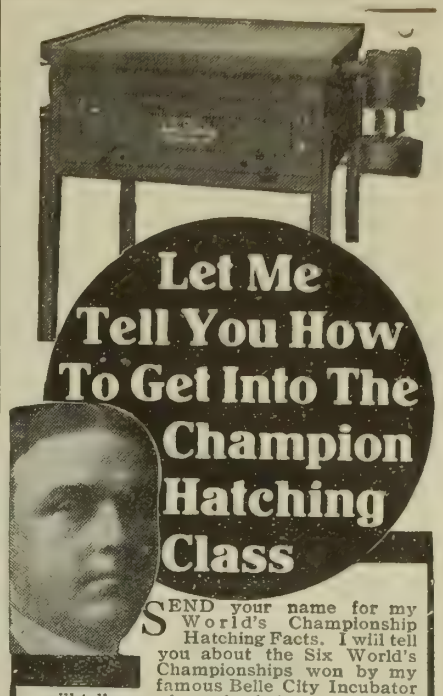
Young Dewey Hanes of Darke county was the champion, having raised 139 bushels of corn on his one-acre tract. He chose some land that had been in alfalfa a number of years. This he tile-drained and fertilized with ten loads of manure and 600 pounds of commercial fertilizer containing 10 per cent phosphorus and 6 per cent potash. His seed was carefully selected and he planted on May 9. He cultivated frequently and carefully, and by November 10 his crop was harvested.

The one girl who entered the contest, Miss Mary Whitacre, aged 14, produced a yield higher than the average reached by the boys—eighty-eight bushels—an achievement never equaled by any girl of like age in the United States; and she dug, spaded, seeded and cultivated her own acre, and when the corn special went to Washington Miss Whitacre was in the party.

Besides the winners in the contest, about 100 boys were able to make the trip with them, paying the expenses of the trip from money realized from the sale of the corn they raised in the contest. Still others not winners were permitted to go through the interest and generosity of private individuals.

A. P. Sandles, secretary of the Ohio State Board of Agriculture; C. M. Ginther, editor of Country Life, as the special representative of Governor Cox; a representative of the State Grange, of the Bowling Green and Kent normal school, and of the state school commissioner's office, accompanied the party.

It was a great week for the future farmers of Ohio, but a well earned good time, and it is not to be wondered at that, after such a successful contest in 1912, the Ohio State Board of Agriculture announces another one for 1913, which will include, besides corn, tobacco, sugar beets, wheat, canners' products and city gardens, and it is rumored, too, that it will be open to girls as well. Is it any wonder that they expect to carry 1,000 boys and girls from the Ohio farms to Washington in 1913?



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SEND your name for my World's Championship Hatching Facts. I will tell you about the Six World's Championships won by my famous Belle City Incubator—will tell you about the folks who won the prizes, how they did it and how **you** can get championship hatches **right from the start.** My

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has defeated all other incubators, many costing two to five times more than my price. **Used by U. S. Government after a careful investigation.** I want to tell you about the features I have embodied in the Belle City which made them the Championship Hatchers of the World. **I want to tell you about my famous Double-Walled Hot Water Top-Heat Brooders guaranteed to raise the chicks.** I'll tell you all about my manufacturing, selling and shipping plan that makes my remarkably low price possible.

Get My Lowest Price

Just say, "Send World's Championship Hatching Facts." I'll quote you my lowest price, freight prepaid—**tell you how you can have 1, 2, or 3 months home test at my risk**—how I protect you by my personal 10 year guarantee. I'll send you my portfolio of all these hatching facts—free, if you write me a postal. Address Jim Rohan, Pres.

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CUP ELEVATOR

Always ready for use. Placed inside the crib in the dry. Easy running, durable and strong. Elevates oats, wheat, or ear-corn, 50 bushels in three minutes.

SET IN YOUR CRIB BEFORE YOU PAY

The first successful **Upright Ear Corn Elevator made—SOLD DIRECT to the Farmer.** Free Catalog showing 8 styles with crib plans which save you money. Write for it today.

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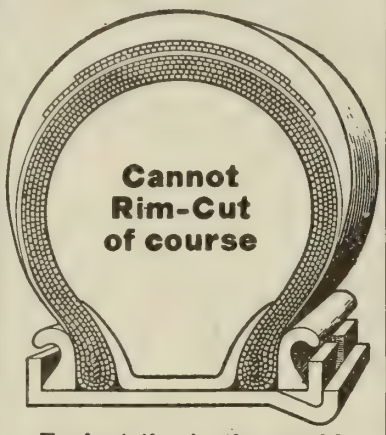

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BARGAINS IN FRUIT TREES
16 Apple trees, ass't 2 to 3 ft., $1.00.
12 Cherry trees, ass't 2 to 3 ft., $1.00.
50 Concord grape vines, $1.00.
Free catalog and due bill on request.
Benson-Omaha Nursery, Benson, Neb., Drawer 4.

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Save dollars by saving heat. A wind-swept home is a cold home. Shivering cattle take on no fat. Cold hogs make the smallest gains. Wind-tossed chickens lay no eggs. Protected gardens get the earliest start.
TRANSPLANTED
100 EVERGREENS $7.50
Express Prepaid.
These trees have been transplanted and root-pruned, insuring an abundance of fibrous roots—nature's guarantee of life to young trees. They are backed by the fairest guarantee of any nursery in the United States and by the forty years' reputation of
IOWA'S GREATEST EVERGREEN SPECIALIST.

I ship direct from the ground on the day the order is received. The trees you buy of agents have been out of the ground often three weeks. That is why they don't grow. Buy direct of me and you will be satisfied. We can also sell you prize-winning "True-to-Name" Fruit Trees and berry plants guaranteed to prove hardy or cost you nothing. Catalog of special bargains FREE.
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THAT GROW — Genuine — Unadulterated
No matter how valuable your land; no matter how much you hoe, weed and dig; no matter how much the sun shines nor how much it rains; nor how much you irrigate your land. Your efforts are all in vain and your money lost if you get cheap seed. Why take a chance—even if you get your seed for nothing—of sowing stale, low germination test, inferior seed when you can get **Absolutely Pure, Genuine** and **Unadulterated Seed** from us. We sell only one quality—the best; no second or third qualities.
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All packed in big envelope which is good as part payment on future orders. Good for 25c on orders of $1.00 or more. Collection contains one regular 10c packet each of Champion Pickle Cucumbers, Matchless Tomatoes, Prize Head Lettuce, Southport Globe Onions, and large G-B Mixed Sweet Peas. Nothing like equal value ever offered before.
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Fashions : Neat Designs in House Dresses

THE negligee or lounging robe is now made of such beautiful and infinitely becoming materials and along such graceful lines that it is oftentimes worn outside its restricted realm. Though it ought to be relegated exclusively to the bed room, the wearer no longer feels embarrassed when chance visitors happen in. She knows that she looks so much more fetching and feminine in the flowing, easy lines of soft materials and dainty trimmings than in her tailored street garb. Very few women, especially those who are stout, would go without their corsets or some means of support when they don their negligee, consequently the trimness of figure makes it quite proper to receive unexpected callers.

Cotton crepes, voiles and dotted and figured Swisses over daintily-colored slips, flowered dimities, silk mull and various other inexpensive silks are among the washable lightweight materials appropriate for the negligee.

Crepe de chine is one of the latest fashionable fabrics employed for its development; it is a delightful silk in many ways. Besides being pretty and containing all the clinging, graceful qualities so much desired, it can be washed time and time again with excellent results, laundering beautifully. Very little embellishment is necessary because of its natural attractiveness. Medallions of Cluny or Irish lace are seen on some of the expensive crepe de chine models, but simplicity really adds to the charm of the fabric. What is essential is a good pattern, with smart, becoming lines by which the home dressmaker, or even the novice, may cut and fashion a garment of which she can be truly proud.

Empire lines and kimono sleeves are at present very popular for the negligee, and they are far more becoming to the average woman than the natural waistline styles and set-in sleeves. Princess effects are still favored, but the looseness of fit about the waist must be evident, according to Fashion's decree. Peplums and postilions are both effective and modish features adapted to the negligee, while lace frilling in very wide widths in white and ecru tone forms a pretty neck and sleeve finish. The length is a matter of personal taste. Some women prefer the regulation length, while others favor the sweep in different phases. Sacques are most frequently in three-quarter lengths. The neck is cut moderately low in all and the three-quarter or elbow sleeve is considered correct, although shorter length is seen.

4369 4673 4390 4896

Description of Patterns

4369—Very trim is this little house dress of tan and brown plaid, lightweight woolen material. Plaids are always at their best when combined with plain material; the plain tan serge applied here tones down the rather striking effect of the plaid. A touch of hand embroidery on the large collar, done in a lighter tan, is an added mark of daintiness very desirable on a morning dress of this character. The back of the large collar may be in square or rounded outline and the attached five-gored skirt is made with high waistline and measures 2⅛ yards around the lower edge. Costume No. 4369 is in sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 3¾ yards of material 44 inches in width. Price, 15 cents. Embroidery design No. 11749, containing 14 sprays, price, 15 cents for perforated or transfer pattern.

4673—With well-fitting patterns within the reach of all and a wide selection of designs that are exceedingly simple in construction to choose from, there is no reason why the woman of even the smallest means should not provide herself with neat house dresses. Nothing would be prettier or more serviceable than a house or morning dress in a lightweight gray worsted material made like the model illustrated. Black and white-checked silk used for trimming makes a pleasing combination. The pattern supplies a high collar and shield in case the low neck is not desired; cuffs also are provided as a finish when short sleeves are used. No lining is required, and the attached six-gored skirt is 2⅝ yards around the lower edge. A plait in the lower part of each side seam gives greater freedom in walking. House dress No. 4673 is in sizes 32, 34, 36, 38, 40, 42, 44, 46 and 48 inches bust measure, size 36 requiring 4¾ yards of 44-inch material, with ¾-yard 27-inch contrasting fabric. Price, 15 cents. Scallop design No. 11694, price, 15 cents for perforated or transfer pattern.

4390—This design is decidedly attractive. The fullness in the waist, imparted by the tucks at the shoulder, will prevent the flat look which the overslender woman is apt to have, and at the same time the blouse, not being too full, will be equally suited to the stout woman, on the principle that a large figure should not be too clearly defined. The tucks at each side of the skirt are very becoming and do not interfere with the much desired narrow effect. As illustrated in plain and striped, light blue gingham, the dress is suited as a working house dress, but the design need not be restricted to this purpose. Made up of suitable materials, the dress could be used for street wear. The closing is at the back, and the skirt, which is cut in three gores, is about 2¾ yards in width. Costume No. 4390 is in sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure, size 36 requiring 6 yards of 27-inch material. Price, 15 cents.

4896—It would be difficult to find a prettier design for a house dress than that illustrated under this number. The dusting cap which accompanies the dress is decidedly becoming, a fact which will certainly appeal to the average woman. Black and white-checked gingham is a practical selection for the dress; the cap is here shown in gray chambray with a flap of the dress material. Percale is also an excellent fabric for wash dresses. A standing collar for a high neck finish and long sleeves may be selected if desired. The attached four-piece skirt shows the high waistline, and measures 2¼ yards in width. This model may, with the use of suitable materials, be adapted for an outdoor toilette. House dress with cap No. 4896 is in sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 7¼ yards of 27-inch material, with ¾-yard extra for the cap. Price, 15 cents.

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TRIO

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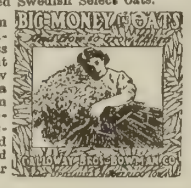

This book was written by William Galloway, Professor Bowman, and other seed experts. It contains priceless information—worth real money—about how to make big money in oats; how to make a seed bed; how to start a seed patch, how to make oats stand on rich ground and how to grow a bumper crop of oats. It is profusely illustrated by photos from actual life, and contains besides facts, figures and opinions as given by farmers all over the country.

Now remember, this book is free for the asking, and we will send it to you together with a free sample of the oats, or better still, enclose ten cents to cover cost of packing and postage, and we will send you a **Big** sample packet, or a **Triple** Size for 25c, and for 50c, a packet **three times the size of the 25c packet,** and what is more, the empty packets will be accepted the same as cash in part payment on any future orders you send in.

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These kernels in a pod, from an actual photograph as grown on our big Canadian Seed Oats farm.

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Enclosed find 20 cents to pay for postage and packing.

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Silverware Department
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Of Interest to Our Women

The Hunchback Newsboy

He was just a little hunchback,
But he always did his best,
As he sold his evening papers
With such energy and zest.
"Have a paper? You will find it
Filled with items of the day;
It will rest you if you're weary,
And will help you 'long the way."

When the nights were damp and chilly,
Or when waiting in the rain,
For the car to come and take us
From our labors home again,
He would stand out on the corner,
At his old accustomed place,
And would hand me out a paper,
With a smile upon his face.

It was like a benediction
Just to hear his cheery voice—
"Evening paper, evening paper,"
Calling loud above the noise,
Always cheerful—no complaining
In the cold and sleet and snow,
How he worked to sell his papers
Every one before he'd go.

But one night there came a whisper
Full of tenderness and love,
Saying, "I have come to take you
To the mansions built above."
Then "He wrap't him in His mantle"
And He carried him afar,
'Way beyond the noise and tumult,
Or the rumble of the car.

Sometimes now, when I am waiting
On the corner for the car,
I am thinking he is calling
From beyond the "Harbor Bar,"
And in fancy I can see him,
"Little Hunchback," straight and strong,
In that city made of jasper
Happy with the white-robed throng.
—Sarah Wood Cashner.

Our Home Chat

We owe one of our contributors an apology and hasten to extend the same. Recently an article was published written by our friend, Nancy J. Havens, on school conditions as she knew them when a school girl in the south. Through some error the time was placed as forty years ago, when it should have been twenty years. Twenty years is a long time, especially when it is added to a woman's age in a lump sum, and we very gladly make the correction! However, we feel that those who have read Mrs. Haven's writings and recognize her youthful, buoyant spirit would require more than a printer's error to convince them that she is other than a young matron.

Mrs. Cashner has again remembered us with an original poem of unusual merit. It is easy to believe that the warm sympathy which breathes from every line of the poem comes from her own warm, motherly heart. We are always glad to hear from "Aunty" Cashner, as she has been affectionally called by many of our readers.

This department is open to anyone who has a message for us, though the invitation to contribute cannot be given individuality, as will be understood when you take into consideration that The Twentieth Century Farmer goes into more than 100,000 homes. If you have something helpful to pass along, state it as briefly as may be possible and send it to this department. This is your department, not the editor's, and its pages are open to you. THE EDITOR.

The Aviation Cap

For the school girl and for the adult on cold days the aviation cap is bound to be as popular as last year. The child may have it terminate in a point, and caught down at the side with a tassel, but for the larger people a rounded crown is preferred. Fifty cents' worth of yarn will knit an ordinary cap, the Germantown being a popular brand. If of ordinary size, use it double, but it should be knit single if the largest size yarn is used.

Commence with a chain of five stitches, using a large bone crochet hook; join, and in this make twelve double crochet In each of these make a large, loose "puff" by throwing the thread over and pulling the loop through as for DC; then, with the three stitches on the hook, throw thread over and hook into same spot, pulling through again. This makes five stitches on the hook. Throw thread over and pull through the five at the one time; this makes a loose "puff." Proceed in the same way around the circle, making two puffs instead of one in about every third stitch. Continue this, widening as taste dictates until the crown is finshed. This should be of the same circumference that is desired in the rim. Then knit four rows straight, and then five more, alternately right and wrong side out; the latter will turn up for a brim. When completed, weave a band of black velvet ribbon through the part turned up to prevent stretching when worn; or a band of white elastic tacked under the turned-up brim will serve the same purpose.

Some prefer to use "rice stitch." For this use single yarn. Knit loosely a chain just long enough to go around the head at the point where the edge of the cap is desired to reach; join, throw thread over twice, put hook through first stitch, thread over, and now pull it through all four of the stitches and loops on the hook. Continue in the same way around the chain; then use the same stitch in succeeding rounds, making each stitch between two in the round previously completed. When a space as deep as the brim desired is made, gradually narrow by taking up two loops instead of one, working the cap down to a rounded top or to a point as desired. When it is completed, knit the rim along the lower edge, working from the wrong side; then when it is wide enough and turned up it will show the right side of the work.

White is, on the whole, the most pleasing color, though grey trimmed with blue is more serviceable, and often quite as becoming. Blue and white makes a charming combination, though not more serviceable than the pure white. Knit large enough to allow pulling down over the ears, these caps are most comfortable on a cold day, and they are jaunty enough to wear on almost all occasions. BESSIE L. PUTNAM

Being Good Neighbors

Do each of us realize that to have good neighbors, one must be neighborly? Not that one must be constantly with one's neighbors, but simply be kind whenever you meet, and never wait for turns in visiting; but if you know from your observation that it is easier for you to call on a neighbor than it is for her to call on you, why, do so.

I am situated on a large ranch, with not so much of a desire to go as to have company, and my friends are very kind about coming. Per-

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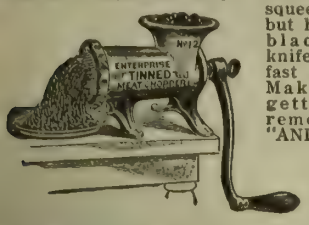

Your wife will find it an everyday help in the kitchen, too, for making the many delicious dishes that farmers' wives know all about. So easy to clean, too. It repays its cost almost every week. Enterprise Meat AND Food Choppers are made in 45 sizes and styles—hand, steam and electric power.

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haps it is the welcome they receive, but I know full well they come because they like to. Then, too, how nice to receive letters from those who have moved to distant states, descriptive of the locality in which they have moved. It is like a personal visit. If you can go, if for only a day or so, did you ever stop to think how many pleasant things one has to think of after returning home? Be neighborly and have neighbors. MRS. C. L.

Nebraska.

Make a Home of a Well-Kept House

"A woman hopes and desires to be a homemaker. She is also expected to be a housekeeper. She cannot be a successful homemaker without being a reasonable success as a housekeeper, but, unfortunately, she can be a very successful housekeeper and fail completely as a homemaker."

Thus Mrs. H. W. Calvin, dean of home economics at the Oregon Agricultural college, stated a serious problem of American life in a recent lecture.

"If her time is consumed in the routine of housekeeping, she has little strength or courage to put into that high occupation of converting the house into a home," continued Mrs. Calvin.

"The woman who has bent over the washtub or ironing board all day is not apt to be a cheerful companion to her husband at supper time, or a willing assistant to her children in the preparation of their lessons in the evening. If she has spent the day in sweeping, scrubbing and dusting, her smile will probably not be genial or her voice gentle when the small boy forgets to wipe his shoes or take off his rubbers. If, throughout the hot summer day, she has baked bread or cooked food over a hot stove, it is not probable that she will desire to spend a social evening with friends at some distance from her home.

"Since she cannot substitute other manual labor for her own (it is impossible to hire household workers), she must avail herself, as her husband has, of the best up-to-date machinery and the latest scientific knowledge. Many housewives of today started the home in the days when there was little money and extremely rigid economy was absolutely necessary. So fixed have these habits of economy become that now, when there is a greater income, these same women hesitate to spend any of it in lessening their own burdens. They have labored so long with poor tools that their husbands have forgotten that good tools greatly lessen the labor of the housekeeper."

Softening Water

Some hard water soaps have been placed on the market, but lime and soda are much cheaper for softening laundry water. Many well waters have from 16 to 18 degrees of hardness, while even river and lake waters may have from 5 to 25 degrees. Hardness is usually due to the presence of compounds of lime and magnesia dissolved out of the soils and rocks. The lime salts do most of the damage by curdling the soap and preventing its cleansing action. The curdled soap remains in the water, sticks to the fibers of the cloth and is very difficult to remove by washing, even with hot water. Water of 10 degrees of hardness will prevent the action of seventeen pounds of soap per thousand gallons of water, while water of 20 degrees of hardness will prevent the action of thirty-four pounds of soap per thousand gallons of water.

Much of the hardness of Minnesota water may be removed by the addition of two pounds of quick lime to one thousand gallons of water of average hardness. This will not remove more than about three-quarters of the hardness of the water; but it can be still further softened by adding a little washing soda. GEORGE W. WALKER.

Foundation Recipe for Cakes

A recipe for cakes which may be used as a foundation for all kinds is given in Domestic S[illegible]nce Circular No. 2, just issued by the Oregon Agricultural college. It is as follows:

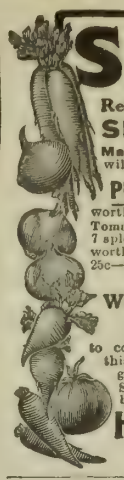
Butter, half-cup, or six tablespoonsful of other fats; sugar, one and one-half cups granulated, or two cups powdered; eggs, four whole; three-quarters cupful milk or three-quarters cupful water; four level teaspoonsful baking powder; half teaspoonful salt; one teaspoonful flavoring. Use the butter or fat firm, and add the sugar to it and mix well. To this the yolks of the eggs are added after beating them until creamy. The baking powder and salt are sifted into the flour and this and the milk are added alternately to the first mixture and beaten to a smooth consistency. The egg whites beaten stiff are folded in then, the flavoring added and thoroughly mixed. A moderate oven should be used in baking cakes. The addition of spice will make this a spice cake, of fruit a fruitcake.

Country Club

A community in the vicinity of Crookston, Minn., is proving that country life can be made much more pleasant and attractive than is commonly believed. Twenty women formed the Fairfax-Andover Social Circle and later arranged to meet every month in the year and to invite the men as honorary members.

The day of meeting is observed as a holiday and work is over when the chores are finished. The meetings are called to order by the president promptly at noon. Roll call is not a dull reading of names, because each member responds with a choice bit of literature committed to memory since the last meeting. After a program composed of papers and formal talks someone proposes a topic for discussion. The members speak on various phases of the subject and finally someone sums up the arguments presented. This discussion brings the members a good opportunity for better acquaintance and gives excellent training in extemporaneous speaking. The club causes an interchange of ideas that brings greater farm profits, as well as pleasure to its members. It has helped to make a happy neighborhood, to lighten sorrows of neighbors and increase the joy of companionship. C. G. SELVIG

SEEDS



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Thousands know the prime excellence of these Grass Seeds. They are clean, carefully selected, and the mixtures are properly made. Write today for prices, also for free book showing superior line of Garden and Field Seeds. You can afford to seed now as we furnish Timothy, Blue Grass and Meadow Fescue at half last year's prices.
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Makes complete tests in three to five days. Adapted to the Saturation, the Saw-dust or Sand, and the Earth or Soil test. Six Sizes: 2½ to 66 bushels. This machine is also the
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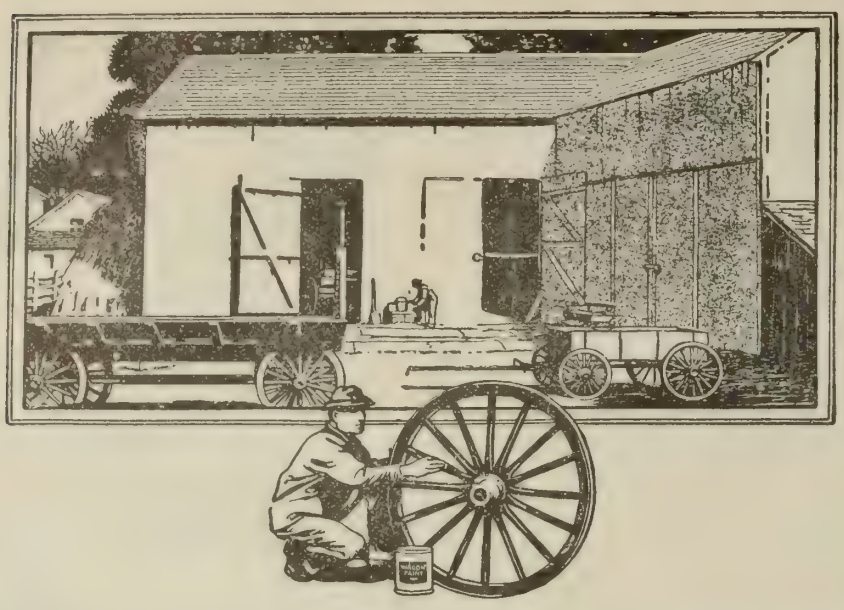
Picked in September, sure growing big yielding Reid's Yellow Dent Johnson County White, Leaming Improved Silvermine, and Bloody Butcher, grown by us on Sunnyside Seed Farm which we own and operate ourselves. Send today for the free corn book giving full particulars, prices, etc.
McGREER BROS., COBURG, IOWA.

Fruit Growers Manual Free

Shows how to plant and care for an orchard, when to spray, etc. Tells how to make $400 per acre from Cherries, $300 from Berries, $200 from Grapes and $200 from Apples. I have no agents. Apple trees 5c. Cherry [illegible] per 100. Large Nursery Grown Budded Apple Trees. Low prices on other trees for fall [illegible]. Get this free catalog at once.
BUY TREES DIRECT
SAVE HALF
D. HANSEN, The Nurseryman, Box 18 [illegible] Fairbury, Neb.

BUY AT WHOLESALE Forty Fruit Trees $5.00
100 Strawberry plants 75 cents. Charges prepaid. Send for further information and Catalog. Address,
HOLSINGER BROS., Box 88, Rosedale, Kans.



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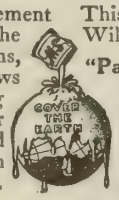
Sherwin-Williams Wagon and Implement Paint is specially prepared for the painting and refinishing of wagons, machinery and implements. It flows easily and dries with a hard, lasting gloss. It effectively prevents rust or decay, and a wagon thoroughly painted with it every spring should stay in good shape for fifteen or twenty years.



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with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made $90 one week. We mean business and want a man in your County. Write us.
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That's what hundreds of farmers' sons now earn by selling
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Equalizer Foundry Co., 2434 Burling St., Chicago

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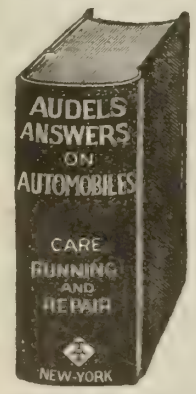
Are you interested in automobiles? If so, let us send you on seven days' free trial—without deposit—this big, new 512 page illustrated manual, entitled **"AUDELS ANSWERS ON AUTOMOBILES."**



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In this new book just the problems you are up against are solved in a way that you can easily understand, and so that you can immediately turn to your car and apply the knowledge.
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Stories by Our Young People

Giving the Chickens Their Breakfast

To an Old School House

Your door is battered, your windows are cracked,
And your sides are a dingy gray,
While the wood-house old where our store we stacked,
Has rotted and blown away.
But I stand tonight on the little plat
Of green by your crumbling sill,
And think of the merry crowds that sat
In the school house under the hill.
Of the maidens shy with their braided curls,
Of the laddies bold and gay,
Of the little boys and the little girls,
And my life of that bygone day.
Of the teacher's voice that is stilled so long,
Of my heartache when she died,
Of each nod and glance of that merry throng—
And a thousand things beside.
Your door is battered, your windows are cracked,
You have failed since that distant day.
But this, alas, is as true a fact,
I am getting bent and gray.
I have stouter grown and my knees are lame,
I'm a little deaf, 'tis true.
You've changed, old house, but all the same,
I've been growing old with you.

—Lalia Mitchell.

The Editor's Corner

If anyone is interested in a new 5-cent piece, it is the small boy or girl. There is to be issued a new kind of nickel, somewhat different from the nickel to which you are accustomed. The old Goddess of Liberty nickel has been in use for many years. The new kind was designed by James E. Fraser of New York.

The new coin will have the American bison on one side and on the other the American Indian. There will be no "V." Under the bison will be the words, "Five cents," and around the top "E pluribus unum." The nickels are being coined in the mint at Philadelphia and are stamped out at the rate of 120 a minute. They will be put into circulation at once, under date "1913." When it comes to candy, these nickels will have just the same purchasing power as the old ones, and, after all, that is a very important consideration. THE EDITOR.

(Prize Story.)

Grandpa and the Catamount

By Walter Stichler, Aged 10, Ord, Neb. Original. Blue.

In the early days of Valley county, when this country was sparsely settled, grandpa lived on Davis creek. He had been hunting and crippled a deer. As he went home he passed Uncle Will's home. Uncle said:

"Tomorrow I will help you find it."

The next day they went to find the deer. Grandpa took one canyon and uncle took the other. As grandpa was walking along he happened to look around and there, on its haunches, sat a large animal. Its eyes looked like balls of fire and it was just ready to spring on him. Grandpa had his rifle cocked and, throwing it to his shoulder, he shot and killed the animal. Uncle Will, hearing the shot, came running out of the other canyon, saying:

"Did you get him?"

Grandpa said:

"You bet I got him."

When Uncle Will saw it you could have knocked him over with a feather. Grandpa skinned it and took it home and finally stuffed it. People said it was a catamount. Not long after that Uncle Will killed another in almost the same place, probably the mate.

(Honorable Mention.)

Bob

By Pearl Rasmussen, Aged 13, Arlington, Neb. Original. Blue.

Bob is only a horse, but he knows how to behave when he wears his Sunday suit. That is more than some children know: there are little

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vall, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

ones who make mud pies when they have on their best clothes. Bob never does. Bob drags a cart on week days; on Sunday he goes to church with a buggy. When John puts the heavy harness upon Bob, the horse goes to the cart and backs in. When he is dressed in the nice buggy harness he steps off proudly and gets into the shafts of the buggy. He does this all alone. He never makes a mistake.

One day Bob had a set of new shoes. When the blacksmith put them on he drove a nail into one of Bob's feet. John did not notice it till they were almost home. When he saw that Bob limped a little, he said:

"I must lead the poor fellow back when I get him out of the cart."

They reached home, and John took off Bob's harness. As soon as he was free the horse turned about and trotted off. When John called him he did not mind. He went straight back to the blacksmith.

"Hello, Bob!" cried the blacksmith.

The poor horse said nothing, but he walked up to the man and held up his aching foot. Then the blacksmith put the shoe on right. He patted Bob kindly and said:

"You know a great deal for a horse."

Telephone is Easily Made

We are so used to the electric telephone that we sometimes forget that quite a serviceable one for short distance talking can be operated without the use of electricity. Any bright boy or girl can make the nonelectric telephone. This is the way it may be done:

Melt off the ends of two tomato cans by placing them in the coals for a few minutes; then cover one end of each can with a piece of soft parchment or rawhide, so that the covered can ends look like drumheads. The parchment can be bound in place by lapping it over the sides of the cans and tying it down that way with twine. After your drumheads are finished wax enough twine to extend over the distance between the two places that you wish to establish connections between; then puncture a small hole in the center of each drumhead, slip an end of the waxed twine through each drumhead and knot the twine so that it can't slip. You will find that your telephone is complete. All you have to do is to put the drumheads in place, so that the twine will draw taut; for instance, put one drumhead in one house and put the other in a neighboring house and draw the twine tight. You will find that when you tap upon the drumhead in one house the sound will be carried to the other house, and that if you talk into the tomato can or drumhead receiver in one house a person listening at the other end of the line can hear you distinctly.

SYLVANUS VAN AKEN.

Additional Stories

Blue—Cleon Herriott, Casey, Ia.; Dora E. Thomas, Merna, Neb.; Edith Campbell, Valley, Neb.; Florence Anderson, Marquette, Neb.; Helen Deiner, Clay Center, Neb.; Hazel Dickhute, Burrell, Neb.; Agnes Howard, Milford, Neb.

Red—Frankie Schneider, Blanco, Colo.; Roy Wilbur, Belgrade, Neb.

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE—Bert Gilbert, Eldora, Ia.: Why would Cleopatra prefer to have the asp sting her, rather than to have Augustus Caesar?

"I love you," said the muskmelon to her would-be suitor, "but I simply cantaloupe."

SECOND PRIZE—Mrs. T. C. Hart, Edgar, Neb.: If a cargo into the river, will a Kingfisher out and Beecher?

If a playwrights a letter, will a parcel post it?

James Pearson, Kalispell, Mont.—If the teakettle sang, would the stove pipe?

Fred L. Lawson, Aztec, N. M.—When Peary was making his way to the North Pole, did Dr. Frederick A. Cook?

If the conductor balances the scales at two hundred pounds, what does the railway?

If the flashlight had a sweetheart, would the battery spark?

W. I. Tillinghast, Hillside, Neb.—If the horses ran away, would the wagon tire?

If Editor Sturgess went fishing, would E. W. Hunt?

Shivery Mornings

You can have a taste of the summer sunshine of the corn fields by serving a dish of

Post Toasties

These crisp flavory bits of toasted white corn make an appetizing dish at any time of year.

Try them in February

and taste the delicate true maize flavor.

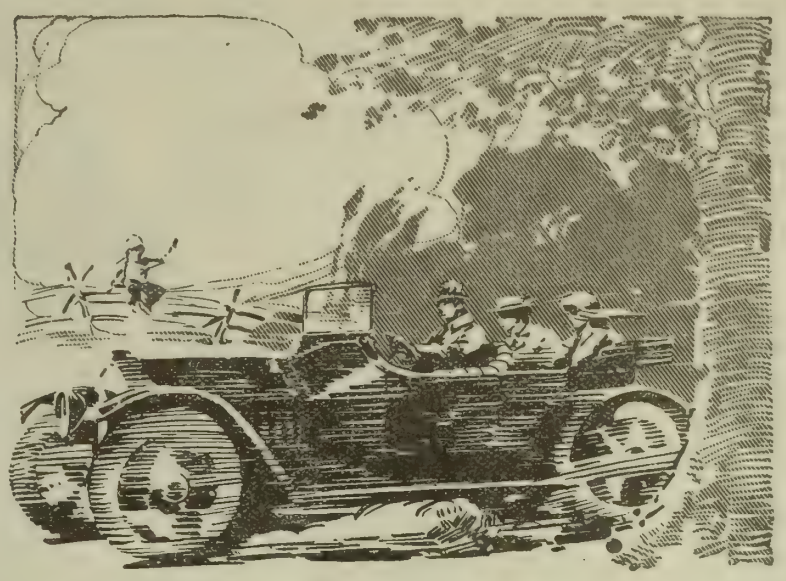
A dish of Toasties served either with cream or milk, or fruit, is surprisingly good.

"The Memory Lingers"

Grocers everywhere sell Toasties.

Postum Cereal Co., Ltd.
Battle Creek, Mich.

Mitchell



THE 1913 Mitchell makes three strong, favorable impressions on the man who wants to buy a car; the first by the way it looks; the second by the way it is made—the details of its construction and equipment; the third by the way it runs when he is taken out for a demonstration.

All exaggerations and sensational effects are eliminated in the design of the Mitchell; its lines are those of simple elegance and utility, developed by our engineers along the lines of the best foreign cars.

The man who examines the 1913 Mitchell carefully will soon satisfy himself that no other car at anywhere near the price offers so complete a combination of the newest improvements developed in the motor industry. All the essentials of the highest-priced automobile are in this car—the things that assure power, speed, comfort and convenience.

In the case of the Mitchell, moderate price does not mean "moderate" workmanship or materials; only the best available of both have been utilized—built according to the same standards that have made Mitchell vehicles famous for the past 78 years.

All 1913 Mitchell cars have left drive and center control; Bosch ignition; Rayfield carburetor; Firestone demountable rims; rain-vision windshield; Jones speedometer; silk mohair top with dust cover; Turkish upholstered cushions; Timken front axle bearings; gauges on the dash to show air pressure and oil pressure; gauge in gasoline tank showing amount of gasoline it contains; and a portable electric lamp which also illuminates the instruments on the dash.

All with T-head motor, electric self-starter, electric lighting system, and 36-inch wheels

	Motor	Wheel Base	Prices F. O. B. Racine
7 passenger Six	60 H. P. 4¼x7 in.	144 in.	$2,500
2 or 5 passenger Six	50 H. P. 4 x6 in.	132 in.	1,850
2 or 5 passenger Four	40 H. P. 4¼x7 in.	120 in.	1,500

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X-RAY INCUBATOR

has other exclusive and proven features that you will like. It opens from the top—has *two* double glass panels so you can see the thermometer at any time without letting in outside air on eggs. Ventilate or turn eggs by simply raising the lid. There are no sliding heavy drawers to break the eggs. X-Ray is heated to hatching temperature in just 15 minutes—others take 4 to 8 hours because of their *old style* principle. X-Ray is made of all genuine California redwood, covered completely with enameled steel, beautiful rosewood finish, legs galvanized, strongly braced. Every X-Ray incubator fully guaranteed. X-Ray results are the *biggest* results.

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Learn *all* about X-Ray construction—why X-Ray is entirely different and wonderfully better than any other. Read why women and all mere beginners have such *big* success *every time with the X-Ray!* Write today—this is very important news—*worth money!*

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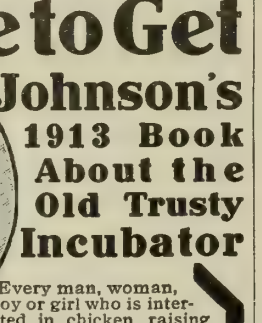
which is built Uncle Sam's way. Heavy, strong, best materials, many modern features not found in others. Complete control of heat and **hatches chicks that live.** Guaranteed five years. **Big book free.** Send for it. Get to work at once and put your chicks on the early high-priced market. Poultry and eggs will be higher the coming season than you ever knew them to be.



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Strong, fireproof, metal case, Automatic heat regulator, Hot water heating system, Double Glass Doors, High, roomy nursery, Reliable non-breakable lamp, Cold-rolled copper water tank, Spacious egg chamber, Very sensitive thermometer, Wide dead air space, Has made many 100% hatches

Brooder has safety lamp. Is roomy and easy to clean.

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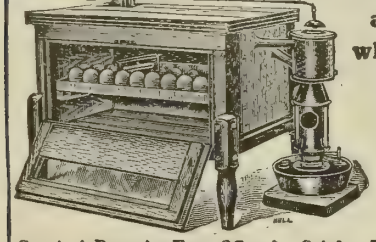

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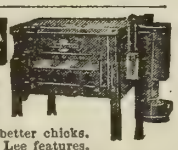

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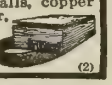
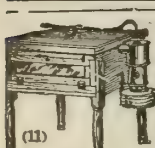
The incubator is California Redwood, covered with asbestos and galvanized iron has triple walls, copper tank, nursery, egg tester, thermometor, ready to use. 30 DAYS' TRIAL—money back if not O. K. Write for FREE Catalog today—NOW.



Ironclad Incubator Co., Dept. 72 Racine, Wis. (2)



125 Egg Incubator and Brooder $10 BOTH FOR

If ordered together.

Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today.

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Tells how to start small and grow big. Describes world's largest pure-bred poultry farm and gives a great mass of useful poultry information. Low prices on fowls, eggs, incubators. Mailed 4c. F. FOY, Box 18, Des Moines, Iowa

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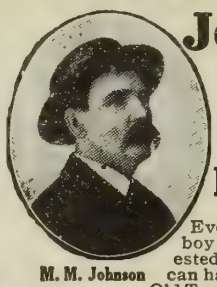
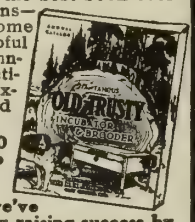
Now is the Time to Get Johnson's 1913 Book About the Old Trusty Incubator



M. M. Johnson

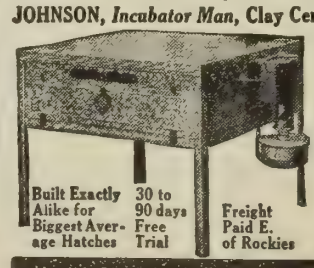
Every man, woman, boy or girl who is interested in chicken raising can have a copy of the 1913 Old Trusty Book **free** by writing a postal for it. It's the best book ever written by the Johnsons—"home made" and home printed—full of real helpful facts gleaned by the Johnsons from their own practical experience and the experience of over 400,000 Old Trusty customers.



There are over 400,000 good reasons for you to read this book. They are the 400,000 Old Trusty customers who we've started to biggest poultry raising success by reading the *Johnson books* issued in years past.

Send a Postal The Old Trusty is a triple cased machine—inner case of high-grade ⅛ inch powder-dry clear California Redwood—(not a knot in a mile)—then a case of highest-grade asbestos, fire proof insulation—and then the outer case, covering legs and all, of galvanized metal in hand some mottled finish. Johnson's machine is equipped with guaranteed not-to-leak cold-rolled copper tank and heater—direct acting regulator. Price, still less than $10 for 1913, freight prepaid east of Rockies and allowed that far to points beyond. Write postal *now.*

JOHNSON, *Incubator Man*, Clay Center, Nebr.



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LAND and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive **Poultry Book** for 1913. Write Henry Pfile, Box 625 Freeport, Ill.

Items of General Interest to Poultry Raisers and Fanciers

THE period of incubation varies with fowls. A certain number of days are given to each fowl, but the time may be lengthened to variations in the conduct of the sitting fowl. This is the table:

	Days.		Days.
Common hen	21	Peafowl	28
Duck	28	Swan	42
Goose	30	Guinea	25
Turkey	28	Muscovy duck	30 to 35
Partridge	24		
Pheasant	25		

Why there should be such a difference between the hatching time of goose and swan one wonders; also, why the little partridge should take longer to hatch than the common hen. The nearer to the hatching time given, the young come out, the stronger they are—as a rule. In very cold weather the hatch may not begin until the day after the time, and may continue, in my experience, for the common hen until the twenty-fifth day. Usually such hatches show a low per cent of birds to the eggs incubated. In very warm weather it is quite common for all fowls to be out that are coming out on the day stated for them to hatch, though often they are all out two days before. The rule is for such hatches to show a high death rate Lack of full development is given as cause for this death rate. And yet, with care, I have known bunches of these nineteen-day-hatched chicks to develop into growthy, hardy fowls.

Geese and ducks, after pipping, are usually slow in getting out of the eggs. It may be two days after the bill appears, sometimes, before they try to get out. No use to try to hurry them before this time, and even after the shell begins to crack away from head and wings 't is best merely to watch that the membrane does not stick to the body and hold them tight in one position, for this may kill them. The Muscovy and some others of the half wild ducks require nearly five weeks to hatch.

Incubator Instruction

See that there is plenty of good, pure air in the incubator room, but never set the incubator in a draft. Don't pile things on the incubator. Don't test the eggs in a cold room. Don't tamper with the regulator when you once get it set right. Don't turn eggs with dirty, greasy hands. Don't be rough with the eggs. Don't fill the lamp when burning. Don't place the thermometer under the wafer. Use the best oil. Don't use poor oil; it will not give the heat you require.

***

I saw a woman air the incubator eggs on top the machine, leaving the incubator doors wide open as she did it. I said: "You must never allow the doors open at such a time. Think how long it will be now before the machine inside can warm up the eggs. The eggs will be left cold entirely too long. Half an hour, maybe nearly an hour, before the thermometer will be up to proper point." It is the neglect of these seeming small details that cause so many poor incubator hatches. Then the incubator gets the blame.

Eggs for hatching purpose should not be kept over ten or a dozen days after laid. Eggs saved from a large flock usually show better hatches than eggs set from a small flock, as one must save too long from a small flock. The size of the flock should govern the capacity of the incubator also. However, in some instances, usually in summer, I have known eggs to give good hatches when kept

White Plymouth Rock flock of Mrs. Hans Greve. The poultry house is ninety feet long and twelve feet wide, including two scratching sheds, with screened front and earth floor. A curtain furnishes protection in cold or stormy weather. Roosting rooms have cement floors and dropping boards under the roosts. Floors in roosting and scratching sheds are covered with straw, necessitating the chickens scratching for their feed. The upper half of the windows are covered with muslin in winter.

RAYO

The Oil Saving Toil Saving INCUBATOR

Saves three fourths the oil and nearly all hatching work. **Stop** burning 3 to 5 gallons to a hatch—the Rayo uses **one.** Quit being a drudge with old-style, lamp-on the-side machines. Fill Rayo oil tank **once**—the Rayo completes hatch without trouble, muss or worry. *Simple—economical.*

One Gallon to a Hatch. One Filling to a Hatch.

See eggs and thermometer thru **double glass top,** which raises for airing, cleaning and turning eggs. Lamp under egg chamber gives **perfect radiation.** Double-wafer thermostat acts on flame—produces exact heat needed, **none thrown away.** Automatic ventilation. Turn eggs semi-automatically, without touching tray. Clean lamp without removing chimney or tank. Oil tank holds 5 quarts, month's supply. Strong redwood case; covered with steel, enameled like mahogany, making it fireproof and handsome. **Hatches every fertile egg.** Six years on the market—thousands of testimonials from enthusiastic, satisfied users. RAYO hatching chart and $1.50 Tycos hygrometer **FREE.** Low direct prices—**freight prepaid.** Ask for Free Catalogue No. 13.

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SUCCESSFUL INCUBATORS
(Life Producers)
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(Life Preservers)

give most chicks—raise more chicks—and are guaranteed with the strongest guarantee ever put behind any machine on the market. Don't buy an incubator that guarantees less than I do. Send your name *now* for catalog, low price proposition, guarantee, and *Free Lessons in Poultry Raising* that insure success.

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NOTE—Book "How to Raise 48 out of 50 Chicks", 10c—Catalog is FREE. Get it.

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Queen

The High Class Incubator Sold at a Fair Price

High prices and big claims are giving way before the Queen's record. You can't buy a better incubator at any price. The Queen applies hatching conditions correctly. Big hatches, chicks come out strong and vigorous. Machines costing $20 to $45 do no better work.

Save $10 to $12

Let me send you my Poultry Guide and Catalog to show you the 28 Special Queen Points—reasons why it's the best incubator that can be built. Built to last 25 years and sold on a money-back guarantee. Write any National Bank in Lincoln about my standing or dealings. Distributing houses in extreme East and West mean quick deliveries. Book free. Address

P. M. WICKSTRUM, Incubator Man
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$7.35 FOR BIG 155 EGG INCUBATOR

Biggest guaranteed incubator at price—155 egg capacity. *Has hundreds of dead air cells*—only incubator with this special construction—well made—cold rolled copper tank, hot water heat, double disc regulator, deep nursery, high legs, double doors, egg tester, safety lamp. Special price $7.35. Incubator and Brooder together $9.85. Frt. pd. E. of Rockies. Order direct from this ad (money back if dissatisfied) or send today for our interesting big free book.

155 CHICK

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$4.95 AND ITS YOURS — NEW MANKATO

Direct from factory. 18 years experience. Safe, sure, simple. Redwood, triple walls, asbestos lined. Copper hot water heating tank, self regulator, automatic ventilation, safety lamp, nursery, tested thermometer. Comes all set up, ready to start. Write for free Catalog and Poultry Book. Address

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W. A. WEBER, Box 931 Mankato, Minn.

three weeks, if kept in a cool room.

The earliest laid eggs usually hatch the last for me; at least so marking has shown me. Eggs laid the day before putting to hatch would beat the chicks in the 10-day-old eggs out of the shell. Why I do not know, unless the older eggs had lost considerable moisture and this hardened the shells. If the eggs do not cover the tray at any time, especially in cold weather, put heavy paper over that part of the tray. When chicks are hatching be very careful to not allow the heat to get too high and smother them, but when many of them are out and in the nursery, see that the heat goes up. When the chicks come off the trays in numbers this lowers the temperature and may cause the death of chicks yet getting ready to hatch. Fasten the thermometer in some stable place about the egg tray and get the heat right for these last eggs.

The Pure-Bred

One great advantage of the pure-bred that is kept up to pure requirements in the introduction of good male blood and the selection each year of the best pullets is the uniformity of size in poultry you are placing on the market. A crate of fowls of uniform size and color is bound to bring a better price than a crate of mixed sizes, and especially is this true with fowls that are dressed for market. Again, a flock of pure-bred fowls lay eggs that are uniform in color and size. This is the rule. White eggs command a better price in some markets than in others. The New York market seems to prefer a white egg, and some few months past crates of white eggs sold for 6 cents a dozen over brown eggs, while mixed lots of white and brown-shelled eggs sold at about 3 cents per dozen below the crates of uniform size and color. If your market pays a higher price for white eggs, then your aim should be to give it white eggs uniform in size, and keep the pure-bred fowls that lay this kind. If your market prefers the brown-shelled, uniform in size, then keep the pure-bred that lay this kind. No use to think you will ever get anything in the line of eggs from a mixed flock, but eggs of a varied shade of white and brown, seldom two alike in shape and weight.

Some Don'ts

Don't forget and give her too many chicks to hover. Some are sure, if there are many, to get pushed to the outer edge and chilled. As they grow larger this danger increases.

For the incubator, don't turn the flame to full heighth when lighting the lamp; always turn low, then go back in a minute or two and turn to proper heighth. Nearly all brooder and incubator fires, or killing of chicks by smoke, is caused by this lack of care when lighting the lamp.

If you set several hens together this time of year, don't forget to test the eggs under them just the same as you do the incubator eggs. No use of a hen giving up bodily heat to hatch an unhatchable egg; this gives more heat these cold days to the fertile eggs she is trying to make live. IDA M. SHEPLER.

JANESVILLE Shaft Drive Planter

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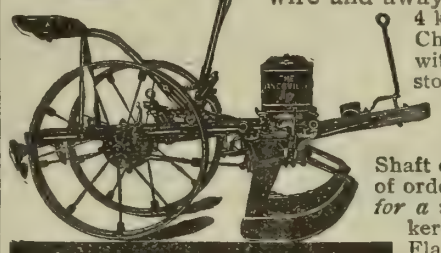
The Only Perfect ENSILAGE and Check Rower



Press down foot lever, release wire and this Janesville Corn Planter *drills close for ensilage.* Press down foot lever, attach wire and away she goes, planting 2, 3 or 4 kernels to the hill, as you desire. Change from one to other *instantly*, without getting off seat, without stopping team. It's the greatest ensilage planter *ever built*—and the greatest corn planter. Look here, at these additional advantages. Shaft drive, no chains to break or get out of order. Runs in oil, greased at factory *for a whole season* with axle grease—no kerosene needed—dust-tight gearing. Flat and edge drop plates free. Change of plates made in a second. Shoe, stub or disk runners on same machine. Automatic wire release. Perfect fertilizer attachment if desired.

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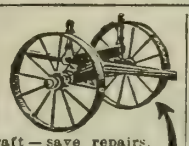

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The coupon below is good for $2.50 at your dealer's on a purchase of a New Superior Grain Grader and Cleaner. Cut out that coupon *this minute.* It's just that much money—better than money because it starts you on the road to extra profits of hundreds—even thousands—of dollars yearly.

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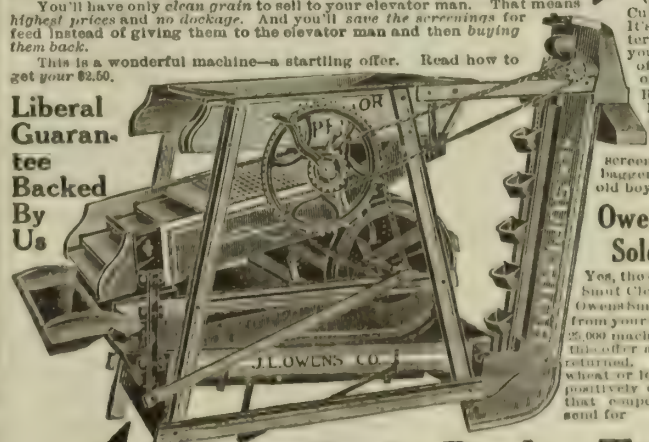

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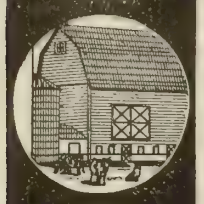

There is a simple method of applying ***Certain-teed*** Ready-to-lay Roofing on all kinds of buildings—farm houses, barns, garages, poultry houses, silos.

It comes in rolls, also red, green and slate gray shingles.

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Valuable Book Free You will find many valuable suggestions in our new book, **"Modern Building Ideas and Plans."** It tells you what to do and what not to do—it suggests economies and conveniences that will save you money.

A book of this kind would ordinarily sell for $1, but as it shows the use of our ***Certain-teed*** Roofing on all kinds of model homes and farm buildings, we offer it to you at 25 cents. We prefer to have you go to your lumber, hardware or building material dealer, who will gladly get you a copy FREE. If you write us, enclose 25 cents to cover cost, postage and mailing.

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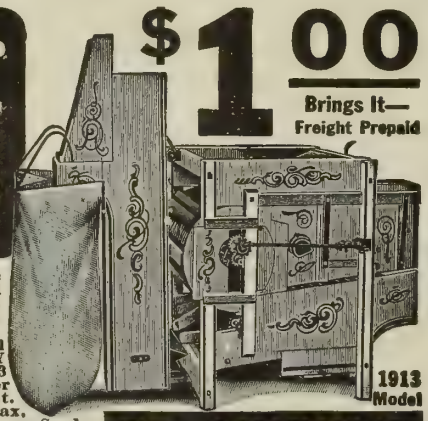

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1913 Model

The CHATHAM
Grain Grader and Cleaner

Now that farmers everywhere are cleaning and grading their Seed Grain, the question is, how to get it done *best, easiest* and *cheapest.* Here's my 1913 offer:

Send me one dollar and I will ship you, FREIGHT PAID BY MYSELF, this improved 1913 model Chatham Grain Grader and Cleaner with all equipment. Clean your Seed Wheat, Oats, Flax, Barley, Peas, Beans, Corn, Grass Seed, etc. Then PLANT those fine seed. AFTER you have harvested a bumper crop, pay me the balance of my low price. Not one penny need you pay, except the $1, until next November. And by November YOUR CHATHAM WILL HAVE MORE THAN PAID ITS ENTIRE COST in INCREASED CROPS. Then you'll have a "Chatham" to work FREE for you the rest of your life.

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If you want it. I don't want your dollar or want you to keep my "Chatham" unless it pleases you. If, after a 30-day test, you are not satisfied, return the machine at my expense and I will send back the dollar.

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After 40 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on *your* farm. Experience has shown that a Grain Grader and Cleaner should have special equipment for the particular farming section to which it goes. For example, I send an *entirely different equipment of screens,* riddles and gangs to Maine from what I send to California. In fact, *there are scarcely 2 states in the U. S.* to which *I send the same equipment.* Thus you get the exact and proper outfit to handle the grains and weed seed that grow on *your* farm. You *don't* have to pay for a lot of extras for which you have no use.

Extra Screens and Riddles Free

In case you want more or different screens, just write me and I will send them free. Not a penny would I ask for extra screens and riddles.

I also have a Free Service Department which will separate, clean and grade FREE any mixture you send in. If you've got some impurity in your grain that you cannot get rid of, don't get discouraged. Write me.

Handles all Small Grain and Grass Seed

My 1913 Chatham handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all sunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bully chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Easiest running mill on earth.

Special Corn-Sorting Attachment

Last year I added a Corn-Sorting Attachment, which grades corn so that a *round* or *edge* drop planter drops the right number of grains in 98 out of every 100 hills (in repeated tests at State Agricultural Colleges). Same planters, loaded with *ungraded* corn, make only 65 out of 100 perfect hills. In two months I shipped to Iowa farmers alone 4,000 machines with Corn-Sorting Attachments. Try my Special Corn-Sorting Attachment. *It will increase your corn crop amazingly!*

Postal Brings My New Book

on Seed Selection. Every chapter is highly practical and exceedingly interesting. It shows an easy, simple way to get rid of any weed on your farm; how to separate any mixture of grains—in short, how to get perfect grain for *sowing, feeding* or *marketing.* Send postal *today* and receive by *next mail* my new Book *free.* **Address Dept. 49,**

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Grub in the Head

J. E. S., Canton, Ill.: I am beginning in sheep raising and would like to ask for treatment for diseases of sheep. I would be pleased to have this answered from the standpoint of a practical breeder and grower of sheep, both on the eastern sheep farm and the western range. I lost a sheep yearling that would have been due to lamb in February. The sheep was in fine condition and showed no symptoms of sickness except by discharging at the nose one day before death. The man cut open her head and found a worm, or grub, at the brain; also corruption. He described this worm as being one and one-half inches in length, being light in color, resembling some of the warbles as often found on the back of cattle.

Answer—Your sheep undoubtedly was a victim of grub in the head. This is an old disease, or ailment, with sheep, and is caused by the gad fly depositing its egg in the nostril of the sheep during the warm days of summer, where it soon hatches and crawls up the nostril and finds its way to the brain cavity, if not dislodged by the sheep snorting and sneezing in its effort to free itself from the annoyance of this insect. The disease often results in death.

The young sheep, lambs coming yearlings or the yearlings coming 2 years old, are most frequently afflicted. This is due to the older sheep being more cautious about letting the fly get a chance to deposit its egg in the nostril. Older sheep seem to have an instinct in protecting themselves against their enemies and crowd together and hold their nose close to the ground when the fly is around, and use every effort to guard against its attack. The lambs and yearlings are less demonstrative, therefore more frequently attacked. Old sheep also make a greater effort to dislodge the grub by sneezing. Sheep are frequently observed sneezing, standing with their heads erect, rather elevated.

It is not a cough, as though the lungs were affected, but a head irritation, and not infrequently a discharge accompanies it.

It is not often that sheep die from this trouble, but occasionally they do. It is not in any sense contagious, as the source is from the deposit of the egg by the gad fly. The grub is described as being in size between the horse boy and the ox warble or cattle grub, found on the backs of cattle in the early spring.

There is no positive cure. An old brutal treatment was the inserting of a small wire up the nostril in view of puncturing the worm, and thus cause its dislodgment. This more frequently kills than cures. Some use tobacco smoke, blowing this up the nose and forcing the sheep to inhale it, causing the worm to lose its hold and be discharged by the sneezing of the sheep. The pulling and jerking of the sheep by the ears is another old-time treatment said to be effective in some cases.

The preventive measures are the use of pine tar in the salt box, where the sheep get their noses smeared by licking the salt, and the tar smell keeps the fly from bothering the sheep. A few furrows plowed in the pasture will usually congregate the sheep at these dust supplies and help in protecting them from the fly.

Turnsick, or hydatid on the brain, sometimes called blind staggers, owing to the sheep affected often inclining to turn around in a circle, with its head slightly inclined to one side. The formation of a cyst, or small sac, about the size of a pigeon's egg on the brain is sometimes confounded with grub in the head; this also frequently causes death, and there is less possibility of relief than with the grub, as the sheep usually dislodge the grub. It is caused by an insect of parasite nature, but quite small.

New Straw Spreader Implement

B. S. M., Amarillo, Tex.: I want to ask you about some wheat straw I have. Would it do my wheat any good to scatter this straw over it lightly? The ground is moist and the wheat is just coming up. This wheat was listed in and the ground is now in fine shape.

Answer—Wheat straw, properly scattered over your wheat field, will protect the plants from sun and wind and will help to conserve the moisture. Whether it will be beneficial on the whole or not will depend on the manner in which this wheat straw is put on. In some parts of the south, in Kansas and Oklahoma, they are using a new implement which they call a straw spreader, which delivers the straw in something the same manner as that in which the manure spreader delivers manure. By the use of such an implement as this the straw may be delivered evenly, and in amount to suit. It would be a very difficult matter to do this work properly by hand, and to attempt it might do more harm than good. A straw mulch for wheat, if not too heavy, and if it is distributed evenly, will be a great help to the growing crop.

Trouble With Cow's Udder

E. B., Wahoo, Neb.: I have a Jersey cow that is a good milker, but quite often when I milk her I find one quarter of her udder, and occasionally two, quite hard and can get but little milk from those hard quarters. I rub some goose grease on the hard places and the next milking time the udder is all right again, but the milk from the affected parts is all ropy. Can you tell me how to remedy this?

Answer—You do not state how far advanced in lactation period the cow is. She probably is in the early stage of lactation. She may possibly have received some bruise on the udder from some source or another

nat produces a little inflammation. t would be well to watch her and ry to find out the cause of the in- lammation. Active massage of ne ffected parts—that is, thorough ubbing and kneading—will do uch to reduce the trouble. The rouble is probably only temporary nd will soon pass away. The ropy ondition of the milk is due to the nflamed condition of the udder.

Farmer's Side of the Question

J. W. H., Valley, Neb.: I should e pleased to have space in your lendid paper to present the farm- r's side of the question of increas- ng the products of the farm.

In the effort put forth by the ommercial world to influence the rmer to produce more on the farm he farmer's interest has been con- dered nowhere in the game—and ntil it is, all efforts along those nes will be met with a studied in- fference by the real farmer. The eriod of cheap prices should be ast. The man that pays $20,000 r a quarter section of our good nd must have $1,000 rent a year order to leave him 4 per cent on s investment after he has paid his xes and incidental expenses which ust be met by every land owner. he renter that pays the $1,000 ust have 50 cents a bushel for his rn in order to meet the rent, pay s taxes and living expenses and ve a few dollars for his summer's work. The last few years have been satisfactory to the farmer and have taught him a lesson that he is loth to forget. He has learned that he had better sell 1,000 bushels of corn for $500 than to take $500 for 2,000 bushels of corn.

We all remember when a 1,200-pound cow was worth $24; now she is worth $70. Is it to the farmer's interest to raise three cows for $70, or to get $70 for one cow? Last summer every time it thundered in the corn belt the daily papers would come out the next day on the front page and, in large type, "Rain last night throughout the state insures the crop. The present high prices are sure to decline," and down goes the price before a bushel of grain is harvested.

Some of those interested in the reduction of prices in the farm favor a bill that would compel the farmer to keep the she stuff in cattle on the farm till they were 3 years old. What object have they in favoring such class legislation? It would certainly stock the farmer up with more cattle; that would mean more cattle on the South Omaha market, more butcher stuff for packers, more and cheaper meats for the consumers—but what about the farmer that has the labor of raising this stuff and feeding to it the products of the farm? Would he have more money at the end of the run? Oh, no; he would be told there were too many cattle on the market, and he would be back to the 1,200-pound cow for $24.

The packers and consumers have arrayed themselves against the high-priced meat, but the farmers have gone out of the wholesale production of hogs and cattle, and the result is stronger prices. Just as soon as there is an extra load of hogs on the South Omaha market, down goes the price, and if the supply would favor it the farmer would have to take 4 cents for his hogs. This seems to be a friendly war, with the farmers and producers on one side and the packers and consumers on the other side.

We are told there was a time when the cotton growers of the south got $100 for two bales of cotton; they wanted more money, so they raised more cotton. They then got $100 for three bales of cotton. They still wanted more money, so they kept on raising more cotton; then they got $100 for four bales, and the price finally dropped until it took five bales of cotton to bring in $100. What was true of the cotton of the south is true of the corn growers of the north.

As I said, the farmer's interest is not considered anywhere in the game. The speculators throughout the country know at what time of the year the renters and poor farmers must market their corn, so down goes the price. The packers know when the feeders that went out last fall to be fed by the farmers should return to the yards. So down goes the price of beef.

The railroads are running corn trains over their roads to educate the farmer to raise more corn; there are meetings held in all our cities to urge the farmer to increase the output of the farm; the state university is spending thousands of dollars in farmers' institutes in the effort to influence or stimulate the farmer to produce more on the farm. And yet the real farmer, the man that produces the stuff and not the gas, goes steadily on, producing thirty-five bushels of corn instead of seventy, one cow instead of three and one-third of the hogs that could be produced, and will continue to do so until he finds fair market conditions.

Editor's Note—This letter speaks for itself. Perhaps it was written with a view of provoking a discussion. At any rate, the editor hopes that it will have that effect. Let other farmers that are interested send in their views upon the situation as they see it.

Horse Cut With Wire

R. M. F., McLean, Tex.: I have just been reading of your service department. I have a horse that had a severe wire cut nearly two years ago, just above his hoof. Part of the time now it is about all right, but at other times the skin breaks loose in scales and makes the place very tender. Is there something I

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We have sold 49,000 of these buggies and every last one of them has given absolute satisfaction. The strongest argument that can be presented in support of any vehicle is that it has proven absolutely satisfactory to the users under the most trying conditions and severest tests. This is the exact standard that all our vehicles live up to. Our Triple Panel Automobile Seat Buggy is a stylish, comfortable, easy running and substantial vehicle that anyone would be proud to own and ride in. In addition to combining all the latest features in design and construction we are offering this vehicle to you at a price that is at least $35.00 less than you would have to pay for a similar buggy from your home dealer.

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Is now ready for you, brimful of quality vehicles of all styles at bargain prices. This handsome book is profusely illustrated in colors and describes every vehicle in detail. There is nothing left to the imagination, everything is plainly shown and clearly explained. You are as safe in ordering from it as if the vehicle actually stood before you.

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Our Vehicle Guarantee is a most unusual one and guarantees you absolute satisfaction for the life of the vehicle. We ship on **30 Days' Free Trial** with the privilege of returning the vehicle if dissatisfied for **any** reason.

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YEAR after year, more and more farmers are realizing that the *highest quality* separator pays the *biggest dividends* for the *longest time*. The experience of men who bought only on a low price basis has served as a warning against buying "cheap" machines. Men who have purchased *Great Western Separators* are actual living proof that it is the best *economy* to pay a fair honest price for *quality*. Be fair to yourself. Get a separator that skims close for a *lifetime*. Get a separator that is *always* easy to turn. Get a separator that is easy to clean as long as it lasts. Get a

Great Western

if you want the most a separator can be—the best separator investment you can make. The Great Western is the only separator with a skimming system that follows nature's laws—the milk sinks, the cream rises. There is no chance of their mixing—so you get the utmost in quantity and quality of cream—even when skimming cold milk. It is self-draining and self-flushing; there are no long tubes, no minute slots, corners, crevices, or ragged edges to hold milk and collect dirt. The Great Western is ball-bearing throughout. The balls we use are absolutely uniform in size and test 50% to 100% harder than balls others use. The ball races in the Great Western are tempered so hard that you cannot cut them with a file. Low swinging tank and low gears with high crank, mean greatest convenience, least vibration, velvety cream and longest wear without repairs. We will arrange to give you

Any Kind of a Trial You Want on the size Great Western that best meets your needs, no matter what number of cows you own. Test the Great Western side by side with any other separator. Try them both on any kind of milk—warm, cold or stale. See how much better the Great Western is in every way. See how much finer the Great Western is made—note how much stronger the materials are—how much easier it runs, how easy it is to clean and *keep* clean and sweet. Then decide. We know that the Great Western beats them all. Comparison will prove it to you.

Art Book Free Drop us a card today and we will send you without any expense or obligation our beautiful art catalogue showing the Great Western in natural colors and also our million-dollar 5-year surety bond. Shows best methods of separating, gives results of extensive experiments and information on separating not found elsewhere. Proves Great Western superiority. Mail postal today.

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A gold mine of information

We have just published a wonderful new book entitled "Clover, the Great $Cash Money Crop$." It tells you how to get a sure "catch" first planting; how to keep clover in the rotation; about clover as a soil enricher; how to handle the crop for hay and seed production; how to grow clover that makes richer feed—that produces more beef and milk. It explains the cause of clover failures; how to avoid winter killing; how to prevent ground heaving; how to guard against the loss from heat and drought; all about the causes of "clover sickness" and how to deal with it. Hundreds of other questions, covering sixteen clover varieties, are fully answered. Ordinarily this book sells for 35c, but for a short time we will mail a copy free, or until a certain number have been distributed. Write at once.

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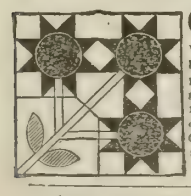

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could put on either the old sore or the hoof to soften it, so it will not crack as it now does? This is a valuable driving horse and a little lameness spoils him from being salable or admirable. The hoof is in bad shape, badly cracked. The horse is 8 years old.

Answer—From your description I judge that the foot has been injured at the coronary band, where the hoof and hair meet. If this is the condition, we would judge, after having gone this long, there is little that can be done. The outside of the hoof grows from the top down, and where there is injury to the coronary band the hoof never grows evenly. Where the hoof cracks it is necessary at times to cut down to the bottom of it to get union. It is necessary to then keep the crack from spreading while it is healing; this can be done sometimes by the aid of a shoe. Just what is necessary in this particular case could only be determined by examination.

Cause of Lump Jaw

H. E. A., Havelock, Neb.: I would like to know the cause and cure of lump jaw. Is it caused by a stanchion bruise? Is the milk of a cow thus afflicted good? Is the disease contagious?

Answer—The scientific name for lump jaw is actinimycosis, and it is produced by a specific bacterial infection. It sometimes affects other animals than cattle. It is not caused by a bruise. It does not injure the milk. It is possibly mildly infectious. In the earlier stages of the disease a good veterinarian may arrest its progress; in later stages it attacks the jaw bone, and then a cure is very difficult and doubtful.

Cow entrance to the W. M. Beauchamp Dairy, at Pacific, Mo., showing a large concrete yard, where the cows shake off considerable of the dirt accumulated during wet weather in the pasture. The concrete yard also prevents the forming of mud holes at the doors of the barn, so common at nearly all barns. The yard is washed with a nose once a day. By having such a wide approach, or side, to the concrete yard, there is no danger of a mud hole starting at any one place. The end of barn is thirty-five feet wide, and concrete yard is slightly wider than barn, by about the same distance to wire fence.

Many "Poor" Cows Might Be "Good" Cows if in Right Hands

TO SUCCEED at dairying, it is as necessary to have good feed (plenty of it) and comfortable quarters as it is to have good milk cows. Insufficient feed or uncomfortable sleeping quarters will take the profit off from the handling of the best dairy cow. Irregularity in feeding, watering or milking, if very marked, will do the same thing. Thus it can be easily seen that to have a good cow is one thing and to properly care for to keep her a profitable cow is quite another.

I would be safe in venturing the suggestion that a great portion of the so-called "poor cows" would be "good cows" were they in the right hands.

The feeding and milking of cows should be done regularly. No one can tell you how to feed altogether; so much depends upon circumstances, condition of the cow, etc. Suffice it to say that the feed should be of such a nature and in such a quantity, as well as quality, as to satisfy and keep the cow in vigorous condition. During the milking period the feed should be of the kind to produce milk, not heat or fat. Legumes are splendid feeds for roughness, such as clover, alfalfa, cowpeas, with a rack of oat straw, where the cows can nibble at it as they choose to counteract the loosening effect of leguminous roughness.

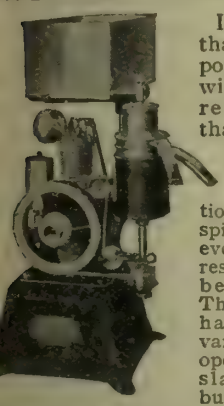
It should be the aim of the dairymen to raise the greatest portion of his roughness. This is the foundation upon which a profitable dairy business can be established.

The dairy cow's ration should be as free as possible from indigestible material, as well as being quite bulky. Corn, alfalfa, clover and a rack of straw form an ideal ration, and with free access to the three latter the cow will balance her own ration better than you can do it for her. These foods carry with them the protein so much needed by the dairy cow. Arrangement of a grain ration is so complicated that the lack of skill of the good feeder at once becomes manifest, as well as the skill of the superior feeder. He should know as much as possible at least about the analysis of feed,

T'S A SHAME
O LET YOUR WIFE
RANK A SEPARATOR

Such drudgery is unfit for a woman. 's a backbreaking grind. And there no let up. It comes every day, orning and evening. Doesn't she ork hard enough on the farm with- t doing a hired man's heavy chores? *You cannot afford extra help?* Very ely. But you can afford an "AUTO- ATIC" Cream Separator. It will skim thout cranking. Requires no labor t pouring in milk. A child can do at, as the milk tank is only 37 ches high. And the

The 1913 "Automatic" Cream Separator Will Save You Money



It skims closer than any hand power machine, with a skim milk record of less than 1-100 of 1% butter fat. It skims without variation. The bowl spins at a high even speed. The result is more and better cream. The speed of a hand machine varies. When the operator tires, it slackens, and butter fat is lost.

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The two are so nicely adjusted and so idly combined that there is no trace vibration in the bowl. Engine can be d to drive churn or washing machine. s a little wonder.

You don't have to buy an "AUTOMAT- without knowing all about it and ing it in actual operation. Write us for l information. We'll send you our cata- ue and tell you where you can see the arator work. If you will give us the ne of your dealer, we'll write him direct.

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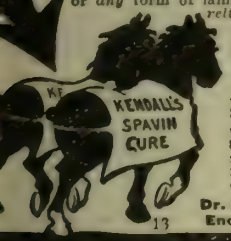
Be Safe!

Don't take chances with spavin, splint, curb, ringbone, bony growths, swellings or *any* form of lameness. Use the *old reliable* remedy—



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Its power is testified to by thousands of users. At druggists $1 a bottle; 6 for $5. Ask your druggist for book, "Treatise on the Horse." Write

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Booklet giving prices and testimonials from users.

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392 Lowa Street, Chicago Heights, Ill.

OU CAN BUY ANY CUT IN THE

he Twentieth Century Farmer

8 cents per square inch, cash with der—not less than 75 cents for any one . It is advisable to write at once, as re is only one of each

their digestibility, likes, dislikes and palatability, for a cow, like anything else, does best on what it likes best. It is not well, however, to depend upon the feed raised on the farm altogether. A small investment in bran and a little oilmeal many times is an advantageous outlay. The results of high-cost feed should be carefully watched, as many times they are a source of loss instead of profit.

Usually, the bulkier you can get the grain ration the better, as the digestive juices penetrate it better and better results come with it. Crushed corn and cob is far better than ground corn, for the above reason.

A good guide in feeding is to satisfy the animal without causing her to fatten or lose flesh. Regular, liberal feeding, quick, thorough milking and comfortable sleeping quarters go far in being successful with dairy cows.

The dairyman should use care to keep his cows in good health. Keep the cow barn well cleaned out and thoroughly ventilated, allowing no draughts so as to cause the cows to catch cold. Use no feeds that taint the milk. Store the products in a clean room full of pure air.

Use only smoothly-soldered milk utensils kept absolutely clean. Milk utensils should be used only for milk products. Absolute cleanliness should always be the aim and well aired storerooms only be used. Frequent delivery of the products so as to prevent the quality of the product from being injured is also imperative.

Bear constantly in mind that the cow that produces the most for the products she consumes is the most profitable. A 1,500-pound cow may give twice as much milk as an 800-pound cow. Charge the feed eaten to each cow and allow them the value of the product they produce. The small cow may be the money-maker and the large cow the money-loser, although a look at the milk of the large cow might make you think her as valuable. Cow individual test of each dairy cow once a month may surprise you much, to your own advantage.

JAMES WILTSE.

The Same Results

An American official was once the guest of Li Hung Chang in China when there was a great demonstration in honor of the rain god. Noises strident and fearful in the ears of the foreigners came from instruments and human throats. The keen old Chinese statesman, conscious of the effects that this was probably producing upon the American spectator, turned to him and said:

"This seems strange and useless to you?"

The American, striving to be polite with too great a sacrifice of truth, made an evasive answer.

"You never pray for rain in your country?" pressed the Chinese statesman.

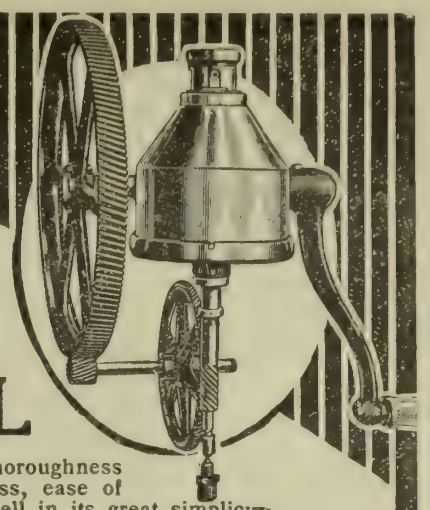
"Oh, yes, we do."

"And you always get it?"

"No."

"Just the same in China," the old man remarked complacently.

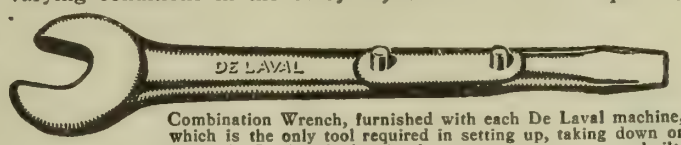
The Simplest CREAM SEPARATOR Ever Built — DE LAVAL



EXCELS ALL OTHERS not only in thoroughness of separation, sanitary cleanliness, ease of running and durability, but as well in its great simplicity.

THERE IS NOTHING ABOUT THE OPERATION, CLEANING, adjustment or repair of a modern De Laval Cream Separator which requires expert knowledge or special tools.

NOR ARE THERE ANY PARTS WHICH REQUIRE FREQUENT adjustment in order to maintain good running or to conform to varying conditions in the every-day use of a cream separator.



Combination Wrench, furnished with each De Laval machine, which is the only tool required in setting up, taking down or using the De Laval, the simplest cream separator ever built.

THERE IS NOTHING ABOUT THE MACHINE THAT CANNOT be taken apart, removed or replaced by any one who can use a wrench or screw driver. In fact, the only tool which is needed in the use or the operation of a De Laval Cream Separator is the combination wrench and screw driver illustrated above, which is furnished free with every machine. Visit the local De Laval agent and see for yourself its simplicity of construction.

The new 72-page De Laval Dairy Hand Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request if you mention this paper. New 1913 De Laval catalog also mailed upon request. Write to nearest office.

THE DE LAVAL SEPARATOR CO.
NEW YORK CHICAGO SAN FRANCISCO SEATTLE

The Milk Pail Shows

whether your cows are profitable producers or merely boarders. Some cows digest their feed perfectly and convert it into milk; others eat as much, but waste it because of poor digestion. Why not make them **all** profit-payers? It is merely a question of putting them in proper physical condition.

Pratts Animal Regulator

was designed for just this work, and has been doing it satisfactorily for 40 years. It increases the appetite, strengthens the digestive system; keeps the bowels active; improves the circulation; tones up and naturally stimulates the milk-producing organs, and that means profitable production. 25c, 50c, $1; 25-lb pail $3.50.
Make milking easy. Cure sore teats with

Pratts Healing Ointment
25c, 50c

The best remedy for sores, cuts, burns, scalds, wounds of all kinds.

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Get Pratts Profit-sharing Booklet FREE at dealers, or write us. Our products are sold by dealers everywhere, or

PRATT FOOD COMPANY
PHILADELPHIA CHICAGO

1913 Almanac Free

Fine Prize Pony Given Away

You see in this picture a boy riding one of the splendid prize ponies I am going to give away. In other parts of the picture are the faces of several other boys. They are rather hard to find, but by turning the picture about you can see them. Mark at least two of the faces with a cross (X) and send the picture to me. Be sure to send your name and address so I can tell you all about the contest in which you can win a beautiful pony and many other prizes.

1500 Votes Free

I will send you a special coupon good for 1500 votes toward the pony. All you have to do to get this coupon is to send your name and address at once.

A. M. Piper, 624 Popular Bldg, Des Moines, Ia.

LOW ONE-WAY COLONIST FARES

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$30 From Omaha to California and Pacific Northwest.

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Now is the time to make arrangements to visit this rich and growing section of the west and select a farm home for yourself and family where large crops and handsome profits are made from small tracts of land planted to orchards or truck gardens. Some crop matures every season of the year—your land is never idle.

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The MUSSELSHELL VALLEY Eastern Montana

This rich agricultural district, 150 miles long and 20 miles wide, has been opened to the markets of the world by the Chicago, Milwaukee & Paul Railway.

Lands near the railway are rapidly being taken up and there are now 22 thriving towns within the valley.

Land prices are yet low with a steady upward tendency as the country develops. Land taken this year will increase in value with every new settler.

Good deeded lands sell from $15 to $25 per acre. Title to 160-acre homesteads can be had at the end of 14 months residence and upon payment of $1.25 per acre.

This land produces large yields of wheat, oats, barley and flax. Rye and alfalfa are also successfully grown on the bench lands.

Investigate Now

Send for literature and learn of the splendid opportunities offered to energetic men with limited capital in this and other rich districts along the new transcontinental line—the

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Literature and full information may be secured free from

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Investments

Indifferent Management

The success or failure of any company depends upon its management. Poor or indifferent management invariably leads to failure, while good management brings success if the right foundation is had to build upon.

Harriman took the Union Pacific railroad out of the receiver's hands and in a very few years made it one of the greatest railroads of the nation.

Rockefeller's corporations and combinations rival the very government in power. You say these men are wizards in their fields. That's true, but they are fine examples of good management, just the same.

What they manipulated was composed of many variable things, so that their task was a most complex one—making it all the more difficult.

Management becomes comparatively easy and simple when the elements are few and they are stable

To illustrate, suppose a company buys a well situated city lot near the retail district of a growing city that is known to be in the path of its growth, you would expect it to grow in value prodigiously in a short time. Now, erect a modern apartment house thereon and fill it with good paying tenants. The income therefrom will easily make the property yield a good profit on the whole investment. Now add the increase in value of the lot to the income and you have a big interest. and a sure one.

The great loan companies strive to attract such by making the very lowest interest rate because of their very stable security. It is apparent the conduct of such a company is comparatively easy and the result as certain as anything can be.

However, it is vitally important the manager should have had long experience in carrying on the work of a similar company in order to avoid serious errors.

Nebraska Sheep Breeders Organize

By request of G. W. Hervey of The Twentieth Century Farmer, a call was issued to the sheep and wool men of Nebraska to meet in Lincoln on Wednesday of the week of Organized Agriculture, for the purpose of effecting a state organization. G. W. Hervey opened the meeting, outlining a plan of organization and discussed why Nebraska sheep breeders should organize.

Ellis Rail of the Nebraska Agricultural college gave a very excellent address on "Breeds of Sheep Best Suited to Nebraska Farms."

"Sheep Feeding as an Industry and How it is Managed" was very acceptably discussed by Charles McLeod of Stanton, Neb., who has been a very careful and painstaking feeder for the last ten years. Mr. McLeod interested his large audience so well that he could scarcely be released from answering the numerous questions that followed.

"How to Make the Farm Flock Profitable" was discussed by Charles Lemley of Rising City, Neb. Mr. Lemley is the man who exhibited a Shropshire ewe at the Midwinter sheep show last year at Omaha, with four lambs of one litter, one ram lamb and three ewe lambs. Mr. Lemley had several sets of triplets in his flock and twins without number, almost. He delivered a fine address on how to breed and handle the farm flock and jokingly referred to his prolific flock by saying that he would not be satisfied until he produced a ewe that would bring him a litter of five or six lambs.

"Pure-Bred Sheep, Fraud and Deception in Fitting for Show," was the subject of an address by G. W. Hervey.

The meeting closed by organizing and adopting constitution and bylaws and the election of the following officers: Robert Taylor, Abbott, Neb., president; Charles Lemley, vice president; Ellis Rail, secretary-treasurer. A board of six directors will be appointed by the officers.

Hard luck never gets off the trail of a blockhead. . .

We are all entitled to our rights, but only a few of us get them.

The world has no time for a visionary man—until after he makes good.

CANADA'S OFFERING
To The Settler

The American Rush to Western Canada is Increasing

Free Homesteads In the new Districts of Manitoba, Saskatchewan and Alberta, there are thousands of Free Homesteads left, which to the man making entry in 3 years' time will be worth from $20 to $25 per acre. These lands are well adapted to grain growing and cattle raising.

Excellent Railway Facilities

In many cases the railways in Canada have been built in advance of settlement, and in a short time there will not be a settler who need be more than ten or twelve miles from a line of railway. Railway Rates are regulated by Government Commission.

SOCIAL CONDITIONS. The American Settler is at home in Western Canada. He is not a stranger in a strange land having nearly a million of his own people already settled there. If you desire to know why the condition of the Canadian Settler is so prosperous write to any of the Canadian Government Agents and send for literature, rates, &c., to

W. V. Bennett
Room 4, Bee Building
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or address Supt. of immigration, Ottawa, Canada.

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In Lincoln County, Nebraska

Why go to Canada or Texas when you can buy good Central Nebraska farm land, unimproved, at $15.00 to $30.00 per acre, and improved farms at $30.00 to $60.00 per acre, in the winter wheat, corn and alfalfa belt, and stock ranches at $6.00 to $10.00 per acre. Land list and map of county free. Address

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North Platte, - - - Nebraska.

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WE TEACH YOU TO OPERATE AND repair automobiles; training on vulcanizers, drill presses, lathes; pattern making, moulding, brazing and driving. Free catalogue. Lincoln Auto School, 2352 O St., Lincoln, Neb.

SHORTHAND—UNIGRAPH IS quickly learned, rapid and readable; excels all others; pays best; beginner's booklet, 10c. Unigraph Co., Omaha, Neb

LEARN AERONAUTICS BY BUILDing and flying miniature aeroplanes; fascinating and scientific sport. "Ideal" plans are accurate and clear. Prices: Bleriot monoplane, 15c; Nieuport monoplane, 25c; illustrated booklet describing many models, 5c. Ideal Monoplane Co., 84 West Broadway, New York.

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FOR SALE—SOME GOOD JACKS; priced low. Address A. C. Briggs, Missouri Valley, Ia.

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POLAND-CHINA FALL BOAR PIGS, sired by Naiman's Expansion and out of choice old sows, and large litters, for immediate sale. $12.50 each. Will send photos of pigs on request. John L. Naiman, Alexandria, Neb.

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SEED OATS, "REGENERATED," Swedish Select, free from foul seeds, $1 bushel. Theodore Franz, Good Thunder, Minn.

SELECT STOCK SEED CORN—GERmination guaranteed. Address Paul Quass, Ashland, Neb.

EARLY GATHERED REID'S SEED Corn, first premium and sweepstakes 1913 Nebraska Corn Show; high germination test; $2.50 per bu., sacks free. Chas. Grau, Bennington, Neb.

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CALIFORNIA HONEY—FINEST quality and flavor; freight prepaid anywhere on trial before paying. Three grades—10½c, 11½c and 12½c pound. Sample 10c; leaflet free. Agents wanted; good profits; steady orders. Spencer Apiaries Co., Box 166, Nordhoff, Cal.

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BLACK LANGSHAN COCKERELS, hens and pullets, the winter egg producers. Write for prices. All express companies here. U. S. Grant, Mason City, Ia.

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POULTRY

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LANDS

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TWO CROPS A YEAR CAN BE READily grown; for instance, barley, followed by corn or potatoes, or peas or beans; they all pay well; six cuttings of alfalfa a season. Alfalfa and hogs are money-makers, especially in a mild country like California. Irrigation with the Sacramento river water—always warm and carrying fertilizing silt—turns your efforts into wonderful crops and brings comforts unknown to people living in the middle or eastern states. It's a fact, you can make more money on twenty acres under these California conditions than on 160 acres of eastern land. The Kuhn irrigated lands are on the west side of the Sacramento river, in Glenn and Colosa counties; the soils are the best, the irrigation is perfect and they are all thoroughly drained. Oranges and lemons are never injured by frost and are five to eight weeks earlier than in southern California. Special low fare excursion February 18; come and see the section. For literatue and infomation write H. Lancaster, representing Kuhn Irrigated Land Co., 604 Paxton Blk., Omaha, Neb.

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STOCK RANCH IN KANSAS—960 acres in a body, 12 miles from railroad town; 250 acres in cultivation; 400 acres creek bottom land, with plenty of water at 20 feet to pump for irrigation; fine for alfalfa. New 7-room house, barn and sheds; 3 wells and windmills; all fenced; on 'phone line; one mile to R. F. D. route, half-mile to school. Price, $24,000; terms. The Chas. E. Gibson Co., Rm. 1020 First Nat'l Bank Bldg., Denver, Colo.

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FARMERS WANTED IN WYOMING—We will stake a few good farmers, not afaid to work, who have help, horses and implements for raising crops, to land in an irrigated country. Each farm has a large field into alfalfa; some ground broken last year and ready for crops coming spring, and some new land; crops to be divided equally. Will furnish dairy cattle, and hogs to work up crops. Calves and hogs produced to be divided equally. This farm land is located on Union Pacific railroad, in Wyoming, offering great opportunities for dairying and hog-raising, and each farm will be improved. Country is new, but developing rapidly. Only men familiar with new country conditions will be considered. A splendid opportunity for a properly qualified man with no land, but with grit and determination to make money in next few years. Write S. P. Bishop, Rock River, Wyo.

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IRRIGATED LAND—$45 AND $50 AN acre; eight-year payments, perpetual water rights; big crops each year, county seat; literature approved by state officials. Write us now. Wyoming Development Co., Wheatland, Wyo.

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SALE OR EXCHANGE—SECTION OF fine valley land in Utah. Crops: Alfalfa, wheat, potatoes, fruit, from station. Price $[illegible] per acre, easy terms. Address Owner, Twentieth Century Farmer.

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TIMBER ALONE WORTH THE money and I can prove it. 120 acres with fine hard maple, oak, 2½ miles from station, on main road in settled dairy region; soil and location will make ideal farm after timber is removed. Price and terms will sell this quick. Act now. Frank Hatfield, A 10, Frederic, Wis.

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It bears the label of the Fire Underwriters, which insures durability and protection. It is built entirely of metal, with the exception of the pressed fibre inner lining. Double air space on all sides, top and bottom. Send for our catalog showing the most complete line of Poultry Supplies in the United States.

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Renew your own subscription for one year, and we will send all three for $3.00. You can thus get your own subscription free; or, in this club plan, get each at $1 a year, instead of the regular price of $1.50 per year.

Review of Live Stock Market

By A. C. Davenport

CONDITIONS prevailing in the cattle trade do not appear to have undergone any material change during the last few days, but remain very much the same as detailed a week ago. Such price changes as have taken place have been favorable to the selling interests. Receipts have been by no means burdensome, and while the consuming demand has not been any too brisk, still it has been sufficient to keep supplies of cattle at leading market points well cleaned up, with the trade everywhere in a good, healthy condition. While prices have not advanced over 10@15c in most cases, still the feeling at present writing is very much better than it was at the close of last month. As noted at that time, there is still a feeling that receipts for some few weeks to come will be plenty large enough to take care of the consuming demand, and on that supposition even the bulls do not look for any immediate advance in prices of any great consequence.

It is a noteworthy fact that the bulls are becoming more and more confident as to the future of the market, as time goes by, and as the actual available supplies of cattle in the country are better understood. Even the packers, who are supposed to keep closer watch of the available supply than anyone else, are beginning to admit that a decided shortage is bound to be developed before grass cattle will be on the market next summer. Taking this for granted, the bulls do not hesitate to predict a strong cattle market throughout the remainder of the cornfed season.

Possibility of Sharp Breaks

As a matter of course, there is a possibility of large receipts of half-fat and inferior cattle most any day, and as often as they materialize it may be expected that buyers will be very apt to force sharp breaks. However, it is believed that the country is sufficiently bullish in its views to reduce shipments as often as breaks occur, which action, according to the line of argument advanced by the bulls, will speedily make good all breaks.

While no very great advance is anticipated for the near future, it must be borne in mind that prices, considering the quality of the cattle coming to market, are already very high, and that there is really no occasion for any advance when the question is viewed from a consumer's standpoint. In fact, those who are most positive in the belief that receipts before the close of the season will be light, rendering conditions favorable for a sharp advance in prices, admit that such advance will be regulated to a considerable extent by the ability or willingness of the consumer to pay the prices; in other words, the bulls believe that the only thing that will hold the market in check will be the question as to how much the consumer will pay.

Apathy of Farmers

It might be mentioned in this connection that in spite of the high prices commanded by cattle for some time back, and notwithstanding the prospect and the general belief that prices will continue high for some time to come, farmers themselves do not appear to be at all enthusiastic regarding the cattle-raising proposition. The idea was current in certain quarters that as the shortage in cattle supplies became better understood farmers would rush into the cattle breeding business, but thus far there is no indication of any general movement in that direction; on the contrary, farmers appear to be taking the matter very coldly and each one seems willing that the other should undertake the work of restoring the cattle industry. This is by no means encouraging to the consuming class, as it points to a continued high plane of values for beef products. Possibly the uncertainty as to the effect of proposed legislation placing cattle and beef on the free list may have something to do with the apparent apathy of farmers, or it may be due to a feeling that other forms of agriculture are more profitable than the breeding of beef.

It was noted a week ago that the bulls in the hog trade were as confident as ever regarding the future of hog values. That confidence was still further strengthened during last week, when prices scored a decided advance. At the same time it was very apparent that packers were putting forth every effort possible to stay the advance for fear that the market would run away with them. During the next two months packers usually figure on securing a large number of hogs and naturally they do not feel friendly to any advance in the price, which is already, from a packing standpoint, high. In their effort to stay the advance buyers have made some very strong bear raids on the market and have succeeded in breaking prices temporarily; but the breaks proved to be of short duration owing to the bullish attitude of the country, which cuts the receipts very promptly whenever the price drops. Thus far the fight has been a losing one for the packers, as the market is at present writing 40@50c higher than at the beginning of the year.

Fighting to Hold Market Down

Under the circumstances it would be very strange if packers did not continue acting on the bear side as often as receipts prove large enough to give them the opportunity. They may also be expected to make an especially hard fight to hold the market down to $8 on the basis of Chicago or under $8 at the Missouri river, but whether they can do so for any length of time remains to be seen.

The market on sheep and lambs has been acting better than even the most sanguine of the bulls anticipated. As noted a week ago, the market advanced in January, as had been predicted some time previous, but the advance was so rapid that it reduced the consuming demand, with the result that during the latter part of the month it broke again, a considerable part of the gain being lost. Continued moderate receipts has had a very stimulating effect upon prices and the market has during the last week or more been rapidly working up again, until the loss has been almost regained, so that the market at present writing is nearly as high as it was at the high point in January. As consumers showed plainly at the high time in January that they wer not prepared to pay the excessive prices asked for the product, the question is whether they will be of any different mind at the present time or whether they will again reduce the demand for mutton to such an extent as to cause another break in prices. As a matter of fact, the market on sheep and lambs is unquestionably occupying a very strong position. Receipts at the five big market points have already shown a decrease of over 130,000 head since the beginning of the year as compared with the same period a year ago. Thus, statistically there is good reason for the current high prices. The only question is whether consumers will stand for it.

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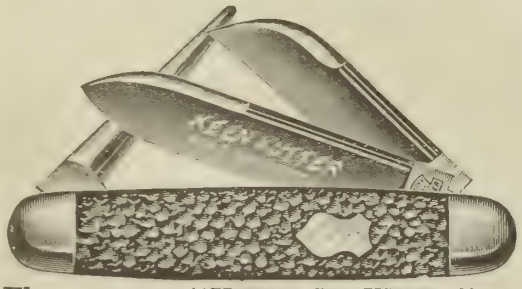

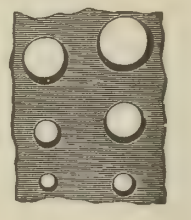

The name, "KEEN KUTTER," stamped on every blade, is a positive guarantee of its unexcelled quality.

The regular selling price of this knife is $1.50. Ask any dealer; he will tell you the same.

This particular knife is designed for the special use of farmers, stockmen and sportsmen, on account of the Leather Belt Punch Blade for making various-sized holes in leather for buckles, rivets, belt lacing, etc.

We Want You to Have One

Send us $1.50 for a year's subscription to THE TWENTIETH CENTURY FARMER and we will send you the KNIFE FREE.

The Twentieth Century Farmer, Omaha, Neb.

Bird's-Eye View of Our New Sister Republic

(CONTINUED FROM PAGE TWENTY-THREE)

The air is pure as the winter winds which sweep over Egypt from the Libyan desert, and Greece can furnish no more beautiful skies.

Where I am now writing is only about 1,600 feet above sea level, but in the past I have traveled over the whole of this Mexican plateau, and I doubt whether there is a more healthful country anywhere upon earth. The air is so rare that one can see many miles farther than in the eastern parts of the United States, and it is so filled with ozone that you seem to be breaching champagne. The skies seem closer to the earth than at home, the moon shines with a greater brilliancy and the diamondlike stars remind me of the luminous heavens which hang low at night over the Amazon or the Gulf of Siam.

This high plateau grows all the crops of the temperate zone; it has irrigated regions which produce large quantities of cotton, a fiber which was used by the Aztecs when Cortez first came; it yields Indian corn, which is the staple food of the people, and it is claimed that Mexico is the original home of this plant. I have seen soil which produces two crops of wheat in one year, and where the grain is pulled, root and all, from the ground. There is no manure, and the sun, the air and the ground furnish all the plant food. As to fruits, we have all those of the tropics and temperate zones, and that every month. I have had strawberries in Mexico at Christmas, and even now they are brought to the trains by peddlers and sold at a few cents a basket. Sugarcane is grown farther south and tobacco is a favorite crop with the natives. Altogether the soil and meat products which Mexico is now producing annually amount to something like $200,000,000; this is more than comes from the mines. I am told that the live stock industry is growing and that Mexico is about our only hope for cheap meats in these days of high prices.

The Mexico of 1913, although now in the turmoil of a revolution, is inclosed in a network of modern civilization. It is one of the chief railroad countries of the earth, and its trunk lines if stretched end to end would reach more than half way around the globe. It has about 16,000 miles in operation and there are over a thousand miles more under construction. It has been said that the disorder which has reigned during the last two years has stopped the building of railroads. This is true only of certain sections. The National railways have considerable track under construction and I saw men excavating all along the line for new tracks on my way to Monterey.

As to electric plants, the water powers of the country are being gradually harnessed, and with others the falls of Juanacatlan, the Niagara of Mexico, are generating electricity. Riding south over the plateau I saw the steel posts of high-power transportation lines running for miles through the desert; and I am told that this branch of industry is on the edge of its beginning.

(Copyright, 1913, by Frank G. Carpenter.)

Wineland Farm Jerseys

If you want a first-class Jersey bull or a few choice females, write to H. C. Young, Lincoln, Neb. Mr. Young has one of the best herds in the west and is in a position to supply you with almost anything you want. Mr. Young has one of the most modernly-appointed dairy farms anywhere in the west, and any animal that stays in this herd must conform to a certain standard. Write Mr. Young for further information regarding what he has to offer at this time. We have received a neat little pamphlet compiled by him giving various reasons why the Jerseys are superior to other breeds for dairy purposes, and also giving milk records and tests for the year 1912. He will be pleased to send this to you on application. Kindly mention this paper when writing.

Clearing Land in Missouri

This picture illustrates one of the methods of getting timber land in condition for cropping. After the trees have been cut, the stump puller is brought into requisition, and the stumps, with the roots attached, are taken out of the ground and everything made ready for the plow. There is no fooling with this machine. The biggest stumps and the most stubborn have to let go their grip on the ground when the machine calls for them. The machine is so constructed that the power of a single team is indefinitely multiplied, so that the firmest foundation of the haughtiest monarch of the forest must yield to its pressing invitation. The machine may be set near the center of the area of operation and the stumps pulled in a wide circle all about it. It is an inexpensive and a rapid method of clearing cut-over land.

Need of Eradicating Hog Cholera

(CONTINUED FROM PAGE FIVE.)

upon human beings. An ounce of prevention here will be worth pounds of cure.

Serum, when properly manufactured and properly administered, renders well hogs absolutely immune to the disease. This serum should be manufactured by each of the several states and should be administered only by competent, authorized agents. It should be sold at cost. The owner of hogs that are exposed to the disease is placed thereby at disadvantage enough without being compelled to pay a large margin of profit in the price that he pays for serum, but he should pay what the serum actually costs. If the serum is manufactured by the state, the money required for manufacturing it is not appropriated to be spent, but is merely invested, and is returned to the state upon the purchase of the serum. The manufacture of the serum should be conducted by the state, and should be submitted to the severest regulation and the most rigid tests.

Possible Objectors to This Plan

It is probable that the proprietors of commercial serum plants will object to the plan here outlined, because it will put an end to their profitable commercial activity. But this is a matter that in importance transcends any merely personal interests. It is to the personal interest of commercial serum manufacturers that there should always be cholera in the land, because only then may they hope for profitable returns from the sale of their manufactured products. Immense public interests should not be jeopardized, in order to promote private interests. It is too much to expect that manufacturers of commercial serum will serve the public faithfully at their own expense. It is not good state policy to expose anyone to the temptation of increasing his own emolument at the expense of the public. If serum is manufactured only by the state and sold to owners of hogs at exact cost, this temptation will be absolutely removed. Where there is no income at stake, the manufacturers of serum by the state may be depended upon to produce a product of the right quality. The state can and should secure competent men who can and will accomplish this result.

The present, the immediate present, is the time for the legislatures of the several states "to take this bull by the horns." Prompt action now, with sufficient appropriation to render such action effective and efficient, will insure safety in the future. The question is, will the state legislatures permit a future probable loss in each of the several states of $8,000,000 a year, rather than provide for the prevention of such loss the comparatively paltry sum of $100,000 per year for each of five consecutive years? A less amount might accomplish the result, but there should be no chances taken. The full amount here suggested should be granted if this terrible calamity is to be avoided; and if it proves in excess of the amount actually needed, the unexpended balance might be returned to the state. It is possible so to draft a law that each state treasury may be fully safeguarded, and one of the most profitable branches of the live stock industry may be insured against calamity. The question is up to the several legislatures. Let them not treat the matter lightly; serious issues are at stake. The state will look to them for help. Let them not disappoint their constituents.

Live Stock Notes

Duroc Dissolution Sale

We call attention in this issue to the dissolution sale of Duroc-Jersey hogs, to be held at Valley, Neb., on February 24, by the Agee Land and Live Stock company of that place. This herd has been built along the right lines and this sale will contain many individuals that would not be offered for sale were it not for the fact that this sale is being held for the purpose of adjusting a partnership. The sale offering will consist of fifty head of bred sows and gilts and three herd boars. The sows and gilts are sired by Agee's Crimson Wonder, Goodrust Chief, Blue Ribbon Chief, Modernus Wonder and others. They are bred to Agee's Crimson Wonder, Blue Ribbon Wonder by Blue Ribbon Model, and Col. Fred by Col. Gano. You certainly can't go wrong by getting a boy bred to any one of these boars. They are bred right and they are also good individuals. If you want a herd boar better get after one of them. Catalogues are ready and will give complete information on the sale offering. If you cannot be present, ask for a catalog by C. E. Hall, sale manager. The Twentieth Century Farmer Kindly mention the paper when writing.

Holstein-Friesian Cattle

James Dorsey, Dept. B, Gilberts, Ill., is offering a large assortment of high grade Holstein-Friesian females in the ads through the columns of this paper. He also has for sale a number of high-class registered bulls and a few choice registered females. Parties wanting anything in this line will do well to write him mentioning The Twentieth Century Farmer.

HORSES AND MULES

FAIRVIEW FARM Percherons, Belgians, Shires, Mammoth Jacks and Jennets

SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets—in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS, STALLIONS AND MARES.

I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. W. L. DeCLOW, Cedar Rapids, Iowa.

PERCHERONS BELGIANS SHIRES

ONE OF THE OLDEST AND LARGEST IMPORTERS IN AMERICA

Our horses are big, smooth flat-boned fellows, with great quality style and conformation. Will please the most critical. Prices reasonable. Satisfaction guaranteed. Letters from hundreds of satisfied customers and big illustrated catalog mailed free.

Watson, Woods Bros. & Kelly Co.

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JACKS AND MULES

Raise mules and get rich. 18 Jack and Mule farms under one management, which can be seen 120 head fine large Jacks, Jenns and mules, 14 to 17 hands high. Good ones. Stock guaranteed. Write for prices today. Address KREKLER'S JACK FARM West Elkton, Ohio. Branch barns: Clinton, Ind.

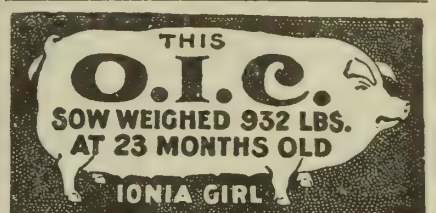
THE BEST VALUE.

Home-grown Registered Percheron Stallions of substance, 2 and 3 years old, grays and blacks. Big straight fellows that will pay you. Just east of Omaha. Drop a card. FRED CHANDLER, R 7, Chariton, Iowa.

JERSEY CATTLE

WINELAND FARM JERSEYS The Wineland Farm herd of Jerseys contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

O. I. C. HOGS



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN RFD 79 Portland, Mich.

HOLSTEIN-FRIESIAN

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers.....
50 1½-year-old heifers..... } Just being bred to a son of a 24-pound dam.
100 2 to 2½-year-old heifers.....
100 2½ to 3-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.

250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

Don't you want a good grandson of the great Katy Gerben, The Champion cow of the breed for five consecutive years. We have some fine ones out of splendidly bred A. R. O. dams.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed.
Send for FREE Illustrated Booklets.
Holstein-Friesian Assn., Box 179, Battleboro, Vt.

HOLSTEINS Beautifully marked heifer and bull calves, 15-16ths pure, 3-4 weeks old, $20.00 each, crated for shipment anywhere. EDGWOOD FARM, WHITEWATER, WIS.

Mention The Twentieth Century Farmer.

DUROC-JERSEY HOGS

Duroc Dissolution Sale
At VALLEY, NEBRASKA, FEBRUARY 24
50 HEAD OF SOWS AND GILTS--3 HERD BOARS

This sale is being held for the purpose of adjusting a partnership and will contain many animals that would not otherwise be offered for sale. They are strong in the blood of Crimson Wonder, Valley Chief, Blue Ribbon Model, Colonel Crimson Wonder, Gold Dust Chief and others. The sales offering will be bred to Agee's Crimson Wonder by Crimson Wonder Again, Blue Ribbon Wonder by Blue Ribbon Model, and Col. Fred, by Col. Gano. The three herd boars will also be offered for sale. Catalogues may be had by writing to

AGEE LAND & LIVE STOCK CO., A. E. Agee, Mgr., Valley, Nebraska

Col. J. P. Spearman, Auctioneer.

Mr. A. E. Agee will [illegible] and will be located at Waterloo Neb., after May 1.

DUROC-JERSEYS

[illegible] choice sows bred to Crimson Wonder Jr., Col. Lafollette, C. H. Col. and Count Model. Also 15 spring and all the herd boars must be sold before March 1st. Will sell 50 head of choice sows. Feb. 15th at Friend, Neb. Write for catalogue and prices before. Also want to buy Diamond Black Duroc cattle. Must be good. Will pay the top cash price for the right kind. Address Agee Stock Farm, Friend, Neb.

RED POLLED CATTLE

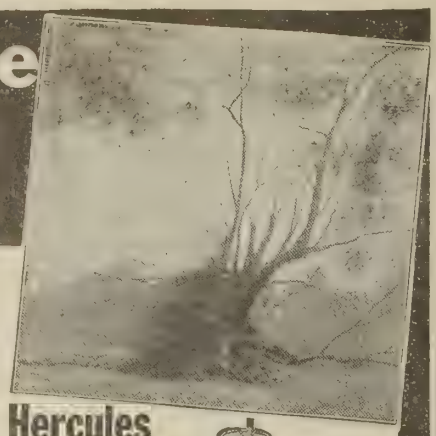
Bulls of serviceable age, females, all ages. Best quality. Prices right. W. J. Schwab, Clay Center, Neb.

Now is the time to advertise and the columns of The Twentieth Century Farmer is the place. If you would get [illegible]

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Pull Out the Stumps!

Farm All Your Acres

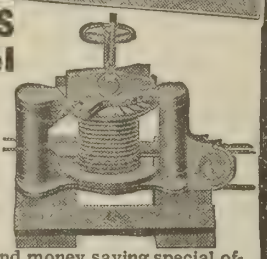


Land is too high-priced to waste. Crops bring too much money to throw any away. Taxes are too high to get nothing in return. Think what you are *losing every year* by boarding *stumps*. Think what your loafer lands robs you of. It *doesn't pay* to leave the stumps standing. Get a Hercules all Steel Triple Power Stump Puller.

Pull Out An Acre Or More of Stumps a Day

Pull the biggest stump on your place in 5 minutes. Pull three acres without moving machine. The Hercules has greater pull than a locomotive. Has 400% more strength than any other puller—is 60% lighter. Cheaper, safer, surer, more thorough than dynamite. Many special features fully explained in my fine free book.

Hercules All Steel Triple-Power Stump Puller

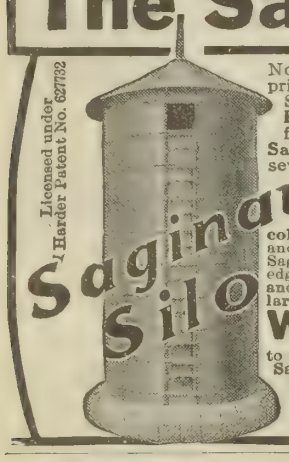


Send Me Your Name

Get my book and money saving special offer. Don't wait! Learn the best and cheapest way to remove the stumps *Now!* Address B. A. Fuller, Pres.,

HERCULES MFG. CO. 255 21st St. Centerville, Iowa

And A-G-A-I-N The Saginaw WINS!



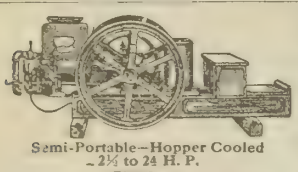
Licensed under J. Harder Patent No. 627732

Nobody who has been watching the Silo business was at all surprised when the news came out a few days ago that the Saginaw Silo won another big victory in adopting the **Patented Angle Steel Rib.** Wasn't it the Saginaw that made the **All-Steel Door Frame** famous? And was ever anything invented to compare with the **Saginaw Base Anchor** or the **Saginaw Inner Anchor?** No, sir! For seven years every single **practical** Silo improvement has first appeared on the **Saginaw.**

This year's Saginaw is simply a **wonder! Strong as a City Skyscraper.** Never a chance of the most terrific storm even budging it. It cannot **blow down, nor twist, nor warp, nor collapse, nor cave in, nor tilt.** Even when empty, it stands as immovable and strong as the great Rock of Gibraltar. And so **scientifically** is the Saginaw made that your Silage is always **bright and clean** clear to the edges, next to the wall. Five mammoth factories are now kept busy day and night making Saginaw Silos. The Saginaw is four times more popular than any other. Last season, in one day 587 Saginaws were sold.

WRITE! Rush a postal to us at once and you will soon have before your eyes the fascinating story of the World's Greatest Silo. No Dairyman or Stockman can afford to miss such a treat. Mail just a postal now, saying you want the new Saginaw Silo Book No. 62, and it will be sent you by return mail.

The McClure Company (formerly Farmers Handy Wagon Co.)
Saginaw, Mich. Des Moines, Iowa Minnesota Transfer, Minn.
Cairo, Ill. Ft. Worth, Texas



Semi-Portable—Hopper Cooled 2½ to 24 H. P.

"Badgers" Cost Little to Run

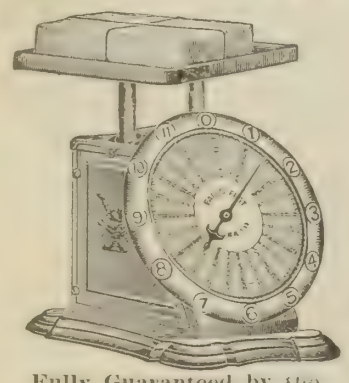
Badgers consume no fuel which they do not turn into *power*—therefore, are *economical*. Badgers always run perfectly—rain or shine, hot or cold, under heavy load or light load. Speed adjustable at will. Runs so smoothly needs no blocking. Perfect balance means long life. Extra large bearings. Perfect oiling system. Guaranteed for *five years*. Finest power plant for grinding, wood sawing, fodder cutting or any other belt driven machines. Made in Portable, Semi-portable and Stationary types, 2½ to 30 H. P. Learn all about these dependable and economical engines. FREE CATALOG. Give your dealer's name and we'll send you also first lesson of *free* course on gasoline engine operation. Do this today.

Badger Farmer's Friend GASOLINE ENGINES

THE CHRISTENSEN ENGINEERING CO.
108 Badger Street 4 Milwaukee, Wis.

PARCEL POST SCALES

Made by "KEEN KUTTER" CO.



Fully Guaranteed by the Keen Kutter Co.

The name "Keen Kutter" is a positive guarantee to you of their accuracy and unexcelled quality. These scales indicate automatically and correctly in cents the cost of postage on parcels by zones, in accordance with the new parcel post law. We offer you these Keen Kutter Scales and The Twentieth Century Farmer, one year, both for $3.50, delivery charges prepaid.

Address
THE TWENTIETH CENTURY FARMER
OMAHA, NEB.

Farmer Putnam Has Time of His Life

(CONTINUED FROM PAGE EIGHT)

country all hot under the collar and says to the assistant secretary:

"Say, Bob Boyce, what's this you're sendin' me fur a entry blank? I want to bring a pen of Berkshires to the show and I git this card which says 'Name of Child,' 'Age,' 'Sex,' etc. It seems to me you're a-gettin' stylish hereabouts when it comes to enterin' shoats fur the show."

Well, I don't blame him fur bein' sore. They sent him a entry blank fur the eugeenicks contest by mistake, instead of the hog blank. But aside from that the baby show went off fine. You know eugeenicks is the scientific name fur baby improvement. O. M. Plummer, secretary of the Portland Union Stocks Yards, was at the show and he took more interest in babies than he did in live stock, because he's going to help put on a eugeenicks contest at the San Francisco exposition in 1915, where they're goin' to pick the finest white baby in the world. Colorado is goin' after the prize.

Agricultural College Puts on Show

The Agricultural college had a fine exhibit, composed of home economics, veterinary, poultry and other displays, and Profs. Glover, Vaplon, Keyser, Netherton, Sargent, Dvorachek, Blinn, Hinman, Morton, Miss Butler, etc. Everything was educational. Prof. Dvorachek fixed up a rack full of milk bottles, one side havin' fifty-eight pints, one day's milking of Collins Chloe, the prize Holstein of the college herd, and the other havin' twenty pints, such as an ordinary cow gives in a day. He put pisen in the milk to keep people from drinkin' it, but that was a waste of money. Why anybody comin' to Denver should want to drink milk was more then I could understand. He thought Denver was like Fort Collins, I guess.

Miss Butler had charge of the model kitchen and she looked well in it. One of the visitin' stockmen wanted to know if she went with the kitchen, but she said she didn't know; the matter would have to be taken up with the Board of Agriculture.

Prof. Keyser was lookin' after the agronomy exhibit, tellin' the farmers of Colorado that they lose a million a year because of smut in wheat and showin' them how to treat the seed to prevent the loss. Some farmers wanted to know if they couldn't buy seed that was already treated. The trouble with us farmers is we're gettin' rich too fast—too many autos and gas tractors. It'll be so after a while that a farmer will want his seed forced into unplowed ground with one of them vackuum machines run by electric power.

A Joke on the Professor

Vaplon, the chicken expert, had all kinds of poultry houses, trap nests, feed boxes and things. Everything he had in his department was straight goods; no jokes. He used to be a great joker, but he quit it not long ago in Fort Collins, when he was havin' a chicken show up there. He put a scrawny little bow-legged rooster in a store window and put a sign over him readin', "The Celebrated Imported Whynotter. Every lady visiting the poultry show Thursday afternoon will receive a souvenir egg from this famous bird."

He thought the hull town would laugh at the joke, when they seen the rooster, but when several ladies that had been poultry raisin' by the catalogue come in and wanted rooster eggs as souvenirs, Vaplon threw up his hands and swore he'd never try to joke agin. He was awful solemn through show week in Denver, but I know it won't last. You can't stop jokin' when it gits in your blood, and it's chornic with Vaplon. He starts off his lecture with a joke and then when he's got 'em all laffin', he lays 'em out like a grandfather fur bringin' dirty eggs and stale eggs to market and pretendin' to be honest farmers. Well, when we git laid out like that from a man who raises chickens hisself and knows what he's talkin' about, we don't mind it so much. I guess most of us has tried to slip in a few eggs now and then that we found in a fence corner, believin' that they was just laid the day before. They ought to be some way of tellin' the age of a egg by the outside. I'm lookin' fur a smart professor like Vaplon to invent a self-registerin' egg layin' breed of chicks some time soon.

Experts Make Crop Exhibits

Prof. Buffum from Wyoming had an exhibit at the show, too. He's the winter emmer man. That's a plant bred fur the dry land plains that kin be used as a feedin' crop. When the dry landers gits to growin' enough emmer they kin feed and fatten both hogs and cattle and make big profits every year, instead of gittin' a crop of wheat onct in four or five years and starvin' the rest of the time. They call Buffum the "Burbank of the Plains," because he kin take a seed of some grain and develop its camel-like qualities so's it kin git along seven months without water.

Prof. Blinn was there with a alfalfa exhibit. He's the feller that's found out why Grimm alfalfa is a better drouth and cold resister then other kinds, and he had specimens of his plants in the show that had roots on 'em that would never stop till they found water. Doc Glover was tellin' me that Blinn had a wonderful experience with one of his alfalfa plants down at the branch experiment station in Rocky Ford. He tried to pull up the root and it kept comin' and comin' until finally they had a roll it on a spool it got so long. Well, to make a tall story short, they worked fur weeks gittin' out that one root and when they come to the end of it they found a Chinese laundry ticket, indicatin', says Glover, that the root had growed clean through the earth and was bein' used fur a washline by some oriental on the other side. That's alfalfa fur you!

Educated Dogs and Horses

Prof. James McLay of the University of Wyoming had his trained Shepherd dog, Jet, at the show, givin' exhibitions in the horse show ring every night. The dog would drive sheep all around the ring and into a pen, without assistance from his master. One time last winter he took a drove out in Wyoming and they got caught in a blizzard. The flockmaster didn't find him fur three days and then Jet had his bunch of sheep in a canyon, under some overhangin' rocks, where they could keep warm. He had piled up a lot of brush and if he'd a had a match would have started a fire fur 'em.

The horse show was a swell affair, the amphitheater being full every night. Miss Loula Long of Kansas City took most of the prizes. That's the way of it—her paw's got oodles of money and she don't need it, but she won over $1,000 during the week. I was kind a glad to see her win, because she was from my home state, and next to her was another Missourian, O. J. Mooers of Columbia. Tom Bass, another Columbia feller, was there with his high school hosses, one of 'em bein' trained to go through all kinds of stunts, even to backin' and bowin' itself out of the ring.

I could write several more columns about it, but that would cost you too much, Mr. Editor, so I'll quit now, with a few words about the man that made the show. He is Fred Johnson, secretary of the Stock Show association and other things. He was the chief boss of the show and he went through the week with 1,000 men, women and things botherin' him, and he never onct lost his temper. I claim that's the supreme test for any man that wants to hold a executive job. Johnson could hold down the president's job in Washington.

THOMAS JEFFERSON PUTNAM.

The Responsible One

"Who is the responsible man in this firm?" asked the brusque visitor.

"I don't know who the responsible party is," answered the sad, cynical office boy, "but I am the one who is always to blame."

T W

TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Five Cents the Copy | Omaha, February 22, 1913 | Number 637

SEED NUMBER

THREE GENERATIONS

The young men and women who are today ordering their household goods and farm implements from Montgomery Ward & Company are following in the footsteps of two generations.

The proud boast of this institution is that it has served faithfully three generations of careful, saving people.

Many a young couple who are ordering their weekly or monthly shipment from Montgomery Ward & Company have back of them the spirit of father and grandfather, approvi .gly urging them in the path of saving.

In 1872 we began the battle to reduce the high cost of living. It was our own private fight forty years ago. It has now become a national issue.

Millions have learned the lessons and profited by them. The great catalogue of Montgomery Ward & Company this year has reached a pinnacle of perfection undreamed of heretofore.

There are bargains on every page. From pins to pianos, from agricultural implements to automobiles, from foods to furniture, and through all the thousands of articles correctly described in word and picture you will find an array of merchandise unequalled in any other collection in the world.

This wonderful book of a thousand pages and ten thousand opportunities to save is yours free for the asking. All you need to do is to write a post card or letter today saying "send on the new catalogue" and it will reach you without a penny of cost or a shadow of obligation. Write today.

MONTGOMERY WARD & CO. Dept. Q-6.
CHICAGO KANSAS CITY FORT WORTH, TEX.

Prattle of the Youngsters

Not on Good Terms

"Effie, will you run to the door and call Fido, please!"

"I can't, mamma, 'cos I aren't speakin' to Fido since he broke my doll."

Feeding the Fishes

"What does it mean to cast your bread upon the waters?" asked the Sunday school teacher.

"It means that the fishes has to be fed," replied small Sadie.

Plenty of Room Inside

Grandmother—Why, Bennie, what a big dinner you are eating for such a very little boy!

Bennie—Yes, Grandma, I know I ain't very big, but I've got an awful thin shell!—Woman's Home Companion.

Needed Refreshments

One day Stella accompanied her mother on a shopping tour. They sighted the candy department in a large store, and Stella said:

"Mamma, I'm afraid you'll have to buy me some peppermints—I feel awfully faint."

The Country Walker

Rose Pastor Phelps Stokes, in an address on behalf of a New York country-week charity, told a quaint story.

"A little slum girl," she said, "stood for the first time in her life in a barnyard—a genuine, old-fashioned barnyard, with its ricks, its lazy cows, its plows and harrows and what not.

"The slum child drank it all in delightedly, then gasped, half to herself:

"'An' jest look at the chickens—all runnin' around raw!'"

Her Secret

Little Jack, aged 5, had accompanied his mother on a trip to the city. When the conductor came around to collect the fares he asked the usual question:

"How old is the boy?"

After being informed the correct age, which did not require a fare, the conductor passed on to the next person. The lad sat quite still, apparently pondering over something; then, concluding that full information had not been given, he called loudly to the conductor at the other end of the car:

"And mother's 35."— Harper's Bazar.

She Got That One Right

Emily was a dear little old-fashioned baby, 4 years old. She pronounced her words very distinctly, but frequently misused them. This was especially true, the Buffalo Commercial declares, in regard to the names of her meals, which she often confused.

One day, when she had come to the breakfast table with the statement that she was hungry for supper, her mother became a little impatient.

"Now, Emily," she said, "this is ridiculous. You must learn the names of the meals and use them properly. When you have been asleep all night, get up and dress and come downstairs, what meal do you have?"

"Oatmeal, mamma," was the innocent reply.—Youth's Companion.

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Maps for General Information

ON PAGE 11 of this issue will be found a map which shows the average value of farm land by counties in each of the states of the union. Each succeeding week will be published a map which will present valuable information in such a way as to be readily apprehended by a glance. These maps will show the acreage in corn by states, the acreage in wheat by states, total number of cattle by states, total value of all farm crops by states, total value of products of manufactures by states, per cent of urban population in total population by states, per cent of foreign-born whites by states in total population, percentage of negroes in total population by states.

These maps are taken from the abstract of the Thirteenth Census and show conditions as they were in 1909. Rarely is so much information expressed in a way so readily to be grasped and understood. The information given is official and reliable. Readers will find it to their advantage to preserve these maps for future reference.

Bright and Breezy

How Long Can He Stand It?

This is Mrs. Forbes-Robertson Hale's latest suffrage story:

"A negro woman was arguing and arguing with her husband, and when she had finished he said:

"'Dinah, yo' talk don' affect me no mo' than a flea bite.'

"'Well, niggah,' she answered, 'I'se kawna keep yo' scratchin'.'"—Woman's Home Companion.

Who He Was

The court was having trouble getting a satisfactory jury.

"Is there any reason why you could not pass impartially on the evidence for and against the prisoner?" asked the judge of a prospective juror.

"Yes," was the reply; "the very looks of that man makes me think he is guilty."

"Why, man," exclaimed the judge, "that's the prosecuting attorney!"—Ladies' Home Journal.

An Expensive Drop

Mr. Hiram Jones had just returned from a personally conducted tour of Europe.

"I suppose," commented a friend, "that when you were in England you did as the English do and dropped your H's."

"No," moodily responded the returned traveler, "I didn't. I did as the Americans do. I dropped my V's and X's."

Then he slowly meandered down to the bank to see if he couldn't get the mortgage extended.—Lippincott's.

Good for Adults or Infants

Mike came to the doctor about 9 o'clock with the information that their month-old baby would not sleep a wink. The doctor gave Mike sleeping powders for the baby. The next day he met Mike on the street.

"Well, how did the powders work?" asked thed octor.

"Them powders, Doc," answered Mike, "sure did the trick."

"Made the baby sleep, did they?"

"No, that they didn't, Doc. We gave the darlint a dose, just as you told me, but it wouldn't sleep at all, so we just took a dose o' thim powders oursils, we did, and went right off to sleep, and niver heard the darlint cry one bit any more."—Lippincott's.

A Literary Betrothal

Inscriptions in complimentary copies of learned works do not always serve the graceful purpose to which one was dedicated by the celebrated Prof. Wilson of Edinburgh.

When the suitor for the hand of Prof. Wilson's daughter had gained the young woman's approbation she, of course referred him to her father. Having stated his case, the younger gentleman was asked to bid the young lady to come to her father. Her obedience was prompt. Prof. Wilson had before him for review a ponderous volume, on the fly leaf of which was duly inscribed, "With the author's compliments."

He tore this fly leaf out, pinned it to his daughter's dress, solemnly led her to the anxious lover and went back to his work.—Youth's Companion

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Getting Ready for This Year's Corn Crop

Some of the Most Important Factors to Be Borne in Mind in Selecting Seed for Planting

THE first requisite for a successful corn crop is the selection of proper seed for planting. Unless one plants the right kind of seed he cannot expect to raise the right kind of a crop. "Men do not gather figs from thistles," and "whatsoever a man soweth, that shall he also reap." These truths are as pertinent today as they were 2,000 years ago. One must plant the kind of corn—that is, the same quality of corn—that he wishes to harvest. The laws of heredity are as potent in the growing of corn as in the production of live stock.

The first requisite in good seed corn is a high degree of vitality. What the vitality and productive power of the future stalk will be, depends upon the degree of vitality—that is, the capacity for rapid and vigorous growth—that the seed kernel possesses. A runt is always a runt, and unprofitable, whether it be an animal or a vegetable runt. Poorly vitalized seed, in either case, is in most circumstances the cause of the runt condition.

As shown in the accompanying illustration, a strongly vitalized kernel of corn sends upward a vigorous shoot, and downward a cluster of vigorous sprouts; it must sprout vigorously, and must show both a vigorous stalk and vigorous roots. One weak kernel may send up a stalk merely, with no roots, and another may put out roots merely, without a stalk. Other kernels, still, will develop neither roots nor stalks. The plant that is enfeebled at the beginning of its growth will be lacking in vigor throughout its entire period of growth.

The Germinating Test

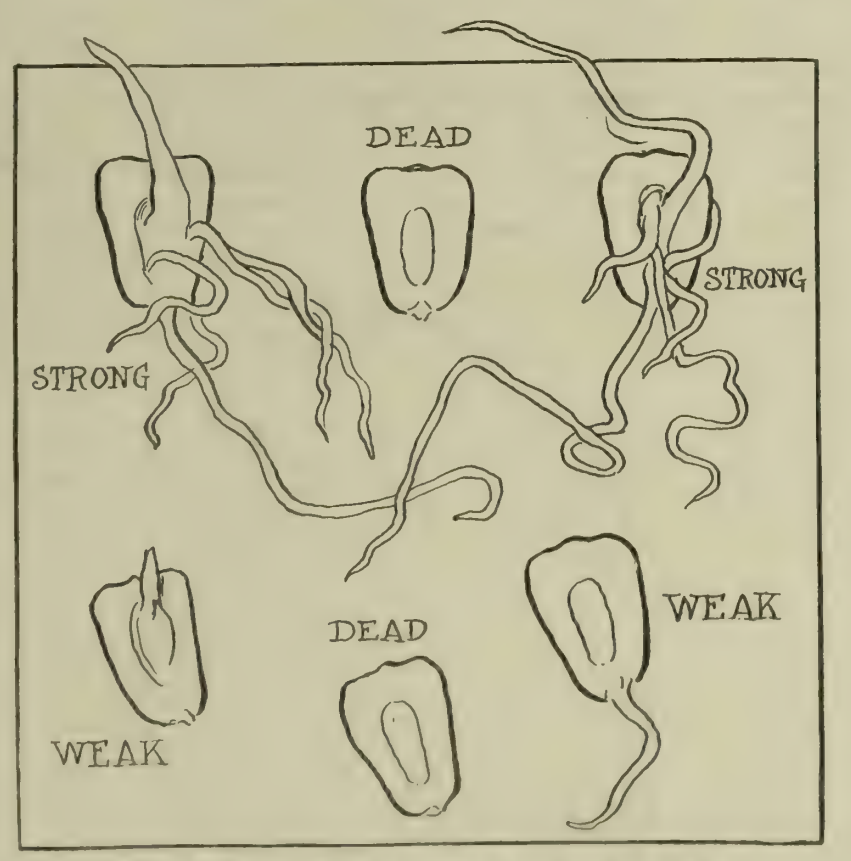
The only way in which anyone can tell whether his seed corn is capable of the vigorous growth demanded for a profitable crop is to apply to it the germinating test, and be guided by the result. This test should be made under circumstances that are as near normal as possible. Many kernels of corn, when tested under artificial conditions, make an entirely different showing from what they would make were the test made under conditions similar to those they will meet in the field. Each ear of corn should be tested separately by taking for the test several kernels, each from a different position on the ear. Then, the ears that exhibit less than the desired vitality may be rejected. Every ear planted should be so tested, if a maximum crop is to be expected, or to be secured.

Some men claim that they can tell by the looks of a kernel whether it will grow vigorously or not. Some men claim that they can tell by biting the kernel whether it will produce satisfactory growth; others have other ways for finding out a sure thing. All such place too much confidence in themselves. There is only one way absolutely to know, and that is to try the corn and note the result. "The proof of a pudding is chewing the string."

Kind of Corn to Grow

What the farmer is after is production, and the greatest possible production. He wants the kind of corn that will give him the greatest number of bushels of shelled corn to the acre, and he does not care what it looks like, whether the cob is a big one or a little one, whether the ratio between the weight of the corn and the weight of the cob is constant. Some people have attempted to establish an artificial standard with reference to all these matters. But, unfortunately, in breeding, as these artificial standards have been approached, the production has been lessened. The amount of production of matured corn is what the grower desires, and he will not be led away from his purpose by any artificial, fancy notions.

He must, however, realize that the laws of heredity govern the production of corn as much as of anything else, and he must work in harmony with these laws if he wishes to attain the best results. The selected corn must be capable of maturing in season. Here is a fact that the corn grower must bear in mind. Other things being equal, the deeper the kernel, the longer will be the season required for maturing the crop. In some parts of Iowa they have exaggerated the idea of the necessity of a deep kernel to such an extent that, for several seasons, the corn has not matured in time to be out of the way of the first frost. And much loss was the result. Growers should be careful not to press this matter of growing corn with the kernel too deep to enable it to mature during the growing season.



Various Results Derived from the Germination Test

Number of Ears to the Stalk

There is no reason why a thrifty, leafy stalk should not produce more than one good ear. This matter of the number of ears to be borne on each stalk is more a matter of breeding than of soil or climatic conditions. A noted corn grower in Indiana has proved this. At the beginning, when he found a stalk with two good ears upon it, he selected the upper one of the two for seed. He did this for a number of years. Then he began to find stalks in his field that carried three good ears. Again, he selected the upper ear, and proceeded as before. In this way he succeeded in developing a variety of corn, many stalks of which bore four good ears. And during this process of development he made no change in his method of handling or of fertilizing the soil. He simply gave the law of heredity the chance to show what it could do. It would be well for readers of this paper to undertake the same experiment. If it should prove successful, and it probably will, the yield of corn from a given acreage would be correspondingly increased.

Much of the quality of the corn grown depends upon the quality of the stalk that produces it. The stalks, as well as the ears, are determined by heredity. If the stalk is a vigorous grower and produces an abundance of leaves, it will have just so much greater capacity for taking its food elements from the air. All fattening capacity in corn is derived through the leaves from the air. The manner in which the stalk bears its ears is also governed by heredity. No seed should be selected from a stalk that bears its ears in an upright position. Seed ears, for obvious reasons, should come from a stalk that bears drooping ears. The height upon the stalk at which the ear is set is also determined by the laws of heredity. For convenience, it is well to have corn that sets its ears at such a height from the ground as to be most easily harvested. If such corn is desired, the only way to get it is to select seed from the stalk that answers to the requirements. Any corn

grower would laugh at a man who would engage a blind man to select for him his breeding live stock. He had better either stifle the laugh, or change his own methods in selecting his breeding corn. The man that selects his seed from the shucking wagon, or from the corn crib, is as blind, with reference to the kind of stalk that produced the corn, as the man he laughs at. The only way in which any corn grower can take advantage of the laws of heredity is to select his seed corn in the field, where he can see what the kind of stalk is that bears it, and whether it answers to the requisite requirements in vigor of vegetable growth, in profusion of leaves, in number of ears borne, in the habit of drooping its ears, in the height from the ground at which it sets its ears and in the depth of kernel that it produces. It is foolish to try to dispense with natural laws. The wise man invokes their aid and works in harmony with them, thus producing a profit that pays many times over for the trouble and expense involved in making the selection.

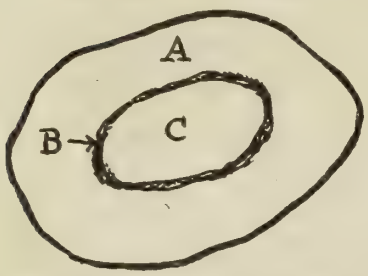
Every Man Should Grow His Own Seed Corn

Corn is sensitive to changes of soil and climatic conditions, much more sensitive than the ordinary corn grower imagines. Here is a reliable illustration of this fact: Two men had cornfields immediately adjoining, with only a barbed wire fence between them. Both were good corn growers, the average production exceeding sixty bushels to the acre, one raising one kind of corn, the other another. Their methods of cultivation, and, as far as one could see, the character of their soils, were practically the same. One man, as a rule, produced more corn to the acre than the other. To increase his yield, and because he thought it was merely a question of seed, the poorer producer secured seed from his more successful neighbor. The successful neighbor, who flattered himself that his success was due entirely to his superior cultivation, took some of the neighbor's seed in return. Both were surprised beyond measure by the result. The seeds of neither kind produced as well on the neighbor's land as on their own ground. The experiment was continued until both were satisfied that one corn was better adapted to its particular soil than the other. This is undoubtedly true and should receive more careful attention from corn growers.

The man that raises his own seed corn raises corn that is already adapted to his specific conditions, and has just so much the start of the man that brings to his farm seed corn from other different conditions. A man may grow corn that on his farm will produce more than any corn that he can buy. At the same time he cannot guarantee that this corn will be as productive on land immediately adjoining. Besides, no farmer can invoke the laws of heredity to his aid, and heredity in corn-growing is a very potent ally, unless he grows his seed corn on his own farm.

Selection of Seed for Next Potato Crop

Pertinent Suggestions that Planters Should Take Into Consideration When Choosing Supply



Cross-Section of End of Potato

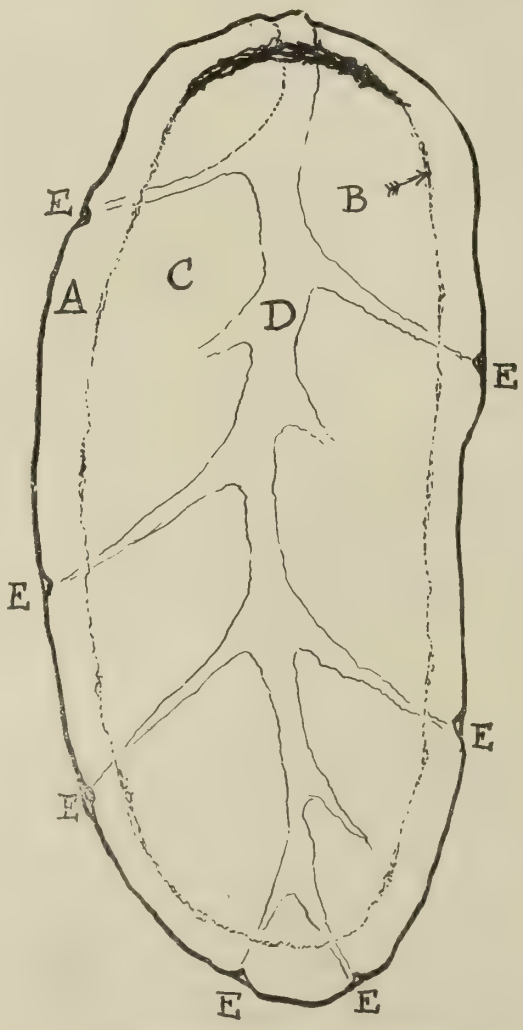
VERY much depends, in the production of any crop, upon the proper selection of seed. But in the selection of seed for a potato crop, it becomes imperative that only proper seed be selected. In the potato-growing districts of the country the industry is menaced by a very grave condition of affairs. There are potato diseases in certain sections that have nearly wiped out the industry, and in other sections have reduced production so as to wipe out all possibility of profit. None of these diseases are curable at present by any known method. The only means possible to adopt, to avert threatened disaster, consists in using proper means of prevention. If clean, healthy, marketable potatoes are to be produced, the utmost care must be used in selecting and handling the seed. One maxim should universally rule—"Uninfected seed in uninfected soil." In no other way is it possible for a grower to protect his own interest.

Principal Diseases Affecting Potatoes

First—Scab is a disease of the skin, produced by infection from a fungus. It not only disfigures the potato, so as to depreciate its market value, but it interrupts and enervates vital functions, which cause its victim to lack quality as a food. This fungus infects the soil so that if absolutely clean potatoes are planted in a soil that has produced scabby potatoes, the clean potatoes will take the infection. No one knows how long this infection will live in the soil. Potatoes should not be planted on infected soil, at least until the soil has been devoted to other crops for a period of at least six years.

Spores of this scab fungus are frequently found on the outside of perfectly smooth potatoes, where, as soon as conditions are fit, they are in a position to begin their work of infection. These outside spores may be killed by dipping the seed before it is cut in a disinfecting solution. Two kinds of solutions are recommended—one of them is called the corrosive sublimate solution; the other the formalin solution. For the first, dissolve two ounces of corrosive sublimate in two gallons of hot water; then add fourteen gallons of cold water. Soak the potatoes for two hours in this solution and dry them before cutting. For the second, pour one-half pound of 40 per cent formalin in fifteen gallons of water and proceed as with the corrosive sublimate treatment. The corrosive sublimate is a violent poison and great care should be exercised in using it. If a planter is determined to plant potatoes that are slightly infected with scab, this treatment may possibly kill the fungus if it is not too deep-seated.

Second—Fusarium dry rot is an especially insidious potato disease, for the reason that it does not show on the outside of the potato until the last stages of the disease are reached. In order more fully to understand the nature and opration of this disease, the accompanying illustrations are shown. In the illustration, A designates the corticel, which entirely surrounds the potato. This layer contains most of the starch in the potato and contributes most to its fine cooking quality. The thicker the layer, the more the starch, and the better the quality. C designates what is known as the outer medullary layer. Between this and the corticel is a very thin vascular, semi-fibrous layer which contains the cells by which the starch of the corticel is elaborated. D is known as the inner medullary layer. It is a vascular semi-transparent body which contains the vessels for the circulation of sap and for nourishing the building process of the tuber. It resembles the trunk of a tree, with branches going out to the eyes of the tuber, the eyes being merely buds at the extremities. Anyone, by slicing a tuber through the middle and examining carefully, may see for himself these various structural parts.



Longitudinal Section of Potato

Fusarium dry rot infects the tuber through the stem and works chiefly in the thin, fibrous layer, between the corticel and outer medullary layer. If one should cut off the stem end of an infected potato, he would find that it would have some such appearance as is shown in the upper illustration. The fibrous layer (B) would be found to be discolored. When the infection is in its early stages the coloring will be a yellowish brown, and perhaps not continuous. As the infection progresses the color changes to deep black and proceeds along the whole length of the fibrous layer. This is the cause of the black ring that surrounds diseased potatoes, which the housewives have had to cut away in preparing them for the table. In the last stage of this disease, which requires months for its complete development, the potato breaks down with dry rot. This disease has depreciated and injured the potato market more than any other cause. It does not become apparent on the outside of the tuber until the final stage has been reached.

Every potato planted should be cut across the stem end, and all discolored parts should be rejected, so that nothing but clean, white, uninfected seed should be used. This disease also infects the soil, and extreme care must be used so as not to disqualify the soil from producing marketable potatoes in the future. The large section of the tuber in the illustration shows the beginning of the disease at the stem end.

Third—Rhizoctonia. This is another dangerous fungus disease of potatoes. In some sections of the country it has completely wiped out the potato industry through soil infection. The disease attacks the underground portions of the plant. If the infection occurs early in the season, it girdles and kills the young plants

(CONTINUED ON PAGE THIRTY-FOUR.)

Growing of Fruit in the Missouri Valley

There is No Section that Offers Greater or Equal Advantages in Commercial Apple Industry

A REALIZATION of the fruit-growing possibilities of the Missouri valley country is just beginning in earnest to dawn upon the understanding of the horticulturist, the tree grower, the student of the orcharding industry. For more than half a century the pioneer settler has observed the rapid growth of the cultivated tree and was satisfied. During all this time fruit-growing possibilities have risen and fallen in the mind and ambition of the farmer and land owner. Orchards have been planted, prospered for a short season, then drifted into decay and neglect and became a wreck of the insect pests.

The prosecution of scientific research, the study of the various forms of insect life and fungus development, peculiar to the tree and orchard, have had their reward and the orchardist has been armed with a knowledge that has made his desires supreme above all of the irrgularities and corrupting influences that had contributed to his failure in the successful handling and management of the commercial orcharding industry.

Coming Into a New Era

The inflated commercial orcharding idea that prevailed twenty-five to forty years ago in Nebraska and other Missouri valley states has been almost entirely obliterated through a misconception or lack of proper understanding in what constitutes successful orcharding from a commercial, business and practical point of view

Agriculture, which might be said to embody all features of soil tillage and land uses, was wrongly interpreted by many of our pioneer settlers. The successful work of a practical and scientific horticulturist in his efforts of growing and developing orchards, trees, plants and shrubs does not imply that the ignorant, unskilled and untutored in this line of industry can hope to meet with equal success by merely planting the trees, giving them a little start in cultivation to direct them forward to maturity, then withdrawing all further attention and care and standing back to see the commercial reward in bowed-down trees, limbs breaking with their weight of fruits.

This picture, in brief, is the history of commercial orcharding in Nebraska, and over the Missouri valley country. Away back in the '80s hundreds of commercial orchards were started upon no other basis than the discovery that the soil and climatic conditions were peculiarly suited to the successful development of the fruit tree; that no other district of country could show a more vigorous, healthy, fine-appearing growth of cultivated timber or tree, of either fruit or forest variety.

Some Encouraging Aspects

This encouraging aspect in tree production and the early bearing inclination of the various standard fruits, that had been tested by practical fruit growers, were the evidences then at hand for the future commercial orcharding industry. Upon this basis, and cheap lands being quickly raised to a value of hundreds of dollars per acre, the planting of orchards began, and this feature of farm improvement was looked upon with favor by many as a source of revenue highly advantageous to the farm crop industry as well as a very positive enhancement to farm values.

As the commercial orchards came into bearing there was introduced a demand for a feature of business qualification that had not been studied out, or, in fact, given any attention The world had been expected to come forward, even to the orchard in its anxiety and desire to get this fruit. It did not come, though in some instances fruit dealers came and bought the crops on the trees at prices sufficiently low to guarantee picking, barreling, shipping, storage, loss, etc., which did not leave the commercial orchardist enough to warrant him in calling it a commercial transaction. This period of disappointment was soon met by another. The insects, whose efforts seemed to be centered in relieving the orchardist of any further trouble, reduced the quality of the fruit below the merchantable standard and the orchard ceased to be more than a pasture, in many instances.

Picking and Barreling Apples in the A A. Lasch Thirty-Five-Acre Orchard, Cass County, Nebraska, in 1912

Many Family Orchards

This history carries with it the majority of orchards comprising an acreage above that of the family orchard, which is now a part of every well improved farm in this fruit-growing district. In traveling over the Missouri river country it is a readily observed condition among the little family orchards, as well as those that were prompted in their planting by the commercial idea, that a very large per cent are neglected, are, in fact, turned over to the merciful care of a divine providence to direct when they shall produce, and what the quality or condition of the fruit shall be.

As an illustration of what can be done in commercial orcharding in Nebraska, and we believe throughout a very large district of the Missouri valley states, we will mention some examples out of many we have secured, and define by these what commercial orcharding means when in the hands of the horticulturist, orchardist, persons who are in sympathy with the work and feel that they can afford to spray, prune, cultivate and look after the orchard in a way that encourages production.

Illustrations of What Can Be Done

G. E. N. Sanders of Brownville, Neb., reports an apple orchard of twenty acres that is fourteen and fifteen years old; varieties, Jonathan, Gano, Missouri Pippin, Winesap, Black Twig and Ben Davis. The 1912 crop was: Gano, 766 barrels; Missouri Pippin, 376 barrels; Jonathan, 188 barrels; Winesap, 35 barrels; Black Twig, 75 barrels; Ben Davis, 165 barrels. Net proceeds from orchard, $2,000. This was the first full crop produced. Sprays three times, uses lime sulphur and arsenate of lead; raises no crop on the ground; does not mulch. Largest yielding trees are Missouri Pippin, Jonathan and Gano, in the order named. The largest individual yielder was a Gano fifteen years old, 32 bushels. Six acres of Ganos yielded 716 barrels, hand-picked; 150 Missouri Pippin trees yielded 376 barrels. The Missouri Pippins in this orchard have produced a crop each year for the last ten years, beginning at five years old. So far he has sold to the local trade.

C. F. Peck of Peru, Nemaha county, Neb., has twenty-five acres in apple orchard, fifteen years old; varieties, Gano and Winesap. The 1912 crop was 1,550 barrels of No. 1 and 2, and 1,200 bushels of cider apples. Net production, $2,100 for 1912; average for last five years, $1,500. Sell apples in the orchard, sprays twice each season. The ground has not been cultivated since the trees have come into bearing. Prunes some each year.

A. A. Lasch of Cass county, near Weeping Water, has a thirty-five-acre apple orchard, twenty-two years old. The last five years this orchard has produced annually from 3,000 to 6,000 bushels; four and a half acres of Winesaps this year yielded 3,000 bushels; sold 1,590 bushels of this crop at $1 per bushel; one Winesap tree produced thirty bushels. This orchard has been well cared for ever since planted, both in spraying and cultivation. Is sprayed five times each season and cultivated, but not cropped.

G. N. Titus, Nemaha, Neb., has seventy-five acres in apple orchard, fourteen, seventeen and eighteen years old; varieties, Winesap, Gano, Ben Davis, Black Twg and Virginia Beauty; value of 1912 crop, $7,000. Sprays three times, uses lime sulphur and arsenate of lead; raises no crop in orchard. Sold 1912 crop to buyers who packed in orchard; does not mulch; largest yielding tree, ten barrels.

Examples of Average Orchards

The examples given here are only an average of dozens of orchards that can be cited where from $100 to several hundred dollars per acre has been realized as the annual proceeds of the apple crop. We have purposely omitted reference to the big orchards of 100 acres and above, of which there are many in Nebraska and the district tributary to the Missouri river country

(CONTINUED ON PAGE THIRTY ONE)

Philosophical Basis of Weather Forecasts

Professor Foster Explains the System by Which He Works

THERE is no world of chance in our weather changes. Natural law reigns supreme in all weather matters. Every storm can be traced to its exact cause, although it is sometimes difficult to forecast the storm. Millions of people are curious to know how weather changes can be foretold, how valuable warnings of dangerous storms may be calculated, how the farmer may be given practical advice as to next year's crop weather and the crops that will produce best under the coming weather.

Good weather records are absolutely necessary. We can know future weather only by its past. Not only are weather records necessary in forecasting, but in finding the causes of weather changes. Any theory as to the cause of a weather event that will not pass the test by the records must be discarded. If planetary positions cause a great storm once, they will cause similar storms when in similar positions, and the weather records will show this Warnings were given of the great and destructive storms on land and sea that occurred during the first half of January, 1913, because we found that such events had occurred a number of times before, when similar planetary positions had occurred.

The astronomical chart (Fig. 1) gives, approximately, the relative positions of sun, moon and major planets on January 7, 1913. Those planetary positions dominated the weather for the first half of that month, causing the great storms and floods.

We have complete weather records for about 100 places, covering every day for from 60 to 100 years. For the vicinity of Pittsburgh we have the records of the Alleghany hospital, beginning January 17, 1820; the Alleghany arsenal, beginning January, 1825, and the United States weather bureau records, beginning 1871, all of which are very valuable, but the weather bureau records do not cover enough time. These records tell the story of the weather.

But how do the moon and planets cause these weather changes? It is well known, not doubted by any, that our moon is the principal cause and the absolute regulator of our tides. The sun's influence on the tides operates through the moon; so do the influences of the planets Venus, Jupiter, Mars, etc. No one now doubts that each of these bodies assists in causing the tides, but not many years ago, when one lone man discovered that the moon controlled the tides, all the orthodox scientists ridiculed him, would not listen to him and he was compelled to make fairly good forecasts of the tides for a long time before scientists would give attention to his theories.

But how does the moon lift the tides? All scientists say by attraction of gravitation. But what is the attraction of gravitation? They cannot explain it, but all agree that this force of attraction always occurs between two magnets, or between a magnet and matter that is not magnetic. They also say, every one of them, that the attraction of gravitation is universal between all the heavenly bodies Then the sun, moon, earth and other planets are great magnets and affect each other through magnetism. Yes, everybody admits these facts. But how do the moon and planets accomplish these things?

Take a magnet and a block of copper, bring them gradually together and electric lines of force will circulate around the copper; not through it, but around its outer surface. Now separate the copper and the magnet slowly, and the electric lines of force will move around the copper in the opposite direction. But how does the magnet reach the copper? How does every atom of matter reach and attract every other atom? How does every planet reach every other planet? See Guthrie's Magnetism, page 267.

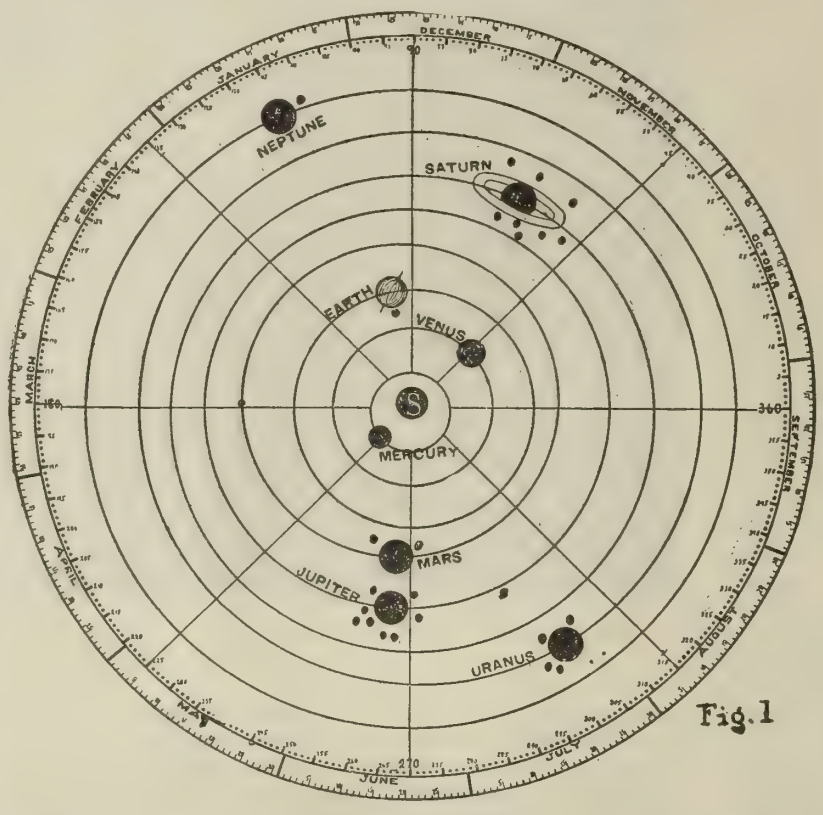


Fig. 1

A current of electricity sent through a rod of iron will induce a return spiral of magnetism as shown in Fig. 2. Send a current of electricity through a telegraph wire and it will induce a

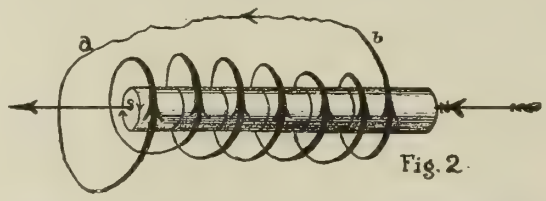


Fig. 2

current of magnetism in the opposite direction in a neighboring parallel wire. The atom, or the planet, or the moon, sends an electric line of force to the earth, or to another planet, and a spiral of returning magnetism, circling around the straight line of force, is induced. That is the connection between all bodies of matter, is one cause of attraction, and that line of force passes on indefinitely past the second atom, or planet. Even a small, dense cloud, low down and passing rapidly over the earth, disturbs the magnetic needle and induces a body of electro-magnetism under the cloud on the earth. Dust lies low under a high barometer, while it rises and fills the air under a low barometer. Each of these barometers is a single axis organization; the two are linked together at top and bottom, forming the storm wave.

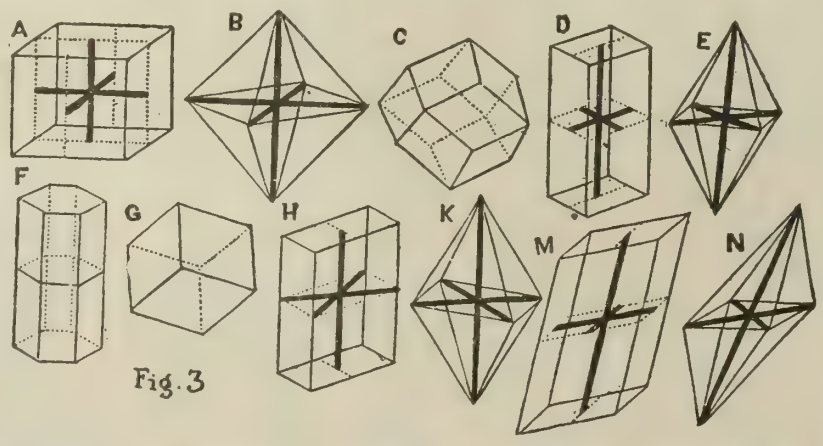


Fig. 3

Electro-magnetism, moving through the axes, is the force that makes the tides, not by attracting the water, but by expanding it. The water of the tides does not move westward, following the moon, but expands. Impossible for the sea water to move a thousand miles an hour; impossible for enough water to run into Chesapeake bay out of the Atlantic in six hours, to raise the bay tide six feet.

This method of the moon in causing the tides is an important question, because that force acts between all bodies of matter throughout the universe, from the atom to the greatest sun, and is the force that, acting between planets, or between sun and planets, is delivered to our highs and lows, and causes our weather changes, including our great storms.

But how can we trace this force to the highs and lows? In Fig. 2, preceding, it is shown how one body of matter, through electro-magnetism, reaches every other body. The electric line between all organized bodies of matter is straight, forms an axis, and that axis changes as the bodies change their relative positions. All organized bodies of matter, such as atoms, planets and suns, have one or more of the axis in accord with the number of magnetic bodies that affect the body while it is forming.

Every ship that sails the seas has its own peculiar system, and no two boats have the same magnetic system. The magnetic system of every boat is formed by the magnetic conditions that surround the boat while it is being built, and that magnetism cannot be changed except by placing powerful magnets in different parts of the boat. This has to be done before the compass will work properly.

The science that teaches of these magnetic formations of matter is called crystallography. All crystals are formed with one or more axes, as described above, and the variations of these formations is almost without limit. Every mineral and metal has its own number of these axes along which the electro-magnetism plies its forces while the body is forming. Here is given a few of the thousands of these crystal formations.

In Fig. 3 those numbered B, E and K are of the crystal formation upon which our earth is builded, and in order to know what part of the earth will be affected by the moon or one of the planets, we must know the location of these electro-magnetic axes and how they vary as the moon and planets vary their positions, because the electro-magnetism coming from moon and planets always acts through the electric lines, or axes.

The other planets are formed with various numbers of axes. When one of the planets comes into electro-magnetic touch with the earth it forms an electric circuit with the earth. The electric axis of the planet is the straight line from the planet to the earth, and it hits the earth where the planet is directly overhead, and by the earth's rotation magnetizes a line around the earth. This force, before reaching the earth, strikes the overhead magnetic lines that lead to our north magnetic pole, where it comes down, and organizes a high, which we call a cool wave or

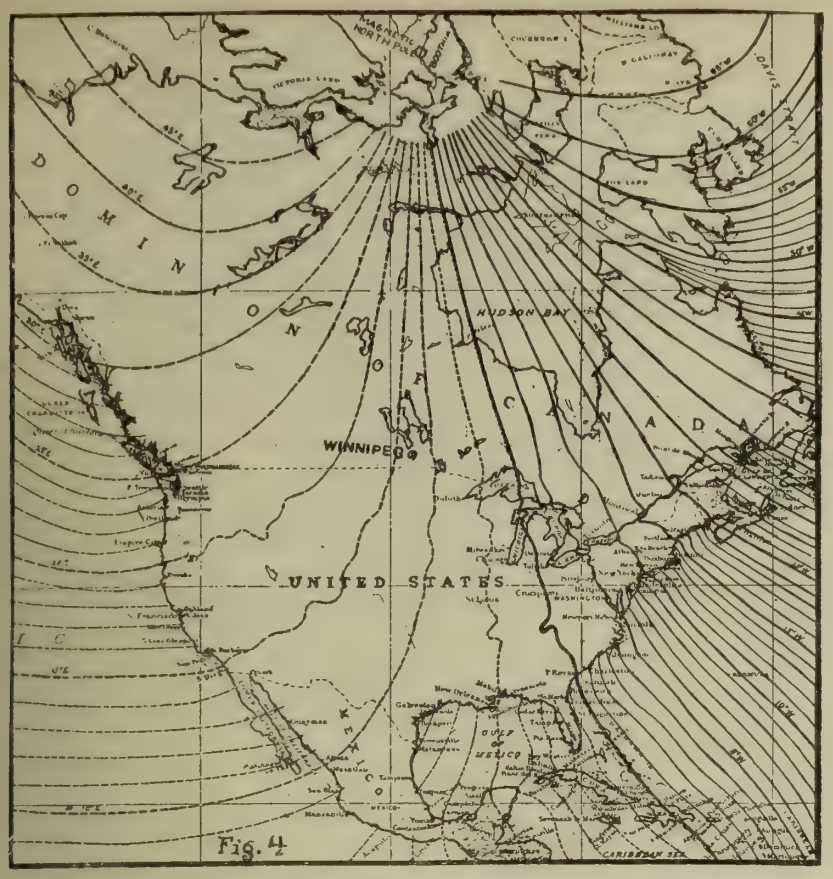


Fig. 4

a cold wave. Fig. 4 is a map of the earth's magnetic lines leading to the north magnetic pole.

The planet affects the earth along the magnetic lines marked on this map; the moon takes up the force and organizes the low, and these lows move around the earth from west to east, and while they are out on the North Pacific the high or cold wave comes out from the vicinity of the magnetic North pole and first moves westward, then falls in behind the low and follows it eastward.

The moon has much to do in distributing and locating the storm forces and features, but always takes up with the planet that is in contact, and has greatest effect on the earth, the moon having no force of its own with which to organize storms. The relations of the moon to the planets and its part in our weather changes is so difficult that it would take too much space to explain it, and it would not be easily understood.

The planetary forces, called electro-magnetism, also astro-physics by the scientists, always act through the same channels, through the axes already explained, and these same forces form the ice particles we see in those thin, white clouds at great height, called cirrus clouds, and also the rain drops. The snow formations have five axes, the five points converging on a center. They produce a thousand forms, a few of which are given in Fig. 5.

Electro-magnetism is the builder of the universe; it is the force that causes all the movements in our atmosphere, the force that builds every kind of crystal, from the smallest atom to the greatest sun. It is the builder, sustainer and life force of every form of vegetable and every form of animal life.

But what is it that sustains electro-magnetism? Descartes said: "Give me matter and motion and I will build a universe." Sir Isaac Newton said: "Every atom attracts every other atom with a force proportionate to mass and distance." Sir W. Thompson said: "One pound of granite equals 156,000,000,000,000,000,000 cubic feet of ether."

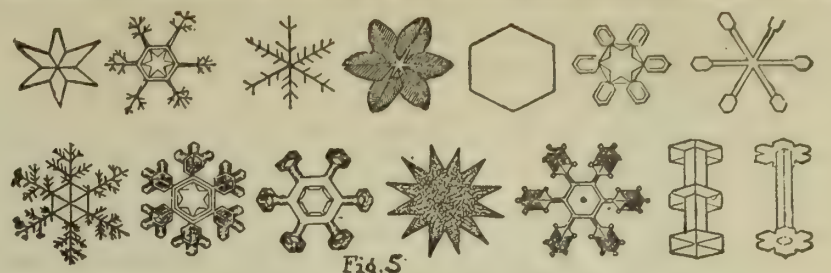


Fig. 5

Therein is the power that turns all the wheels of nature. In condensing the above number of cubic feet of ether to form a pound of granite an immense vacuum is formed all around the condensed matter, and ether must move inward to fill that vacuum. The sun and planets are growing by the condensation of the ether, and, therefore, the ether movement is inward, toward the sun, and on that inward journey it is the force that operates everything. That is the force of the storm; it evaporates the water, it sends the thunder bolt, it operates our highs and lows, causes our tides, brings our weather changes. Therein is Descartes' matter and motion, Sir W. Thompson's condensation of the ether and Sir Isaac Newton's attraction of every atom by every other atom. It is both a push and a pull. The density of the outside ether of space pushes the near ether into the vacuum made by the inner ether condensing into planets and suns, and the electro-magnetic forces sent out by each body of matter, each planet and sun, pulls the body that is in contact.

That is the force we must deal with in forecasting the weather. Thirty-seven years of hard labor and study, and $50,000 expended on clerical assistance have enabled us, by the use of the long weather records, to find the cause and trace the weather and world forces from planet to moon and from moon to earth, and to find nature's conductors, or paths, along which the ether always moves on its journey toward the great centers where it condenses. The original force is in the atom as declared by Sir Isaac Newton.

The Financial End of Farming

Extract of an Article by B. F. Harris

THERE is an intense and growing interest in the financial end of farming operations. The columns of The Twentieth Century Farmer are open to a discussion of such subjects as interest charges on farm loans, taxation of mortgages and the loaning of money to farmers upon agricultural lands through co-operative credit societies. Every fair person wants to know both sides of a question before reaching a decision. Below we give an extract from an article by B. F. Harris, which appeared in the Country Gentleman. What do you think of it?

"Good farm land, properly operated, is the best asset in the universe on the basis of real value, earning power, security and stability, but the farmer must build up his soil if he would build up his credit. He must adopt the latest methods of agriculture if he would receive the benefits of modern financial and business systems. When he adopts improved business methods, farm financing will follow as a natural consequence.

"As the situation stands with the farmer today he has no definite plans for a permanent and businesslike system of farming, wherefore the question arises: Do we need more

(Continued on Page Fifteen.)

Largest Strawstack in Nebraska

This mammoth stack contains the straw from a 200-acre field of sod wheat, which was raised during the year 1912 by Collie Kreader on section 21, township 17 north, range 51 west, of the Sixth principal meridian, in Cheyenne county, Nebraska. This mountain of straw is 80 feet wide, 125 feet long and 47 feet high. The 200-acre field of sod wheat produced 5,070 bushels, which was worth $3,549, figured at 70 cents per bushel.

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

It is good time now to apply the ear to ear germination test to seed corn. Other work is not now pressing, and this matter can receive proper attention. Such work will pay for itself many times over when harvest comes.

As the time for spring farrowing approaches, it is well to have everything ready in advance. See that the farrowing pens are in condition, all repairs completed, thoroughly disinfected, wind and weather proof, dry, with plenty of clean bedding.

The time is coming when measures should be adopted to take the entire matter of education, from the rural school to the university, out of politics, and to provide for keeping it out. Education should not be made the foot ball for ambitious politicians to play with.

If Kansas knows what is best for her, she will keep Coburn right where he is. He has done more than all of the rest of the state put together to keep the world posted on Kansas resources and Kansas production. Kansas had better let well enough alone. Coburn is the right man in the right place.

Iowa is taking hold of the bee business at the right end. They propose to develop the industry over there. To do this they must get rid of foul brood, which prevails in most counties of the state. Accordingly, they are getting ready for a bee inspector and quarantine laws, with money appropriated to do the work efficiently.

Value of Seed Catalogues

The catalogues sent out by the various seed houses, when rightly used, play a very important part in general agricultural education. Of course, the primary purpose in publishing a seed catalogue is to sell seeds. But every publisher knows that in order to have his selling of seeds a permanent business the seeds that he sells must grow and thrive. Accordingly, he furnishes directions in his catalogue, showing the best manner of planting and cultivating his seeds, the rate at which they should be sown, and the kind of soil to which they are severally adapted.

In addition to this specific information, the catalogues generally furnish information on a world of topics in which farmers are economically interested. The man who throws the seed catalogue into the waste basket as soon as he receives it, without taking the time even to glance over it, thereby prevents himself from getting just the kind of help that he may need. Expert care is exercised in the preparation of these catalogues, and, as a rule, what they have to say is thoroughly reliable. Sometimes they exaggerate a little with reference to the possibilities of production, but their purely technical agricultural advice is well worth listening to.

The wise man seeks advice wherever it may be had. It indicates a lack of wisdom to neglect any opportunity of increasing one's knowledge or one's practical efficiency in production. Study your catalogues. You will learn something from them, and that something will be well worth while.

Deterioration of Irrigated Soil

In testifying before the congressional committee on expenditures, Dr. B. T. Galloway, chief of the bureau of plant industry of the United States Department of Agriculture, said: "I will go so far as to say, and it may be somewhat startling, that, so far as I know, there has not been any long-continued irrigation in a semi-arid climate in the world."

If the doctor had explained himself fully he would probably have said that this comparatively short life of irrigational production was principally due to bad methods of irrigating. Although irrigation has been practiced in all parts of the world from time immemorial, scientific irrigation is only in its infancy. It may be said that we have not yet learned the first letter of the irrigation alphabet. Probably the doctor would agree that if irrigation were properly practiced—practiced in such a way as to conform to natural law—the value of it might be indefinitely prolonged.

As The Twentieth Century Farmer has already tried to show, the best production—that is, the best continued production—may be had only through the use of capillary water in the subsoil, instead of upon the surface of the soil, so as to lead the roots of growing plants and trees down into the subsoil, where they will be protected from the bad effects of wind and the sun. It has already been shown that free water in the soil is a damage to growing vegetation. Natural law, then, demands that the water be so applied as to give the subsoil all of the capillary water that it can carry. This capillary water, then, becomes a permanent supply in the subsoil, because capiliary water cannot leach to lower depth, and because, being in the subsoil, protected by the soil mulch of the upper soil, it cannot be evaporated. It can disappear only through transpiration from the leaves of growing vegetation, which is a necessary accompaniment of growth. If the irrigator will apply his water in such a way that the subsoil may take and hold most of it, and in such quantity only as is needed by the growth of plants and trees, a very large part of danger to future production may be avoided. The average irrigator, partly because he irrigates in the wrong way, uses more water than is necessary. The excess of the water, together with the drain upon the land that follows continuous cropping to a single crop are what, in the end, destroy the productiveness of irrigated soils. The water should be applied in such a way that the subsoil, rather than the surface soil, shall take hold of it.

Nebraska Development

House rule No. 423 in the Nebraska legislature should become a law at once. It provides for the creation of a Nebraska development and public wellfare commission, defines its purpose, powers and duties, and provides a modest appropriation for carrying out its provisions. Nebraska has resources enough, but the world as yet knows very little about them. Nebraska is known almost exclusively as an agricultural state, but its commercial and industrial resources are extensive, though as yet they have hardly begun to be developed. All the state needs to launch it upon a career of unexampled prosperity is to let the world at large know what bona fide offers it has to make to every newcomer. It is high time for the state to undertake the advertising of resources so generally unsuspected by the world at large.

Of course, the first thing needed as a basis for a truth-telling advertising campaign is reliable, trustworthy information regarding actual production, as well as the possibilities of undeveloped resources. This means the gathering, studying, co-ordinating and publication of trustworthy statistical information. Nebraska has long suffered from the lack of just this kind of information. This work will be the first to be undertaken by this commission, if this bill becomes a law. With this as a basis, the work of development of resources through publicity may be undertaken at once.

The question is, Does Nebraska want the world to know what she has to offer? If so, let this bill become a law, and the world at large will get the information, and Nebraska would reap the benefit in increased production and general prosperity.

Before the early spring season commences the enterprising farmer will carefully select his seed potatoes. The selection should comprise those of medium size only, and these should be absolutely free from disease. They will then be ready when planting time comes.

Organized Agriculture

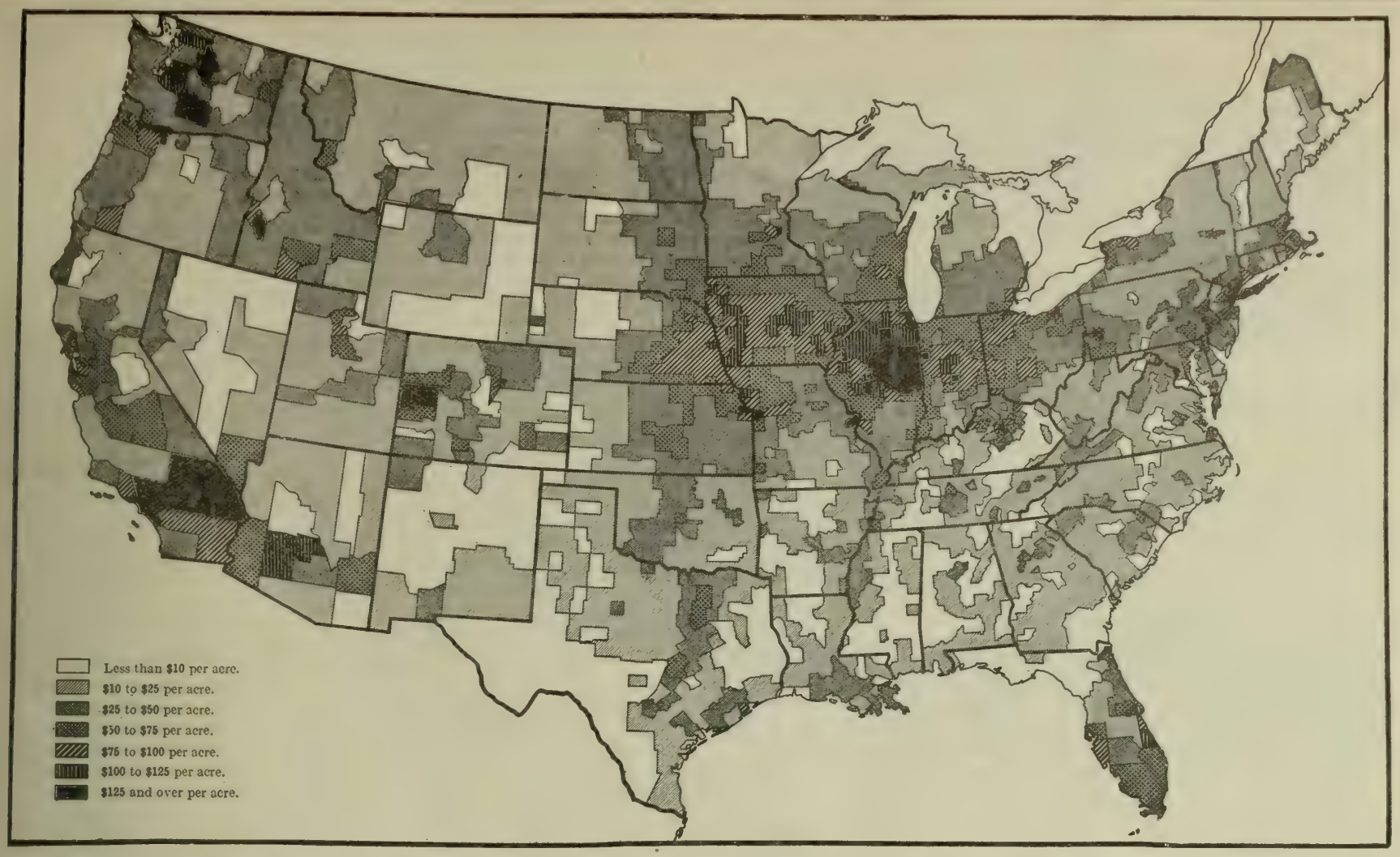
It has been observed that the more practical methods employed this year in directing the program and exercises of the Week of Organized Agriculture in Nebraska gave better satisfaction than formerly. This was due to a more nearly offhand discussion of the subjects assigned in the program. It has been found that the meetings drawing the greatest interest and eliciting the most discussion from the audience are those where the subjects are treated merely as an introductory, with a view to encouraging debate.

It is not the long paper that proves of greatest interest, or the exhaustive discussion of a subject, so much as a synopsis of the topic put in a way that directs the attention of hearers to their own ideas on this subject. It is a mental discussion of the topic with the audience from the time the speaker or the reader of an address takes his position on the rostrum. We incline to reason with the speaker as he progresses, either approving or disapproving of his statements, assertions and arguments. The sooner this argument can be put before the audience and the time of the meeting given over to the volunteer discussion of the various phases of thought that can be evolved from it, the more information will be liberated and the better pleased will be everyone in attendance.

These meetings are not for entertainment; they are purely for educational advantage; the enlightenment of those who are seeking knowledge on the various phases of instruction that the agricultural college, university and the practical people of the state are able to contribute. Timely prepared papers are a good thing from a literary point of view to read, to study, but on a big occasion like the Week of Organized Agriculture, they are out of place. There is too much hurry, too much bustle, too much commotion. Everybody wants to get all he can in a short time, attend all the meetings he can and take home with him all the information he can, and this is never accomplished where a lot of long-winded papers are read, or addresses of the same character delivered.

The main features of a program for such occasions should be along intensively practical subjects, treated along intensively practical lines of thought, and with such influences and surroundings as to encourage a general exchange of ideas and rehearsal of experiences. Of course, there should be two or three distinguished educators or distinguished personages representative of our advanced civilization, in some of its classifications, as headliners, and this is speaking with the greatest degree of respect for the special features of our greatness, as an educational and progressive people.

Nebraska needs a live stock sanitary commission composed of men who are actively engaged in live stock business. The care of the live stock interests should be in the hands of live stock men themselves. They know what is best for the business and will do their best to provide it.



Here is a map that is worth filing away for future reference. It furnishes information at a glance, which at some time is needed by every reader. It gives the average value of land in farms per acre by counties during 1910. It is taken from the abstract of the Thirteenth United States census. The averages are based on land in farms only, each county as a whole being shaded according to the average value of such land per acre, even though only a small proportion of the county may be occupied by farm land.

How to Buy Breeding Stock

Stock raisers who have been using good, pure-bred sires do not need any prompting as to how to buy breeding stock, or where to find them. The breeder's card that you find in the advertising columns of the agricultural newspaper is about as safe a guarantee of reliability of pure-bred stock as one can have, outside of a personal acquaintance with the breeder and his herd or flock.

The suspicion that we sometimes hear expressed that many stock breeders are dishonest in their pedigrees, that they have it all within themselves in the matter of changing pedigrees on animals and thus working in high grades for full-bloods, etc. This, of course, is one of the possibilities, but is only probable and that with the very dishonest breeder. The general rank and file of the breeders of pure-bred stock in all communities represent the best class of citizens in those communities. Dishonesty in pedigree or dishonesty in breeding is ruinous to any breeder's business enterprise, and results in a short and disastrous career.

The agricultural journal of today aims to protect both the advertiser and the buyer. If stock are found not to be as advertised the advertiser is at once exposed and his advertisement discontinued and the purchaser is assisted in procuring such damage as he may have sustained. It is but fair to say that the majority of breeders, where they fill orders by mail try to exceed in quality of animal shipped rather than squeeze in one not quite up to the requirements.

The breeder's card that is seen in the advertising columns of your agricultural paper week after week and month after month is the best guarantee of the quality of that breeder's stock. It is like an old reliable remedy—if it were not good and producing good results it would have disappeared long ago. There is no feature of advertising that will pay the breeder of live stock a bigger per cent for the investment than the keeping of his breeder's card constantly before the eyes of the readers of his agricultural journal, and until they know it so well that they feel acquainted, not only with him, but his stock.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Tom Wornall, Secretary

The American Royal Stock Show directors made no mistake when they elected T. J. Wornall of Missouri as secretary to pilot the exhibition interests of this great show enterprise to a more successful and highly merited standard of exposition excellence than it has heretofore enjoyed. The American Royal has not in recent years had the advertising advantages than an institution of its character demanded. It needed more life, more push, more energy expended in its preliminary preparations.

Kansas City is a good location for a central west live stock show. It is in the midst of many of the greatest herds and flocks of the country. It is central for Nebraska, Kansas, Missouri and Iowa, the greatest pure-bred live stock district in the United States.

Mr. Wornall is a born leader. He has had the training and experience of the show ring to guide him in his campaign for building an organization that will feature an exhibition for 1913, the equal of which has never been experienced in this country outside of the International. The breeders and live stock fanciers throughout the country have faith in Mr. Wornall's ability, as a promoter and manager, and believe that the American Royal has now been placed upon a substantial basis to develop until it reaches the fullest anticipations of its original founders and promoters.

The present location with the Union Stock Yards company will be retained and such additional accommodations provided as may be demanded to accommodate the increased display and attendance.

Where the subsoil under fruit trees is heavy, compact clay, it will be found advisable to bore down with a two-inch soil augur to a depth of six feet, at intervals, about the tree, and explode half of a 20 per cent dynamite stick at the bottom of each hole. This will loosen up the subsoil, give the roots a chance to penetrate and afford storage for soil water.

As spring approaches, look over the cows; determine which ones cost more than they pay, and make arrangements to get rid of these, or to substitute better ones for them.

The Consumer's Dollar

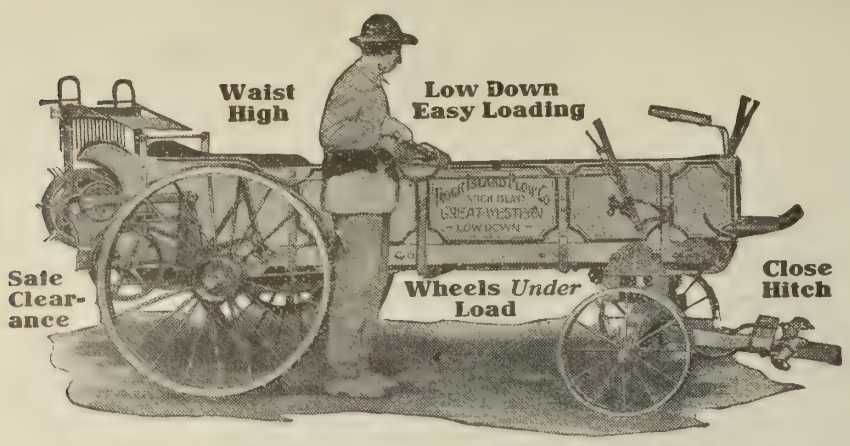
Consumers realize that it is not a fair adjustment that gives 65 cents of their money to the middle man and only 35 cents to the producer. They realize, also, that the high price they pay is not due to the high price that the producer demands and gets. Here are some figures showing how much of the New York City consumer's dollar goes to the Steuben county, New York, potato grower, and how much is distributed, and to whom, between the grower and himself:

SOME COSTS OF A BUSHEL OF POTATOES.

The producer gets	30 to 50 cents
The distributers get:	
Local dealers	2 to 5 cents
Railroads	8 to 12 "
Cartmen	3 to 5 "
Commission man	3 to 5 "
Jobbers	6 to 8 "
Retailers	10 to 30 "
Total	32 to 65 cents
The consumer pays	62 to 115 cents

This method and expense in distributing is not only unfair; it is economically criminal. The producers of the Missouri valley, should they diligently look for them, might find still more startling facts. It is merely a question of time until an outraged and defrauded public, which is composed largely of consumers and producers, will take this matter into their own hands.

To effect anything they must work together. A statewide Consumers' league, with branch leagues in every county, would devise methods for bringing producers and consumers together to their mutual advantage. The producers cannot do this work if they have to work alone; neither can the consumers working by themselves. They must work together.



How to Save the Most Money

On Your Manure Spreader

Buy the best to begin with! That's it—the *best*—regardless of first price! The *cheaper* the spreader, the *more expensive* it is in the end. Get the spreader that thousands have proved, in over twelve years' use, the biggest money-saver and money-maker. The Spreader that has stood every test is now made *low down* for easy loading—the kind you'll buy sooner or later. Buy it now!

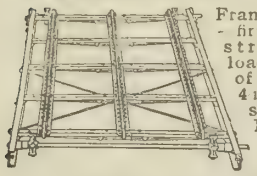
The Proved Spreader—It's Special Features

Low Down—Waist High—Safe Clearance—Short Wheel Base—Wheels Under Load—Roller Bearings—Lightest Draft—Simplest Drive—Avoids all Trouble of Enclosed Gears—Most Durable Beater—Trussed Steel Frame—Indestructible Front—Perfect Construction.

LIGHT DRAFT—LOW DOWN

Great Western

Trussed Steel Frame



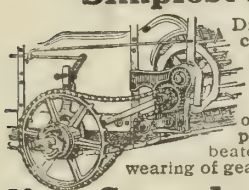
Frames of trussed steel—firmly braced—great strength. Weight of load, beater and force of operation all on the 4 inch steel sills. Can't sag, spring or give; 102 rollers to carry endless apron.

Front Won't Pull Out

Double heavy oak bolster—16-inch fifth wheel—every part extra strong.

GREAT WESTERN fronts *will not pull out.* They are built to stand the heaviest strains.

Simplest Drive



Direct chain drive—no complicated gears—everything in plain sight. The simplest, strongest, most sensible drive on any spreader. No parts in motion when beater is not in use—no wearing of gears or chains.

You Can Top Dress Corn

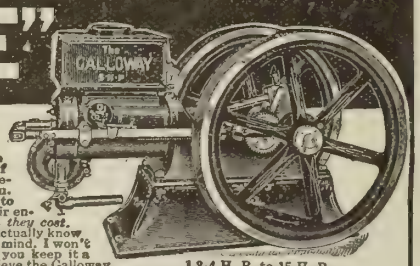
GREAT WESTERN rear wheels track with the front; you can straddle two corn rows for top dressing growing crops. This you can't do with narrow front trucks.

GREAT WESTERN means an easier pull—only two tracks across yards or fields.

New Spreader Book Free It is important that you learn all about this *old reliable* GREAT WESTERN in its new *low down* form. Be sure to write at once for Free Book describing it in every detail and proving why it's best for you or any man. Get it now. Shows all the detail of this old reliable GREAT WESTERN now made *low down* for easy loading. The cuts and details prove why it's the one perfect spreader. It's the one spreader that will just suit you in every way.

Rock Island Plow Co., 384B 2nd Ave., Rock Island, Ill.

Bill Galloway Says: "I'll Give You 3 Months Power FREE"



I'll let you take any engine I've got and use it on your own farm for thirty, sixty or even ninety days *absolutely free.* How's *that* for an offer? I'm going to give every man in the country who has been thinking of getting an engine a chance to try the Galloway absolutely, entirely at my risk. I want you to take a Galloway and let it work for you. Put it up against the *hardest tests you can think of.* Go around to your neighbors; ask them about *their* engines. Find out what their engines are doing, how much trouble they are giving *and how much they cost.* Then go home and compare what they've told you with what you actually know about your Galloway. Take all the time you want to make up your mind. I won't hurry you. If a month isn't enough, let me know and I'll let you keep it a month or two longer. Then if you can't honestly say that you believe the Galloway is the best engine in the world at any price just send it right back to me. *I'll pay the freight both ways.* You won't be out a cent.

1 3-4 H. P. to 15 H. P.

Keep the $50 to $300 You Save If you want to keep the Galloway I'll make you a price that not one manufacturer or dealer in America would even think of meeting. You keep the $50 to $300 that I save you right in your own pocket. I'll sell you a Galloway for *just what it costs to make* with only one small factory profit added. No wholesaler's, jobber's, dealer's, salesman's or any middleman's profit of any kind.

Free Service Bureau! The services of my staff of engine experts are always at your command *free.* They will tell you how to judge an engine, how to select the one best type for your purposes, how to handle and use it to your best advantage—in fact, they'll help you solve *all* your engine troubles without any cost or obligation whatever.

Get My 1913 Proposition The very best offer I have ever made is waiting for you. I want to tell you how you may get a genuine Galloway engine *partly or entirely without cost.* No canvassing—no soliciting—just the fairest and most liberal co-operative offer anybody ever made.

FREE Engine Book Now **don't wait**—just send me a postal or letter now. I'll mail you my big Engine Book and full particulars of my wonderful 1913 Special Proposition FREE. Write me RIGHT NOW.

Wm. Galloway, President WM. GALLOWAY COMPANY, 415 Galloway Station, Waterloo, Iowa

We carry Engines in stock at Chicago, Kansas City, Council Bluffs, Minneapolis and Winnipeg. (135)

PATENTS GET LIST OF FACTORIES who could use your Patent, FREE Manufacturing and Patent advice. SUES & CO., Att'ys, 539 7th St. Washington, D. C.

BUY AT WHOLESALE Forty Fruit Trees $5.00 100 Strawberry plants 75 cents. Charges prepaid. Send for further information and Catalog. Address, HOLSINGER BROS., Box 85, Rosedale, Kans.

Mention The Twentieth Century Farmer.

Handling Soil for Production

VI—How Deep Plowing May Best Be Accomplished

THE ordinary mouldboard form of plow is hardly adapted to the work that has already been outlined. The friction on the mouldboard and landside, when plowing to the depth of twelve or fourteen inches, would be so great as to require more power than the ordinary farmer can furnish. In fact, very few such plows are now made with a beam of sufficient strength to endure such a strain. Besides, when a mouldboard plow goes below a certain depth, part of the loosened soil, instead of being turned with the furrow slice, falls over the upper edge of the mouldboard into the furrow. Under such circumstances such a plow has a tendency to bury itself and does not throw all the earth, at the bottom of the furrow slice, to the surface, where it should be thrown. Again, there are certain kinds of subsoil necessary to turn up that are practicably impenetrable by such a plow. Further, some soils become so thoroughly hardened by packing that a mouldboard plow cannot be made to enter them during the time that plowing becomes a great necessity for fall wheat.

Disk Plow Most Desirable Tool

All of these objections to the use of a mouldboard plow for deep plowing are fully met by the use of a disk plow. There is a great deal of prejudice among farmers against the use of a disk plow, owing to the unfortunate experiences that have been had with such plows, when they were not properly used. A disk plow, when properly used on old soil, is the best tool for the purpose that has been devised. When improperly used, it is about as worthless a tool as may be devised.

Proper Use of Disk Plow

The disk plow is not made to cut and cover; it should be limited in use to a very narrow furrow slice. If one attempts to cut a wide furrow slice with a disk plow, he merely hollows out the middle of the furrow slice, leaving both edges undisturbed. This is very bad work, and should never be permitted under any circumstances. If the same plow were adjusted as to cut not more than nine or ten inches wide, it would leave the landside of the furrow curved, of course, but it would cut up and turn all of its furrow slice. When used in this way it does the best job of plowing that can be done. Under no circumstances should a disk plow be allowed to take a furrow slice so wide that the disk does not cut it all, so as to leave the solid ground beneath the plowed ground comparatively level.

When the disk plow is properly adjusted, four horses will handle a gang plow with two disks, in ground so hard that the mouldboard plow cannot be made to penetrate it, to the depth of fourteen inches, and do it easily. In the heated period of July, and on hard soil, they have been known to do it without turning a hair.

Advantages of the Disk Plow

The disk plow calls, in successful operation, for the expenditure of less power than any other form of plow that does the same amount and kind of work. If the disk is set at the right angle, it will turn more earth, with the same expenditure of power, than any other plow made. It can be successfully used on ground too hard for manipulation by any other implement. It leaves the furrow slice in better condition for the absorption of moisture, and for the aeration of the soil. The concavity of the disk, when working, brings such pressure to bear upon the soil that it receives as to reduce and break up clods, and leaves the furrow slice in fine workable condition. Owing to the fact that it cuts, rather than penetrates, and proceeds with a circular motion, rather than by direct penetration, it can be made to plow soils that cannot be plowed as well, or as easily, by any other kind of plow.

Should Be Fully Adjustable

The set of the disk and the angle at which the cleaner is set determines the form in which the plow will leave the turned furrow slice. This will, of necessity, be different for different kinds of soil. For heavy clay soil, both the disk and the cleaner, to do the best work, should be set at a different angle from that that gives the best satisfaction in lighter or sandier soils. Hence the necessity of making the disk plow adjustable so as to meet varying soil conditions. Besides, the capacity of the disk plow to plow to a great depth—that is, to cut down to the desired depth—depends upon the angle in two directions, at which the disk is set. The cleaner, which on a disk plow answers the purpose of a mouldboard for turning the furrow slice, must also be set at the proper angle. When set at the right angle for plowing light or sandy soil, if it be used to plow heavy clay, it will give the furrow slice too much roll, and throw it too much, and too far. This is one reason why a disk plow does not work well in sod. It rolls and tumbles the furrow slice too much, so that it cannot be made to lie down smooth.

Proper Adjusting Saves Power

The disk plow, for successful operation, requires more mechanical insight in the operator than the ordinary plow. If the plow is not doing satisfactory work the operator must find out why, and make the adjustment such that the work will be satisfactory. Almost anyone, by the use of a monkeywrench in changing the adjustment, can make an ordinary plow pull one horse heavier or one horse lighter in doing the same amount of work. This is doubly true of the disk plow, but in the case of the disk plow, not only must the question of draft be considered, but also the quality of the work that it does. It is said that ordinary farmers do not have sufficient mechanical insight to give modern improved farm implements a fair show. This will be found to be doubly true of the disk plow. Its

operator must be patient and try various adjustments until the result of the plowing becomes satisfactory.

Must Be Held to Its Work

The disk plow, as well as any other plow, must be held rigidly to its work at the proper depth. It must not be allowed to jump out, run on a few feet on the top of the ground, and then get to work again. Such work cannot be called plowing. The ground must all be plowed, and be plowed to an even depth. Some means must be adopted to hold the plow where it must do its full work. On ordinary soils this is not difficult, unless the plow is driven at too high a speed. But in attempting to plow a hard subsoil some means must be adopted for keeping it to full depth. It may be necessary, under some circumstances, to carry a weight on the plow in order to accomplish this. As a general rule, it may be said that the heavier the plow frame, the better for this purpose. Users of plows, pulled by a tractor, must see to it that their plows are held steadily at a uniform depth.

Size of the Disk

Of course, it will be understood, that with a disk of small diameter it will not be possible to plow very deep. Much, also, depends upon the manner in which the disk is attached to the frame of the plow. Sometimes they are attached by a casting that lowers the center of the disk several inches below the frame. The disk should be large enough to plow to the required depth, and still leave space enough between the frame and the surface of the ground to prevent trouble from clogging with trash. For such plowing as is here s ggested a 26-inch disk is as small as may be satisfactorily used, while a 30-inch disk is much to be preferred. With a 30-inch disk, attached to the beam in such a way that the center of the disk is several inches below the bottom of the frame, one may plow fourteen inches deep, and still not be bothered by trash accumulating under the frame. The deep plowing is the essential thing. Any tool, any kind of plow that plows to the required depth, may be used. The discreet farmer will use his judgment in selecting the implements that, in his opinion, will do the required work with the greatest economy of both power and time.

Let it be repeated that the essential thing is to loosen up sufficient surface soil to hold the rainfall, so that it may penetrate into the subsoil. Let no one be afraid of overdoing this matter. When the upper part, the hardest and most impenetrable part, of the subsoil is broken up, the water, gathering in the surface soil, can penetrate more rapidly and to greater depth in the subsoil that remains.

Gasoline Engine on the Farm.

"The Gasoline Engine on the Farm," is a practical, comprehensive treatise on the construction, repair, management and use of this great farm power as applied to all farm machinery, helping to do the farmer's work indoors and out. Because of its simple, non-technical exposition of mechanical principles, it is especially valuable to those without previous mechanical knowledge who wish to become thoroughly familiar with the operation and care of gasoline, tractors and auxiliary of gasoline tractors and auxiliary hand book on the internal combustion motor and its many applications in modern farm life. It considers all the household, shop and field uses of this up-to-date power generator, and includes chapters on engine installation, power transmission and the best arrangement of the power plant with reference to the work to be done. It is amply illustrated, and what it has to say is expressed in so simple a manner that anyone can fully master all the details of engine construction and repair. It is published by the Norman W. Henley Publishing company, 132 Nassau street, and may be had for $2.50, and is worth many times that amount to the amateur owner of any gasoline engine.

Native—Why did you leave the civilized east and come out here to the wild, unsettled west to live?

Newcomer—Because the folks around where I lived slandered me and said mean things about me.

Native—Why didn't you make them prove what they said?

Newcomer—They did.

Imperial

Quality and Economy Mark This Car

Your Car —the one that *you* select—must be distinctively marked by these two features, Quality and Economy. You want Quality to withstand rugged roads and steep hills You want Economy, both in the initial cost and in upkeep expense. Let us demonstrate to you how these factors —supremely important to you—mark Imperial cars.

Imperial Cars are built in one of the largest individual automobile factories in the world. The constructional principles which give these cars their excellent reputation are the results of the combined and concerted efforts of a large organization of master car-builders. In the new 1913 Imperial Cars you will find features that are exclusivelv Imperial, as well as the best features of cars costing up to $4,000.

Service In point of actual road service, Imperial Cars hold a most enviable position. Back of each Imperial Car is a factory service that spells "low upkeep cost" for you. It is this factory service that means much in the maintenance of a car. Thousands of farmers everywhere know that Imperial factory service is a means to make Imperial Cars always 100% efficient. Write to us for more facts about this service.

This Car —the Imperial "34" $1650—is representative of the superlative qualities and moderate cost of Imperial Cars. Read these specifications: Five-Passenger Touring Car. North East electric lighting and starting system; 45 H.P.; 4⅛ inch bore; 5¼ inch stroke; wheel base, 119 inches; unit power plant; center control levers; 34x4 inch tires, with demountable rims; multiple disc clutch; three-point suspension. Equipment—mohair strap top, dust hood, windshield, speedometer, tire carrier, spare rim, repair kit, jack and pump. Mounting, black and nickel. Complete **$1650**

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FOUR OTHER TYPES

Imperial "54"—Seven-Passenger Touring Car. 60 H.P.; 4 inch bore, 5½ inch stroke; 137 inch wheel base; 36x 4½ inch tires. North East electric starting and lighting system. Complete equipment, **$2500**

Imperial "44"—Five-Passenger Touring Car. 50 H.P.; 4¾ inch bore, 5¼ inch stroke; 122 inch wheel base; 36x4 inch tires. North East electric starting and lighting system. Complete equipment, **$1875**

Imperial "32"—Five-Passenger Touring Car. Motor, 4 cylinder, 4⅛ inch bore, 5½ inch stroke; 114 inch wheel base; 34x4 inch tires; demountable rims. Complete equipment—price, **$1285**

Imperial "33"—Two-Passenger Roadster. Motor, 4-cylinder, 4⅛-in. bore, 5½ inch stroke; 114 inch wheel base; 34x4 inch tires; demountable rims. Complete equipment, **$1285**

Types "54", "44" and "34" Are Electrically Started and Lighted

Investigate Today! Look into the merits of Imperial Cars. A thorough comparison will reveal to you their superlative qualities and comfirm your judgment that their prices are remarkably low. Write us today for catalog and name of your nearest dealer.

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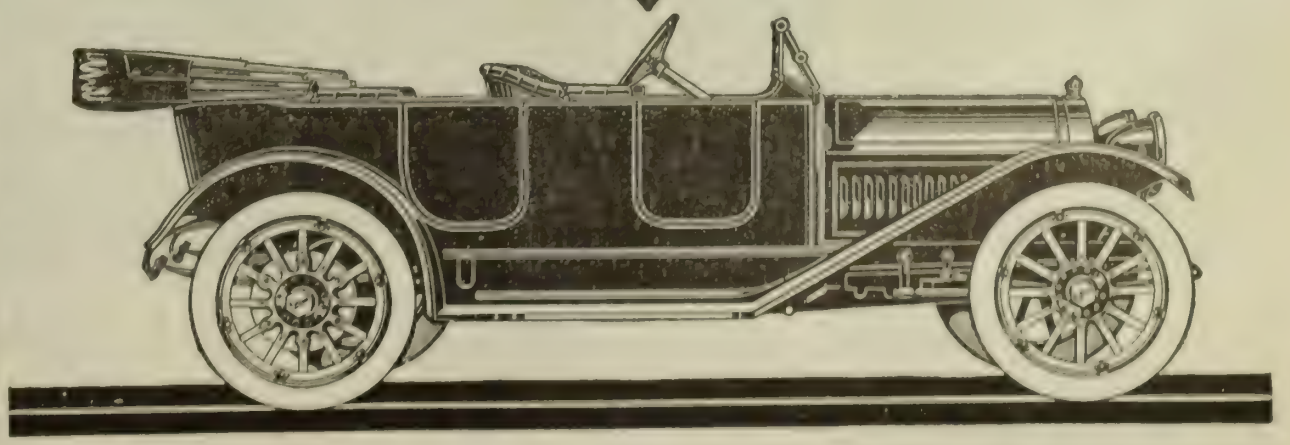
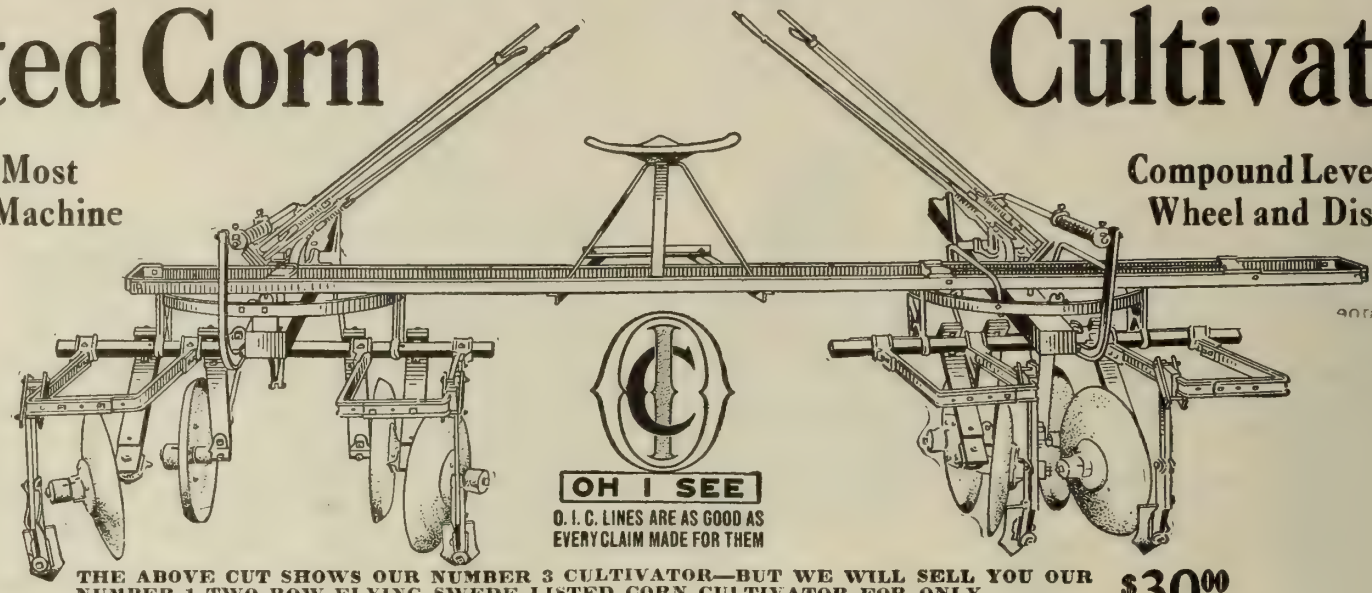


The Flying Swede

Listed Corn Cultivator

Latest and Most Improved Machine

Compound Levers Steel Wheel and Disc Arms



THE ABOVE CUT SHOWS OUR NUMBER 3 CULTIVATOR—BUT WE WILL SELL YOU OUR NUMBER 1 TWO-ROW FLYING SWEDE LISTED CORN CULTIVATOR FOR ONLY $30.00

The Flying Swede was the first successful Lister Cultivator sold in the States of Kansas, Oklahoma, Nebraska and adjoining states. I say it is the best on the market today. Thousands of the Flying Swede Lister Cultivators are giving the best of satisfaction to thousands of farmers—perhaps you are one of them, if not, you will have no trouble to find a neighbor who will testify to the superior merit of the Flying Swede Cultivators.

The trust manufacturers have brought about a condition on the kinds of implements upon which they control the principal portion of the trade which makes the farmer pay from 10 to 30 per cent more than he should were the prices based upon the cost of production. Now I cannot afford to pay for space in this publication to tell you the real reason why, but when I will sell you a Two-row Flying Swede Listed Corn Cultivator for $30.00, I am selling it on a base such that if I manufactured a full line of farm implements and added the same percentage of profit to the shop cost that I have added to the Flying Swede Cultivator, I would be able to sell you—

A first class Corn Planter for - $32.00
A 14-inch Gang Plow for - - 40.00
A 5-foot cut Mower for - - $40.00
A high grade Lewis Hay Stacker for 36.00

If you don't believe it, just ask me for descriptions and prices on some of these implements I have mentioned

Now the trust manufacturers charge exorbitant prices for the lines that they have the principal trade on and I think the Association dealers are to blame for handling their goods, for they perpetually say "stick to the old lines and be loyal to the manufacturer". (And they appear to act accordingly, regardless of price and ignore the welfare of the farmer).

Now let me tell you the facts. I own my factory and there are no stocks, bonds or mortgages on record against it. I have a large water wheel to supply the power to generate electricity to propel the machinery—all of which helps to build high grade Flying Swede Cultivators and other farm tools at a low first cost. But regardless of the cost of production just think of the exceptional opportunity you have to get one of these Two-row Flying Swede Cultivators for $30.00; a One-row for $22.00, free on board cars either Kansas City, Wichita, Council Bluffs or Topeka and you don't pay one cent to me for it until October 1, 1913. Order the Cultivator now, cultivate your corn, thresh your small grain, then pay me October 1st.

I guarantee the Flying Swede to do the work intended for it and you know, when you buy it on time so long that you can harvest a crop before paying for it, that my guarantee is as good as if I was worth ONE HUNDRED MILLION DOLLARS.

If you need a new machine or repairs for an old one, you best write us today ordering the goods.

Now don't be led astray by anyone who tells you that the Gang Plow which he asks $55.00 to $70.00 for, costs more to build than a Flying Swede Two-row Cultivator, for it doesn't. I will pay $100.00 in gold to any trust manufacturer in the United State who can show that the raw material and shop labor, exclusive of over-head and figure-head expense, costs them $1.00 more to build a 14-inch Gang Plow, ready for shipment, than what it costs to build a Two-row Flying Swede Lister Cultivator, providing they use as good material as we actually do put into the Flying Swede.

Now I am presenting the facts to you as I see them, free from exaggeration and if you western farmers will give me cooperation, I will bring about a condition that will save you millions of dollars per year. Besides, where else can you buy a Lister Cultivator as good as a Flying Swede, regardless of cost, with the original rocker movement; four levers placed in the most convenient position ready to obey the slightest touch of the operator; with dust-proof wheel bearings; long-lived hard maple boiled in oil disc bearings; rosette disc adjustments, so that the discs can be set to meet any required adjustment; a perfect working rigid steel board to connect the Gangs. In short, remember it is easy to imitate, but the Flying Swede is emblematic of all that has been tried and has been proven true, found to be practicable, durable and fully meeting the demands of the farmer, while the price is only $30.00. You can order today and pay October 1, 1913.

SHOWING CUT OF OUR FACTORY AT MARSEILLES, ILLINOIS. LOCATED BETWEEN THE ILLINOIS RIVER AND THE ILLINOIS AND MICHIGAN CANAL, AND ON THE CHICAGO, ROCK ISLAND AND PACIFIC RY. AND THE CHICAGO, OTTAWA AND PEORIA INTERURBAN RY. THUS AFFORDING US EXTRA GOOD FACILITIES FOR SHIPPING. ANOTHER ADVANTAGE OF OUR LOCATION IS THAT THE POWER FOR OPERATING OUR FACTORY IS SECURED FROM THE ILLINOIS RIVER. A LARGE DAM IN THE RIVER TURNS PART OF THE STREAM INTO A MILL RACE, FROM WHICH IT PASSES THROUGH A LARGE WATER WHEEL IN THE POWER HOUSE. THIS WHEEL TURNS THE PULLEYS OPERATING THE GENERATOR WHICH SUPPLIES ELECTRICITY FOR POWER AND LIGHT. WE EXTEND A CORDIAL INVITATION TO ANY WHO MAY BE INTERESTED TO VISIT OUR FACTORY AT ANY TIME IT MAY SUIT THEIR CONVENIENCE. WE WILL TAKE GREAT PLEASURE IN SHOWING YOU JUST HOW AGRICULTURAL IMPLEMENTS ARE MADE.

I WILL MAKE A PRESENT of a Swede Terror Cultivator

to the first farmer who can show as a fact that he can get as high a grade machine from the same small first cost from any other manufacturer in the United States as I will give to you during the next 30 days, so write today ordering or stating what you want, and get our large catalog, No. 12.

O'NEIL IMPLEMENT COMPANY

Flying Swede Factory at Marseilles, Illinois

La Salle, Illinois

The Financial End of Farming

(CONTINUED FROM PAGE NINE.)

credit, larger loans or longer loans? Of course it is conceded that we always want better interest rates.

"Our farmers have been going on for the last ten years depreciating their soil and not increasing production. In the last ten years, ending in 1909, the cereal crop production increased only 1.7 per cent, notwithstanding that during this time the acreage has probably doubled. This is conclusive evidence of declining fertility, and the farmer can hardly expect to have even the present mortgage loan conditions continue to prevail, when he does not do his part in keeping his soil at least up to the condition in which it was when the mortgage was placed.

Price Advance and Fertility Waste

"If the financial man paid as little attention to his cash reserve as does the farmer to his soil reserve, where would the farmer get the loans he has even now? The first lesson that every business man learns is to build up a reserve fund. The farmer has not learned this vital fact; he has not treated his farm as a business proposition. In many instances the increased selling price of farm land is based falsely upon the increased price per bushel, and not the increased bushel production, for the average farm today produces materially less than ten years ago. There is more net profit and real business method in an eighty-bushel corn crop per acre in one year than in our present acreage average of thirty-five bushels for the last four years.

Until this generation, our farmers have not known what they were doing, nor why they were doing it, and anyone could grow corn whether he knew or not. We know enough now of better farm methods to double our yields, if we but put our knowledge into practice.

"The conditions requisite to improved financing methods in agriculture are exactly the same as in any other line of business. When the farmer starts to operate his farm on the basis of a real purpose for the future, just as does the business man, or the railroad, or the corporation, then will the farmer have the ability to get the long time mortgage loans at lower rates and with the many privileges the business organizations enjoy. He must figure out a certain definite annual expense on the basis of a certain gross income, which must be sufficiently in excess of the expense to provide for proper maintenance of the farm, its equipment and its soil fertility; he must provide for the usual accidents and crop failures and then, after these items have all been accounted for, an additional net sum or dividend of profit, at a proper rate, based on the market and increasing value of the farm which he is operating.

"We can learn from Europe in the matter of improved farm financing, just as we learn of it with reference to permanent farm methods, for its farm financing system is founded upon a system of farming that brings on the average twice the yield our farm land brings, in spite of the fact that much of its land has been farmed for 1,000 years or more. In Europe the long-term mortgages contain definite requirements of the farmer as to the manner in which he is to conduct his farm, rotate his crops, feed and build up the soil and generally maintain and improve the farm's condition.

Our Interest Holds Up.

"A good many incorrect and harmful statements are being widely circulated of late to the effect that the European farmer pays only from 3½ per cent to 4 per cent interest for his money, whereas it is asserted that our farmers pay an average of at least 8½ per cent. This would lead our farmers to believe that they are being held up, implying an excessive profit to the money lenders, and has been used by some as an explanation for a large part of the high cost of living, though none of these statements or conclusions are accurate.

"None of the general European mortgage rates are lower than 4.3 per cent and the statement that our average rate is 8½ per cent is only a crude and incorrect estimate, for the Agricultural department estimates the average of mortgage rates is within 6½ per cent. In the older and more established farm sections our farmers are paying about 5 per cent.

"In the newer and more recently settled sections, though they are paying higher rates, yet, keeping in mind all conditions and the careless manner of farming, our rates are relatively not out of line with those in Europe, nor with the rates prevailing in other lines in this country. The total aggregate volume of our farm mortgage loans is so tremendous, and all the low rates and large loans are on our best land in the older states, that it cannot be possible that the average rate is as high as recently stated in the letter to the governors.

Double Taxation

"It is really to increased acre yields, through better farm methods, and the building up of declining soil fertility that we must look for the real reduction in the cost of living.

"We should not neglect to consider another feature of the problem, which is vital and far reaching—the mortgage or double tax. The farm pays taxes at its full value, then the holder of the mortgage pays another full value tax, and the proceeds of the mortgage, if used to improve the farm, goes to increase the farm taxes still further. This is the millstone we hang about the neck of the farmer and every owner of real property, thus penalizing those who improve property, those who by improving their own property, increase the value of all property, yet bear much of the burden that the unimproved owner should carry.

"The whole proposition calls for action, first from the farmer, who must do well and thoroughly, and on a constructive basis, the work before him on his own farm, before he attempts to mortgage his poorly operated farm, or buy another and make his financial demands without justifying his own position. It is the joint work of the farmer and the financier, both operating on a strictly business basis."

Built by One of the Largest Concerns in the World

for American Roads Especially

The J. I. Case T. M. Company, Inc., maker of the famous Case Forty, is a $40,000,000 concern. For seventy years it has manufactured the finest machinery in its lines. You know, and your friends know, the quality.

The Case Company has thousands of customers in every part of the United States. Our machinery goes to all parts of the world.

We are making the Case Forty for our old customers as well as for hundreds of people who will drive cars in the cities.

The Case reputation is staked in each car. Our methods of building, our grade of materials, must be better than usually go into Forties to maintain our 70-year-old standards.

Savings We Do Not Make

We could make large savings on the cost of our motors by using cheaper materials. Also on clutches, transmissions, drive shafts, wheels, axles and other vital parts. We could cut our assembling cost in two, and this cost is one of the largest.

We put into the Case—in every car—hundreds of dollars of extra value that does not appear on the surface. But that insures Case Service. No other Forty at $2,200 ever gave equal value.

What Permits It

We can do what other makers can't. We created no new business when we started making automobiles. We had 10,000 dealers and 65 Branches before a car was sold. We saved that selling expense. We saved officers', sales manager's and advertising department salaries, rent and other overhead charges.

Makers of other cars must include such costs in the price.

We put all these savings into the car without charging buyers an extra penny.

Have the Catalog

Write for the Case Catalog, or send the coupon for it. See what sort of car *can* be made for $2,200. Note the Case Thirty also at $1,500.

Case Cars are built for American roads after 70 years of building machinery to travel those roads. You need such a car.

This Emblem on an automobile has the same significance as the Sterling mark on silver.

J. I. CASE T. M. COMPANY, Inc.
657 State Street, Racine, Wis.

Please send complete information about Case "40" and "30."

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Town _____

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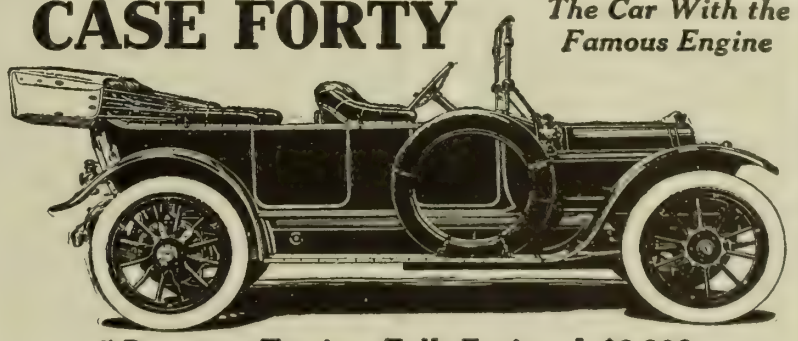
CASE FORTY

The Car With the Famous Engine



5-Passenger Touring, *Fully* Equipped, $2,200

Westinghouse Electric Starter; Westinghouse Electric Lighting System for all Lamps; Side and Tail Lamps, Combination Oil and Electric; Warner Auto-Meter; Electric Horn; Rain Vision Ventilating Wind Shield; English Mohair Top, Side Curtains and Cover; 37x4½-inch Tires; Firestone Universal Quick-Detachable Demountable Rims; 124-inch Wheel Base; Three-Quarter Elliptic Springs; 4½x5¼-inch Cylinders; Brown-Lipe Transmission; Timken Full-Floating Axle; Rayfield Carburetor with Dash Adjustment; Bosch Magneto, Dual System Single Point Ignition. The usual Tools, Tire Repair Kit, Jack, etc. *And in addition, Extra Tire and Tube on Rim, Extra Tube separate, Tire Chains, Tire Cover and Handy Work Light on long wire.*

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Mobile & Ohio Railroad or Georgia Southern & Florida Railway

will help you find a desirable farm location where two and three crops grow annually. Alfalfa produces 4 to 6 tons, Corn yields 60 to 100 bu., Truck crops make $100 to $400, Apple Orchards $100 to $500 per acre, and Beef and Pork are produced at 3 to 4 cts. per lb.

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swing over the snow banks or other obstructions, no shoveling or digging when your time is worth more for something else. Every part of the Peerless is

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A rust-proof coat, no paint to wash and wear off, leaving the steel red, rusty and unsightly.

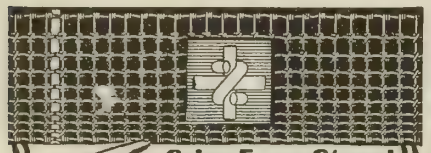
Built to stand hard usage—big, massive frames; all No. 9 wire filling and a double safety latch.

Ask your dealers to show you a sample or send for our 72 page Fence and Gate catalogue.

Peerless Wire Fence Co.

216 Mich St. Adrian, Mich.

THE GATE WITH A "LIFT"



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SQUARE DEAL FENCE

tight and trim the whole year round. The one-piece stay wires *prevent* sagging, bagging and buckling--require fewer posts. Get square deal prices now--see the money you save. A postal brings them, also latest catalog and a high grade, four-section, 2 ft. folding rule--all FREE.

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Bargain Prices—13c per rod up

Get our new fence book before you buy fence for Horses, Cattle, Sheep, Hogs, Poultry, Etc.

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We save you *big money*—give you highest quality. Mail postal *now* for Big Fence Bargain Book

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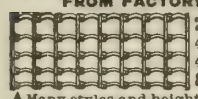
STRONGEST FENCE MADE

FROM FACTORY DIRECT TO FARM



26-inch Hog Fence,....14c.
41-inch Farm Fence,....21c.
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80-rod spool Barb Wire, $1.55

Many styles and heights. Our large Free Catalog contains fence information you should have.

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HOG FENCE

26 inches high 14 cents a rod

100 other styles of Hog, Farm and Lawn Fencing.

Buy from factory direct and save dealers profit. Large Catalogue FREE.

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Life and Business in the Capital of Mexico

By Frank G. Carpenter

MEXICO CITY—The revolution has been going on here for over two years, but as far as any "shooting up the town" is concerned, this Mexican capital has been as quiet as is Glasgow on Sunday. This is so only from a military standpoint. In other respects Mexico is one of the liveliest and busiest cities on the face of the earth.

When I started across the boundary I was warned that I took my life in my hands, and that I would always be in danger of the Mexican bullets. I replied that I would at any rate escape the American automobile and that all the bullets of Mexico could not equal the danger of crossing the street in New York or Chicago. I find that I have jumped out of the frying pan into the fire. Mexico City swarms with automobiles, and they go at such speed that they would be held up on any country road in the United States. Here no speed limit whatever is observed, and even the taxicabs race each other on the chief business streets. Limousines go at fifty miles an hour over the asphalt of the Paseo de la Reforma, and in the Avenida de San Francisco, the Broadway and Fifth avenue of this town, the motor cars fairly bump each other as they fly this way and that. The same is true of all kinds of traffic. The motor drays make thirty miles an hour, and there are hundreds of motor cycles, which go so fast that their wheels seem solid disks. I have never seen anything like it, and my heartbeats, as I have tried to keep out of their way, have worn my throat to a frazzle.

Not Dead Yet

I had expected to find Mexico City a "deader." I thought the revolution would have squeezed the life out of business, and that the people and prices would be on the downgrade. I find it quite the reverse. The troubles which have been going on over the country have scared the rich haciendados into renting or buying property in the capital, and they have come here until conditions are stable. They are good money spenders, and the opera house is now filled every night. I find the streets thronged with people and the stores filled with goods bearing cost marks as high, or higher, than those of the states. I find new buildings going up on the outskirts and construction of one kind or other on the chief business streets. Just below the Alameda a national theater, which is to cost high into the millions, is almost completed, and on the Plaza de la Republica stands the great steel skeleton of the Legislative Palace, which, if it is ever completed, will cost something like $6,000,000.

Built on a Swamp

I say, if it is ever completed. The building promises to be too heavy for its foundation, and it is slowly sinking into the great bed of ooze upon which this city stands. The same is true of the National theater, the new postoffice and of other great buildings which are slowly and gradually going down into the ooze. Within the last few years a drainage system has been introduced, but this has taken off the subsoil water which aided in upholding the principal buildings, and they are now said to be more stable during the rainy season, when the ground is well soaked.

The Mexico of today is founded on the site of the ancient capital of the Montezumas, and I am told that there has been a city right here since a hundred years before Columbus discovered America. The capital of Montezuma was a town of islands and mainland cut up by canals. It had hundreds of bridges, and its 120,000 houses, made of red porous stone, skirted the canals and had cement sidewalks, lining the waterways, just as has the Venice of today.

After the conquest, when the Spaniards built their capital, they did not go to the highlands, but chose the same site that formed the Aztec metropolis. The only difference is that they have filled up the canals and drained a large part of the lakes, and they have now buildings covering a space which is many times larger than that of the ancient city. The Mexico City of the present covers about twenty square miles. It has a population of more than half a million, and, including its outskirts, or the federal district, it is more than twice the size of the city of Washington.

It is a well lighted city, having 2,500 arc lamps, and so many car lines that if put end to end they would reach all the way from New York to Boston.

Owing to the swampy foundation there are no skyscrapers, and the main business blocks are of three and four stories. There is not the broken sky line of our American cities, and the town looks more like one of the old world than of the new.

Mexico from Cathedral Tower

But suppose we take a bird's-eye view of Mexico City. We can get it from one of the twin towers of the great cathedral, which forms the pivot around which the whole city moves. This is the highest capital north of the Panama canal. It is a mile and a half above the other great capitals of the world, and the cathedral towers are 200 feet higher.

The cathedral stands on the spot which forms the center of the great city of the Montezumas; it is just above the site of the pyramid upon which lay the sacrificial stone where the Aztecs sacrificed their victims and upon which 60,000 slaves were slain every year. That pyramid rose within fifty feet of the top of the tower, and it was there that Montezuma stood beside Cortez when he took him up to show him the city.

We take a taxi and are soon at the cathedral. We choose the southern tower and enter the little door at its foot. We wind our way round and round through the darkness up steps worn hollow by the feet of thousands, and at last come out high above the Mexican capital.

What a magnificent site for a city! We are in the heart of the valley of Mexico and surrounded by mountains which make a series of fortifications, created by nature, beyond which as I write the rebels are fighting. The mountains reach to the skies and those two great peaks off there at the south are covered with snow; they are Popocatapetl and Ixtaccihuatl. Old Popo is considered the husband of the latter, and is everywhere known as "The White Woman." See how like a sleeping giantress it looks, as, carved in silver, it lies there outstretched upon the purple rocks which slope down to the plain; it lies on its back, with face upturned,

AS TO FLAVOR
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A bright young lady tells how she came to be acutely sensitive as to the taste of coffee:

"My health had been very poor for several years," she says. "I loved coffee and drank it for breakfast, but only learned by accident, as it were, that it was the cause of the constant, dreadful headaches from which I suffered every day, and of the nervousness that drove sleep from my pillow and so deranged my stomach that everything I ate gave me acute pain. (Tea is just as injurious, because it contains caffeine, the same drug found in coffee.)

"My condition finally got so serious that I was advised by my doctor to go to a hospital. There they gave me what I supposed was coffee, and I thought it was the best I ever drank, but I have since learned it was Postum. I gained rapidly and came home in four weeks.

"Somehow the coffee we used at home didn't taste right when I got back. I tried various kinds, but none tasted as good as that I drank in the hospital, and all brought back the dreadful headaches and the 'sick-all-over" feeling.

"One day I got a package of Postum, and the first taste of it I took I said, 'That's the good coffee we had in the hospital!' I have drank it ever since, and eat Grape-Nuts for my breakfast. I have no more headaches and feel better than I have for years." Name given upon request. Read the famous little book, "The Road to Wellville," in pkgs. "There's a reason."

Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

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A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.—Advertisement.

and we can see its mighty breasts and the whole outline of its gigantic body clear to the snowy feet, which are turned toward old Popo.

The Valley of Mexico

Now look at the valley in the center of which we are standing. Do you wonder that it was chosen as the center of the Aztec empire and as the site of the best of that old civilization? It is a garden spot, forty-five miles long and thirty miles wide, with a half-dozen silvery lakes running through it. These lakes rise one over the other, the level of all of them being above that upon which the Mexican capital stands.

Interior View of Mexico's New Postoffice

Skirting the lakes and covering the valley, and coming close to the edge of the city, are plains of richest green, and within them is the great red and gray expanse of low buildings which make up Mexico City. That vast building off to the south cost over $2,000,000; it is the new penitentiary, and it is now the home of many a rebel, including General Bernardo Reyes.

Off on the opposite side of the city we can see Chapultepec, where is now the White House of Mexico, the home of President Madero. It is there that Montezuma had his summer residence, and there President Diaz lived. That wide avenue, shaded with trees and decorated with magnificent statues which leads to it, is the Paseo de la Reforma, and the magnificent buildings about are the Colonias; they cover thousands of acres and form the new sections of the capital which were planned by Americans and built with American money.

The Mexican Housetops

Now take your glass and look at the great checkerboard of Mexico City. The most of the streets cross each other at right angles and the whole seems to be divided up into square fields paved with brick. That is how the capital looks from the sky.

The roofs of all the houses below us are flat. There is not a chimney in the whole city, and you can number the furnaces on your fingers and toes. These people do all their heating and cooking with charcoal, and a hot-water plant would be as great a wonder here as the Siamese twins or a five-legged calf. Now look a little closer at the great expanse of brick fields which make up the houses; each house has a hole in its center; that is the patio, or court, around which the rooms run. This often constitutes the garden of the family, and we can see trees rising here and there over the roofs.

The tops of the buildings are almost level, save where a public office here and there rises higher, or where the many churches, with their spires and towers, stand in evidence of the days when this land was ruled by priests. Their roofs, like those of all of the buildings, are covered with bricks laid in lime mortar, and there is almost as much masonry on the top of a house as there is in its walls.

A Walk Through Business Section

We cross the Plaza and go up the Avenida de San Francisco. The sun has now set and the electric lights have sprung out. The street blazes with the arc lamps, which, fastened to posts about fifteen feet high, run through it from one end to the other. The lights are so arranged that each cluster of five is not more than twenty-five feet distant from that on the opposite side of the way. The windows of the shops are also illuminated and the asphalt shines like polished glass under the electric rays.

Now stop a moment and notice the people. There are representatives here from all over Europe—Germans, Frenchmen, Englishmen and Spaniards, and also many Americans. We see our goods in the stores and hear the English language often spoken as we walk through the streets. There are many rich Mexicans, and some of them come in from the country with the costume of the old haciendado, consisting of an immense sombrero loaded with silver and a suit of rich cloth decorated with numerous buttons and braid. There are many peon men wearing blankets over their shoulders and Indian women with black rebosas wrapped round their heads. There are also girls of the well-to-do classes, clad in black, with black shawls around their heads, and others wearing high-heeled shoes and Paris hats like those of our ladies at home, and most of the women have powder and paint upon their dark faces.

(Copyright, 1913, by Frank G. Carpenter.)

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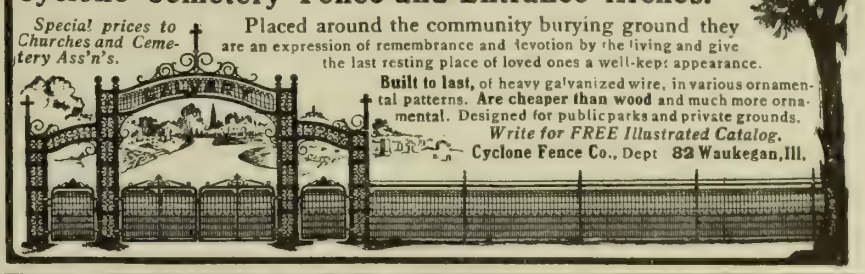

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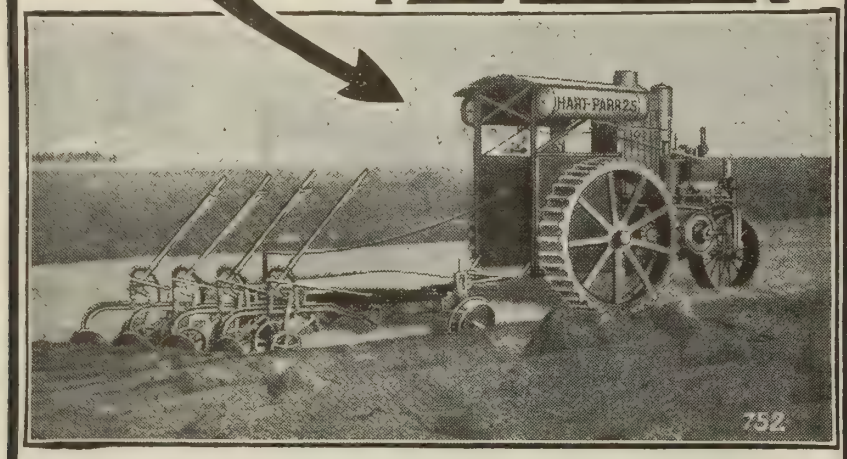

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Rearing Boys on the Farm

V—The Country Boy and His Chum

STOCK raisers are well aware of the fact that animals of all kinds go in herds or droves. The bell sheep leads the flock; cattle can always be found in droves, and horses very seldom are alone. It is so with boys. The boy who is raised alone, with no one but his elders with whom to associate, is worthy of our sympathy.

However, the desire for close companionship comes only with the approach of adolescence, and chumship with one of the other sex is a very much later development. Small boys play alone, or with one or two companions. The games of early years are individualistic games, and never those team games which are the distinctive features of later years. The control of a boy's friendships until he reaches the early 'teens is a comparatively easy task for the careful parent, but as the boy approaches adolescence another, and still another, companion is added. The friendships become stronger, and before we know it a fully developed gang is formed. The country, and especially the small towns, are full of such groups, or gangs, not necessarily bad. They are the result of the promptings of the boy's social nature, and the gangs are formed from just exactly the same motives as induce their mothers to organize ladies' aid societies, or their fathers to form secret organizations.

Some very interesting facts can be observed in regard to these boy groups. It is the almost universal custom for boys to organize these gangs, or clubs. Practically every boy who has an opportunity belongs to some club, either good or bad, which the boys themselves have organized. It may only last a few days or a few weeks—rarely longer—but it is an important factor in the boy's life while it exists. Boys begin forming these organizations at about 10 years of age, and they are the most attractive at about 13. There is then a gradual dropping away, until they cease to exist at about 16. The gangs of young hoodlums in their early 20s, often found in small towns, are generally spontaneous, with little or no organization. At 16 the boy again confines his attention to one or two friends, but they are members of the other sex. He and his best girl, his friend and his best girl, form a clique.

Boys' clubs are organized for various reasons—a very few have secrets as their basis, a lesser number are philanthropic, and by far the larger number are athletic or predatory. There are base ball clubs, tramping clubs and nature clubs.

Girls and boys in their early 'teens never organize together. Some adults, in seeking to form clubs in Sunday school, Endeavor societies or elsewhere, sometimes try the utterly impossible task of forming a congenial organization of boys and girls. It cannot be done.

Now it must not be supposed that these clubs have a very definite organization. There may not be any specified officers, but the leader is there, just the same. Win him and you have won the gang. Boys are hero worshipers, and they follow the leader as the sheep the bell.

Parents and teachers are often very much concerned over the fact that their boys belong to these clubs, which they do not control. The gangs are often a source of great annoyance to the churches of the village, but as a matter of fact they constitute a large opportunity in winning boys. The sensible thing for parents, teachers and ministers to do is to identify themselves with the clubs. Many a man has become himself the leader of a club of boys, and when he has done this he has it in his power to lead them whithersoever he will.

The problem of the country church has become a difficult one to solve. This in many instances has been because it has not been able to reach and hold the young people of the community. It can best do so by recognizing that boys and girls, young men and young women, have certain natural social instincts, and that they do form in clubs. When the country church becomes the social center of the community in which it is situated, socializing its religion, it will have gone a long way toward reaching the young people of the community. E. F. DENISON.

Dead-Beat Cow Boarding House

ANY boarding housekeeper that does not know which of his boarders are paying for their board, or even which under the most favorable circumstances might be able to pay for it, would be regarded as a very poor business man on the short road to bankruptcy. Let no reader sneer at such a man, for many of them are in the same condition. Nearly all the readers of this paper are running a boarding house—cow boarding house—and very few of them know which of their boarders are paying for board, or even which ones, under the most favorable conditions, might be able to pay board. Most boarding housekeepers have persons at their tables who might and would pay board if they were not out of employment. The wise boarding housekeeper hustles around to secure a job for such in order that they may pay for what they consume. In nearly all cow boarding houses there are individuals that might and would pay for what they receive if conditions were right. The capacity of some cows to pay for their board depends upon the kind of board they receive. The wise keeper of a cow boarding house will see to it that his cows have the right

kind of board to enable them to pay their way, to say nothing of yielding a profit to the proprietor.

But in every boarding house there are those that cannot, and will not, under any circumstances, pay their board. These are the dead-beat boarders, who should be shown the way to the door. Just so, in every cow boarding house there are those that cannot be made to pay for their board. These, as soon as discovered, should also be shown to the door.

It is a very easy matter for the cow boarding housekeeper to ascertain which cows answer to this description. Once or twice a week he may weigh the milk they give, and whenever convenient may have it tested at the local creamery agency, and this will tell him the story. This will free him from the necessity of a trip to the bankruptcy court, which would, in many cases, be necessary did he not draw on the profits from other forms of farm activity to make up the boarding house deficit.

A word to the wise should be sufficient, but sometimes it takes several words, paragraphs, even. Some men have to be hit with a club before they will see a point, but the average farmer is not so dull as that.

Caked Udder in Cows

Caked udder in cows is also commonly called garget, of which there are two kinds—one non-contagious, the other infectious.

It is a frequent trouble, especially in cold weather, often due to "catching cold" in the udder. The symptoms usually appear soon after calving, and many complications often ensue, sometimes leaving the cow with a damaged quarter.

Since cows are so high-priced, it is certainly poor economy to attempt home treatment in severe cases. If your veterinarian treats the case he can give you the benefit of a personal examination. If a veterinarian is not available, the general treatment is to give a purgative of epsom salts, bathe the udder with warm water, to which has been added several tablespoonfuls of sodium hyposulphite. Dry completely and rub in carbolated lard or vaseline. Milk frequently.

Old Agriculture and the New

WE TALK nowadays of improved agriculture and new agricultural methods. It may surprise some readers, when we have prided ourselves as new and progressive in discoveries for which the world is indebted to the twentieth century, to learn that even in agriculture there is no new thing under the sun, and that generations ago intelligent men had as clear a knowledge of fundamental agricultural principles as we have today. This fact is admirably illustrated by the menu card given to every guest at the banquet to the farmers in Missouri, which concluded the exercises of Farmers' Week at Columbia. The menu presented an inexhaustive list of quotations from the classics. It was prepared and the translations were made by a Missouri farmer, who grows apples on his own farm, and was thought worthy to occupy the chair of archaeology in the University of Missouri. As a preliminary explanation it will be borne in mind that Hesiod was a Greek poet, who wrote 2,700 years ago; that Horace and Virgil were Latin poets, who wrote 1,900 years ago, and that Cato was a Roman statesman, who lived in the same age. Here follow some of the quotations from these ancient agricultural authorities:

What is the first principle of good agriculture? To plow well. What is the second? To plow again.—Cato.

What is the most certain source of profit in farming? Good pasture land. The second source? Pretty good pasture land.—Cato.

Nothing is more profitable than to take good care of your cattle.—Cato.

The appetite of the good farmer is to sell and not to buy.—Cato.

Know that with a farm, as with a man, however productive it may be, if it has the spending habit, not much will be left over.—Cato.

It is from the tillers of the soil that spring the best citizens, the stanchest soldiers, and theirs are the enduring records which are most grateful and least envied.—Cato.

That cow is best shaped that is grim-looking, with an ugly head an abundance of neck, with no end of length of her side, and everything large about her down to her foot.—Virgil.

The wise Father of all has willed that the farmer's path shall be no easy one; but Toil has conquered the world, relentless Toil.—Virgil.

Galatea flings an apple at me, like the saucy girl as she is.—Virgil.

Haste to the field with break of glimmering morn,
So that thy grounds may wave with thickening corn. —Hesiod.

The stream of plenty knows no pause; the year is always teeming either with apples, or with animal produce, or the sheaf of Ceres wheat ears, loading the furrows with increase and bursting the barns.—Virgil.

A stripling throws
Heedless the seed, and in one furrow strows
The handful twice. —Hesiod.

The sustenance of Nature hidden lies;
The gods have covered it from human eyes —Hesiod.

What makes a cornfield smile; what star suits best for turning up the soil, and marrying the vine to the elm; what care oxen need; what is the method of breeding cattle, and what weight of men's experience preserves the frugal commonwealth of bees? Such is the song I now essay.—Cato.

My prayers with this I used to charge—
A piece of land, not very large,
Wherein there should a garden be
A clear spring flowing ceaselessly,
And where, to crown the whole, there should
A patch be found of growing wood.
All this, and more, the gods have sent
And I am heartily content. —Horace.

Here is a land where no bulls, breathing fire from their nostrils, have plowed the soil; where no enormous dragons' teeth were ever sown; where no human harvest started up, bristling with helmets and crowded lances; but teeming corn and the wine god's Massic juice have made it their own; its tenants are bursting crops and luxuriant herds of cattle. Hence comes the war horse that prances proudly into the battlefield; hence the white flocks upon a thousand hills. Think, too, of stately cities, and trophies of human toil, and towns piled by man's hand, with great rivers flowing beneath their honored walls. It is a land, too, which has disclosed streams of metal mantling in its veins, a land that has produced mortal tribes of heroic mould.

Hail to thee, mighty mother of noble fruits and noble men.—Virgil.

Favorite Fiction

"Lightning Express."
"Information Bureau."
"Highest Prices Paid for Old Gold."
"We Named Her for Aunt Mehitabel Because We Like the Name."
"So Many Friends Have Urged Me to Print the Story of My Life That I Have Reluctantly Decided to Do So."
"Yes. That Is a Splendid Portrait; the Artist Has Caught Your Best Expression."
"Old Boy, If You Had Asked Me I Could Have Told You Not to Put Any Money on That Horse."
"Speaking Likeness." Chicago Tribune.

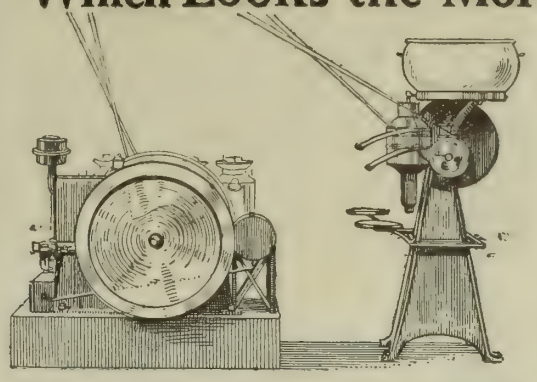
New Name for It

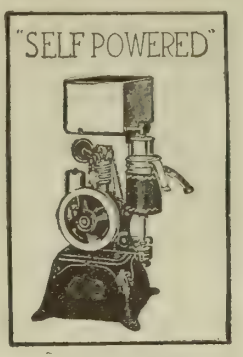
A lady living in Dorchester recently left her new Irish maid in charge of the house while she went shopping. Among her purchases was an umbrella stand for the vestibule. After her shopping tour she paid a visit to a friend and did not arrive home until late.

"Well Mary," she said "did a lot packages come?"

"Yes, mum," was the reply. "The wagon cum wid th' cuspidore for th' umbrellies."—Boston Transcript.

Which Looks the More Practical?





A Lot of Machinery—or—The "Automatic"

The "AUTOMATIC" is self-powered; engine and separator in one. The two are not loosely connected; they are solidly combined. The little engine is compactly built into the separator itself, and is so nicely adjusted that the bowl spins at high, even speed *without a trace of vibration.* This is a very different matter from the makeshift of hitching a hand power separator to any old gasoline engine. The two are ill suited. The explosive impulses of detached gasoline power are certain to jar and rack so delicate a piece of mechanism as a hand and gear driven separator. No manufacturer would recommend such a makeshift if he were not hard up against "AUTOMATIC" competition. He knows that hand power is doomed. A dairyman with eight or more cows to milk won't put up with the drudgery and expense of cranking a separator by hand—not a day longer than he has to.

"The 1913 Automatic" Cream Separator

requires no cranking. It saves time and labor. Skims faster than ten men can milk. When the milking is done, skimming is done. Hand power varies. The "AUTOMATIC" skims even—absolutely even; its speed is maintained without variation. The result is more butter fat and smoother cream. No hand cranked machine can possibly skim so close. ¶ The engine is highly efficient and very dependable. Starts with the pulling of a cord. Can't kick. Runs continuously for hours without the slightest attention. Is protected against freezing or choking or balking by an automatic fuel feed and magneto equipment.

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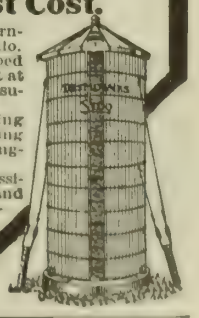

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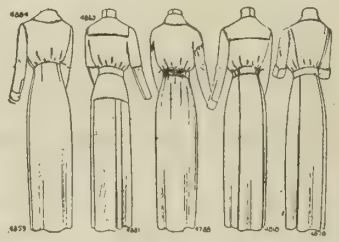
Fashions : Becoming Styles for Girlish Figures

ARE you thinking of going away on a little trip, and are you just the least bit concerned as to the kind of traveling togs you will require? It is only natural that you should be, for there is a certain satisfaction in knowing that you are properly gowned on all occasions. And you will want your clothes to be correct in every detail, if possible, without overstepping the limits of your income.

4884-4859 4788 4863-4881

First and foremost is the traveling suit. It should be simple above everything else, and developed of a dark, serviceable material, the darker the better, in view of the dust and grime which you are bound to meet along the way. Dark blue, brown and grey mixtures are excellent colors, and have become staple selections for the traveling suit for this very reason. Serge, cheviot, tweeds, two-tone diagonals and worsteds are among the suitings from which you will do well to make your choice. Then there is eponge—the very newest arrival in the field. It is a lovely material, with a rough, spongy surface and very similar in effect to ratine; in fact, eponge is a development of ratine, but it is distinguished from it by a more pronounced looseness in weave and lightness of weight. It is an ideal spring fabric, durable and practical, and is, therefore, especially commendable for utility purposes.



Both long and short jackets are in favor for the spring suit, but the 26-inch length is more in keeping with the strictly tailored suit, and when you strike a happy medium in matters of this kind you may be pretty sure you are taking the right and sensible course. Cutaway effects have not lost one whit of the popularity they enjoyed this winter, judging from the very recent models. Straight effects are also receiving a good bit of attention, especially in the Norfolk type of garment. By the way, a Norfolk suit, or one made along simple Russian blouse lines, would be very smart for a young girl's traveling suit, and both styles are in the very height of fashion.

The skirts of some tailor-mades are extremely plain, while others show effective introductions of plaits and novel treatments of side and front closings. The majority of the skirts have the slightly raised waistline, and a few gathers at the back, with the charming little belt and buckle, is a feature of many.

And now for an appropriate waist to wear with your suit. For this it would be wise to choose a perfectly plain model, with the extremely fashionable Byron collar and long, close-fitting sleeves.

4818 4870

How to Order Patterns

The Twentieth Century Farmer will supply readers with perfect fitting patterns; all seams allowed.

With every pattern there is a cutting guide and a construction guide.

When ordering give number of pattern desired and the size.

When ordering for children give age in years.

Address Pattern Department, The Twentieth Century Farmer, Omaha, Neb.

Description of Patterns

4884-4859—Separate waists and skirts cannot conveniently be dispensed with in the young girl's wardrobe. The white satin waist illustrated is one of the popular styles of the season, featuring the fashionable Byron collar piped with brown satin. Laced effects are well liked, providing a pretty substitute for the frill or jabot usually worn with a neck finish of this kind. The skirt of brown corduroy is a smart two-piece model closing at the left side, the width around lower edge being 1¾ yards. Waist No. 4884, sizes 14, 16, 18 and 20 years, the 16-year size requiring 2½ yards of 30-inch material. Price, 15 cents. Skirt No. 4859, sizes 14, 16, 18 and 20 years, the 16-year size requiring 2¼ yards of 36-inch material. Price, 10 cents.

4788—To the piquant collar, the original treatment of the front closing and the general excellence of line is due the unquestionable style of this attractive costume. Dark blue velveteen, with collar and cuffs of light gray satin, were used in the original model. The smart front closing is favorably emphasized by the braiding design in light gray rat-tail cord and the white ball buttons. Similarly the braiding makes more pronounced another style point, namely, the exaggerated drop-shoulder, into which the plain one-piece sleeve is sewn. A pattern for a shield and standing collar is given for making a chemisette that will be desirable in cold weather. The simple three-piece skirt measures 1⅝-yard around lower edge. No. 4788 is in sizes 14, 16, 18 and 20 years, the 16-year size requiring 4¼ yards of 36-inch material, with ⅝-yard of 27-inch contrasting material. Price, 15 cents. Braiding Design No. 11455, price, 20 cents for perforated pattern.

4863-4881—Of striking originality is this gray diagonal cheviot, piped with velvet in a darker shade. A white broadcloth collar and flat pearl buttons, with gray bone rims, contribute greatly to the beauty of the dress. The two-piece sleeves, in upper and lower sections, are unique in style, and the yoke on the skirt suggests a peplum, as the closing of both waist and skirt is in a continuous line. Width around lower edge of skirt is 2½ yards. Waist No. 4863 is in sizes 14, 16, 18 and 20 years, the 16-year size requiring 1½ yards of 54-inch material. Price, 15 cents. Skirt No. 4881 is in sizes 14, 16, 18 and 20 years, the 16-year size requiring 2⅛ yards of 54-inch material. Price, 15 cents.

4818—Black and white-checked worsted with gray broadcloth was an excellent selection for the practical model portrayed. An unusual feature is the manner in which the back of the waist extends over the shoulder, forming the front yoke portions. The attached five-gored skirt is made distinctive by the applied pockets, conveniences for both the school and business girl. These may be omited, however, if not desired. The closing is effected in front under the tuck, and the width of skirt is 2¼ yards, affording ample comfort when walking. No. 4818 is in sizes 14, 16, 18 and 20 years, the 16-year size requiring 3¼ yards of 54-inch material. Price, 15 cents.

4870—The lack of the ornate in materials and cut makes this dress ideally suited for utility purposes. Diagonal serge in a rich taupe, with braid and buttons to match, is a fashionable selection. A standing Robespierre collar of white satin or taffeta, with tiny jabot of shadow lace and sleeve frills of the same, are touches that relieve the rather severe effect. Plaits over the shoulder, outlined with braid, make the otherwise plain waist more becoming to the girlish figure. Long sleeves, perforated for shorter length and a six-gored skirt that is about 2¼ yards wide complete the costume. No. 4870 is in sizes 14, 16, 18 and 20 years, the 16-year size requiring 4⅜ yards of 36-inch material. Price, 15 cents.

Of Interest to Our Women Readers

The Twentieth Century Farmer

True friends are few, you will hear people say;
One has to go far to find them;
But I've found it not so, in the time I have lived,
So when people preach that, never mind them.

Dear friends, I have many in east and in west,
In city and country, in south and in north.
And one of the truest is a dear farmer friend,
Just to see and to know him proves his true worth.

No hayseed or rube is this friend of mine;
Clean and wholesome, and dressed up to date;
Nothing Shoddy about him—all honest clear through;
To progress with this century he never is late.

Mr. Twentieth Century Farmer has a family, I know,
And they send me a greeting each week,
Giving helpful advice in house and on farm,
And all other knowledge I seek.

As long as I live may this friend be my guest,
His visits be weekly, all through the year,
His thousands of friends to millions increase,
To bring him prosperity, luck and good cheer.

—Madge Millar.

Our Home Chat

As the days begin to lengthen, and thereby to hint of spring, the thoughts of women naturally turn to gardening. There is delight in working in the moist, sweet-smelling earth during the first warm days of spring, when the early robin is hopping about. Winds may blow and storms may come afterward, but after the first suggestion of spring the garden plans go merrily forward. Garden enthusiasts have already made selection of flower and vegetable seeds; some of them have their orders in. It is well to take time by the forelock in this matter, securing seed from the best stock when the varietes are unlimited.

Try some new flowers and vegetables. We are very slow to adopt new articles of diet; we invent and use many new things in matter of implements, clothing, means of transportation, etc., but the distinctly new articles of food that have been adopted during the last hundred years are very limited.

New flowers are more readily grown, for the enthusiast in floriculture is always looking for something new. Here care should be taken in selecting those things which are hardy in the section where they are to be tried out. A lesser variety of hardy, prolific bloomers will always prove more satisfactory than more beautiful flowers which are unable to thrive and blossom in rigorous climates. That the women readers of this department are expert floriculturists the editor is already convinced, from the beautiful specimens which occasionally find their way to her desk.

THE EDITOR.

Orange Straws

A delicious sweet is made from orange peel. Cover the peel with cold water and let cook till tender, then drain off water and add cold water again and bring to a boil; repeat this process. This removes all the bitter taste from the inner white orange skin. Cut the cooked peeling into strips and put into thick syrup that has been cooked until it will spin a hair when dropped from a spoon. Cook straw till clear, spread on a greased paper or platter to cool. A good sweet for the children's dinner pail.

ROSE SEELYE MILLER.

Watering and Drainage of Plants

Plants need more water in a warm, dry room than in a cool one, and when growing vigorously more than when of slow growth. With experience one can tell by the weight of the pot whether a plant needs water or not. A thorough soaking when the plant is really dry is better than a small amount of water given every day.

Drainage may seem a trifling matter, but there is more depending upon proper drainage than any other one thing. If not properly provided it will spoil the most careful culture. One to two inches of carefully broken and placed bits of crockery is none too much for any medium-sized pot. If they are covered with a layer of moss under the filling of earth, it is all the better for the growing plant.

If you are going to visit the greenhouse one of these fine days to bring away a bit of beauty for your own window, or that of some friend, and you wish for something within the reach of the common, every-day purse, ask to see the Cyclaman and Chinese Primrose. The Primrose is a faithful winter bloomer, requiring very little warmth and no sunshine. All they ask is a good light and a drink of water when the soil becomes dry. They are one of the very best plants for winter blooming. Neither is there any better plant for window culture than the winter blossoming Cyclaman. In this variety the leaves are heart-shaped, toothed edge and a deep green, with gray or white marble, a pale flesh color on the underside of leaf. The flowers shade from pure white to scarlet, and remain in bloom many weeks. They require but little room and thrive where other plants do not get along especially well. The soil for both these plants should be loose, a mixture of good, black earth with leaf mould and sand is the best.

MRS. GILBERT.

Talk on Gardening

The time for garden-making is near at hand, and we realize that many are more than anxious for that time to come. What a pleasure it is, after the ground has been put in readiness, to make the straight, even rows, and plant the tiny seed with the utmost care. Then, patiently waiting, watch for the tiny green blades to appear in the straight, even rows; then look out for the weeds, which always accompany the plants, only with a much more vigorous growth.

Make hills, not too deep, for tomato seed, and plant three or four seeds in each hill, to be thinned out after the plants are three inches tall, leaving the sturdiest in the hill. Some plants are apt to die, and those taken out of the hill may be transplanted in a little mound by themselves and used to fill in. Tomatoes planted in this way are just as early and much more sturdy than where plants are set out, there being no setback to their growth as there is when plants are removed from the hotbed for resetting. Cabbage seed planted in the same way, also mangoes and peppers, produce fine results.

Kolrabi is a vegetable that makes a very palatable dish for the table and is easily grown. This vegetable resembles a turnip and cabbage in taste. The plants may be set very close together, or the seed may be planted in hills, the same as the tomato and cabbage, thinning out the slender plants and leaving the sturdy ones in the hill. Beets planted thickly in rows one foot apart afford nice, tender greens, pulling the young beets also, and leaving room for those for winter use to mature.

When the patch of early potatoes has been cleared, turnips may be sown for fall and winter store, with no ground lying in idleness. Where one has a small patch for garden and wishes to utilize every foot of it, tomatoes may be planted along a fence, where the vines will cling and climb to the wires, giving them support and keeping them from decaying on the ground. Cucumbers may also be planted next to the fence and the runners trained to climb the fence, instead of spreading on the ground. Radishes and lettuce may be newly planted as the first crop is pulled, keeping the young plants in constant growth.

We appreciate a clean, well-kept garden, which is not a hard matter, if we do not neglect it and let the weeds get a start.

INA E. HEATH.

Just Dried Fruit

Where fresh or home-canned fruit is plentiful some housekeepers are inclined to turn up their noses at prunes and other dried and evaporated fruit, but nevertheless they may be turned into delicious and wholesome desserts, which are no mean substitutes where fresh fruit is scarce and expensive, or when the canned supply is running low. Evaporated peaches or apricots may be used in place of prunes in these recipes with equally good results after being boiled and run through a sieve, or chopped. But they will require more sugar than prunes. Try some of these:

Prune Pie—Boil the prunes as above and stone and chop them fine; add one cup of sugar to the juice and the chopped fruit and boil down like a thick jam. This can be canned and kept on hand. When the pie is wanted, bake a bottom crust of rich pastry and fill it after it is done with the jam. Serve with a spoonful of whipped cream on top of each slice.

Prune Meringue—Boil one pint of milk, thicken with the beaten yolks of two eggs; add one cup of sugar and one cup of prunes that have been boiled, stoned and mashed, and stir all together on the stove until it thickens like custard, pour it into a deep dish and frost the top with the beaten whites of the eggs to which has been added three tablespoonsful of sugar and a few drops of vanilla. Serve cold. LULU G. PARKER.

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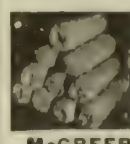

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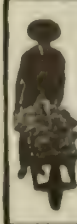

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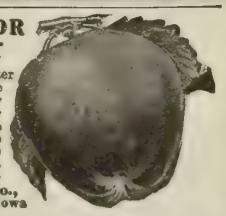

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"Alfalfa—Wonder Crop," is the title of a new book just issued by us. It contains a fund of priceless information on alfalfa growing secured from many sources; United States Government, State Experiment Stations, the best posted authorities and successful growers. This information was secured at a great cost of time, money and research, and yet it is yours for the asking **without cost.** This book will convince you that your farm has some land on which you can grow alfalfa; it tells how to get results from the first planting, how to select the field and prepare the soil, including fertilizing, plowing, liming, and how to prepare the seed; when to plant, how to plant. It tells you what to do during the growing period, how to get bigger than average crops, and how to cut and cure. This book is worth many dollars to the farmer interested in growing alfalfa, but we gladly send it without cost or obligation of any kind if you answer at once. Don't put it off—write for free book today.

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Looking Toward Flower Season

By Jessie Whitsitt

An old-fashioned flower garden is still one of the beautiful things that every farm should have. It may consist mostly of perennials, which are hardy and require very little care, as compared with annual flowers, and comprise some of the most beautiful of our cultivated flowers.

AT THIS season of the year our thoughts turn to the great outdoors, and can anything give greater charm to our homes than the fragrant blossoms of the first spring flowers? In many localities we will soon find them in quantities, cowslips that grow in marshy ground, starry-eyed blossoms and violets in sufficent numbers to give us choice of blooms; and soon we must be planting and cultivating our plants in our own dooryards.

Many of us who live on rented places think we cannot plant the vines and plants or beautify the outside appearance of our place as people do who own their own home. That it would not be worth while to try improvement along attractive lines, as we do not know when we will be called upon to move. If we can occupy a place only one season, I think we should have the pleasure that growing plants afford. There are always the porch and window boxes that can be moved with us, and there are many flowering plants which may be brought to full development from the seed in three or four months, and it seems to me it is worth while to surround ourselves with as homelike an atmosphere as possible, when it can be done at such small outlay of time and money.

We find in our catalogues the well known wild cucumber seeds, masquerading as echenocistis seeds; this vine is of the easiest culture and makes a very rapid growth. I like the pretty ivylike foliage and its great profusion of dainty flowers, and have had it to make a growth of thirty-five feet. When a dense shade is required this is one of the very best vines. Early in the season the first leaves ripen and fall off, leaving the lower part of the vine bare, but to remedy this defect I plant a second row of seeds, which soon covers the lower part of the first planting. The seeds can be purchased at 5 cents per package.

The maderia vine has beautiful, bright, glossy foliage, with white flowers, which are delightfully fragrant. It grows from tubers and likes sandy soil. Another excellent vine for general purposes is the old-fashioned morning glory; it is strong and robust, will flourish under unfavorable conditions and is an exceedingly rapid grower. No quick-growing vine is better for covering unsightly objects. Then, we have the beautiful Japanese morning glory and the remarkable Brazilian morning glory for 10 cents per package. I have grown these morning glories and they are as robust as the common variety; their flowers are wonderful in richness of coloring and often the foliage is as attractive as the flowers, the Japanese being variegated in the most striking manner.

The climbing nasturitum is very satisfactory, quick-growing, but one must keep it well supported. It does not climb readily, and I have found it necessary to tie the vine up as it developed. This vine will grow to the height of six or eight feet in ordinary soil, and it is very useful for covering unsightly fences. If we use rich soil for the vines we will have very few flowers. The row of sweet peas is always available; these will do well planted by a wire fence, the rows running north and south, if possible. As early as the ground can be worked I make a trench six inches deep and scatter the seeds in the bottom of it, about an inch apart, covering to the depth of an inch, pressing the soil down firmly. When the plants are two inches high I draw the soil up about them, and repeat this until all the soil taken from the trench has been returned The roots are then deep in a moist soil, and the plants will stand a hot season better than those whose roots are near the surface.

We can purchase Salvia Spendens seeds for 5 cents a package. This is a desirable bedding plant; it forms a compact bush, completely covered with bright scarlet flowers,

and blooms continually. There is also a white variety—the alba, identical in every respect except in color, and also a yellow. Then we have our grandmother's flowers; they will always hold a favorite place. If we wish to have our flowers very early we should start the seeds in boxes in the house, or, what is better in a cold frame, which requires but little labor. A very long blooming season is made possible by sowing the seeds in a cold frame about the first of April and transplanting to the open ground as soon as danger of frost is over. The very fine seeds should be pressed into the soil with a side of a board, and the larger seeds may be covered twice their depth. I have found by experience that one must avoid an excess of water. I place over the dirt a piece of burlap over which I sprinkle the water. Most of our old-fashioned flowers can be started in cold frames, but they can be planted in the open ground as soon as the weather is settled and have an abundance of flowers before fall.

Our grandmother's balsam has so greatly improved that she would not recognize it. Originally it was of few colors and shades, and one single form, but now we have it in all the popular colors and shades, double and semi-double. I plant these seeds in well enriched soil where they are to bloom, as they do not bear transplanting well. Thin out the plants to six inches apart. The balsam, or lady slipper, is a favorite, but for best results one must give it the highest culture. The Marigold is rich, with a velvety softness in its shadings and tones, varying from lemon to a deep orange color, and when we find it shading into an almost seal brown. The plants should be set about four inches apart. The Sweet William is one of the most beautiful hardy plants; it bears large flower spikes and is a profuse bloomer; it is easily grown and comes in many striking shades and colors.

As the hardy plants are permanent fixtures, I prepare beds especially for them, as they need not be disturbed for many years. Excavate to the depth of eighteen inches, as drainage is the first essential; fill in two inches of broken stones, unless the substratum is rocky; on this put a few inches of well-rotted manure; the soil should be the very best. An excellent soil is prepared by mixing one part sand, one of air-slaked lime, three parts of old sods and leaf-mold or peaty loam. It is much better if prepared in the fall and allowed to remain in a heap until wanted in the spring. Beds should be higher in the center in order to insure quick drainage. Carefully laid out beds give better satisfaction and add more to the neat appearance of the place than the hit-and-miss planting. If our beds were not arranged satisfactorily last year, let us improve them this spring. It is an excellent plan to draw a diagram of your garden on paper and mark out your flower beds. Decide what you are going to grow, where you are going to grow it, and then plan the arrangements and combinations.

The hardy phlox has become one of the most valuable of all our perennial flowers; it has so greatly improved that it bears small resemblance to its progenitor, the small-flowered, pink-purple one we had years ago. For massing, for borders or for hedges it cannot be excelled; it will bloom from June until the arrival of killing frost and is easily grown from seeds or from the plants that can be purchased at a reasonable cost from dealers. It grows to the height of three feet in good soil; the clumps should be

A group of pyrethrum, one of the showy and beautiful flowers that is perfectly hardy and should be found in every old-fashioned garden.

divided every four or five years. It is one of the most easily grown hardy plants, and the large number of beautiful varieties now offered make it especially desirable. They succeed in almost any position or soil, but to produce the best results they should have a rich, deep and rather moist soil, and each clump should have a space of from two to three feet in which to develop. The most cheerful appearance of a certain farm home during the autumn months is indebted to a very large bed of hardy phlox; the bed is 20x20 feet, elevated in the center and gradually slopes to the border. The center is of white clumps known as the bridesmaid, pure white, with clear, carmine eye; surrounding this are two rows of coquelicot, the finest and brightest red of all; it is a bright orange scarlet; then two rows of athis, a deep, clear salmon; this is the showiest variety in cultivation. This is followed by Jeanne d' Arc, large pyramids of immaculate white. The bed is finished with the Agnews' pink, beautiful, clear pink, with red eye. This is the beauty spot of the farm.

I have found the Shasta daisy worth all the care given it; it is perfectly hardy, and one of the most marvelous productions in the flower line. This is a new type which has been obtained by hybridization and rigid selection through a series of years. It is not particular as to soil, remains in bloom for several months and blooms more abundantly each season. The flowers are extremely large and graceful, averaging about four inches in diameter; the petals are of the purest glistening whiteness, which are borne on single, long, stiff, wiry stems, and when the blooms are cut they remain perfectly fresh and in good condition two weeks or more.

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Use Big Ben All Day Long

Big Ben not only gets you up on time every morning, but he serves the whole family all day long as a reliable clock to tell the right time by.

He's really two good clocks in one—a crackerjack of a time-keeper—a crackerjack of an alarm.

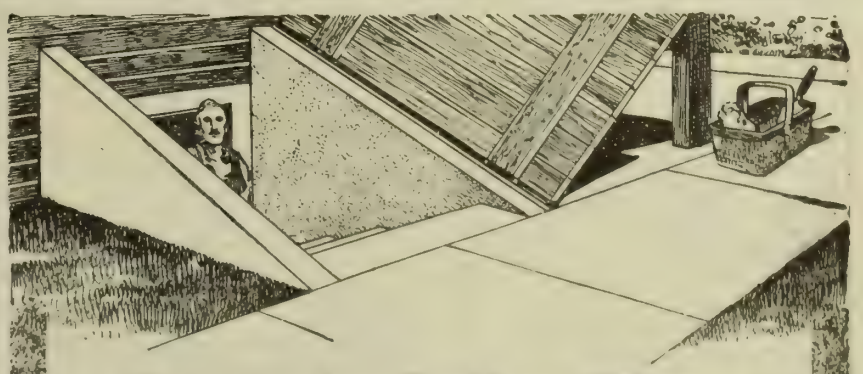
He can ring you up in the morning just when you want, and either way you want—five straight minutes or every other half minute for all of ten minutes.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five-minute call and you can slumber then without the get-up worry on your mind.

Then when you're up and doing, carry Big Ben downstairs into the living room so that the whole family can use him to tell the right time by. He stands seven inches tall and his great big open face can be seen distinctly across the largest room.

Big Ben is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is $2.50 anywhere in the States, $3 anywhere in Canada. If you can't find him at your jeweler's, a money order mailed to *Westclox, La Salle, Illinois*, will send him anywhere you say, express charges prepaid.



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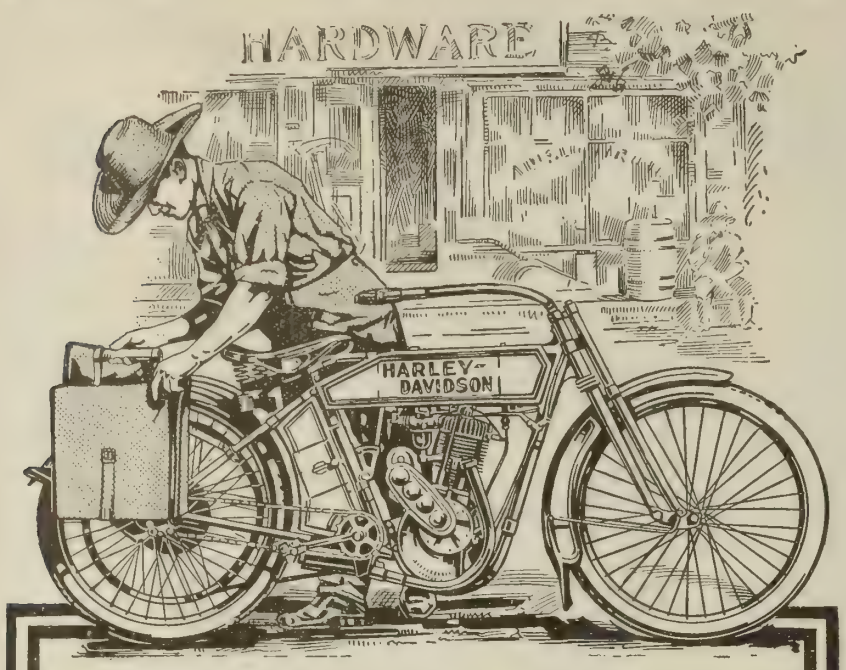

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Stories by Our Young People

An Overworked Elocutionist

Once there was a little boy, whose name
was Robert Reece;
And every Friday afternoon he had to
speak a piece.
So many poems thus he learned, that
soon he had a store
Of recitations in his head, and still kept
learning more.

And now this is what happened: He was
called upon, one week,
And totally forgot the piece he was about
to speak!
His brain he cudgeled. Not a word re-
mained within his head!
And so he spoke at random, and this is
what he said:

"My Beautiful, my Beautiful, who stand-
est proudly by,
It was the schooner Hesperus—the break-
ing waves dashed high!
Why is the Forum crowded? What
means this stir in Rome?
Under a spreading chestnut tree there is
no place like home!

When Freedom from her mountain
height cried, Twinkle, little star,
Shoot if you must this old gray head,
King Henry of Navarre!
Roll on, thou deep and dark blue castled
crag of Drachenfels,
My name is Norval, on the Grampian
Hills, ring out, wild bells!

If you're waking, call me early, to be or
not to be,
The curfew must not ring tonight! Oh,
woodman, spare that tree!
Charge, Chester, charge! On, Stanley,
on! And let who will be clever!
The boy stood on the burning deck, but I
go on forever!"

His elocution was superb, his voice and
gestures fine;
His schoolmates all applauded as he fin-
ished the last line.
"I see it doesn't matter," Robert thought,
"what words I say,
So long as I declaim with oratorical dis-
play!"

—Carolyn Wells in St. Nicholas.

The Editor's Corner

Dear Boys and Girls: A writer in a recent issue of a Chicago paper tells of strange things seen in China and Hawaii. We would not expect these people to do as we do, yet we are rather surprised to learn that they eat weeds—that is, seaweeds. In Hawaii seaweeds are a staple of food, and many tons of it is gathered by the natives. They take sharp rocks, or pointed irons, and scrape the weeds from the rocks.

Another strange sight is found in China during the rainy season, when in some provinces the mud gets to be three, and even four, feet deep. Sometimes this mud seems to be alive and moving, as it rises up and down. The traveler is often very much puzzled over this. The reason is soon found. Thousands of great land crabs are wallowing in the mud, completely covered with it. As the crabs toil by in great streams visitors are puzzled to know where so many could come from.

THE EDITOR.

(Prize Story.)

A Really Good Joke

By Fern M. Bouck, Aged 10, Greenwood, Neb. Blue.

It was Hallowe'en night, and, as usual, the boys thought they must play pranks on someone. This evening they picked on an old man who was poor and raised vegetables for his living. He had a nice patch of big, yellow pumpkins, and these the boys decided to cut off of the vines and pile them on a heap in a hut they had made for the purpose. When the boys finished piling them they ran home, thinking what a capital joke they had played on Farmer Snow.

But that night Jack Frost came and visited the country and everyone's pumpkins and squashes were frozen that remained on the vines. Farmer Snow found out who had piled his and went and thanked the boys. They felt rather foolish, but they were glad that they decided to play that joke on him, even if it was turned on them.

(Honorable Mention.)

The Wasp's Nest

By Faynella Elmendorf, Rock Falls, Ill. Original. Blue.

One day as I was sitting in my bed room I heard a buzzing sound at the window and, looking up, I saw a wasp fly through a small hole in the corner of the mosquito bar. It flew to the ceiling and crawled into a crack in the paper.

I watched it building its home for several days, and then, as I did not want the wasps flying around in the room, I thought I would break up its home before it built it up any more. It made trips back and forth as fast as it could, each time carrying a small roll of damp mud. I closed the mosquito bar and, on looking at the wasp's home, I found a number of long, hollow combs filled with yellow grub, all about the same size.

The first comb had a big, white grub in it; the next two had small grubs in them—one was yellow and the other was white; they were both dead. They were first inside a brown comb, and then the mud comb.

A Colt's Story

By Rena L. Stairs, Aged 13, Carleton, Neb. Original. Blue.

I am a little colt and my name is Bessie I was born on George Washington's birthday. I am bay, with a dark mane and tail. I am petted very much by the whole family, because my mother died when I was 3 months old. She was very good to me; she wouldn't let the horses hurt me. I felt very sad and lonesome for a while, but soon another little colt was brought here. She is black, with a white star in her forehead. Her name is Belle. We have very good times together. One night my master left me in the lot with several other horses. It was cold that night and he left the barn door open so we could come in and be out of the cold. Some of the horses began to fight. I was just going out of the door, when one of the horses kicked me, thinking I was the one that had kicked him. It hurt awfully bad and made me so stiff I couldn't play. But now I can run and play the same as Belle Well, I must close, as Belle is coming to have another play.

Additional Stories

Blue—Gladys Butcher, Milburn, Neb.; Ida Pollock, Churdon, Ia.; Lois Perry, Belton, Tex.; Gladys Leaver, Greenwood, Neb.; Willie McClurg, Minatare, Neb.; Clara Thompson, Elgin, Kan.; Cecil Russell, Meadow Grove, Neb.; Alice Beavers, Grand Island, Neb.; Ida Gantz, Dayton, Wash.; Lucile Pigott, Burke, S. D.; Ross Burch, Belvidere, Neb.; Ross Harvey, Sweetwater, Neb.; Pearl Bale, Brimfield, Ill.; Magdalene Barnett, Wayne, Neb.

Red—Emma Homeyer, Caldwell, Tex.; Minnie Jansen, Hartington, Neb.; Loretta Dresden, Huntington, Neb.; Verna Cayou, Yuma, Colo.; Orvilla Wilson, Valley, Idaho; Margaret Southern, Honey Creek, Ia.; Pherne Chambers, Plainview, Tex.

Wanted : A Snow Storm

you see the weatherman
Anywhere today,
ell him that we want some snow
Over 'round our way.
the Daily Chronicle,
Yesterday we read—
now storm due tomorrow."
That was what it said.

we got our shovels out,
Annabelle and Ned,
ae and Ruth and Dick and I,
Then looked overhead;
ut there wasn't any cloud.
Sky was very blue.
Guess the weatherman don't know
What he ought to do.

If you see him, then, today,
Anywhere you go,
Tell him that the children want
All that promised snow.
They will shovel out the walks,
Build a snow fort, too,
For winter time's the nicest time
Of all, I think, don't you?

—Alice Annette Larkin.

First Description of Niagara Falls

In the autumn of 1678 a Fran-scan friar, Hennepin, set out alone -the first solitary figure of the ex-dition, a gray priest—from the ay rock of Quebec, in a birch noe, carrying with him the "furni-ire of a portable altar." Along e way up the St. Lawrence he opped to minister to the habitants, o few and too poor to support a iest, saying mass, exhorting and ptizing. Early in November he rrived at the mission at Fort Fron-nac, which he had two or three ars before helped La Salle to es-blish in the wilds. Soon La Salle's eutenants appeared, with most of e men, and while some were dis-atched in canoes to Lake Michigan gather the buffalo fleeces against e coming of the ship whose keel ad not yet been laid, the rest (La otte, Hennepin and sixteen men) mbarked for the river by which the pper lakes empty into Lake Ontario nd the Saint Lawrence, that is, the iagara. To this priest, Hennepin, e owe the first description of Ni-gara, probably now more familiar the world than any other natural eature of this continent. He has omewhat magnified the height of ese falls, but they are impressive nough to acquit him of falsification nd powerful enough to run virtu-lly all the manufacturing plants in e United States if they could be athered within reach. As it is, less an 4 per cent of the water that verflows from the four upper Great akes into the lower lake, once nown as Lake Frontenac and now Ontario, is diverted for utilitarian rposes, and yet it supplies the merican and the Canadian almost qually between the two shores over 0,000 horse power. What the nversion of the strength of this tan, for ages entirely wasted and for a century after Hennepin only a scenic wonder, means, or may mean, to industry in the future is intimated in some statistics furnished by a recent writer on the Great Lakes showing the relative cost per month of a certain unit of power in a number of representative American cities—John Finley in Scribner.

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE—Emma S. Blackman, Fremont, Neb.: If you wanted to close your house for the winter, where would the side-board and the bath-room?

SECOND PRIZE—Irma Bartlett, Coeur d' Alene, Idaho: How much would Rome-o (owe) for what Juli-et?

E. W. Meyer, Humphrey, Neb.—If a man's name was Claude before he was married, would he be clawed after marriage?

Mrs. J. E. Fry, Falls City, Neb.—Will the lemonade if the ginger-snaps?

Hy Hoffman, Germantown, Ill.—If an apple falls, would a banana stand?

Hazel Kilbourne, Rolfe, Ia.—If the eye lashes, will the nose run?

Waldo Evans, Oakland, Ia.—If you went into a Bulgarian restaurant, would the Montenegro Servia with Turkey and Greece?

Always on Guard

No matter where a ship may be along the American coast; no matter how dark, or cold, or stormy the night, the coast guard is on watch, patrolling the nearest beach or rocky cliffs.

This man, always on guard, could, by his own unsupported efforts, do little to save life, or to guide ships away from perilous points.

As a unit in an efficient system and able, at a moment's notice, to command the service of his nearby station, he becomes a power to whom all ship owners and passengers are indebted.

In the same way, the Bell Telephone in your home and office is always on guard.

By itself, it is only an ingenious instrument; but as a vital unit in the Bell System, which links together seven million other telephones in all parts of this country, that single telephone instrument becomes a power to help you at any moment of any hour, day or night.

It costs unwearying effort and millions of dollars to keep the Bell System always on guard, but this is the only kind of service that can adequately take care of the social and commercial needs of all the people of a Nation.

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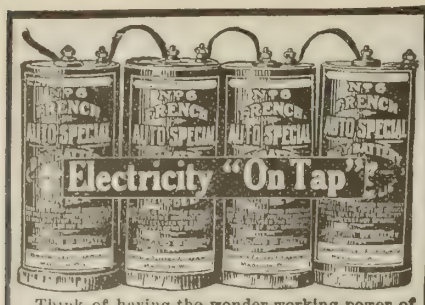

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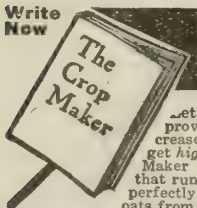

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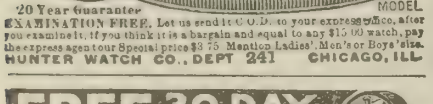

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EXAMINATION FREE. Let us send it C. O. D. to your express office, after you examine it, if you think it is a bargain and equal to any $15.00 watch, pay the express agent our Special price $3.75. Mention Ladies', Men's or Boys' size.

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Starting Right with the Geese
Pertinent Poultry Paragraphs

IT TAKES more than one season to start with geese, unless your breeding stock was purchased last fall. You must expect to pay from $3 apiece to any price up to reason over that for breeders, and then you may get young geese, and thus your earliest, or it may be nearly all the season, eggs from these be infertile, or, at the best, if hatched, weakly.

The best plan is to demand 3-year-old, or even older, breeders. Then watch this matter closely after you get a start. Don't sell off old geese and keep the very young for breeders; remember this.

The gander is often getting too cross by the time he is 6 or 7 for a breeder, but the breeding geese are often kept a dozen years. The older the breeders, the stronger the goslings. See?

Young ganders, too, are disposed to want but one mate, and this quite often is the reason why your goose eggs do not hatch. As he gets older you may trust him with four mates, but it is safer to turn in an extra gander in fear that he may resent having so many geese about him.

Geese do not require great shelter, and often live strong, squatting about in the snow, but in the breeding season it is only humane, and certainly more profitable, to give them extra shelter and extra food. Whole grain is used for geese and set out in their pasture in boxes. A mash of shorts, cornmeal, bran or potatoes, with some beef scrap, is the most desirable of mash feeds, but if wet up too much may produce a diarrhea. Watch and don't let this happen. Coax the goose to select her laying place in boxes and barrels provided for this purpose. Give her first eggs to the hens or an incubator, hens preferably. If you want to set the goose, wait and give her the last clutch she lays.

Goose eggs require much moisture to hatch well. Even the hen, to say nothing of the incubator, sometimes does not furnish enough of this, so the owner must furnish it. The goslings under a hen are slower coming out than from under a goose, and on account of this must be closely watched that they do not come out exhausted from their fight to get out.

Dipping the eggs in lukewarm water, then placing back under the hen, is considered one of the best plans for giving moisture to the egg toward the last of the hatch. The hen should sit near the earth, also.

It is best to remove the goslings as soon as hatched to a warm, soft nest, keeping them very quiet for a couple of days, when they are given water and stale bread, soaked in water or milk, with sand near by, and green stuff at hand for next feed to be kept up, this last—sand, grass and bread. This is the main diet used by the most successful goosekeepers for the first six weeks. After that they give the cornmeal dough, bran, etc. To fill up goslings the first weeks of life with cornmeal or soft cracked grains too often results in loss. The legs get weak and they soon die. Green stuff from the first should be three-fourths their foodstuff; one-fourth may be something else named. Never give sour milk. To stuff them with food that leaves them no relish for grass all the time means loss of the goslings.

Pertinent Poultry Paragraphs

Don't start the goslings until the grass is well started. Why have turkeys so decreased in size? Because the practice is to sell off the largest members of the flock and keep the scrawny young stuff for breeders.

***

After all, it is in the strain. You know what cluckers the Light Brahmas set up to be. Yet, I. K. Felch, a veteran poultryman, developed a strain of Light Brahmas that would not set until they were 2 years old, and then were not particular about the matter.

***

A flock of seventeen Buff Orpingtons, this January, fed mainly corn and oats, with some clover hay, laid 320 eggs, an average of over eighteen eggs to the hen. Their feed bill was $1.75; their eggs were worth 25 cents a dozen—$6.68. Their owner is satisfied there is something worth while in the business.

***

The White Wyandotte will show its bodily condition for health or sickness sooner by the appearance of its comb than any chicken on record.

***

Some people like the China goose better than all geese, because they lay so many eggs. But the China goose, gray or white, as the variety may be, are like the guinea hen—is entirely too noisy for most people. It gabbles all the time.

***

The Buckeye chicks, in common with the Rhode Island chicks, are a lemon-colored chick at hatching.

***

There are women even on the farms who will look wistfully at the directions for ginseng and mushroom raising as a means for a little more pocket money, who are allowing certain places on the farm to go to waste and weeds that would beat ginseng and mushrooms all to pieces if put to goose-raising.

***

Get rid of hens that are defective in any way; the same with roosters—a squat body, a wry tail, a cut-off or deformed in any way, comb will be reproduced in dozens of chicks.

***

There are many persons who will do without an incubator, but demand plenty of brooders. They will leave the hatching of the eggs to the hens, but not the care and raising. This is wise if you provide good brooders and sensible care yourself.

***

One of the trap nest records given for two Brown Leghorn hens, the record kept three years, shows this: Hen No. 1, 100 eggs first year,

RAYO

The Oil Saving Toil Saving INCUBATOR

Saves three fourths the oil and nearly all hatching work. **Stop** burning 3 to 5 gallons to a hatch—the Rayo uses **one.** Quit being a drudge with old-style, lamp-on-the-side machines. Fill Rayo oil tank **once**—the Rayo completes hatch without trouble, muss or worry. *Simple—economical.*

One Gallon to a Hatch. One Filling to a Hatch.

See eggs and thermometer thru **double glass top,** which raises for airing, cleaning and turning eggs. Lamp under egg chamber gives **perfect radiation.** Double-wafer thermostat **acts on flame**—produces exact heat needed, **none thrown away.** Automatic ventilation. Turn eggs semi-automatically, without touching tray. Clean lamp without removing chimney or tank. Oil tank holds 5 quarts, month's supply. Strong redwood case; covered with steel, enameled like mahogany, making it fireproof and handsome. **Hatches every fertile egg.** Six years on the market—thousands of testimonials from enthusiastic, satisfied users. RAYO hatching chart and $1.50 Tycos hygrometer **FREE.** Low direct prices—**freight prepaid.** Ask for Free Catalogue No. 13.

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Get hatches that win Championships! Write me a postal *now!* I'll show you how others did it—how *you* can do it—how you can get prize-winning results at *least expense.* I'll quote you my *Rock Bottom Prices, freight prepaid,* on 6-times World's Champion Belle City Incubators—give you 1, 2 or 3 months' home test—10 years' guarantee. Write me for full particulars. Sent free. JIM ROHAN, Prest.

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55 per cent. blood meal, best meat food for laying hens and growing chicks. Salts, spices and matter fowls must have to do well. Contents sworn to under Pure Food Law. 25c, 50c, $2.00, 100 lbs. $7.00. Lee's Lice Killer is death to lice, harmless to fowls. Kills by fumes. 35c, 60c, $1.00.

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Lee's greatest poultry preparation, in use 15 years, cuts chick losses 90 per cent. Ideal remedy for *Roup, Colds, Cholera, Chicken Pox, Bowel Complaint, etc.* Tones and puts life into fowls of all ages and is best guarantee against contagion. Given in drinking water. Price 50c. Valuable Lee Books on poultry and incubators, free. Address

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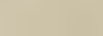

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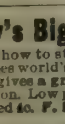
m, Box 80, Clarinda, Iowa.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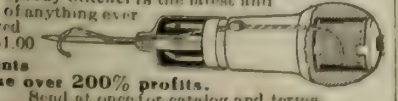
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matic Awl Co. 49 Gardner Terrace, Worcester, Mass.

twenty-five eggs the second year, no eggs the third year; hen No. 2, 200 eggs the first year, 245 second year, 130 third year. The hens in shape and weight could not be told apart. Both were fed same ration. It takes the trap nest to show the great difference in egg production in any flock. IDA M. SHEPLER.

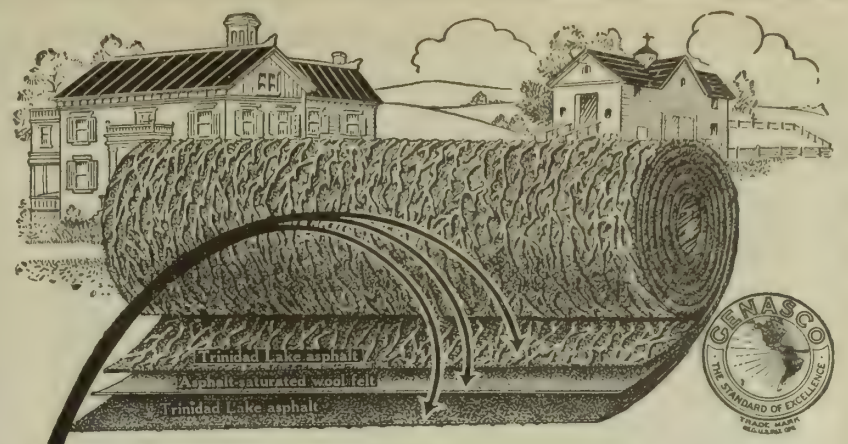
Healthy Flock

There are parties—many of them—who defend the raising of the mongrel fowl on the ground that they are the healthy fowls. "No cholera, little roup or anything else among them." I have never found this defense justified by the facts. I have found all manner of epidemics in the mongrel flocks, and my experience in this line is extensive. The worst cases of cholera epidemics that I have ever seen I found in the mongrel-bred; in fact, the mongrel flock is usually a neglected flock and thus liable to all diseases that come in by neglect, or absence of quarantine from the outside. I have never found any special breed or variety showing greater natural immunity from any disease than another kind. If there was such a breed we would all want it; but I have found many strains made so healthy and strong by good care, and specially strong breeding, that it was found to be the easiest thing to rid that flock of disease if it presented itself in their midst. They were healthy enough to withstand the disease until you could get those weaker members out of their range.

Character of Hens

Take a pure breed, kept to a certain strain, and such hens will be more nearly alike in character than a badly mixed flock. Yet even here no two is exactly alike, though the difference may be too small to notice unless you are well acquainted with each hen's work, and to get this acquaintance you will need leg bands and a notebook to keep the numbers in your mind. In a well selected pure-bred flock you will find the eggs of more uniform shape and color than in the mixed flocks; in fact, the color will not vary to any notice, though occasionally the size of the eggs may. An old hen may persist in laying a very small egg and a young one an unusually large egg. These last, as a rule, will prove unhatchable. You may find in a pure-bred flock some one hen laying a thin-shelled egg, another a spotted egg, again another a decidedly bad-shaped egg. It is in a mixed flock you find the greater number laying the varied-sized egg. It is in the mixed flock that you will find the most hens varying in the time of laying eggs, although these at times are found in the pure-bred. One will lay an egg, then skip three or four days before the next egg is laid. One will lay three days hand running, then skip, maybe, two. Some are easily broken from broodiness and go to laying right off; others refuse to give up broodiness, and, if they must, pay you back by not laying an egg for six weeks. So it goes. IDA M. SHEPLER.

Little Bobby—Mamma, what do they feed hens to make them lay colored eggs for Easter?



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This statement requires no argument! Now plan your work to get *more eggs*, hatch *more* and *better chicks*, carry *more chicks to maturity* without additional equipment or labor. In other words, *increase the efficiency of your entire plant.* You can do it easily. This is the way:—Give
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in the drinking water for all broods to control this destructive disease and other bowel troubles. Then feed
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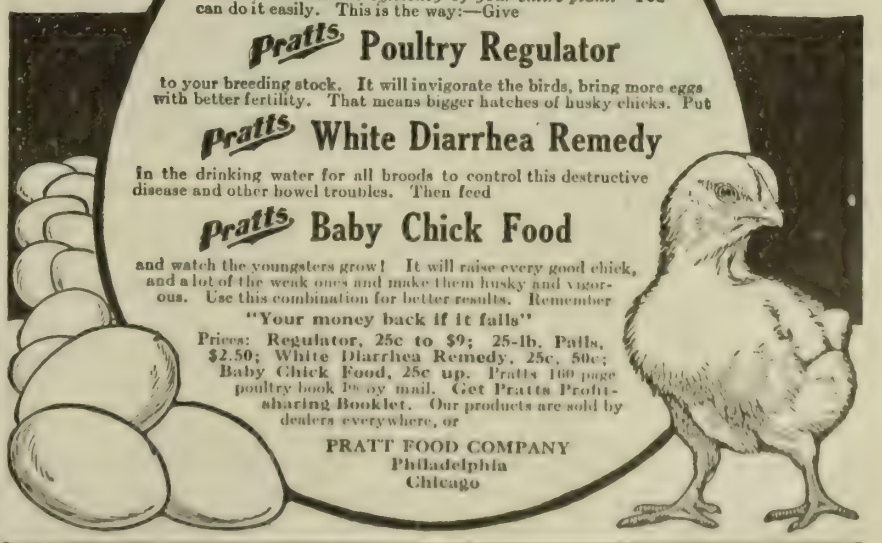

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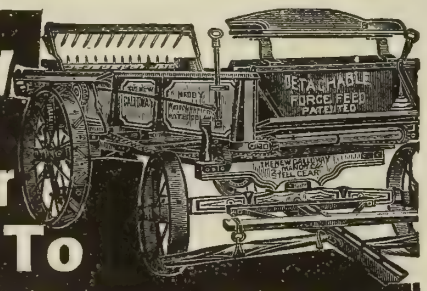

No payment down—no bank deposit—no lease, notes or mortgages—no red tape or obligations of any kind whatever. I'll ship you this new, 1913 Model Galloway **right to your farm for 30 or even 90 days trial absolutely free** I'm going to make this spreader prove its worth to you without a word of argument on my part whatever. Here's the way I'll do it: **I'll put the spreader on your farm for a 30 to 90 days trial absolutely free. I'll put it right straight up to you. Figure out a series of tests that would make scrap iron and kindling out of any other spreader made—then try them on the Galloway.** Load it up as full as she'll hold with the toughest, tramped down or frozen slough hay manure. Let your team trot **and slam it in gear!** Do you think that there is one other manufacturer in the world that would dare to hint at such a test as that? **You know there isn't!** But if you can think of a severer test, go ahead. **I'll take all the risk and let you be the sole judge. If you think you can possibly get along without the Galloway after you have had the free trial, just send it back to me. I'll pay the freight both ways—you won't be out one cent. If you want to keep it, I'll guarantee to save you $25 to $50.**

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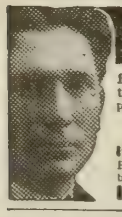

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Kansan's Ideas on Paying Cash.

To the Editor: In answer to your "A Question or Two" in The Twentieth Century Farmer of February 1, I submit the following:

I cannot understand how you ask these questions so close on the tail of your article on page eight of the same issue of the Farmer, on the "Cost of Distribution." How could the man that sold the melons for 5 cents pay 75 cents each for them, or how could the Minnesota potato grower who got only 25 cents a bushel for his potatoes pay $1.25 for the same potatoes, and pay cash. You may say that the man that raised the melons did not have to pay 75 cents for them. No, the man who raised the melons lived in the south and the man that bought them lived in Minnesota. Well, the man that raised the potatoes lived in Minnesota and the man that bought them lived in Arkansas. It makes no difference where you live, or what you raise, the result is the same. The producer is at the mercy not only of unscrupulous speculators, but of the elements as well.

How can a man put his business on a cash basis when he is placed in that position? If the farmers could make their own prices on their own produce, then they would be responsible for their condition. But being absolutely at the mercy of the speculator and the elements, I cannot see how you can conscientiously try to make the business of the farmer harmonize with the business of the merchant, who has hold of one end of the string, and the banker the other, with the farmer in the middle.

He is robbed from both ends of the string. He is obliged to take what he is offered for his produce, let it be great or small, or lose the whole. Then he must pay the other fellow's price or do without.

My answer to your second question is: Yes, it would be very nice if we could put all business on a cash basis. But there is not money enough in the United States to do more than one-sixteenth part of the volume of business in cash. I. A. HARPER.

Kansas.

Another Way of Looking at It.

Editor of The Twentieth Century Farmer: The reason business men send monthly statements to other business men is because there is an exchange of product on a cash basis, with the balance sheet squared at the end of each month with cash. For instance, the butcher gets sugar of the merchant and the merchant gets meat of the butcher. At the end of the month they exchange statements and settle in cash any difference existing.

The farmer takes his produce to the merchant and gets the merchant's wares. The merchant fixes the price on both, and in case the farmer's produce comes to more than the merchant's wares, no cash is paid. The farmer, after taking the merchant's price, must take the excess in trade. Don't you suppose the merchant would "huff" should the farmer send him a statement? Why, he'd get red-headed.

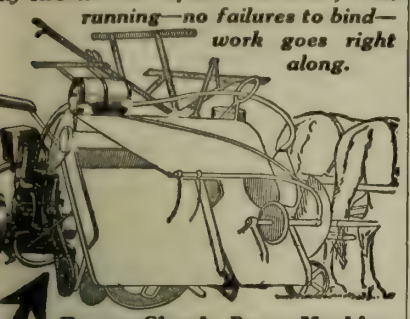
The merchant can discount his bills because there is no exchange, and, of course, will get his goods cheaper by doing so. Many farmers take the merchant's price, and give the merchant's price, paying cash for any difference there may be due the merchant, but he gets no discount. The merchant, in setting the price of the farmer's produce, figures a margin for handling his own goods. He bases his margin on what his bills show, on his expense, on all bad debts and on profit besides. If you would ask for a discount he'd laugh and say that would be against the law of rebating.

Now suppose, for example, a farmer uses $600 worth of merchandise in twelve months, and his produce amounts to $300 for the same period. Divide these items each by twelve. It will take $25 to pay cash, in excess of produce every month, from the farmer. If the farmer pays

One of the Handiest Buildings on the Farm—the Blacksmith and Carpenter Shop

Run Your Binder with a Cushman Engine

Only two horses required—smooth, even running—no failures to bind—work goes right along.



Horses Simply Draw Machine

The engine does all the work of operating. 4 h.p. Weight under 200 lbs. Speeds to 5 h. p. easily. Automatic throttle governor measures out fuel according to work. The original binder engine and more in use than all others combined. Detach and use for all-purpose farm power. Easy to handle, fits in anywhere. We also build 6-8 and 20 h. p. engines with same high efficiency—engines for all heavy duty. Write for free catalogue.

CUSHMAN MOTOR WORKS,
2037 N St., Lincoln, Neb.

Farm Cushman
The Original Binder Engine

Sunshine Lamp 300 Candle Power FREE

To Try In Your Own Home

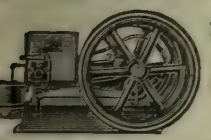
Burns night into day. Gives better light than gas, electricity or 18 ordinary lamps at one-tenth the cost. For Homes, Stores, Halls, Churches. A child can carry it. Makes its own light from common gasoline. Absolutely SAFE.

COSTS 1 CENT A NIGHT

We want one person in each locality to whom we can refer new customers. Take advantage of our SPECIAL FREE TRIAL OFFER. AGENTS WANTED.

SUNSHINE SAFETY LAMP CO.
Factory Bldg., Kansas City, Mo.

Gasoline Engines



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10 Days Free Trial—You Run No Risk

The Witte is conceded the best engine in America. Made by E. H. Witte, master builder for 25 years. Ask any Witte user. Any size from 1½ to 40 horse-power all tested to ten per cent overload. 61 special advantages.

And You Now Pay Only FACTORY PRICE

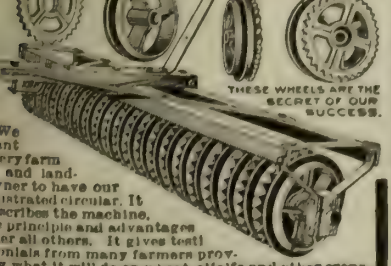
We cut out all dealers—their profits go to you. You also get the full benefit of our low factory cost. We have no power expense at our plant, as we own our gas well; testing, heating, lighting fuel, all free. Take a 60 day trial. Five year guarantee. Write for book, "How to Judge a Gasoline Engine," and complete catalog. Our wholesale factory prices will interest you mightily. Write NOW, telling us size engine you need.

WITTE IRON WORKS CO.
2551 Oakland Ave. Kansas City, Mo.

The WITTE Cuts Gasoline Bills in Half

3 MACHINES IN 1

A perfect seed bed is as important as to sow or plant. The Western Pulverizer, Packer and Mulcher makes a perfect seed bed and leaves a loose mulch top to retain the moisture in one operation. Will double profits on crops. Made in 8 sizes, 1 and 2 sections. **Sold direct to you on one year's trial. Prices, $22.00 and up.**



We want every farmer and landowner to have our illustrated circular. It describes the machine, principle and advantages over all others. It gives testimonials from many farmers proving what it will do on wheat, alfalfa and other crops. It contains valuable information on how to prepare the soil for better results. Send for this circular today, whether you want to buy or not.

WESTERN LAND ROLLER CO.
Box 214 Hastings, Nebr.

as he goes, he gets no discount. If he pays at the end of the month, he gets a cigar. Now if he borrows $25 every month at 6 per cent, at the end of the year he will have paid to the bank $9.80 interest, while. with cigars at 5 cents each, for the twelve settlements he gets 60 cents discount. Besides, if the merchant borrows $600 at the bank to discount that $600 trade, the farmer will have paid $29.40 interest (less 60 cents worth of cigars) and all the bad debts of the merchant, besides having taken less for his produce by the margin of profit exacted. No wonder we hope for relief through the parcel post.

"The extensive credit that the retail merchant allows his customers is one of the causes of the large profit that he demands." True, and it is the biggest pry that he has in lifting prices. W. E. STANLEY.

Nebraska.

Editor's Note—The Twentieth Century Farmer is glad to print these letters. They show that the public is thinking about the iniquities in our present commecial system. When it has thought about them long enough, it will begin to act. Men in commercial life should be warned by existing conditions to anticipate the public in reforming their methods, or they will be sure to suffer for their negligence in the end.

Another Man Expresses Opinion

A. C. E. R., LeRoy, Minn.: Allow me to express my opinion in regard to an article written in your last paper, "A Question or Two." It seems to me you have just one side of the story. You seem to think that we farmers think that merchants think we are a set of thieves. I do not think such is the case. But in regard to cash, will say I think the farmer pays his bills as good as the merchant does his. For instance, if he sells eggs, spuds or anything else, how many merchants pay cash? Not very many. If they aim to do business on a cash basis, let them pay cash. In town they keep a delivery wagon, and perhaps get cash every thirty days. Who is paying for the keeping of this delivery wagon outfit? Does not the farmer help pay for it just the same as the city people, who have the benefit of the same? I have noticed town folks come in and order a nickel's worth of goods and want them delivered at once. Whenever they pay their bills the merchants treat, as a usual thing. If you pay cash, that settles it. I pay cash for my goods as I need them. I have never seen any discount such as you talk of, and I venture to say, if you look over the accounts, you will find mostly town folks have an account. If a farmer does not milk, depends on grain and hay, he has no income until after harvest. How can you get blood out of a turnip? You talk about borrowing money. A poor farmer can't borrow any and a common farmer with $2,500 or $3,000 worth of stock might borrow $50 or $100, if he gets a signer or gives a mortgage. The rich can borrow, but they do not need to do so very often, unless they find some poor fellow that has to sell some stock that is not fit for the market, for which they pay half price, or give whatever they wish. A merchant can borrow more readily, and besides, as you claim, they settle every thirty days for their goods. Why can't the farmer get a little credit to make up for the conveniences the town people have that the farmer helps pay for? Last, but not least, if the merchant has any stale goods, the farmer gets them. "If you expect fair play, play fair yourself," is a good motto. Treat the farmer like a human being. Because he does not wear a white collar, tan shoes and act like a 5-cent millionaire, the merchants, or rather, the town people in general, look down on him. I am not able to treat my dumb animals that way to make money. Suppose I

HALLMARK HALL SHIRTS

SLIDEWELL COLLARS

started something new in the collar line. Did away with the old tie-tying struggle.

Your tie slides in a Slidewell Collar. Cannot get anchored to the back button. Has a shield that prevents cinching. Saves tie, time and temper. No other collar has this trouble saving feature.

Finest material and cut. All styles in all sizes. **15c, 2 for 25c**

At the same haberdasher's.

Better value than you can get in many another reputable brand at the next higher prices.

Splendid quality of material. Best workmanship. Correct style and fit. Colors guaranteed fadeless in sun or wash tub. Exceptional lasting qualities.

Wide variety of styles in plain and colored fabrics. To wear them is to dress better for the same money.

Prices: $1.00, $1.50 and up

At all live haberdasher's.

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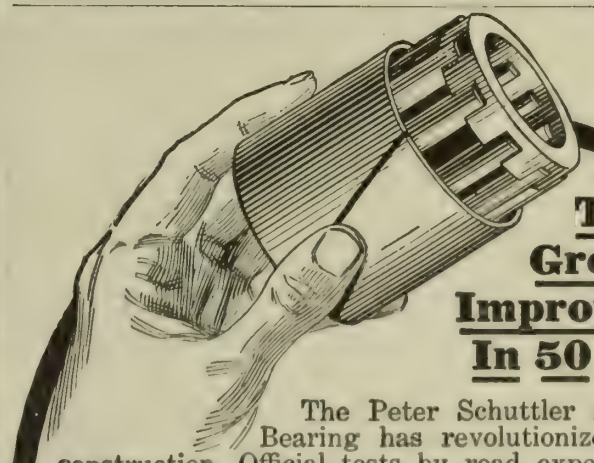

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The Peter Schuttler Patented Roller Bearing has revolutionized farm wagon construction. Official tests by road experts of the U. S. Department of Agriculture show remarkable results. Every farm wagon will soon have roller bearings.

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Roller Bearing Wagons

Do More Work Go More Miles

because the roller bearing runs easier and requires less power to pull the load. They do at least ⅓ more work (with the same team and over the same roads) than any other. They save time—horses—harness—feed—repair bills—greasing—trouble and wear on the wagon. They are much easier on the horses.

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which tells all about the **improved** and **perfected** Schuttler Roller Bearing Wagons and gives records of official tests by U. S. Government road experts.

PETER SCHUTTLER CO.
2523 W. 22nd St., Chicago
The World's Greatest Wagon Factory
Established 1843

Take Advantage of Our Seventy Years' Experience

SEVENTY years' experience with harvesting and haying machines and tools and with equipment for building them economically; seventy years of exhaustive experimenting, testing, field work, and distribution constitute a tremendous advantage in favor of our machines.

Years ago the basic patents on these machines ran out Anyone who wants to may engage in their manufacture. But it is one thing to build binders and haying tools, and another and entirely different thing to build guaranteed machines and sell them at the prices of ours. Farmers have learned to value the high standard of quality which accounts for the dependability of harvesting and haying machines and tools bearing the well-known names

Champion Deering
McCormick Milwaukee
Osborne Plano

Changes in the construction of these machines are made only when actual work in the field shows the change to be an improvement. What changes are made add to the efficiency of the machine, and are not made simply for talking points.

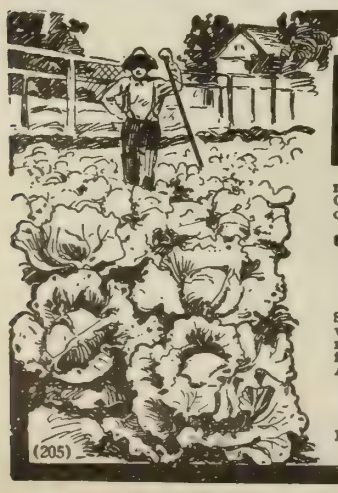
I H C machines have harvested the grain fields of the world so long, have met and conquered so many kinds of difficulties and adverse conditions, that there is now no question of their capacity for cutting, binding, and saving all the grain in any field, whether it be heavy or light, tall or short, standing, down or tangled.

The time to investigate harvesting and haying machines and tools is before, not after, you buy. Ask your neighbors for their opinions of the machines they use. Some will favor one, and some another, for various reasons which may have a very decided influence on your buying, but you will find them unanimously in favor of one or another of the machines we sell.

Good binding demands good twine as well as a good machine. The strongest and smoothest is that sold by the I H C local dealer. It comes in balls guaranteed for length and weight, and is marketed under the trade names, **Champion, Deering, McCormick, Milwaukee, Osborne, Plano, International.** There are four grades of each brand—Pure Manila, Manila, Sisal, and Standard.

Let others do the experimenting with untried machines and untested twine. See the I H C local dealers handling these machines and get from them the reasons why I H C harvesting and haying machines and tools, and binder twine are the best you can buy. The I H C local dealers will supply you with catalogues and full information, or, write

International Harvester Company of America
(Incorporated)
Chicago U S A



Cabbage Weighing 24 Pounds in March

raised in Southern Alabama, Western Florida and along the Gulf Coast, with shipping season commencing early in March, and commanding from $2.00 to $2.50 per crate at shipping point.

This same land then planted in sweet potatoes will yield $100 to $150 per acre, and, in addition, an excellent forage crop, making

3 Crops a Season From Same Land

No long winters, but an average of 312 working days a year. Stock needs little protection and thrives on grazing alone and with an abundance of good water. Send for our booklets and read of the actual experiences of former Northern and Western farmers who are rapidly becoming rich off the fertile lands of Alabama, Georgia, Tennessee, Mississippi and Western Florida.

LOW ROUND-TRIP RATES 1st AND 3d TUESDAYS EACH MONTH

G. A. PARK, Gen'l Immigration and Industrial Agent
Louisville & Nashville R. R. Room 309 Louisville, Ky.

(205)

kicked my milk cow every time I saw or met her, I guess we would not meet very often, and the profit would be rather slim. There are exceptions to all rules. We can't all fill the same place. Why not treat each other equally?

Answer—Merchants, town people and the world in general form their estimate of a man mainly from the man's own estimate of himself. If any man, farmer or anybody else, has no credit, he has no one but himself to thank for it. A man's credit depends, very largely, upon a man's own estimate of his own reliability. Merchants will not give discounts unless they are asked for, and proper business inducements offered. Let the farmer, and the writer is one of them, and proud to be so known, become a business man, and do his farming according to business methods.

Double Veterinary Inquiry.

J. E. H., Kimball, Neb.: I should be pleased to have your opinion and advice on two subjects, which I will endeavor to describe. One concerns a mule and the other a colt. The mule is 8 years old, weighs 1,100 pounds, has a good appetite at all times. The trouble is a limp or lameness in his hind legs. The limp changes from one leg to the other. When first noticed it was in the left leg, fetlock or ankle; I don't know which. At that time it would disappear on being driven several miles, but would return as soon as the mule was allowed to stand and cool off. At this writing, the lameness is present at all times, and is more pronounced in the morning, when the animal is being led from the stable. A peculiar flexing of muscles around the fetlock gives the appearance of knuckling. But I do not understand why, if it were knuckling, the limp would disappear on the animal being warmed up. There is no swelling or heat noticeable. On being turned out in the corral the mule carries his head and neck level with his back. Could rheumatism cause just such symptoms? Would be pleased to receive a good medicine for rheumatism in horses.

The colt is 6 months old, and, as I am weaning her, I have kept her in a small building that makes her a box stall, 12x14 feet. It has been fed a slight grain ration of oats and has had alfalfa and wild hay for roughage. Three weeks ago I noticed a swelling in the fetlock joint, and a running sore just above the hoof. The sore looked like quittor. Examination of the sole of the foot failed to show any trace of injury. I am keeping the sore clean and it continues to run, and the swelling remains. The discharge has a fetid odor. A neighbor suggested sand-crack.

If it is permissible I would like to say that your veterinary department is of a special value to many, who like myself are not in a position to consult a veterinary at home. I believe that the town and county of Kimball, Neb., offers a good opening for a capable man in this profession. I would be only to glad to answer any inquiries from any that might come to me from any man interested.

Answer: The description given of the mule in this case would lead one to supect a ring-bone or spavin. The fact that the animal seems to warm out of the lameness would make this seem possible. Horses may have a lameness from bone spavin at least a year before any enlargement shows. During this time it is known as "blind or occult spavin." The peculiar handling of the fetlock is probably due to an effort to favor the leg. In case of spavin it is likely that the toe would be found worn somewhat. I would suggest a very careful examination of hock and pasterns for ringbone or spavins. It may be possible that this animal is developing a spavin on each leg, which would account for the seeming shifting of lameness. If either ringbone or spavin is found the parts should be well blistered every two weeks for about eight weeks. In the meantime the animal should be put in a small stall and kept as quiet as possible.

The description of the colt would lead one to suspect a quittor. This means that the pus has burrowed downward just inside of the hoof. Make a probe by bending a piece of bailing wire together so that the round end will not injure the tissue. Explore the opening to see how far it goes in a downward direction. If very extensive or deep it may be necessary to open the hoof so that there can be drainage from the bottom. If not very extensive, inject equal parts of peroxide of hydrogen and water daily.

Getting Rid of Coyotes

H. E. M., Turlock, Cal.: I am bothered very much with coyotes; they visit the hog pen and the chicken house. There are plenty of them. I would like to have directions for taking them with a steel trap. I have tried to poison them, but they are too cunning. I will thank anyone that will inform me how I can take them with a steel trap.

Answer—Ingenious readers are requested to send in their advice on this coyote problem. They are very troublesome everywhere. The other day in Otoe county, Nebraska, a hunt was organized, the hunters surrounding six sections of land and driving everything toward the center. They killed eleven coyotes and four got away. They are a serious menace for the farmer. It is hoped some means will be devised for getting rid of them.

Pigs Troubled With Boils

C. G. P., Burley, Idaho I have three pigs that have large boils. When they first appeared they were full of blood, which has given place to pus. They seem to have large cores, which leave a cavity. The boils are on the top of the neck, on the thighs and the sides. The pigs are doing quite well, run about and eat well.

Answer—I would suspect that these pigs have been getting some sort of feed that is causing the boils. I would suggest that the feed be changed entirely, if possible, and that a teaspoonful of Fowler's Solution of Arsenic be fed in the slop once a day. The boils should be opened freely and swabbed out with a pure coal tar dip. Where there is a core it should be well scraped out.

Another Hog Cholera Cure.

D. H. S., Earlton, Kan.: I think that I have discovered a cure for hog cholera. I should like to test the remedy on some man's herd that is infected with cholera.

Answer—Why not buy a few hogs that are sick with cholera and try your remedy on them at your own expense. The man that has a sure cure for cholera can get all the money for it that he wants, have "butter on two plates and lamb all over the table." The world is anxiously looking for such a man.

ntelligent Farming

No one will dispute that muscle its certain value, but to meet the ands of the day, it must be ded by an educated intellect. The n who does the most work in a and keeps up his steady grind year long, should accomplish the st. But does he? Not if we are e and competent to pass judgment. speak in a general way. The scle-worker wastes energy; he de- ds more upon brawn than upon in.

Many manufacturers fail daily. y had capital in plenty and em- ed many hands. Perhaps the ds were capable, but the manager he plant was not efficient. This ll too true with respect to farm- The manager must have an alert d. He must be resourceful, dili- t and progressive. There is a rea- for every failure; there is a se for every effect; there is a way of every difficulty.

ntelligent management with the ity to do a large amount of physi- labor is greatly to be desired, but ness management is the better lification of the two. There are essful farm managers who can- do manual labor, but they know work should be done and how ave it done. They are masters he situation. Successful farming his latter day positively requires ated intelligence; with it all dif- lties may be surmounted; without failure may be confidently ex- ed. Although the subject—like of land fertility—is a hackneyed we would well like to emphasize in large, black type, had we the e.—Star-Farmer.

Farm Machinery Expensive

There is no manufacturing busi- that has its machinery standing so much of the time as has farm- " said Prof. H. C. Price, dean he College of Agriculture, State university, in a recent lec- . He pointed out the case of the er, which is an expensive ma- e, yet it is needed only a few in the year. "The average life arm machinery is ten years," said . Price, "and counting depre- on and interest, it costs each about 16 per cent of the origi- investment to keep it on the . The way some machinery is d for it will cost more than this. re it is possible to do so, it is e economical to rent machinery to own it on the smaller farms."

owing of Fruit in the Missouri Valley

CONTINUED FROM PAGE SEVEN.

ted to The apple orcharding indus- s now sufficiently developed over a large area of this section of country errant the statement that there is no on of country in the United States offers greater or equal advantages e commercial apple orcharding in- . with that now available all over country tributary to the Missouri . The question of soil and climate the successful growth and develop- of the tree and fruit has never been estion from the earliest effort in growing. The embarrassment of sect pests has been solved by seven experimentation and demonstration heavy crops of all kinds of fruits of arieties are being produced.

itor's Note—This is the first of a s of articles on the advantages and bilities of fruit growing in the Mis- valley.

Seeing Is Believing

Don't Trust Wholly to Printed Descriptions

Don't trust to a printed description in buying a range, because a very glowing description can be given of a very ordinary range. If you are considering a new range, it will pay you, before investing your money in any range, to go to some dealer who handles them and carefully compare, point for point, with any other—the

A Fuel Saver **Great Majestic** *A Perfect Baker*

Malleable and Charcoal Iron Range Aluminum Top Reservoir

ONLY range made of malleable iron and charcoal iron. Charcoal iron won't rust like steel—malleable iron can't break. *Outwears three ordinary Ranges.* The *Majestic* is put together with *rivets*—joints and seams remain absolutely air-tight always. Body lined with guaranteed *pure asbestos board*, covered with an iron grate—*you can see it*—insuring an even, *dependable* baking heat, year in, year out, with *half* the fuel required in ordinary ranges.

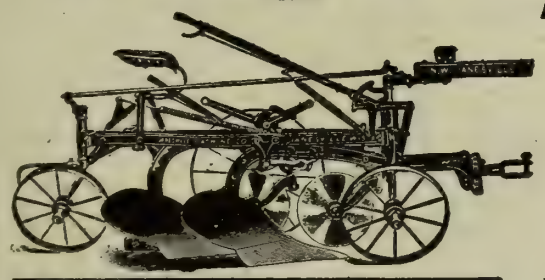
The Economy of a New Range It is a mistaken idea of economy to attempt to get results with an old worn out range or cook stove merely to save the price of a new one. The open seams of your worn out range where bolts are loose and stove putty has crumbled away make you burn *twice* the fuel necessary. You can save price of a *Great Majestic* in saving of fuel alone. Its 15-gallon reservoir is *all copper* and heats through copper pocket, pressed from one piece, setting against fire box. Turn lever and it is instantly moved away from the fire. *Greatest improvement ever put in a range*—increasing strength and wear of a *Great Majestic* more than 300% at a point where other ranges are weakest—many other exclusive features. *Ask to see it.* For sale by dealers in nearly every county in 40 states. Any *Majestic* dealer can furnish any size or style *Majestic Range* with or without legs. Write today for booklet, *"Range Comparison."*

The Range With A Reputation

MAJESTIC MANUF'G CO. Dept. 116 St. Louis, Mo.

It Should Be In Your Kitchen

Badger Bottom Makes The Famous 6-Time World's Champion JANESVILLE



Manufacturers of Farm Implements

Turn Furrows Like These

PERFECT furrows like these have won the World's Plowing Championship for the Janesville for the past six years. In 1912, at Big Rock and Wheatland, Ill., Janesville won again—with a record of

16 Out of 21 Prizes

—93 percent and 95½ percent for perfect plowing. The Badger Bottom raises the ground **only high enough to turn over on its own corner.** Handles all soils perfectly. Scours in soil that **never before** could be touched with a plow. Many other advantages besides wonderful Badger Bottom. Foot trip horse lift, point first action going into and coming out of soil, simple self-leveling plow, control of bottom in all positions. Many other features all fully explained in our book—sent **free.**

Send Name Now

Read the history of Janesville Plows—how the Janesville won so many World's Championships, how we worked on design of the bottom as well as on many other features.

We also make the famous Janesville Walking Plows, Riding or Walking Cultivators, Disc Cultivators, Disc Harrows and Corn Planters. We will be glad to send you all the Janesville books you request, free. Address postal or letter now. Mail it today.

THE JANESVILLE MACHINE COMPANY
33 Center Street, Janesville, Wis.

12

30 DAYS' FREE TRIAL **SAVE ½ YOUR LABOR**

National Rotary Harrows for Plows

It will surprise you to know the low price that we are quoting the first ten farmers in each township on our Genuine Rotary Harrows for Plows, to quickly introduce them. We stand the purchase price and pay freight [illegible] satisfactory.

2. [illegible] doubling each season.

3. [illegible] five acres plowed.

Guaranteed from one field to sixty per cent.

The easiest way of increasing acreage yield. plow proved to the farm. It saves time, labor and money, increases the yield. Write us today for special introductory prices and circulars.

National Harrow Co., Le Roy, Illinois

New Lincoln Rambler Roses FREE

IF YOU LOVE ROSES READ THIS OFFER

We want to make a seed customer of you. Write for our beautifully illustrated, free 1913 Seed Book, so you can make your selection from the splendid line shown there, and we will send you absolutely free, with a 50c garden seed order, one New Lincoln Rambler Rosebush with $1 order, two of these Ramblers, with a $1.50 order, three, with $2 order four.

Four magnificent varieties. Crimson; Yellow, changing to Pure White Yellowish Perpetual Blooming; Non-Fading Deep Crimson. All high climbing roses.

Send Now for Your Copy of the Seed Book

so you can get your free rosebushes for early planting. They are very hardy wonderful bloomers—bloom first season and *loaded* with blossoms. Send us 50c seed orders from your friends and we will ship you an extra Rambler for each order of that size. Get your order in *early*, as we expect a big rush on this liberal offer.

GRISWOLD SEED CO., 155 So. 10th Street, LINCOLN, NEB.

"RANGER" BICYCLES

Have *imported roller chains, sprockets* and *pedals, New Departure Coaster-Brakes* and *Hubs, Puncture Proof Tires; highest grade equipment* and many advanced features possessed by no other wheels. *Guaranteed for 5 years.*

FACTORY PRICES direct to you are less than others ask for cheap wheels. Other reliable models from $12 up. A few good second-hand machines $3 to $6.

10 DAYS' FREE TRIAL We ship on approval, *freight prepaid*, and allow ride for 10 days *without a cent in advance.* DO NOT BUY a bicycle or a pair of tires from *anyone* at *any price* until you get our big new catalog and *special proposition*. Write it now.

TIRES Coaster-Brake Rear Wheels, *range parts* and sundries *half usual prices.* Rider Agents *everywhere* are coining money selling our bicycles, tires and sundries. Write today.

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That
BEAUTY IS WEALTH
can be
demonstrated on your own grounds this spring if you will let us plan your
GARDEN BEAUTIFUL

We will do it free. See our illustrated catalog for details. A postal will bring it and our special FREE LIST.

We grow everything worth while in Roses, Trees, Shrubs, Fruit and Hardy Garden Flowers.

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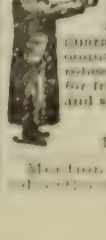
FUR COAT, $12.50



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Mention this magazine when writing to advertisers.

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DAWES COUNTY ALFALFA SEED GROWERS ASSOCIATION — GOLD DOLLAR — TRADE-MARK

If you are interested in high grade dry land alfalfa seed that is absolutely guaranteed to be as represented as to purity and variety and for all purposes and needs [illegible] without our trade mark.

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Grows 6 feet from seed first year. [illegible]

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are the very best. Very successful on [illegible] prairie.

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We are Gas Tractor Experts

The Remarkable Success of the PIONEER "30"

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When you buy a **PIONEER** you get the champion of all gas tractors, a tractor that never flinches—always dependable, rugged, powerful and operated at a minimum of cost. Write for particulars.

Pioneer Tractor Manufacturing Co.

18 Power Ave. ⁘ Winona, Minn.

Live Stock Market

By A. C. Davenport

SELLERS of cattle last week had things very much to their liking. The country seemed to have recovered from its unseemly haste to market immature beeves, with the result that receipts everywhere were very moderate. At the same time colder weather over a considerable part of the country had a stimulating effect upon the consuming demand. Thus it happened that there was a combination of the two conditions necessary to create a good market, namely, moderate receipts and good demand. This combination does not always result in advancing prices for the reason that packers generally aim to carry a considerable amount of beef in coolers which they can fall back upon in case the supply of fresh cattle is temporarily reduced. However, at the present time it is a well known fact that surplus stocks of beef are very small and hence a decided improvement in the demand, or reduction in the supply, is likely to be felt almost immediately in the market for live cattle. That was the case at least last week, when values steadily and rapidly tended upward, causing advances for the week of around 25@30c at leading market points.

Hog Prices Shoot Up

It was noted a week ago in connection with the advance in the hog market that packers would undoubtedly make a hard fight to keep the market below the $8.00 mark on the basis of Chicago. It has, in fact, always been the policy of the packers to entrench themselves at times like this behind the dollar mark and prevent as long as possible the market from going above that point. This year their efforts along that line were very unsuccessful. When the market struck the $8.00 mark it went over it at one big bound and so quickly that there was no possibility of even delaying its progress. Prices during last week continued going upward, the market apparently getting entirely beyond the control of packers. This was due to the heavy shipping demand at leading market centers. Although packers put forth every effort possible to stay the advance, as often as they laid down on the market the shippers simply bought the hogs away from them. There is a feeling that a little reaction might take place most any time after such a prolonged upward movement. Still there is nothing in sight to warrant a belief that such a reaction, even if it should take place, would be more than temporary in character. The fact is the market at the present time is occupying such a strong position that no one dares venture even a guess as to its future. It would surprise no one if after the recent big advance it should run along for some little time without any very great improvement. On the other hand a run-away market would not be surprising, as there are some now in the trade who feel that prices which have been advancing at a rapid pace may continue the same for some little time to come. The only thing that would really surprise the trade, and the only thing that no one believes possible, would be a slump in the market that would continue for any length of time.

Sheep Market Good

Sheep and lambs have had their full share of benefit along with other meat animals, the market being around 10@25c higher than it was at the close of the previous week. The break that took place the latter part of January has been entirely recovered and in some cases more than recovered, so that the market at present writing is at the high point of the year. The cause for the advance is to a great extent the same as with cattle, that is, the moderate receipts and a good consuming demand. Sheep receipts for the year to date show a falling off of about 280,000 head at the five leading points as compared with the same period a year ago. The future of the market is a sealed book. With the best lambs selling as high as $9.00 at the Missouri river it would not seem as if prices could advance very much without bringing about a decreased consuming demand.

SEE AND TRY A DE LAVAL

Be Your Own Judg

We cannot believe that there a sensible man living who wou purchase any other than a D LAVAL Cream Separator for h own use if he would but SEE a TRY an improved DE LAVA machine before buying.

It is a fact that 99% of all sep rator buyers w do SEE and TR a DE LAVA machine befo buying purcha the DE LAVA and will have other separato The 1% who not buy the D LAVAL are tho who allow ther selves to be infuenced by som thing other than real genui separator merit.

Every responsible person w wishes it may have the Free Tri of a DE LAVAL machine at h own home without advance pa ment or any obligation whatsoev Simply ask the DE LAVAL age in your nearest town or write dire to the nearest DE LAVAL offi

The new 72-page De Laval Dai Hand Book, in which importa dairy questions are ably discuss by the best authorities, is a bo that every cow owner should hav Mailed free upon request if y mention this paper. New 1913 Laval catalogue also mailed up request. Write to nearest offi

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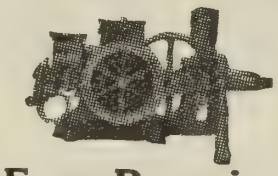
165 Broadway, New York. 29 E. Madison S Chicago.



Easy Pumping

Have you had to depend on the wind for pumping water? The wind is uncertain—the right way is with a

1½ h.p. Rumely-Olds Engine

You'll get your water at low cost, you save a lot of time and work—you'll have an engine that will do your pumping in a short time and be ready for general service the rest of the day. To make pumping no job at all, hitch this engine to a

Rumely Pump Jack

Then all your pumping troubles go. You have a real outfit at a very slight cost.

Rumely-Olds Engines are strong and simple—Rumely Pump Jacks are right, too.

Think the combination over—see if it wouldn't pay you to have it.

The Rumely-Olds 3 h.p. Engine will handle a bigger job—we have them in all sizes, stationary, skid mounted or portable—so we're sure to meet your requirements, and we have the proper pumping outfit for each size.

Write for the Olds Engine Data-Book No. 344, and the special folder on Rumely Pump Jacks—ask name of our nearest dealer.

RUMELY PRODUCTS CO.
(Incorporated)
Power-Farming Machinery

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KEEPS DOWN OPERATING COST

INGECO FARM ENGINES keep down fuel cost. At the high price of gasoline that is a big item. A poor engine will eat its head off. A good engine will save its original cost in a short time. **INGECO ENGINES are great fuel savers.**

The smooth running INGECO ENGINE with its large bearings and accurately fitted parts will run for years after other engines have gone to the scrap heap—yet they cost no more.

Made in 1½, 2½, 4, 6, 8, 10 and up to 60 h. p.—Stationary and Portable types.

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Bird and Rai Proof Ventilat

Gives fresh air circulation and keeps out sl snow and rain. Birds can't nest in it. Ke your stock healthy and brings y bigger stock profits. A real cessity for every barn, whet old or new. Improves appearan 100 per cent.

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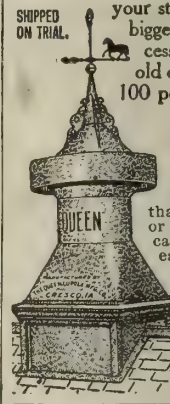

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Made of galvanized st Looks better an costs than wooden cupola. No paint or repairs. Lasts a time. can install it. Gold of vane w each cupola.

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Write for free catal
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300 PECK STREET
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98 cents Post Paid

Guaranteed 5 Years

To advertise our business, make new friends and introduce our great catalogue of Elgin Watches we will send this elegant watch to any address by mail post paid for **ONLY 98 CENTS.** Regular gentlemen's size, open face, full nickel silver plated plain polished case, Arabic dial, lever escapement, stem wind and stem set, a perfect timekeeper and fully guaranteed for 5 years. Send this adv. to us with your name & address & 98c, and watch will be sent by return mail postpaid. Satisfaction guaranteed or money refunded. Send 98c today. Address

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The most Beautif Garden Pat is throug Vaughan's 19 Catalogu

For 36 years we h supplied Florists Gardeners the best and Garden Seeds could import or Each year finds good stocks bette the best ones ch The quantities w reduce the cost You get the rare newest from Vau at no more th regular prices This Catalogue "Garc Illustrated "covering the fou departments of Gardening mailed Don't plan your garden without it. Write

For 10 cents, stamps or silver, we will bulblets beautiful Gladiolus, one-half inc

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Mention The Twentieth Century Farmer.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisememnt will confer a favor by sending us his claim for adjustment or collection.

ARE YOU THE MAN?

We are looking for a man who is ambitious, industrious and honest and determined to be successful—who wants to earn big money.

If you are the man write us at once. We will start you in a permanent, profitable business of your own.

2000 RAWLEIGH MEN

Scattered from Maine to California and from Canada to Texas are selling millions of dollars worth of the old, reliable Rawleigh Quality Products. Over 100 useful Products and daily necessities in nearly every home in rural districts.

EARN FROM $250 TO $300 PER MONTH

They have the largest, best and most useful line of household necessities. Sell direct from factory. All Guaranteed Under Pure Food Act. Made by one of the oldest and largest Buying, Manufacturing, Distributing and Selling Organizations in North America. Est. 1895. Capital $2,000,000. Three factories, numerous warehouses. $200,000 spent in 1912 for improvements. Best advertising matter free. Low freight rates and quick service from nearest factory.

NO EXPERIENCE NECESSARY

Contract with us and you will be backed by one of the oldest, greatest and most successful organizations in the world.

Good old Territories and choice New Fields. If you can furnish a team and good references and are willing to travel steadily for good pay, *write us today.*

The W. T. Rawleigh Med. Co., Freeport, Ill.
Importers—Chemists—Manufacturers
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eterinary Course at Home

$1500 A YEAR and upwards can be made by taking our Veterinary course at home during spare time. Taught in simplest Englis... Diploma granted. Graduates assisted in getting locations or positions. Cost within reach of all. Satisfaction guaranteed.

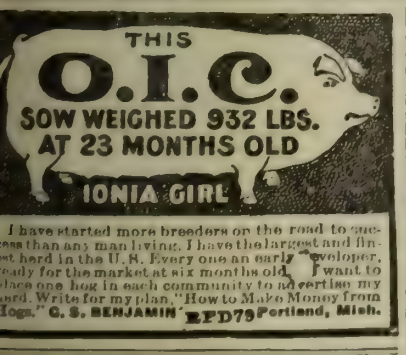
WRITE FOR PARTICULARS

The London Veterinary Correspondence School
London, Ontario, Canada

E. H. Baldwin writes: took the course for my benefit on the farm, the success I had ted me in practice and I am going night and . Your course has been th thousands to me, will be to any man."

SEEDS Fire dried SEED CORN Husked before the frost, dried on independent eed ear racks with air and steam eat. Sure to grow, because germ is reserved. Also Clover, Alfalfa, Oats, ye and **Garden Seeds.** Write at once or **Free** Catalogue and receive free ouvenir
Fred Echtenkamp, B. x L, Arlington, Neb.

O. I. C. HOGS



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN RFD 79 Portland, Mich.

JERSEY CATTLE

INELAND FARM JERSEYS The Wineland Farm ...d of Jerseys contains some of the most noted ...imals of the breed and has the greatest number ... of Register of Merit cows of any herd in the ...st. Some choice young stock for sale. Ad...ess, H. C. YOUNG, Lincoln, Neb.

Twentieth Century Farmer advertisers are deserving of your patronage. Read their ads and send them your orders as often as possible. Don't forget to mention this magazine when writing.

Hog Pointers

Keep salt in the hog lot.

***

Spray all the sows for the fattening pen.

***

Avoid the nervous, irritable sow as a breeder.

***

Select gilts for breeding from the most prolific mothers.

***

Make sure that the boar is confined where the children cannot reach him.

***

If you cross the breed more than once, you then will have to guess as to results.

***

Pigs eat more slowly and require different rations from the sows; then why not feed them by themselves?

***

If the brood sow refuses to allow the pigs to suckle, examine her teats and see if they are not caked or sore.

***

Keep the bedding on the floor slightly higher than the surrounding ground, to avoid dampness, and change the nesting frequently.

***

Don't let go of what you know by experience to be a prolific brood sow till she begins to fall off in pig production or refuses to breed.

***

No matter what the breed, care or feed, no hog can do its best for the owner, unless it has green pasture to range on during the summer months.

***

It is a wise policy always to have a part of the brood sow herd composed of tried-and-true old sows. Gilts are too risky to depend upon for the entire pig crop.

***

Have a care how much corn you feed to the small pigs and brood sows. Albuminous, flesh-producing elements are what they require, and not fat-promoting rations, like corn.

***

Breeding a gilt at less than from 10 to 15 months of age will retard her growth; is very apt to result in small, weak pigs, while the mother will be so affected that she will prove a poor suckler.

M. A. COVERDELL.

Cole county, Missouri.

Live Stock Notes

Rhea Bros.' Percherons

Rhea Bros. of Arlington, Neb., are offering for sale at this time a splendid lot of Percheron stallions at prices that should appeal to anyone wanting something in this line. This firm is too well known among the farmers and breeders of the west to need any introduction on our part. They have been breeding and handling Percherons for a number of years and the high character of the horses they have sold, together with their fair, square methods of doing business, have made for them many friends. They have gone out to the leading shows and demonstrated by their winnings that as good draft horses can be produced in Nebraska as anywhere on earth. The stallions they are offering at this time are mostly home-bred, and are of the big, heavy-boned, drafty kind that are in such strong demand at this time. They are mostly pasture raised, are thoroughly acclimated, and as a result are strong, vigorous fellows and sure to be prepotent sires. The writer believes the prospects were never brighter in the draft horse business. The farmers of the west and central west have come to the point where they realize that they must raise better horses. A pure-bred mare will not only do the work of the common grade, but she will produce a colt that will pay mighty good interest on the investment value she represents. The demand is not only growing, but will continue to grow. The horses that Rhea Bros. have for sale at this time are the kind that will go out and meet every requirement. Look up their advertisement on another page and write them for further particulars mentioning The Twentieth Century Farmer.

Holstein Bulls for Sale

Write to Dr. B. B. Davis, Room 200 Bee building, Omaha, Neb., if you are in the market for a first-class Holstein-Friesian bull. Dr. Davis is proprietor of Friesland Farm Holsteins and is in a position to supply the purchaser with as good as the breed affords. Write him our wants, mentioning The Twentieth Century Farmer.

Duroc-Jersey-Bred Sows

Frank Aldritt of Lincoln, Neb., is advertising Duroc-Jersey bred sows in this issue of The Twentieth Century Farmer. These must be disposed of by March 7. Write him for further information, mentioning this paper.

E. Myers, President, E. Myers Lye Company

Rid Your Hogs of WORMS and You'll Have HEALTHY Hogs

An enormous part of the swine plague known as "cholera" that sweeps over the country killing hogs and causing a loss of millions of dollars every year, is not **cholera** at all. It is stomach, intestinal or lung **worms.** The symptoms of hog worms are easy to detect. When you see a hog slinking around with his nose to the ground, hair sticking up, tail down, coughing, off his feed and losing flesh, don't jump to the conclusion that he's getting "cholera". He has **worms,** and if you don't act quickly your whole herd will have them, too. Feed all your hogs **twice daily** according to directions on every can on a ration mixed with

Merry War Powdered Lye

It destroys hog worms quicker than anything else in the world. And, even though there should be an epidemic of **real** hog cholera in your neighborhood, **your** hogs will be healthy and strong to resist it. MERRY WAR POWDERED LYE is the **proven preventive of hog cholera.**

The Folly of Vaccination

Vaccination may be all right for putting a hog's system in a condition to resist the cholera germ. But no amount of vaccination will cure a single hog of worms, nor will it make him well if he's sick. Vaccination will not keep him on his feed, make him fat, sleek, skin free from scurvy, and condition him so that he will be a prime hog at market time. **That's what** MERRY WAR POWDERED LYE does. Feed it to your hogs from weaning time on and you'll have healthy hogs. Cholera won't alarm you and your hogs will weigh in heavy.

Read This Convincing Evidence

C. F. NEWMAN, Lebo, Kan. "Have best results with my hogs and no sickness since I've used Merry War Powdered Lye while our neighbors have lost heavily."

Refuse Substitutes

Don't experiment with ordinary, old-fashioned lye. **It might prove dangerous.** MERRY WAR POWDERED LYE is the specially prepared lye that is **safe** to feed hogs. Experience has **proved** its worth. **Insist** on getting it. **There are no substitutes.**

E. MYERS LYE COMPANY, Dept. 88 ST. LOUIS, MO.

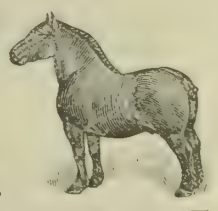
10c A Can—120 Feeds

MERRY WAR POWDERED LYE is for sale at most grocers, druggists and feed dealers. It is convenient to buy in case lots, 4 doz. cans, $4.80. **Order direct from us in case lots (4 doz. cans $4.80) if dealers won't supply you.**

FREE If your dealers can't supply you write us stating their names. We will see that you are supplied and also send you, **free,** a valuable booklet "How To Get The Biggest Profits From Hog Raising."

HORSES AND MULES

RHEA BROS.' ACCLIMATED PECHERONS



We have 40 Stallions on hand today that we are selling at very reasonable prices. If you are interested write us or come and see them.

Reference—Packers Nat'l Bank, So. Omaha; Arlington State Bank, and First Nat'l Bank of Arlington, Neb. On main line of C. & N. W. R. R., 34 miles N. W. of Omaha, 55 miles north of Lincoln and 8 miles east of Fremont, Neb.

RHEA BROS., - - ARLINGTON, NEB.

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Percherons, Belgians, Shires, Mammoth Jacks and Jennets

SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets —in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.

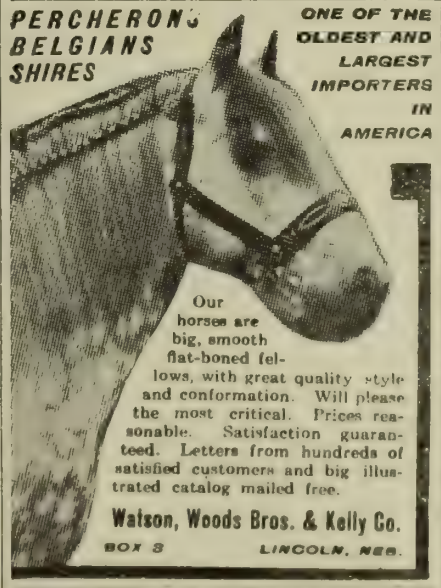
HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS, STALLIONS AND MARES.

I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. **W. L. DeCLOW, Cedar Rapids, Iowa.**

PERCHERONS BELGIANS SHIRES

ONE OF THE OLDEST AND LARGEST IMPORTERS IN AMERICA



Our horses are big, smooth flat-boned fellows, with great quality style and conformation. Will please the most critical. Prices reasonable. Satisfaction guaranteed. Letters from hundreds of satisfied customers and big illustrated catalog mailed free.

Watson, Woods Bros. & Kelly Co.
BOX 3 LINCOLN, NEB.

PERCHERONS

3 coming 1, 3 coming 3, 2 coming 2-year-old stallions; grays, blacks, blue roan; home bred; registered P. S. A.; heavy, well grown and showy. Just east of Omaha. Fred Chandler, R. 7, Charlton, Iowa.

DUROC-JERSEY HOGS

DUROC-JERSEYS.

130 choice sows bred to Crimson Wonder Jr., Col. Lafollette, C. H. Col. and Count Medoc. Also 15 spring and all my herd boars must be sold before March 1st. Will sell 50 head of choice sows Feb 10th at Friend, Neb. Write for catalogue and prices today. State agent for Black Diamond Stock Powders and Dip. Absolutely the best conditioner on the market. Try 100 lbs. and be convinced. Agents wanted in every town in the state. I have a new 30 ft. diameter sale tent for rent. F. Aldritt, Lincoln, Neb.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed
Send for FREE Illustrated Booklets
Holstein-Friesian Assn. Box 178, Brattleboro, Vt.

CALVES

Raise Them Without Milk
Booklet Free
The Nebraska Seed Co., Omaha, Neb.

SALE OF HOLSTEINS

I will sell the following high grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers
50 1½-year-old heifers
100 2 to 2½ year old heifers
100 2½ to 3-year old heifers
250 matured cows, very heavy producers, springing up ready to freshen soon, most of them to calf from registered bulls
A number of high colored registered bulls ranging in age from 6 months up, out of heavy producing dams and selected especially to head pure-bred herds. A small surplus of excellent registered females. Write me regarding your wants.

Just being bred to a son of a 34-pound dam
Bred to a high-class registered bull to freshen from September 1 to December 31, 1913

J. Dorsey, Dept. B, Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

Don't you want a good grandson of the great Katy Gerben The Champion cow of the breed for five consecutive years. We have some fine ones out of splendidly bred A. R. O. dams.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Let's Figure This Out On a PROFIT Basis

You admit that it *pays* to plant clean, graded seed. The truth of this has been proved over and over—so often that every farmer *knows* it is so.

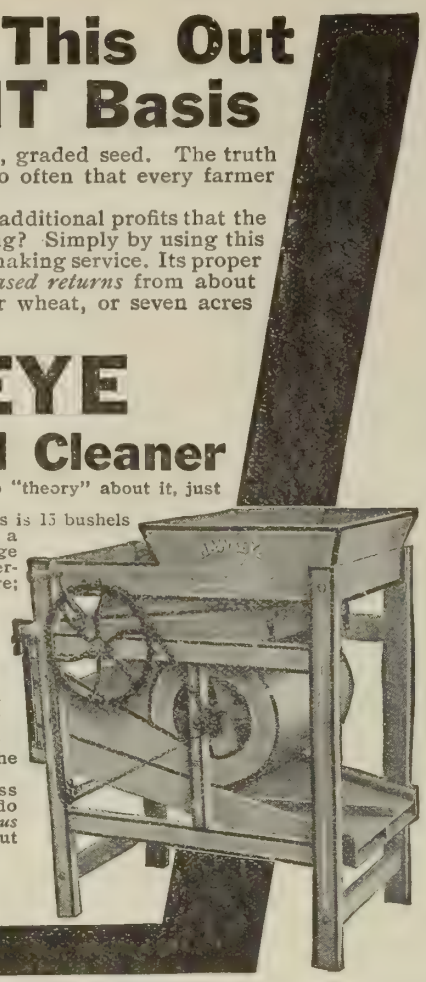
All right—how can *you* make the big additional profits that the planting of graded, cleaned seed will bring? Simply by using this machine—*guaranteed* to give you money-making service. Its proper use will *actually pay for itself in increased returns* from about three acres of oats, three acres of winter wheat, or seven acres of spring wheat. The

HAWKEYE

Grain Grader and Cleaner

works wonders. yet it is a *practical* machine; no "theory" about it, just *proved success*

In Kansas the average yield of ungraded oats is 15 bushels per acre Grading and cleaning seed oats with a HAWKEYE brings the Kansas farmer's average up to 33 to 45 bushels per acre. Take 40 as an average: That means an *increase* of 25 bushels per acre; it means a



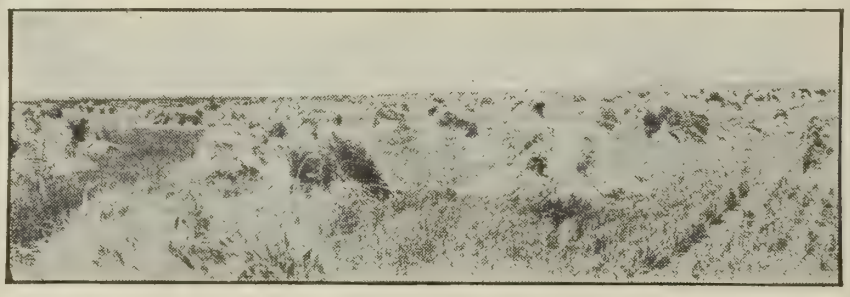
CASH INCREASE of at Least $7.50 Per Acre

It means that the increase on three acres will more than pay for the HAWKEYE, leaving all the rest as *profit.*

Other grains, graded and cleaned, do equally well, and wherever the HAWKEYE is used the returns are proportionately large.

Grades and cleans corn and all grains, grass seeds, etc. Two machines in one—guaranteed to do all we claim for it. Ask your dealer, and *write us today* for full particulars so you can know all about this great machine before another season begins.

THE MAYTAG COMPANY
380 North St., Newton, Iowa



One of the large wheat fields in the SHALLOW WATER DISTRICT, Logan County, Colorado. This field yielded 46 bu. per acre. This is the finest farm land in the West, and we are selling it at the very lowest prices. One crop pays for the land. Finest soil and water. Close to market. Agents wanted. Write for free circular. **PLATTE RIVER VALLEY LAND CO., 1119-22 City National Bank, Omaha, Neb.**

YOU CAN BUY ANY CUT IN THE

Twentieth Century Farmer

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Selection of Seed for Next Potato Crop

(CONTIUED FROM PAGE SIX.)

before they emerge above the ground. It has been known to kill in this way several generations of sprouts starting from the same eye. In some places planters have been unable to secure more than one-half of a good stand, because this early infection killed the plants before they got above the ground.

When the infection comes later in the season it girdles the stem just below the surface of the ground, but does not kill the plant. Under such circumstances there is usually a cluster of small potatoes formed just below the ground, a thick cluster, with tubers of various sizes, down to as small as a bean, none of them marketable or usable. In its effort to produce tubers under such circumstances the plant frequently sets tubers above the ground, above the point of injury, among the branches.

This disease does not injure the potato market, because it permits the production of no marketable tubers. If its ravages become extensive, it prevents production. This disease sometimes develops hard, lumpy, sclerotia kernels on the outside of the potato, which makes the perpetuation of the fungus possible. These, by infecting the tops and weeds, carry over the disease from year to year.

Here again must the rule be observed to plant only smooth potatoes, and even these should be treated by one of the treatments already described in order to destroy any spores of this fungus that may rest on the outside of the tubers.

Select only medium-sized tubers. The vitality of the large tubers has been lessened by overgowth and overdevelopment, and the vitality of the small ones has not yet been developed. This direction may not be too rigidly observed. Ambitious growers, proceeding on the assumption that a large potato will produce large potatoes, have materially reduced their production. It is better, and will produce better results, to plant whole potatoes rather than pieces of potatoes. But this makes considerable expense for seed. To plant whole potatoes of even moderate size would require not less than forty bushels to the acre. It is a question for each farmer to experiment upon, and decide for himself, whether, at the price of potatoes, the increased production would pay for the increased expense in seed.

How to Cut Potatoes

The food for the growing potato plant, until the time that it can take its soil nourishment through its roots, and its air nourishment through its leaves, is derived entirely from the substance contained in the seed piece. Other things being equal, the more of this food that it has—that is, the larger the seed piece—the more vigorous will be its growth. A plant will grow merely from an eye with but very little of the flesh of the potato attached to it; but for vigorous, productive growth it should have this early food and an abundance of it.

By referring to the illustration, it will be seen that each eye is at the extremity of an arm or limb of the inner medullary layer, which is vascular and supplied with the vessels which nourish the potato. In a seed piece this limb, at the extremity of which the eye is found, serves as a root for the growing plant, by means of which it gathers its nourishment from the flesh of the seed piece. In cutting potatoes for seed the operation should be done in such a way as not to cut off this limb near the eye, because, by so doing, its capacity for taking its nourishment from the mother piece will be limited.

If the grower concludes that planting whole seed is too expensive, let him divide each medium-sized tuber into four pieces, splitting the tuber through the middle from stem to blossom end, and then dividing each of the pieces at right angles to the first cut. This will give four pieces to each tuber, and with tubers of moderate size will permit the planting of an acre with ten bushels of seed. Some experimenters recommend cuting tubers to a single eye; some to two eyes. But neither of these practices is to be recommended to the practical grower.

In a future article the writer will set forth the best methods of planting and cultivating the potato crop.

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TWENTIETH CENTURY FARMER

A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

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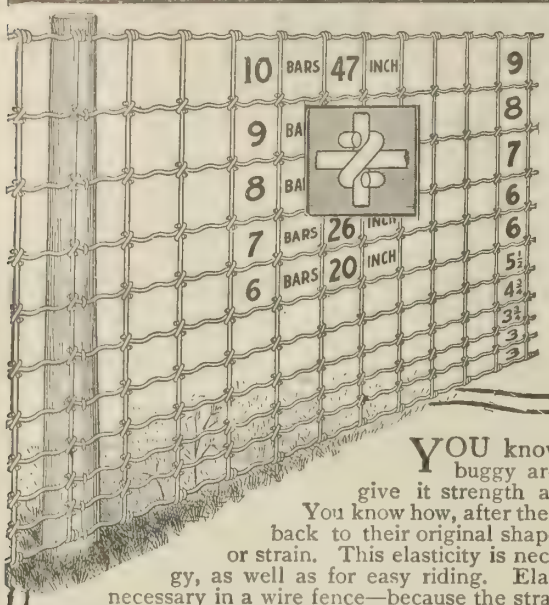
Elastic Tension



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YOU know why the springs on a buggy are bowed—don't you? To give it strength and elasticity—springiness. You know how, after the strain is released, they fly back to their original shape, ready for the next load or strain. This elasticity is necessary to the life of a buggy, as well as for easy riding. Elastic Tension is even more necessary in a wire fence—because the strains are more sudden; heat and cold contract and expand the wires, and if the fence does not give and take it soon becomes baggy, saggy, and goes down. That's why you see so much wire fencing sagged—it lacks the proper elastic tension. In

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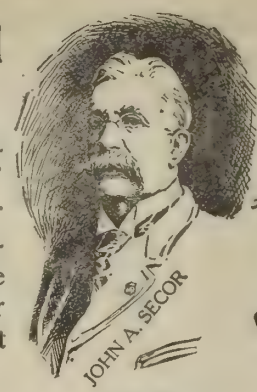

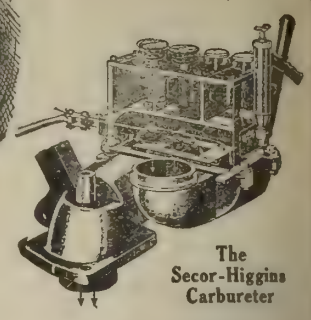

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General Farming with Cattle and Hogs make highest, surest profits

If you want to make money, or if you want to give your boy a start in the world, investigate the possibilities offered ambitious workers on the fertile acres of the Texas Panhandle and South Plains.

Here is a wide diversity of soil and a splendid climate. The normal rainfall ranges from 22 to 24 inches a year — ample for crop purposes if intelligent tillage is practiced. Wheat this year averaged a little over 15 bushels. One small field ran 37½ bushels, machine measure. Every acre should have done as well.

There is no more gamble in farming in the Panhandle than elsewhere, if proper cultivation is practiced. You must have some capital to work on after the initial payment on your land is made. Then it is a matter of intelligent work. You can grow wheat, oats, barley, emmer, feed crops, peanuts, silage and live stock. You can raise as much of each as you can in Illinois, and your local market is just as good.

The Santa Fe is so anxious that every man who moves into the country shall succeed that they have engaged a staff of scientific agriculturists to work with the settlers and show them how best to meet the new conditions. This aid is given free, and it is just one more reason for going to this new *good* country.

In a few years the Panhandle of Texas will be crowding Kansas as a wheat producer, and people will wonder why they did not buy at $15 to $25 an acre, the prices now asked.

But get and read our new book on the Panhandle and South Plains. It's interesting, authoritative, informing and free. It tells you about the topography, soil, rainfall, possibilities for irrigation, cultural methods, crops, markets, transportation, taxes, living conditions, roads, schools, churches, and other subjects of vital importance to you. Also a series of letters from farmers who have lived here from two to eleven years. These letters tell what has been accomplished, how it was done and how you may do as well when you come.

We would like to have you join one of the Homeseekers' Excursions on the first and third Tuesday of each month and see the opportunities for yourself. For full information without obligation, write

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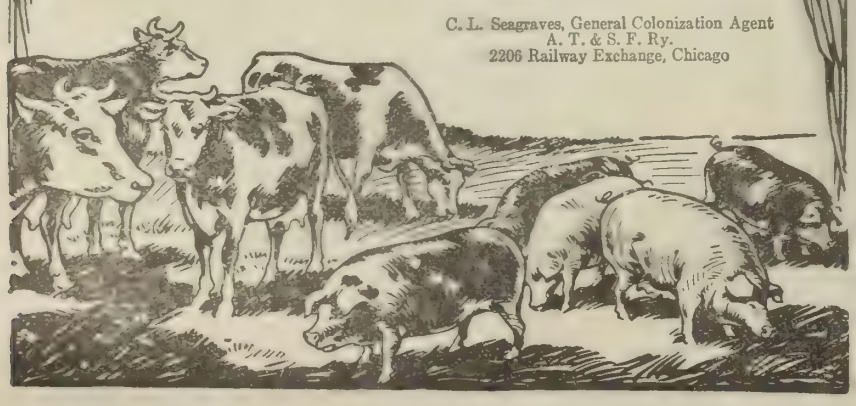

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Prattle of the Youngsters

Altogether Different

"Do you ever see the president?" asked Willie of his uncle, who lived in Washington.

"Yes; nearly every day," was the reply.

"And does he ever see you?" queried the little fellow.

Cross Questions

Little Alfred had grown so weary of being asked by admiring strangers, "Whose little boy are you?" that one day he surprised everyone by turning the tables. Directing his innocent gaze upon a very young man who was calling upon his sister, the child demanded sweetly:

"Whose papa are you?"

Reinforcement

Mother (entering bed room)—Why, children, what are you crying for?

Bobby—I wanna dink.

Mother—Well, I'll get you a drink. Elsie, what are you crying for?

Elsie—You didn't hear Bobby, mamma, so I was helping him cry.

Little Brother's Share

The two small boys of the family were enjoying the first snow of the season, but their mother, who was watching them from her room, soon rapped on the window.

"Johnny," she called, "why don't you let your little brother have your sled part of the time?"

"I do, ma. I take it going down hill, and he has it going back."—Youth's Companion.

Why They Went

As the Sunday school teacher entered her class room she saw, leaving in great haste, a little girl and her still smaller brother.

"Why, Mary, you aren't going away?" she exclaimed in surprise.

"Pleathe, Mith Anne, we've got to go," was the distressed reply. "Jimmy 'th thwallowed hith collection."—Lippincott's.

Her Turn

All day 2-year-old Priscilla had been trying to get one or the other parent to take an active part in her play, only to be told again and again, "Father's busy," or "Mother's busy."

Accordingly, she resigned herself to solitary occupation with her Noah's ark, and when, toward 5 o'clock, her mother manifested an interest in the baby by inviting her upstairs to bed, Priscilla shook her head and declared, with a mischievous twinkle:

"Stairs busy, nightgown busy."—Youth's Companion.

Not in It With Grandma

The grandfather of a boy of 6 or 7 years is a man of a great deal of prominence in the world of letters and affairs. A lady calling at the home of this distinguished gentleman was being entertained for a few minutes by the little grandson, and the caller said:

"You ought to be very proud of your grandfather. You know that he is a great man."

"Huh!" said the boy. "If you think that my grandfather is a great man, you just ought to know my grandmother!"—Woman's Home Companion.

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Wanted---Pictures for Publication

THE TWENTIETH CENTURY FARMER desires to secure photographs of farm scenes and life in rural communities. Knowing that among its readers are many amateur photographers of ability, and who have desirable pictures for sale, the following offer is made:

For every picture that is found suitable for use, $1 will be paid. Pictures accepted will not be returned, but those not suitable for reproduction will be returned to the sender.

The name and address of the person submitting it should be written plainly on the back of each picture.

Pictures must not only have the merit of news interest and value, but the photographic print must be clear and distinct, to insure a good reproduction in a half-tone cut.

We can use clever pictures of children and animals, handy devices and conveniences about the farm buildings and grounds.

In submitting pictures, parties sending them should give information and data about each one. This may determine the availability of the picture for publication.

Bright and Breezy

Excusable

Hub (angrily)—Here! What do you mean by waking me out of a sound sleep?

Wife—Because the sound was too distressing.

Modern Philanthrophy

Beggar—Will you please, sir, give me 10 cents for a night's lodging?

Philanthropist—I'll give you 5 cents if you raise the other 5.—Life.

Caveat

Judge (to spinster)—Your name, please?

Witness—Cornelia Rent.

Judge—Now your age—but first let me warn the public that if there is any outbreak of hilarity the court room will be cleared.—Woman's Home Companion.

Borrowing from the Borrower

Dobson was a confirmed borrower. Worse than that, he had the nasty habit of not returning the articles he had borrowed. This much, Hobson, who had unfortunately lent him an umbrella, found out, and he was lamenting the fact to a friend.

"How shall I get it back?" he complained.

"That's easy," replied his friend. "Just send Dobson this note." And he scribbled off the following:

"Dear Dobson: If you can possibly spare it, I should very much like to borrow that umbrella of mine for a few days. Can you oblige me?"

Not True to Life

The son of a man who had been a great philanthropist welcomed a visitor to his office. The talk turned on the career of the father of the young man.

"It was a great blow to everybody—my father's death," lamented the youth. "By the way, here's the last portrait painted of him."

He led the visitor to where hung on the wall a large portrait of the dead philanthropist, depicting him as standing erect, with his rght hand in his pocket.

"A fine piece of work," said the visitor, grimly, "but it's not true to life. Nobody ever saw your father with his hand in his own pocket."

The Yankee's Alarm Clock

The Yankee is admiringly regarded by his English cousins as quite unrivaled in the domain of eccentric and extravagant imagination. Naturally, then, a Yankee is the hero of this story.

An American and a Scotsman were walking one day near the foot of a mountain in the Highlands. The Scot, wishing to impress the visitor, produced a famous echo to be heard in that place. When the echo returned clearly after nearly four minutes, the proud native, turning to the Yankee, exclaimed:

"There, man, ye canna show anythink like that in your country!"

"Oh, I don't know," said the American. "I guess we can better that. Why, in my camp in the Rockies, when I go to bed, I just lean out of my window and call out, 'Time to get up! Wake up!' and eight hours afterward the echo comes back and wakes me."

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Growing and Selecting Seed Potatoes

Methods Which Should Be Persistently Observed if This Great Industry is to Thrive

IT IS already well known that the industry of growing potatoes for market is laboring under a heavy handicap, and is threatened in the near future with disaster, unless a radical change is adopted in methods employed. The growing of a crop includes, first, the selection of proper seed, and, secondly, the proper care for the growing crop.

Grower Should Have Own Seed Plat

There is only one way in which a grower may be certain that he will have the right kind of seed for planting, and that is for him to grow his own seed, and from the growing seed crop to select the seed that will best be adapted to his use. Whenever a grower buys seed away from his own farm he cannot possibly know anything with reference to the pedigree of his seed, or with reference to the health of it; neither can he know anything about its capacity for production. Potatoes are as much subject to the laws of heredity as any animal. The value of a potato as seed does not depend upon its looks entirely, but rather on its capacity for production, and this capacity for production can be known only by studying its heredity, and knowing that it comes from ancestry of uniformly great producing power. Most of the potato diseases that afflict our potato-growing districts have been imported with imported seed. By this is not meant importation from some foreign country, but importation from any district removed from the grower. The only way in which, possibly, to guard against this danger is for every grower to plant his own seed and watch the growing plants for evidence of disease, and mark those that show disease, and reject them in making the selection.

How to Manage a Seed Plat

In selecting seed for the seed plat, which should be located on ground that is known to be free from infection, only uninfected seed should be used, and these should be thoroughly and efficiently treated to destroy any spores of disease that may happen to rest on the outside of the tubers. The ground should be deeply plowed—plowed to a depth of not less than twelve or fourteen inches, and it is better that this plowing should be done in the fall; but deep plowing in the spring is better than not to plow deeply at all. The early plowing of the ground will take and hold more moisture for the coming crop and will warm up in the spring so as to promote a rugged, fast growth. It is better in the seed plat that the seed pieces be dropped much more closely together than when potatoes are grown for market. Planting closely has a tendency to promote the growth of a larger number of middle-sized potatoes which are most desirable for seed. This close planting acts as a disadvantage to the growth of the crop, and so furnishes a test for virility and power to produce, and it is well known that potatoes that have developed a sufficient degree of vigor under disadvantageous circumstances will thrive luxuriantly when planted under more favorable conditions, such as are supplied by planting at greater distances in the field, where they are to be grown for market.

Requires Extra Care and Cultivation

Every effort should be used to give this seed crop the best opportunity for growth under this crowded condition. The ground should be kept free from weeds and should be frequently stirred. If the potatoes have been planted as they should be, in deep furrows, which are gradually filled up as the tops grow, there need be no danger apprehended from deep cultivation. Cultivation should be so handled as thoroughly to aerate the soil and to conserve the moisture.

Baby Corn

A happy mother stalk of corn
  Held close a baby ear,
And whispered, "Cuddle up to me,
  I'll keep you warm, my dear.
I'll give you petticoats of green,
  With many a tuck and fold
To let out daily as you grow;
  For you will soon be old."

A funny little baby that,
  For though it had no eye,
It had a hundred mouths; 'twas well
  It did not want to cry.
The mother put in each small mouth
  A hollow thread of silk,
Through which the sun and rain and air
  Provided baby's milk.

The petticoats were gathered close
  Where all the threadlets hung;
And still as summer days went on
  To mother-stalk it clung;
And all the time it grew and grew—
  Each kernel drank the milk.
By day, by night, in shade, in sun,
  From its own thread of silk.

And each grew strong and full and round,
  And each was shining white;
The gores and seams were all let out,
  The green skirts fitted tight,
The ear stood straight and large and tall,
  And when it saw the sun,
Held up its emerald satin gown
  To say, "Your work is done."

"You're large enough," said Mother Stalk,
  "And now there's no more room
For you to grow." She tied the threads
  Into a soft, brown plume—
It floated out upon the breeze
  To greet the dewy morn;
And then the baby said, "Now I'm
  A full-grown ear of corn."

—Unidentified.

Must Be Protected from Insects

As has already been stated, the value of the potato as a food depends upon the thickness of the outer layer of the potato, which is known as the cortical. This contains nearly all the starch in the potato, gives it its mealy character when cooked, and also its delicious, appetizing flavor. The thickness of this layer depends on two causes. In the first place, heredity has a great deal to do with it. Potatoes for the seed plat should have a thick corticel, or, in other words, a deep layer of starch about them. Then heredity will help to produce a deep layer of starch in the crop grown from them. In the second place, the potato derives all of its starch from the air, none of it from the soil. The principal chemical element in starch is carbon, and the plant gathers its carbon by taking carbonic acid gas from the air through its leaves, by dissociating the carbon from the oxygen in the carbonic acid gas, releasing the oxygen again to the air, and storing up the carbon in the form of starch. Its capacity for thus utilizing the carbon of the air will depend upon the extent and vigor of its leaf growth. Anything that tends to lessen or injure leaf growth limits the capacity of the plant to take carbon from the air—hence the necessity of protecting the growing plant from the destructive influences of insects. These insects are not merely the potato beetles that cause so much damage. Close observation will show any grower that his field swarms with small insects, not ordinarily noticed, that prey upon the leaves of the plants, eating little holes, and sucking the sap, and doing various kinds of damage. If the best results are to be obtained, this kind of damage to the growing crop must be prevented. The New York experiment station at Geneva demonstrated that where there was no blight and no disease of any kind, spraying was profitable simply in checking the damage done by these small insects.

Seed Plat Should Be Dug by Hand

This is highly important, because it is the only means that will enable the grower to select his seed in such a way as to enable him to comply with the demand of the laws of heredity. If the seed is dug, the seed for next year's planting should be taken only from those hills that show the greatest production. Then the grower will produce a strain of uniformly, high-producing capacity.

One of the most successful Colorado potato growers selected from the most prolific hills seed that planted twenty-nine acres. For seed for the balance of his field he went to the bin and selected the smoothest and best eating potatoes. Each potato taken from the bin was perfect in itself, but he did not know what kind of a hill it came from. In the fall, when the crop was dug, in that part of the field planted with seed from the best hills, there was one sack of culls for each 200 sacks of marketable potatoes. In the part of the field planted with choice potatoes, selected from the bin, there was one sack of culls for each twenty sacks of good potatoes. In sections where home-grown seed can be used a potato

CONTINUED ON PAGE THIRTY.

Must Raise Feeders in the State of Iowa

Corn Belt Farmers Must Awaken to the Fact that if They Expect to Handle Cattle They Must Breed Them

By Charles Escher, Jr.

THE year just closed has been a remarkable one. The volume of our crops was never so great. The United States harvested its first three-billion-bushel corn crop. Other grains have been harvested in about like proportions. There is a general abundance except in live stock productions.

That the supply of live stock for 1913 will aggregate less than the supply for 1912 is the concensus of opinion by those capable and in a position to judge. That it will require seven years before the United States can again get back to producing its normal supply of cattle is also predicted by one who is regarded as a keen calculator. And by that time our population will have increased another 10,000,000, proving that the shortage will continue and become greater as time goes on.

Big crops are always principal factors in the general prosperity of an agricultural people. The wheels of commerce are oiled by the hand that feeds the cow and holds the plow. When the farmer is prosperous, it stimulates the nation, but when an agricultural people begin to neglect live stock production sooner or later poverty will knock at the door.

The population of the United States has doubled every twenty-five years since 1785. During the last twelve years our population of the United States has increased 25 per cent, while our supply of beef cattle has decreased more than 30 per cent. These figures do not indicate any immediate relief. Next year, and each succeeding year for the next decade to come, will see decreasing receipts in live stock markets.

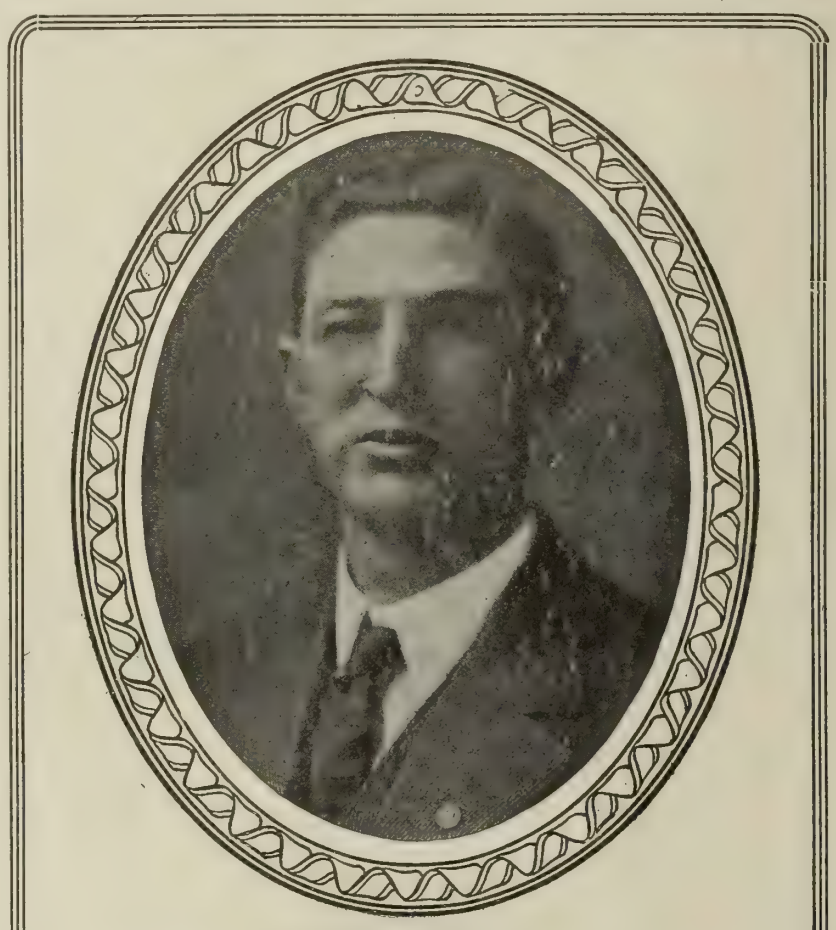
Whom among you will doubt the vital importance of the Iowa Beef Producers' association? Iowa is the greatest of all the agricultural states in the union, because of its fertile fields. Iowa has been famous as a cattle-feeding state, and if Iowa continues to hold its station in agriculture it must get back into live stock production. Agriculture has been called the wheel of commerce, and in my estimation stock-raising is the main spoke in this great agricultural wheel.

Imbued with a natural love for the old cow, and having foreseen a beef cattle shortage coming, I decided to secure aid for the encouragement of beef production in Iowa, and in the Thirty-fourth General Assembly we were successful in securing an appropriation for $7,500 to promote the beef cattle industry in Iowa. Beef production will, and of necessity must, become an Iowa industry. With it will come more silos, more alfalfa and clover, less soil robbing and more conservation of the fertility of our soils.

The result will be less acres of farming, with increased yields of forage and grains; a more prosperous people and an increased awakening of love for the farm. A prosperous people are most usually a contented people. If the farmer does well, he naturally loves his occupation. Prosperity will, in most instances, solve the question of making the farm more attractive. Beef production is a topic widely discussed nowadays, and Iowa must of necessity send out its influence for good or evil.

Think This Through

There are over 200,000 quarter-section farms in Iowa. At least half of these ought to be producing some sort of beef. This would give us 100,000 farmers in the entire state, engaged in beef production. Assuming that these farmers have farms averaging 160 acres each, each farmer engaged in the production of beef could easily keep enough cows to produce a carload of baby beef (twenty head to the car). If each of these farmers would market this carload of baby beef, there would be 20,000,000 produced on the farms in the state of Iowa. If these cattle were fed out of baby beef, they should weigh from 1,000 to 1,200 pounds at from 18 to 24 months of age, and at present prices, which will be a conservative price for an estimate, they would net close to $100 per head, or about $2,000 per car, for each farmer thus engaged. This would mean a net income for each county of about $2,000,000, or a grand total of $200,000,000, for beef production in Iowa alone. This would only utilize half the farms, the other half could engage in dairying, truck farming or exclusive grain farming.



CHARLES ESCHER, JR.,
President of the Iowa Beef Producers' Association

Best Way to Market Crops

To be prosperous, we must market our crops via the live stock route, thus keeping the fertility on our farms. It has been said that the United States was capable of feeding the world, but the problem now confronting us is, whether or not we can, in years to come, feed our millions. He who produces two blades of grass, or two pounds of beef, where formerly but one grew, is a benefactor to humanity.

Beef production is a matter of special interest, and important to all the farmers in the corn belt states. We have learned how to raise the crops best adapted to our soils and climate, but we have not learned that we must return to our land a part of what we take out. The right manner of producing beef is particularly adapted to the maintenance of our soil fertility.

Each farm produces a large amount of roughage, for which there is not, nor ever will be, any profitable market, but the beef herd can profitably use it all. The beef business is of special interest just now, for we are entering a period that will be known as the period of restoration of beef production; and I think most farmers now see that we must restore beef cattle on our farms. It is all important that in this work of restoration of beef we adapt the best and most economical methods, so that in years to come we may not again find ourselves engaged in an unprofitable business.

The silo has come to stay, and the time will come when silos are as common as corncribs on our Iowa farms. It is only by the use of silos and better and more permanent blue grass pastures that beef production on Iowa farms will be a profitable business; and then I would advise only the production of the best class of beef. We would not advise anybody attempting anything short of it on our high-priced lands. It is not a question of fattening cattle, but the growing of beef, that we are most especially interested in.

Corn belt farmers must awaken to the fact that if they expect to handle cattle they must breed them. The Pacific coast will grab the major portion of our range-bred cattle from now on, and they must, and will, have them—hence, if we wish to produce beef we must raise our own feeders.

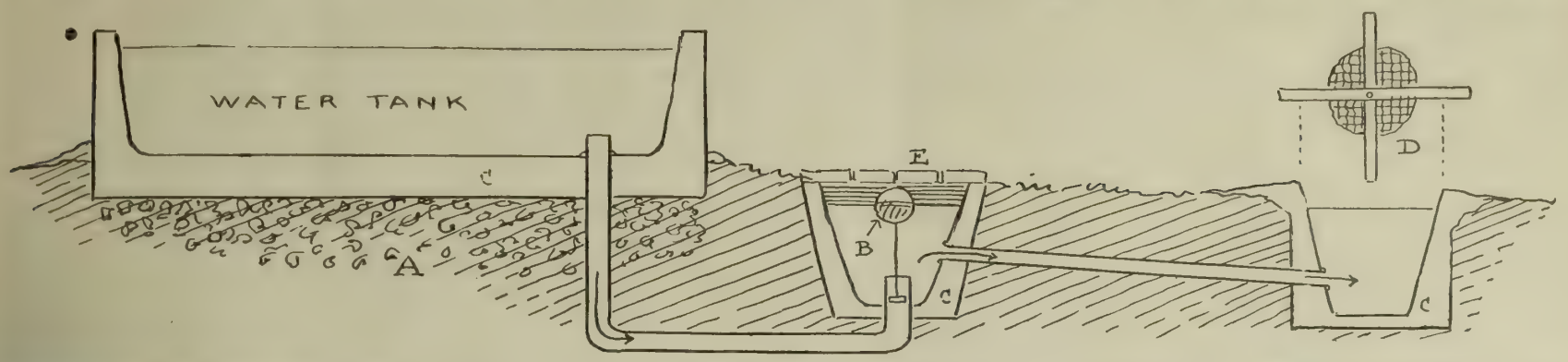
Mule-Feeding Business

This topic may sound a little odd to the person not familiar with the present-day mule industry. Usually animals not intended for the meat market are not fed to fatten, just pastured in the grass season and roughed through the winter in the cornstalks, with a little hay occasionally and the strawstacks to run to, costing practically nothing to grow them to market age and condition above the pasture cost.

It is different now; there has developed a sales season for the horse and mule, and that does not show its full activity at all times through the year, but is stronger just before the season opens up, demanding the team work for this class of animals. Buyers and dealers in mules understand this fully and have provided for it by having the mules on hand—big, fat and ready for the mule buyers. Like all other features of animal creation, the mule looks better, much more like being worth the price asked when he is fat and sleek. The mule is, therefore, put into a corral, where he usually has some shelter, and provided with feed bunks, hay cribs, water tank, salt boxes, etc., and is put onto full feed of corn and hay as soon as it is safe to bring him up to this stage of taking on flesh. He is fed to fatten, and when properly fleshed for sale he is shipped to the mule market and disposed of, just as a carload of steers, usually to one buyer, who ships to nearby and far away districts of country, as the case may demand to satisfy local trade.

The mule-raisng industry quite frequently centers in certain counties or districts of a state, as, for instance, the state of Missouri has for many years been famed for its superior quality of mules and its large numbers produced. Calloway county alone reports shipments to the St. Louis market of 2,150 head of mules this season, approximating in sales $450,000.

Home-Made, Automatic Hog Water Tank



THE above illustration shows how an automatic, non-freezing hog waterer may be installed by any farmer on his own farm. Such a device as this is now in operation on an Illinois farm, and was built by the farmer himself. In the illustration (E) is the supply tank containing the float valve, which governs the supply of water in the drinking tank (D).. The water in these two receptacles, of course, will always stand at the same level, and the desired level in the drinking tank may be secured by an adjustment of the float valve (B). E may be entirely covered over, and in winter may be protected from freezing by giving it a heavy covering of manure. Above (D) is the illustration of the cover for the drinking tank. It is made of four arms that rest upon the tank, and bear a wire screen which comes near enough to the edges of the drinking tank to prevent little pigs from falling into the tank and being drowned, and still leaves room enough to enable the hogs to drink. This cover may be lifted and the tank cleaned at any time. In winter this drinking tank may be all covered with manure to protect it from frost, with the excetpion of a small aperture to enable the hogs to drink, which should be left at the unexposed quarter of the tank. These tanks may be placed at any distance from each other that the builder desires. The pipes for conducting water should be placed, of course, below the frost line.

Some people have trouble in building water tanks that arises from their cracking and checking, and so becoming leaky. This is due almost exclusively to insufficient foundation. Beneath the larger water tank the ground should be excavated at least eighteen inches deep and filled with stone, so as to give a solid foundation. Then the bottom of the tank should be put on a bed of concrete at least twelve inches thick. The sides of the tank should be sloping on the inside, and should be not less than six inches thick at the top. It would be well to reinforce these sides by inserting woven wire fencing in the form before the concrete is poured. The ground should be graded in such a manner as to run the water away from each of the three tanks. About the drinking tank there should be a platform not less than four feet wide, built either of planks or of cement, upon which the hogs will stand when drinking. This platform should slope away from the tank, so as to carry away what moisture accumulates.

The shape of each of the three tanks may be round or square, as best suits the fancy or the convenience of the builder. Ordinarily, it will be found that the form for a square tank is more easily constructed than for a round tank.

With a good water supply, easily accessible, this arrangement should relieve all hog growers of water trouble. It will require no attention except an occasional cleaning during the entire summer season, and, when winter comes, just a little work with manure will protect it against freezing. It is a trouble-ender, a great worry-stopper. Every farmer should have one.

Some Wastes of the American Farmer

Annual Loss in Manure Alone, if Sold, Would Feed Over Two Million People at a Dollar a Day

WASTES, caused by the American method of doing things, is of so great magnitude as to fill one with wonder. Without making any attempt to go into the matter only in a general way, let us consider for a few moments the great causes, or avenues, through which these wastes come about.

According to the Farmers' Bulletin No. 192, on "Barnyard Manure," the domestic animals of the United States produce annually $2,225,700,000 worth of manure. Let us be conservative and figure that only one-third of this amount is wasted by the elements, and the other two-thirds utilized to the best advantage. This would amount to an annual loss to the farmers of $741,900,000. Should you consider this estimate too high, cut it in two, or divide by 4, and you still have an enormous sum of absolute waste.

Like Picking Up Money

Prof. Roberts estimates that a small farm on which four horses, twenty cows, fifty sheep and ten hogs are kept will produce $250 worth of manure in the seven winter months. Even at this, the amount to such a farm would be $83.33⅓ loss, were only one-third loss, which is a very conservative estimate, considering the present methods of management. According to this, the annual loss to the American soil would amount to $708,466,000. Amazing as this may seem, the annual loss in manure alone, if sold at a cash value as commercial fertilizers sell, the amount would be sufficiently large to board 2,032,602 people at a $1 hotel for one year of 365 days. This fertility is forever gone from the soil, and future generations must suffer the consequences. The way to stop this is to spread the manure on the land as fast as it accumulates. Such work is like picking up money and placing it in a savings bank to check on in the future. The $83.33⅓ lost annually on the American farm, with interest, would in thirty years amount to about $2,500, which is much more than the average lifetime accumulations of the American farmer.

Committing Agricultural Suicide

The farmer should remember that every load of straw, ton of hay, ear of corn, bushel of grain or animal that he sells off from his farm, carries so much fertility with it. To keep up even the present fertile condition of the soil, as much must be put back on the farm as is taken off, in shape of crops and washing rains. This waste is so immense that the welfare of the American population demands that it be stopped. Think of it—an annual loss of $83.33⅓ to the average farm—enough to buy a new wagon, or a good horse, two milk cows, or six calves. This seems as useless as it would be to allow an $80 horse to die unattended, when a little care would have saved it. The trouble is, we take all we can get and put nothing back. Like leeches, suckers, parasites or weasels, we are sucking the life-giving blood, not realizing that we are committing agricultural suicide, inviting famine and various calamities to injure this now half depleted land of ours.

Careless Selection of Seeds

An immense waste is caused by the careless selection of seeds. Poor seed of weak, or of no germinating power, causes poor stands of oats, wheat, clover, alfalfa, potatoes or corn, as well as all other crops. Lack of the use of the fanning mill allows injurious weed seed to become scattered and contaminates the farms. These and other careless methods cause an immense loss to the annual yield of the American farms. Indeed, our farms are producing hardly half what proper selection of seed and attention to the growing crops would justify one in expecting as a crop. These low yields cause a scarcity of foodstuffs, cause high prices to be paid for them and cause loss of labor for the laboring class, as there is so much less to harvest and market.

Another loss is sustained by using inferior animals for breeding purposes. Animals that inherit the "slow-growng or runty" qualities, that cause a loss to the owners thereof, as these animals sell for less on the market than the feed required to raise them would bring on the market. Among these may be mentioned the mixed breeds of poultry (to a certain extent), scrubby mixed breeds of hogs, cattle, sheep or horses. The loss alone in these to the people of the United States is immense. Hard feeding hogs, beef cattle, poor milk-yielding milk cows and slow-growing, small-sized horses are especially disastrous to those who mix up with them for profit.

Soil Wasted by Shallow Cultivation

Much of the fertility of our soil is wasted by shallow cultivation, as the rains wash off the top soil, when by deep plowing little washing would be encountered. Shallow cultivation is a promoter to weed grwth and a hindrance to successful crop growth. Lack of crop rotation impoverishes the soil and allows the numerous pests to multiply and ruin the growing crop more and more each succeeding year. To illustrate: The corn crop has its pests. These increase in numbers each succeeding year, and in time on land long put to corn. The planted

(CONTINUED ON PAGE TWENTY-SIX)

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The greatest elevation in the United States is Mt. Whitney, in California. The lowest point is in Death Valley, of the same state, not ninety miles away. The difference in elevation is 14,501 feet.

The greatest ocean depth yet found is a little more than eleven and one-half miles. This is found about forty miles north from Mindanao, in the Philippines.

A carload of Montana hogs topped the South St. Paul market early in February. They had been grown on alfalfa and finished on wheat. They weighed 487 pounds and dressed 80½ per cent. The corn belt hog growers will have to keep a-going if they keep ahead of Montana.

The Agricultural college of Iowa has done more exhaustive work in connection with the germination test of seed corn than has been done anywhere else. It publishes the results in a fifty-page bulletin, No. 135, which may be had on application to the bulletin section of the Experiment Station, Ames, Ia.

Most of the awful storms predicted by long range weather prophets have failed to materialize in this neck of the woods. Farmers are beginning to wish that these weather prophets would make their word good. They would endure any kind of storm for the sake of the moisture so badly needed by the soil. May be a Sirius-Arcturus-Orion combination might be able to pull off such a thing for the Missouri valley.

New Scheme for Farm Loans

This matter of affording facilities for making necessary loans to farmers on farm security has, of late, been receiving marked attention and discussion in all quarters. There has been considerable exploitation in this country of the German co-operative credit associations. This discussion seems to have divided people into two different camps, in one of which it is insisted that the whole matter of co-operative farm loans be directed and controlled by the farmers themselves, and the other camp is occupied by those who wish to retain all this business in the hands of banks and financial institutions. There is considerable question as to how the German system may be modified so as to be adapted to American conditions. In an article published last week, President Harris urged that the farmers improve their credit and their capacity for making loans at low rates by building up their farms and increasing their production. He urged that the business of farming, like any other business, depends upon its capacity for revenue to insure loans with the least degree of hazard, and consequently the lowest rate of interest.

Congressman Bathrick, from the northeastern section of Ohio, has introduced a bill in congress, according to the terms of which the government shall make loans to farmers at a rate of interest not to exceed 4½ per cent, the government to secure the necessary funds for these loans by issuing bonds carrying a somewhat lower rate. This would be co-operation on a broader scale than has yet been accomplished. In a republic all of the people would loan to a part of the people on farm property—the best form of security.

The proposer of the bill contends that as long as the government loans money to the banks at 2½ per cent, there is no theory to prevent its loaning to the farmer at 4½ per cent. Some hold that if the government loans money to the banks on the security of railroad and municipal bonds, it is safer business for the government to loan to farmers on the security of the farm—the earth itself, the best security in the world.

It is to be hoped that the readers of this paper will think over these various proposals for making it easier for farmers to secure loans, and will send in their criticisms or opinions or commendations. This paper believes that when any question is put fairly before the people and they are led to think of it, to argue about it, if necessary, to quarrel about it, they will finally solve it, and they will always solve it right. Let such a discussion start at once, and let the readers of this paper have the full advantage of it.

What is Hunger?

Recently, Prof. Carlson of the University of Chicago made a number of observations on a young man, in normal health, who for the last sixteen years has fed himself through a permanent opening in the stomach wall, owing to complete closure of the esophagus as the result of accidentally drinking a strong solution of caustic soda. He has furnished some interesting and conclusive contributions to the physiology of hunger.

There have been diverse theories of hunger from earlier days to the present era. Until quite recently, it has been widely believed that hunger is a general bodily sensation with a local reference to the stomach.

Some authorities have vigorously combated this view, and maintain that hunger is not a general sensation. Experiments have led to the conclusion that hunger results from powerful contractions of the stomach. With this general view, the observations which Carlson has now been able to make on his new subject are in accord.

Women in Agriculture

We have no objection to woman in the school, woman in the church, woman in business and profession. Woman in society is a recognized necessity, and in the home she is indispensible. Without her in this position, we would soon drift into a condition of savagery and disorganization. Woman in politics should not be a dangerous factor. We have trusted her with all that is near and dear to us in this life, and we cherish the faith and belief that she will be with us in the future world. Surely she will be on the side of right in all her privileges and opportunities as a citizen. Is she not as closely related to human nature and civilization as man?

Woman in agriculture has made a brilliant record as director, manager and supervisor of farm and agricultural interests. There are examples all over the country, in all communities, where the wife has been left to take up the work of farm management, and generally she has succeeded. She has made a great success in all the side lines of agriculture. More women have succeeded in the poultry industry than men. In the bee and honey industry some of the greatest apiarians have been women. As horticulturists, we can point to several women who have had the exclusive management and control of commercial orchards and are annually clearing up thousands of dollars profit.

There is just as much difference in women as in men. Why not? There are many lines of agricultural work that woman could take hold of and supervise and own, and be better off, more independent, than in many of the pursuits that are designated woman's work. Every feature of agriculture demands labor, and the business must be large enough to justify employment of help, if it can be carried on profitably, by the supervision of one person independent of their physical exertion. Some large farms and ranches are managed by women and successfully conducted. The possibilities of the woman as manager and her husband as laborer would fit the situation often, from a money-making point of view, much better than as now conducted.

There can be no exceptions taken to women as farm managers and they will as frequently fit the place as the average man. Give them the training and watch the results. The woman who can supervise the little things about the farm and home, and make them pay, will pretty surely suceed in the larger affairs in the same line of industry.

Commission Merchants

There is a bill now before the New York state legislature which is designed to prevent unfair dealing on the part of commission merchants. The following synopsis of the bill is taken from the Rural New Yorker:

Under its provisions, commission dealers, either individuals or corporations, cannot sell, receive or offer for sale within the state any kind of farm produce until they obtain a license from the commissioner of agriculture. This license costs $10. Before such a license is issued, each applicant must give a satisfactory bond for $10,000 to secure payment for farm produce. When a commission remains due and unpaid for thirty days, the consignor may sue on this bond. The commissioner of agriculture has the power to investigate complaints and may revoke a license. Commission merchants will not be permitted to purchase, or cause to be purchased, for their own account or interest, any farm produce consigned to them for sale or distribution. Report of sale or distribution must be made within forty-eight hours of such sale on forms approved by the commissioner of agriculture. The commissioner is required to establish uniform grades for farm produce. When these grades are made known, any consignor may mark grade or standard upon his packages. When produce marked in this way is received, the commission merchant must respect it. If, in his judgment, it is not up to grade, he must notify the nearest agent or inspector of agriculture. This inspector shall examine the shipment and give the commission merchant a certificate specifying the grade and quantity and condition of the goods. If the commission merchant fails to obtain such a certificate, he shall be deemed to have waived his right to claim that the shipment did not conform to the consignor's statement. The bill also aims to protect the rights of the commission man fairly.

The producers of the Missouri valley have as much or more cause for complaint against commission men than the producers of New York. Merchants say that they cannot afford to candle eggs, because the commission men report as many rots from candled cases as they do from the common run. All producers have cause for complaint of this kind. Unless something is done by the commission men themselves to change the present condition of affairs, in two years from now they will probably have to fight before their legislatures in order to defeat some such bill as has been outlined.

The Kansas legislature is inclined to be economical, if not parsimonious. Any appropriation, no matter how small, nor for what purpose, seems to give some of the members a nervous chill. They have just turned down in committee, a pure seed bill, a bill that is imperatively demanded by the best interest of Kansas agriculture, and would prove of inestimable benefit to Kansas farmers, simply because it carried a small appropriation. It is difficult to see how any pure seed bill could accomplish much unless there was sufficient money behind it to carry it into effect.

Consolidation in Kansas

Kansas has always been original in statecraft. They have done considerable political experimenting there, have made a few mistakes, have found these out for themselves and have corrected them, and, taken as a whole, have achieved some very valuable results which have afforded lessons to sister states. A few progressive ones there are now thinking of trying the experiment of consolidating the State Board of Horticulture, the State Board of Agriculture and the Academy of Science. They will probably learn something from this experimentation, for such a movement will prove to have been experimental in a large degree.

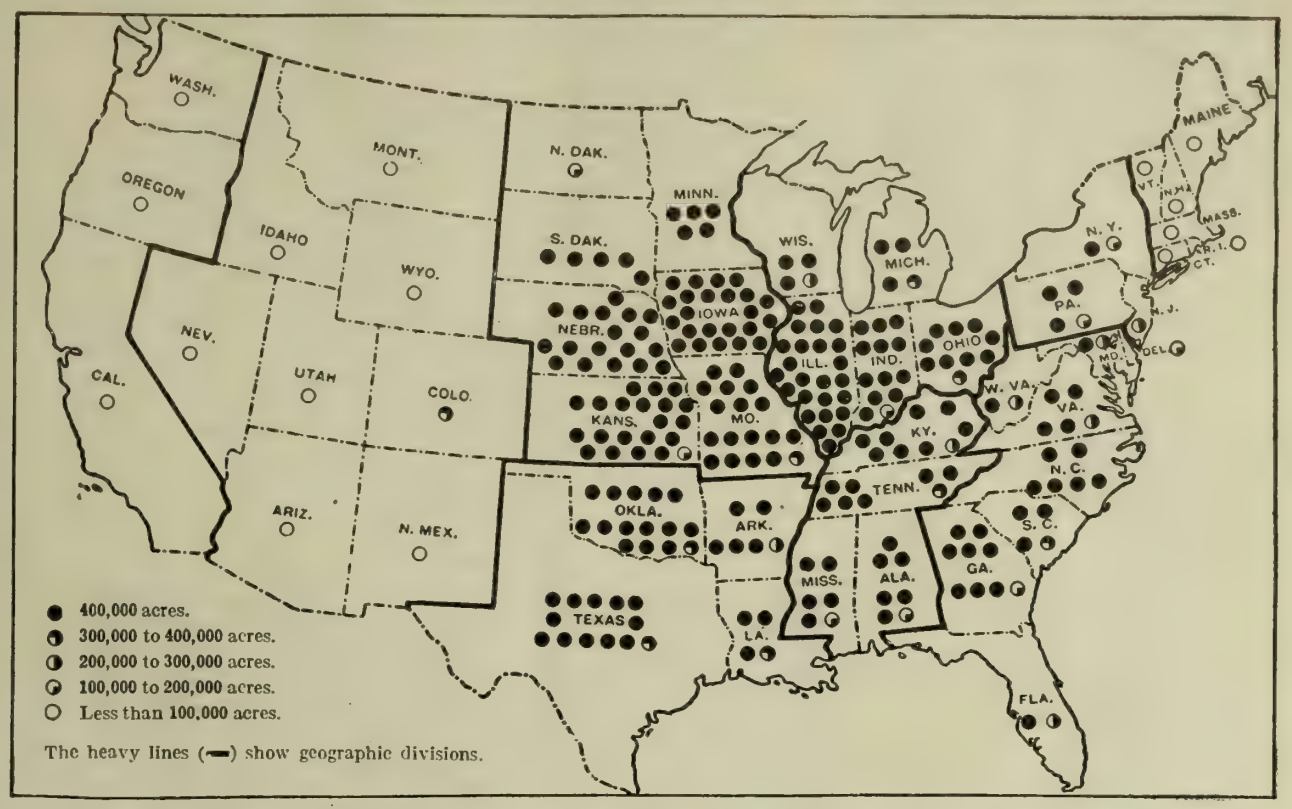
Consolidation literally means "solidifying together." In order for true consolidation to be possible, the elements entering into the consolidation must be of the same, or of a similar nature; otherwise the result would be merely a mechanical consolidation, a placing of different elements in juxtaposition merely. One may consolidate two piles of wood and make a third pile, which would be homogeneous throughout, as is implied in the use of the term "consolidation." It would be impossible to consolidate a cord of wood, a bushel of oats and a barrel of apples. These might be placed in juxtaposition, but this placing would not constitute consolidation.

Now it is possible to place the three organizations mentioned in juxtaposition under one management, but it will be absolutely impossible to consolidate them, because each differs so widely from both of the others in purpose, in method and in plan of operation.

Agriculture is so widely differentiated from horticulture that it is of rare occurrence to find a man that is adept in both. The horticulturist of the first order can, with difficulty, be at the same time a first-class agriculturist. The same is true with reference to the society devoted merely to the advancement of science. Each of these three associations has its separate field of labor entirely distinct from that of each of the others. For this reason it is a natural impossibility to consolidate them in any true consolidation. The most that can be done is to associate them in a purely mechanical consolidation, to place them in juxtaposition to each other, a condition that would inevitably work to the detriment of all.

Just a word to these Kansas progressives: This is not criticism or condemnation; it is merely an attempt to give helpful advice. Nearly 2,000 years ago bad matrimonial alliances were condemned in the commandment, "Be ye not unequally yoked together." That commandment is authoritative on individuals today, and the disobedience of that law has resulted in inestimable suffering and wrong. The same law should apply to organization. This paper is interested in Kansas development, and it is only because it wishes Kansas well that it prints what is here set forth.

The 1909 Acreage Planted in Corn by States



This map makes clear to a glance the total acreage planted in corn, by states, during the season 1909. It is reliable, since it is taken from the abstract of the official United States census of 1910, the last census taken. This shows where the United States grows its corn.

Birds Save the Crops

This is the declaration made by scientists and those who have spent much time in the study and investigation of bird life, their habits of feeding and general inclinations toward the destruction of insects. It is stated by good authority that more than $420,000,000 is the estimate of annual loss to the crops and farm interests of this country by insect pests, that are the natural food for our song, forest and field birds, when left to their natural inclinations. It is further stated that if these birds were properly protected from slaughter and destruction by the 5,000,000 men and boys who now practice their persistent system of depletion, that the birds in a very short time would be able to save to our producers and the country this astonishing sacrifice in waste of crops and agricultural-producing interests.

Legislatures are being appealed to from all over the country to take some very positive action in the interest of the birds as a means of crop protection. The quail and prairie chicken, over the western states, are receiving very strong indorsement for a closed season. Kansas has a closed season bill for quail, which has overwhelming indorsement and will surely become a law. It certainly is lack of information of the existing conditions that keeps lawmakers, in all states, from rallying to the support of the farmer in bird protection.

The United States Department of Agriculture made a study of the annual losses to the people of this country by the ravages of destructive insects in 1904, and so far as known the estimates published in the year book of that date have never been questioned or refuted.

The report is as folows: Cereals, 10 per cent loss, $200,000,000; hay, 10 per cent loss, $53,000,000; cotton, 10 per cent loss, $60,000,000; tobacco, 10 per cent loss, $5,300,000; truck crops, 20 per cent loss, $53,000,000; sugar, 10 per cent loss, $5,000,000; fruits, 20 per cent loss, $27,000,000; farm forests, 10 per cent loss, $11,000,000; miscellaneous crops, 10 per cent loss, 5,800,000; total, $420,000,000.

The details of damage to the various kinds of crops by their special enemies is too extended to enumerate in full, but a few among those that our readers are most concerned in will assist in giving a better idea how our interests are being affected. The fruit damage by codling moth and curculio is about $20,000,000; wheat crop, by chinch bugs and hessian fly, $20,000,000; cotton, by boll weevil, $20,000,000; tree insect pests, about $100,000,000; the other insects that feed on crops—grasshoppers, cutworms, army worms, wire worms, catterpillars, leaf hoppers and others innumerable—add millions more to the damage.

The value of the birds killed as game and for food is not equal to one one-thousandth of the value these birds would save to the people of our country if permitted to live and pursue their native instinct of insect-destroying.

Use Better Bulls

The suggestion of the advisability of better sires might with equal propriety apply to all lines of farm stock. The attention of the public mind is, however, more specially called at this time to expansion in cattle-breeding. There is now, and will be in the next few years, more breeding herds of cattle established than this country has ever known. Cattle-raising is being put upon a basis of profit to the producer. This is the feature that the times demand.

It is useless and silly to talk about legislative restrictions on cattle-breeding. This might do if one big company, or a few companies, were breeding all the cattle, but where each land owner may, if he sees fit, become a cattle breeder, it is altogether a different proposition. There is scarcely a possibility that any of the wild-eyed theories about regulating the slaughter of heifer calves, or female cattle of any age, will receive consideration before any body of legislators. On the contrary, every intelligent thinker knows that there could not be adopted a surer method of driving farmers and land owners out of the cattle business than to put restrictions on what they shall produce and how they shall dispose of it. Such laws would have the effect of decreasing cattle-raising.

What every farmer and land owner interested in cattle raising should do is to study the importance of good sires. It requires the investment of only a few dollars additional to own a good bull—a bull of individual merit, a bull that he would feel proud of owning, a bull that has a line of breeding that is practically a guarantee of his value in the improvement and bettering of quality in the herd. A good herd of cows need a good bull to keep up quality and improve and intensify it.

If an owner has a bunch of cows which are not what he should have as a cow foundation, then the greater need of an extra good bull, and he will make the mistake of his life if he does not get him.

The beginner in the cattle business should advise with his farm journal, read its advertising columns, correspond with advertisers. If he desires the counsel and advice of expert cattle judges, he should write to the live stock department of his agricultural paper and he will be advised and assisted in the selection of a bull that will be guaranteed satisfactory in pedigree, individual quality, and as a sire.

DE LAVAL
CREAM
SEPARATORS

TIME TESTED

If a member of your family were dangerously ill you wouldn't think of calling in an inexperienced doctor?

Certainly not! You would call a physician, who had built up a reputation, a man with experience and a successful practice.

Why not use the same care and common sense in your selection of a cream separator?

Every little while you hear of some new cream separator, claiming to be a "world beater" and just as good as the De Laval but a little cheaper.

These "mushroom" machines stay in the limelight only until they are "found wanting" by the users and in a short time drop out of sight.

It takes years of experience to build a "good" cream separator. More than 30 years of experiments and experience have made the De Laval pre-eminently the best machine on the market for the separation of cream from milk.

Even were other concerns not prevented by the De Laval patents from making a machine exactly like the De Laval they could not build as good a machine as the De Laval, because they all lack the De Laval manufacturing experience and organization.

If you buy a De Laval you run no risk of dissatisfaction or loss. It's time tested and time proven. Why experiment? Why take chances with an inferior machine when you KNOW that the De Laval is the BEST MACHINE FOR YOU TO BUY?

The new 72-page De Laval Dairy Haud Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request if you mention this paper. New 1913 De Laval catalog also mailed upon request. Write to nearest office.

THE DE LAVAL SEPARATOR CO.

165 BROADWAY, NEW YORK. 29 E. MADISON ST., CHICAGO.

4 Amazing Features

The 1913 Saginaw now has four amazing features—the **Patented Angle Steel Rib, the Saginaw Base Anchor, the Saginaw Inner Anchor, the All-Steel Door Frame.** No wonder the Saginaw is as strong as a city sky-scraper. No wonder 587 Saginaws have been sold in a single day. No wonder five big factories are needed to supply the Saginaw demand. Farmers and Stockmen all over the country are simply delighted with the "Saginaw." And you will be, too, when you get our Book which pictures and describes the Saginaw. Remember, the Book is **FREE.** Just send a postal now for Book No. 62 and it will come by **return mail.**

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FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento, **CALIFORNIA**

Missouri Valley Fruit Growing

II—Voice of Pessimist No Longer Heard

WE HAVE, in a previous article, introduced the prospects and possibilities of fruit growing in the district of country geographically described as the Missouri river country; that portion of the central west, defined more definitely as tributary to the Missouri river in its water drainage, comprising that vast area of agricultural lands extending from the Dakotas on the north to Texas on the south. While this district has not all been fully exploited, as to its certainties in fruit production there is no reason yet to doubt that it will not all be liberally contributing to the markets of the country, especially in the great staple crop—apples.

The ice has been broken, so to speak; the stream has been successfully forded and great fields have been converted to vineyards and orchards, and the fruits are before the people. There is no longer a condition of uncertainty in the mind of man. The pessimist, that years ago preached from the tree tops all over this country of the fallacies of fruit culture, has disappeared. His voice is no longer heard in the land, but instead, we see the fruit trees on every hand bowed down, bearing testimony by their immense crops of big, red apples that the harvest is here, that the days of prosperity have dawned in apple culture and that henceforth there shall be fruit in its season and to spare. What a gracious proclamation these Missouri valley orchards are sending forth to the horticulturist, the land seeker, the home builder, the man of orchard inclinations and the man of opportunity, who may avail himself of a few acres of this rich paradise of fruit interest.

Men Who Are Doing Things

While the territory described in this area as Nebraska, Iowa, Kansas and Missouri is today a living example of the possibilities of fruit-growing, where hundreds of instances may be cited in each of these states, showing that orchards, both large and small, have yielded last year, 1912, from $100 to $500 per acre in fruits, there are some small orchards of a few acres that have greatly exceeded these figures. It is our purpose to give the readers the benefit of these extraordinary yields that they may profit by an acquaintance with the growers and with the men who are doing things. This class of producers we regard as the best educators the country contains.

The publication of what the Missouri valley is capable of doing, and is doing, in fruit growing is not to mislead or induce everyone who has a few thousand, or even a few hundred, dollars, to quit their present business and invest it in fruit-growing, but simply to inform the public what is being done in this land of corn and hogs in the matter of apple-growing. It is true there is a tendency to unrest, a sort of discontent, covering a very large per cent of the people; a belief that they are not rightly located in life; that they should be on the land; that this is the source of all prosperity, and that they would be much happier, more contented and better off generally in the raising of fruits or engaged in some of the smaller lines of farm industry.

Orchard Scene in the Fred W. Wheddan Orchard Near Brownville, Neb.

Not Everyone Will Succeed

Fruit-growing is a business peculiar to itself. It is not everyone who will succeed in fruit-growing, no matter how well adapted the soil may be for this work, or the influences of climate may be. There are successes and failures in all kinds of business. The business is not usually at fault for the failures; it is the lack of adaptation of the person engaged in the business. Before investing in fruit lands, or plannig to go into the fruit-growing business, determine if you have the taste, inclination and desire to become interested in this work.

No man will make a success in any line of business undertaking unless his sympathy is in the work. A natural liking and adaptation for fruit culture must accompany the person in order to assure success.

In short, the orchardist must be a horticulturist in spirit and purpose; with this quality and a disposition to work, success is assured, and you need not look farther than

When you drive to town, count the buildings covered with

Ready Roofing

The men who purchase roofing for railroad depots, large factories and warehouses are shrewd buyers—they investigate and *know*. You, too, will make no mistake if you cover your home and farm buildings with

Certain-teed

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Roofing
in Rolls and Shingles

Its durability is guaranteed for 15 years—it comes in red, green and slate gray shingles as well as rolls. Look for the ***Certain-teed*** quality label. Costs *less*—get prices from your dealer.

Valuable Book *Free*

You will find many valuable suggestions in our new book, **"Modern Building Ideas and Plans"**—it tells you what to do—and what not to do—it suggests economies and conveniences that will save you money.

A book of this kind would ordinarily sell for $1—but as it shows the use of our ***Certain-teed*** Roofing on all kinds of model homes and farm buildings, we offer it to you at 25 cents. We prefer to have you go to your lumber, hardware or building material dealer, who will gladly get you a copy ***free.***

If you write us, enclose 25c to cover cost, postage and mailing.

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LOW ONE-WAY COLONIST FARES

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$30 from Omaha to California and Pacific Northwest.

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Now is the time to make arrangements to visit this rich and growing section of the west and select a farm home for yourself and family where large crops and handsome profits are made from small tracts of land planted to orchards or truck gardens. Some crop matures every season of the year—your land is never idle.

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Protected by Automatic Electric Block Safety Signals.
Dustless Roadbed. Double Track.

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Southern Farm Facts

Land at $10 an acre up

Alfalfa makes 4 to 6 tons per acre; Corn 60 to 100 bu. All hay crops yield heavily. Beef and Pork produced at 3 to 4 cents per lb.—Apples pay $100 to $500 an acre; Truck crops $100 to $400; other yields in proportion.

THE SOUTHERN RAILWAY

Mobile & Ohio R.R. or Ga. So. & Fla. Ry. will help you find a home in this land of opportunity. Booklets and other facts—free.

M. V. RICHARDS, Land and Industrial Agent
Room 94 Washington, D. C.

e Missouri valley country to make ur start, especially if you are al- 'y located in this district.

Stop, Think and Plan

Fruit-raising opportunities are al- ost without limit, then why not ke time to stop, think and plan to ake your home on the little fruit rm that you contemplate buying: ave you observed how some people emingly go mad over the extrava- nt stories that the fruit land ped- er rehearses in the presentation of s fruit orchard schemes? Six ndred dollars per acre, po sibly, r a five or ten-acre tract; $100 per re down and balance divided into e anual payments, are the custo- ary terms of sale, and the produc- g orchard is to be turned over, in ll bearing, when this last payment made. Thousands of miles away, ssibly, perhaps on the Pacific ast. It may be oranges, lemons prunes. It used to be prunes be- e the suckers all got so full of nes that they didn't know what s the matter with them; now it is ples or peaches.

There is a prevailing tendency ong people of all classes and oc- pations to own fruit farms. This not a fancy or fad, but a desire t seems natural or inborn with American citizen. Fruit appeals everyone as a most desirable food. e very tendency of its creation in wild and uncultivated surround- gs suggests the ease with which it y be had, almost without the ask- , labor or expense of cultivation. is this easy side of the fruit im- ession that has misled thousands persons, and influenced them to op everything else and go into the lit or orcharding industry as an y means of livelihood.

Fruit Lands Not Limited

The enticing influence of "The , red apple" has had its efect in couraging organized land schemes the sale of lands at extravagant ces in various districts of coun- as especially adapted to success- orcharding. The facts are that fruit lands of the United States, the lands of this country, adapted the successful orcharding industry almost without limit. Each year w districts are developing aston- ing results in fruit production d districts are being revived that ve been abandoned for half a cen- y as a failure in profitable fruit- owing. Wherever we turn there conditions of soil and climate apted to the successful production some kinds of fruit orcharding in ne of its varied features of indus- .

It is just coming to the knowledge d light of the present period of rticultural investigation that the it belt is very, very wide in this ntry; that there is practically no it to it when the proper means d understanding of fruit culture is eligently studied and applied in work. Ohio has just discovered t it has a large area of very val- ble fruit country on the east and th side of the state, where the ds are rough, hilly and cheap, not ted to agricultural purposes.

The agricultural college of the io State university has been ex- rimenting, engaged in a sort of ssionary work in tryng to redeem some of the old apple orchards that have drifted into decay and lost their bearing habits. They have encouraged the planting of new orchards upon a basis of up-to-date scientific methods; they have discovered that old archards, by a system of pruning, spraying and cultiavtion, have been made to yield thousands of dollars' worth of apples, where formerly they had passed into a condition of neglect and decay and were no longer recognized as orchards, but turned into sheep pastures and were scarcely able to furnish their owners revenue sufficient to pay the taxes that were anually assessed against them.

Selling is Half of Fruit Business

Listen while I tell you of some recent experiences in that old fruit state, Ohio, that permitted its orchards to dwindle down to remnants a wrecks of their former great yielding prosperity, when apples were only regarded as hog feed above what was needed for family use. Only this last season, 1912, the Simons Orchard company, in Gallia county, Ohio, produced, on hill land, from a young orchard, 3,500 barrels of extra fine apples. This land is selling for $60 per acre and less, owing to location.

The varieties they have are Ben Davis, Rome Beauty, Grimes Goldent Jonathan, Yellow Transparent and Baldwin, all in the list of general producers all over the apple-growing districts. These apples are graded and packed in boxes and barrels and labeled with name of variety, name of grower and their guarantee with the motto, "Same all through, U C top U C all." There is special stress put on the selling end of the business by this company. "The selling is half of the fruit business." The trees are kept mulched with manure and straw, and about five pounds of nitrate of soda are scattered around each tree every season, and they are kept pruned and properly sprayed.

Thousand Bushels Per Acre

Further proof that fruit-growing is on the ascendancy in Ohio is furnished by W. H. Sears of Belmont county, who picked 300 bushels of fine apples from three-tenths of an acre, 1,000 bushels per acre. The crop was sold at 60 cents per bushel above all expense of packages, etc., delivered direct to the railroad station from the orchard. While this is only a small family orchard, comprising less than two acres in all its fruit classifications, it emphasizes the possibilities of apple-growing. Of course, everyone who reads or thinks along the subject of horticulture knows why it is that the old eastern states are not producing fruit as they once did.

This little plat of ground that represents Mr. Sears' apple-growing efforts has a very careful account kept of all its behavior. In 1910 the yield was 800 bushels, net profit $368; 1911 yield was 350 bushels, net profit $172.50; 1912 yield was 795 bushels, net profit $311.51; total net profit for the three years, $852.01. These last estimates represent one and one-half acres of apple orchard. The figures represent net proceeds, after deducting all expense of labor, pruning, spraying,

(CONTINUED ON PAGE THIRTY.)

"Standard" Spring Bargains

Embroidered All-Over Waist $1.00

4W1—This entire waist is formed of fine, prettily-patterned Swiss all-over embroidery. A charming new style, smartly lace trimmed, and with the new epaulet trimming on shoulders. Effectively finished with a dressy, chic jabot. Perfectly made of rich, attractive appearance and serviceable quality. Would be good $1.75 value. Special, postage prepaid **$1.00**

Satisfaction Guaranteed or Your Money Back.

Brocaded Seco Silk Waist $1.00

2W1—A dressy new waist of the fashionable Brocaded Seco Silk—a pretty, serviceable fabric, charmingly designed and with button trimmed revers. The yoke, collar and cuffs are of dainty all-over lace, and waist comes in white, light blue, lavendar or black. A regular $1.75 quality (prepaid). Sizes 32 to 44 bust... **$1.00**

BROCADED SECO SILK

2ND298 **$2.98**

2ND298—A real pretty dress in a very popular and extremely becoming effect. Besides, it's a bargain you'll appreciate as it represents a big saving at this special price. Smartly fashioned of splendid quality Poplin—a durable fabric that will launder beautifully and comes in white, light blue, pink, lavender or tan. The front, collar and cuffs are most tastefully embroidered in rich Madeira needlework. You couldn't find a daintier trimming, nor can anything surpass it in distinctiveness and good style. Prettily piped throughout and closes in front. The skirt is perfectly fitted and finished with panelled back. Regular $4.50 quality. Postpaid... **$2.98**
(Ladies' sizes 34 to 44. Misses' 14 to 18.)

1ND1 **$1.00**

Write today to the
Standard Mail Order Co.
274 W. 17th St., New York City
for your FREE copy of the
"STANDARD" Spring Bulletin
It's just brimful of real money-saving bargains in beautiful new clothes.
Send at once—it's FREE

1ND1—Yes, this is undoubtedly the biggest dress value you ever saw. And, you'll be equally pleased with the dainty, becoming style. Carefully made of good washable Gingham in neat black, blue or lavender checks. Jaunty white pique collar trimmed in back with fast-color black and the smart pique vest with novel black revers. Turned-up cuffs and buttons to match. Hooks conveniently in front and fashioned liberally full. A good $1.75 value. Special, postage postpaid, Ladies' 34 to 44, Misses' 14 to 18..... **$1.00**

R90—Here's a very novel little dress for girls 6 to 14 years old. Smartly designed with full bodice of dainty white Crossbar Nainsook and deep-pleated skirt of staunch, washable French Gingham in neat blue, black or pink checks. Prettily banded with gingham and smart button trimmed loops. $1.50 dress. (Postpaid) **90c**

R90 90c

2HR100 $1.00

2HR100 - Fashionable 2 piece Outfit dress of good quality linene. Box pleated under-blouse with bow and leather belt. An exceedingly smart effect is obtained in the deep pleated skirt of contrasting material. Comes with white blouse and blue skirt or blue blouse and white skirt all sizes. Suitable for girls from 6 to 14 years. Postpaid **$1.00**

6E100 **$1.00**

6E100—A splendid "Standard" money-saving opportunity in a dress petticoat. Made of serviceable CAMBRIC neatly trimmed with a beautiful embroidery flouncing, headed by a wide matched embroidery insertion drawn with ribbon. A bow at the side is tastefully applied and the petticoat flounce insured extra durability. $1.50 quality. (Postage prepaid) **$1.00**
(32 to 34 Length.)

$1.49

$1.49

S149—An excellent value and a practical, serviceable skirt of splendid quality WHIPCORD in Black, Blue, Gray or Tan. The distinctive feature of this smartly tailored skirt is its becoming box pleated effect. The opposite buttoning of pleats lends a beautiful, full sweep and the satin cuts fall in effectively trimmed with self-covered buttons. The pockets, back pleats and [illegible] are strongly stitched with silk and the [illegible] with an inside [illegible] Postage prepaid **$1.49**

Standard Mail Order Co.
274 W. 17th St., New York.

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$59.90 Gets This Triple Panel Auto-Seat Buggy

Over 49,000 sold because farmers can easily see the value offered. Up to the minute in style and finish. Materials and construction that make it **easy** for us to guarantee absolute satisfaction during the entire life of the buggy. Triple panel auto seat, genuine leather upholstering, highest type body construction, triple braced shafts, best wheels made, full wrought fifth wheel, real long distance self oiling axle. New Style Auto Skeleton Top. Shipped from warehouse near you. Price, **$59.90.**

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Thousands of others are saving from $35.00 to $50.00 by ordering their vehicles through the Sears-Roebuck Special Vehicle Book. Why not send a postal card, see for yourself the many styles, the snappy designs and the low prices? Read how they are made and what they are made of. Read our straightforward guarantee of absolute satisfaction. Then decide where you will buy your vehicles for 1913, But send for the book now. A postal will do.

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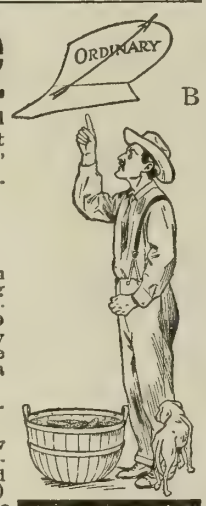


between a Rock Island "C.T.X." Universal and the commonplace kind of plow. They cost about the same. But *remember*, the "C.T.X." Universal means "fat" crops, while the common plow is apt to mean "*skinny*" crops.

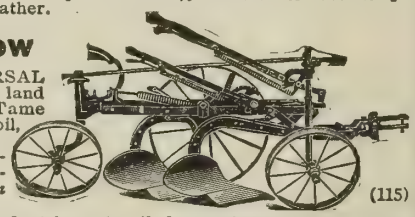
Beware of Air Spaces

Those innocent-looking air spaces left between topsoil and subsoil when plowing have been costing the American farmer MORE THAN ALL OBNOXIOUS WEEDS, BUGS, PESTS, SCALES AND PARASITES COMBINED. Air spaces completely *cut off* the water supply from below and cause crops to start withering and drying up the minute a hot, dry spell comes.

Get a plow that *doesn't LEAVE any air spaces*—the Rock Island "C.T.X." Universal.

Note the peculiar, corkscrew shape of this plow *bottom.* (Picture A.) The arrow shows how dirt travels—backward and *DOWNWARD*, not backward and UPWARD as in the ordinary plow. (Picture B.) The Rock Island Universal doesn't spill any dirt into the furrow; turns the slice clear over, without crimping. Lays it flat and smooth, at the same time pulverizing it thoroughly and burying all trash. Topsoil lies right against subsoil—doesn't leave fatal air spaces. Water comes up from below, *just like kerosene comes up your lamp wick.* It feeds the crop in dry weather.

A Real UNIVERSAL Plow



And don't forget, *this plow* is a UNIVERSAL plow—does perfect work in *any* soil on any land that's plowable. It walks right through Tame Sod, Heavy Clay, Sandy Loam, Mixed Soil, Stubble Fields, Old Cornfields, etc.

No wonder the Rock Island "C.T.X." Universal has become the sensation of the farming world. *Yet it costs practically no more than the average plow!*

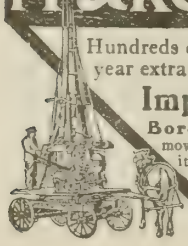
(115)

WRITE! Send your name on a postal today and get, by next mail, the complete story of the Rock Island "C.T.X." Universal. All about how it's made; pictures of its different parts, etc. We will also send you the name of your home merchant who sells Rock Island Implements, so you can go see this plow and judge it for yourself. Just write these words on your postal, Am interested in plows. Then sign your name and address and send the card to

Rock Island Plow Co.
388 **Second Avenue, Rock Island, Ill.**

Rock Island (C.T.X.) Universal Plow

Make $2000.00 more per Year



Hundreds of farmers **right now** are making from $1000.00 to $2000.00 a year extra money, besides keeping up their farm work, making wells with the

Improved Powers Boring and Drilling Machine

Bores 100 ft. in 10 hours. One man can run it; a team operates it and easily moves it over any road; Bores slate, coal, soapstone—everything except hard rock, and it drills that. No tower or staking—rotates its own drill.

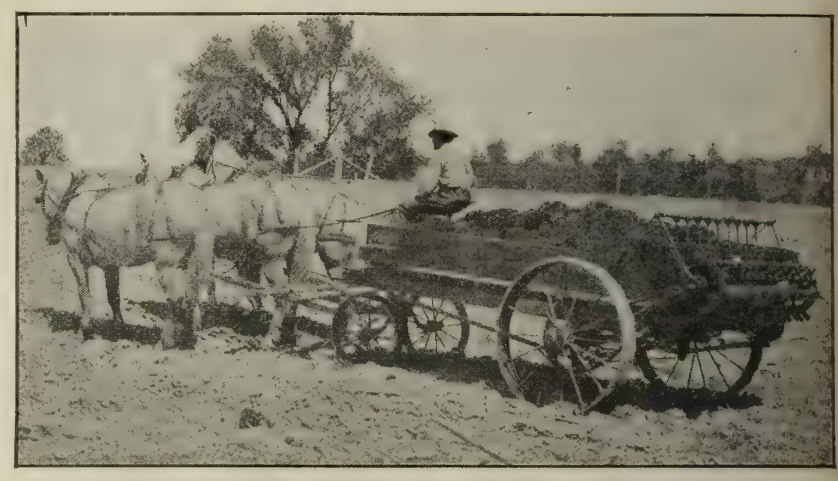
20 years actual service all over the world have proven this the fastest and most convenient well machine made. Easy terms. Write for catalog.

LISLE M'F'G. CO., - - Box 429 **Clarinda, Iowa.**

Handling Soil for Production

VII---Uses and Value of Stable Manure

THERE is a marked prejudice on the part of many farmers in the middle west against the use of manure for growing crops. Such assert that manure kills the soil, burns out the crops and does more damage than it does good. In times past there have been grounds for this prejudice. The use of manure has been abused; it has not been properly used, or in the proper amount, and much danger has resulted from such misuse. Nevertheless, the fact remains as stable as the hills, that manure, when properly applied at the proper time and in the proper way, has never injured either soil or crop, but has always benefited them. Like most good things in nature, it may be used in such a way as to prove an injury, while on the other hand, when properly used, it is always a benefit.



Manure Spreader Ready to Start for the Henly Ranch, Greencastle, Mo.

The farm lands of the middle west are deficient in vegetable matter, and the more they are cultivated, the greater this deficiency becomes. Growing crops use this vegetable matter in the soil and cause it to disappear. Scientific soil chemists and agronomists are not agreed as to the proper definition of the word humus, some of them using it as equivalent to any organic matter in the soil, and others using it as, in some degree, a product of organic matter in the soil. The amount of organic matter in the virgin soil of the middle west is very much greater than is ordinarily supposed. This organic matter has come, in the main, from the decay of the roots of grass and other vegetation. It is estimated that the upper foot of a virgin prairie of blue stem sod contains more than eleven tons of grass roots to the acre. Continued cropping, taken in connection with erosion and wash, caused by excessive rainfall, has continually diminished this amount, until over the cultivated area of this section of the country the principal lack in the soil is a lack of a sufficient quantity of this organic matter. If our capacity for agricultural production is to be maintained, this supply of organic matter in the soil must be maintained. Unless the soil is liberally fed with it, production is sure to fall off. Let no one delude himself into thinking that, as his soil becomes more and more unproductive, he can restore it to its virginal productivity by the use of commercial fertilizers. Commercial fertilizers alone will not do this. Most unproductive soils are not so much lacking in the elements of fertility as they are in lacking the means of making these elements available for the use of plants. Commercial fertilizers applied simultaneously with an adequate amount of organic matter may go far toward doing this. But the principal crying need of most of our worn soils is for a liberal supply of organic matter in the soil. The easiest and cheapest way for answering this demand is through the application of stable and barnyard manure.

Why Manure is Valuable

It has been the custom from time immemorial to regard manure as valuable chiefly for the amount of plant food that it adds to the soil, for the increase in fertility that it gives to land. It is, no doubt, valuable for this, but this by no means constitutes its chief value. The different purposes that it subserves are as follows:

If a quantity of common, ordinary prairie soil is evaporated to perfect dryness, and all moisture in it driven off by heat, 100 pounds of such dried soil, if water is applied to it slowly, as rain would apply it, will hold from forty-seven to forty-nine pounds of water, without permitting any of it to run off. This represents the saturation capacity of 100 pounds of dried soil. If 100 pounds of absolutely dried manure be treated in the same way, it will be found capable of holding about 144 pounds of water before it reaches the saturation point; or, in other words, it will hold nearly one and a half times its own weight of water. It follows, then, as a matter of course, that if the two are mixed thoroughly together, the water-holding capacity of the soil will be vastly increased. This will enable the soil to take and hold as free water whatever rainfall it receives, until such time as will be required to enable it to pass down into the subsoil. What all soil workers most need is to have the moisture, necessary for the production of crops,

stored in the subsoil. This is the extreme need of the semi-arid districts, and it is only a lesser need in regions of more abundant rainfall. Even in these more favored localities there come times when crops fail for lack of necessary subsoil moisture. This increase in the water-holding capacity of the soil correspondingly lessens the danger of loss to the soil that comes from soil erosion and washing of fertility out of the soil.

Changes Mechanical Structure

If one, through a series of years, applies to a heavy soil, lacking organic matter, a sufficient amount of manure, he will find that he has changed the soil structure by the use of manure from a heavy, solid, soggy condition to a lighter, more penetrable, spongy condition. This open, spongy condition of the soil is helpful to vegetable growth. It enables the roots of plants to penetrate quickly into the pores of the soil, where they may be protected from the bad effects of wind and sun. It also changes a cold, repellent soil into one capable of taking and holding the heat of the sun, and thus becoming sufficiently warmed to promote the most rapid and healthful development of vegetable growth. Such a soil is more easily accessible to air and moisture and heat, all of which are helpful to production.

Helps Make Plant Food Available

Manure, when applied to the soil, undergoes a process of fermentation and decay. This fermentation and decay are produced by bacterial activity in manure. When this process takes place in the soil, the manure indefinitely multiplies the number of bacteria in the soil and increases their capacity for activity. In this process of decay certain chemical products result, which are of great assistance in rendering the plant food already in the soil, available for the use of plants. It is a question between the chemist and the bacteriologist whether this aid to availability is purely the result of chemical reaction, or exclusively performed through the agency of the bacteria, or whether both agencies co-operate in bringing about this result. It is well known that bacteria play a very important part in the soil life of plants. Anything that multiplies the number of bacteria, or that increases their efficient activity, will probably materially assist plant growth.

Manure Adds Plant Food to Soil

From what has already been said, it becomes apparent that soils that are not lacking in plant food may be highly benefited by the right use of manure. Even if there were no lack of fertility, it would still be profitable to use it. But manure contains certain definitely to be ascertained amounts of plant food. Different kinds of manure differ in the kind of plant food that they contain, and in the amount of each kind that they contain. In other words, some manures may be said to be rich and others poor. Some manures, especially liquid manures, are especially rich in nitrogen; others may contain in greater amount the other elements of plant food. A ton of mixed manure, judged solely on the basis of the market value of the chemical elements that it contains, is worth, on an average, not far from $2.50. This is its value considered as a fertilizer merely. Its value for other purposes is indefinitely greater. If a ton of alfalfa hay were converted directly into manure it would contain fertilizer elements to the value of $7.56. A ton of wheat bran similarly converted would have a similar value. Both of these are almost as good for fertilizers after they have passed through live stock as they were before. The real value, then, of a ton of alfalfa hay is the amount of its food value added to its fertilizer value. It has the same food value, ton for ton, that a ton of bran has. If bran is worth only $20 a ton, and its present market value is much more than that, then the full value of a ton of alfalfa hay would be $27.56. And some farmers sell alfalfa hay as low as $6 a ton! Is such a farmer conducting his farming according to strict, economic business methods?

From this it will be seen that the value of manure merely for fertilizing purposes depends upon what elements enter into its composition and in what amounts they are present.

Popular Impression Erroneous

The popular impression that manure is valuable only as a fertilizer must be given up. It has other values greater than this. It increases indefinitely the water-holding capacity of the soil; it changes the mechanical, molecular structure of the soil; it helps to make the plant food, already in the soil, available for the use of plants; it makes possible a more thorough aeration and ventilation of the soil. These effects are needed even on soils not lacking in fertility. The use of plenty of manure, by supplying the necessary organic content of the soil, makes all these effects possible. Henceforth, let no farmer neglect his manure heap. It is his best friend; it is his soil's best friend; it will help to make his soil productive; it will help to increase his bank account. But let him use his friend as friends should be used, in such a way as to make the friendship beneficial, instead of injurious.

A Note

The answer to a question asked by F. M. Smith, Lovelocks, Nev., returned as unclaimed. As the address given in this letter was written in pencil and quite indistinct, the fault might be mine in not directing aright. An answer to query sent in by N. Havens, Brooks, Ind., also returned unclaimed. A letter from A. D. B. Farmer, Amity, Ore., thanks us kindly for furnishing the address he asked for, and also for taking the trouble to minutely describe that chick scourge, white diarrhea. We heartily appreciate this letter.

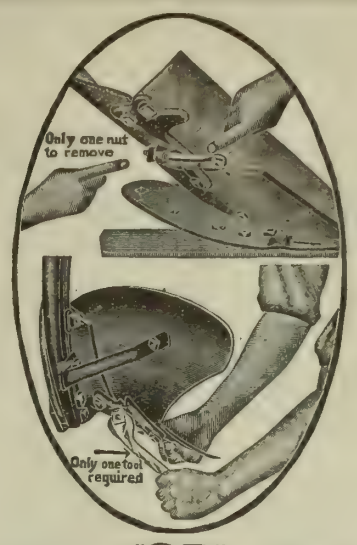
Business Instinct

During a pause in the sermon the deacon leaned over and whispered to the minister:

"Remember, you are going to say something about the high cost of living."

"I haven't forgotten it," replied the minister. "I'll speak of that as soon as the collection has been taken up."—Lippincott's.

Makes the Plow Users Hardest Task Easy



One Nut to Remove—The Job is Done

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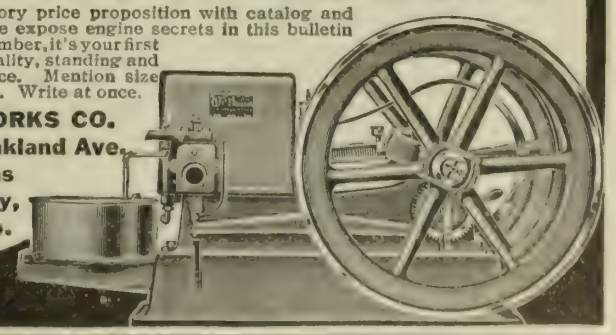

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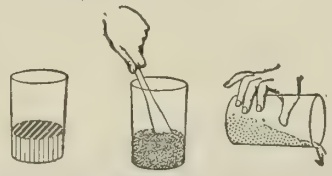
TO a paste made of white lead and water, add linseed oil and stir.

Watch the oil drive out the water! Presto! an *oil* paste instead of water paste.

Dutch Boy White Lead and Dutch Boy Linseed Oil rush together and cling together just that way on the house *painted* with them.

What chance has rain or snow to dissolve *such* paint?



White lead and water, with layer of linseed oil.

Mixture of white lead, linseed oil and water.

Water poured off, leaving white lead and linseed oil.

Dutch Boy White Lead—white in the keg—any color you want to make it on the house.

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Rearing Boys on the Farm

VI---Duty of Man to the Boy

TWENTY years ago a young preacher, fresh from a small college, came, with his bride, into a rural community in Iowa to preach in the country school house. He may not have known much about theology, but he did know something about boys, for he tied up his life to a 16-year-old boy in in the parish. He pitched hay with him; he helped him do chores; he fished with him. He became the boy's ideal and inspiration and pointed him the way, through further schooling, to a larger and broader life than he had yet known. He didn't reach the boy by preaching; he did it by living.

It's the influence of another personality that shapes the life of a boy, and usually that person is someone older and stronger than himself.

There is nothing needed quite so much anywhere as the right kind of adult leadership, and this is particularly true in the rural communities. Country boys reared largely alone are waiting for someone to guide them. This leader may be a country pastor, the village or country school teacher, some man or woman in the community, or one of the older boys himself.

Need Someone to Guide

There is no place where the right kind of man or woman can count for more than here, and this leadership can be expressed in a number of ways. We have said in a previous paper that boys organize spontaneously in the early 'teen years. The man who has had some college athletic training can wield an unmeasured influence in the farm or village. As sponsor for the village base ball team he can guard it against the many difficulties to which such teams are always subject. He can control the Sunday situation and can change it from being the menace to morals, which it is in many instances, into a real factor for good. Boys' organizations, improperly supervised, almost invariably degenerate.

The pastor of a country or village church is a happy man if he is looking for opportunities for service. He has the opportunity of coming in vital touch with the boys who will be the leaders of their own and other communities a few years hence. They are looking for guidance. Ordinarily the minister has about the best education of any man in town. This of itself constitutes an asset for him, but if he would lead boys, he must first of all be a man.

Some of the best leadership comes from the men in our public schools, men whose first concern is for the boys under their care. It takes a wise teacher to be at the same time a leader, but it can be done.

Wise Leadership

But leadership does not need to be confined to those who by virtue of their occupation are expected to exhibit these qualities. On the contrary, the farmer himself may mean much more to the boy life of the community than anyone else. There are a number of avenues in which this may be done. Take, for instance, the cultivation of good reading. We knew a woman once, hard-worked, careworn, who had on her sitting room table some of the best magazines the day afforded. Magazines were not plentiful in farm homes in those days, and the boys of the neighborhood used to stop, as they were welcome to do, and read. Any fairly well-to-do farmer can do this for his community. Then he can stand sponsor for the public school library and see that its shelves are well furnished with books. He can make no better investment of his money.

There is great need for someone to teach boys the dignity of farm work. Too often it is a mere drudgery. This can be done by means of corn contests, judging contests, etc. A judging contest might be as much of a drawing card for the county fair as some of the questionable shows which are now sometimes too prominent.

A leader in the community will always stand for the very best possible public schools. He will insist on having a good teacher; he will see that she is provided with adequate equipment with which to work. Many a farmer who has the very latest inventions in farm implements is willing for his boy to sit in a poorly constructed seat, with out-of-date books.

Easy to Do Work With Boys

Anyone who would lead boys must learn one great lesson—that it is easy to do work with boys, but it is extremely difficult to do work for them. He who makes the boys feel that he is working with them, that his interests and their interests are one, can quickly win them to himself; he who seeks to impose something from the outside has a hard task.

Then, an earnest leader will stand positively for a clean community in which boys can be raised. If the road from Jerusalem to Jericho is infested with thieves, it is high time that we clean up the road. There is need for men to stand for clean speech around the threshing machine, or at the public sale. Sometimes leadership will imply cleaning out the village pool hall or drug store. Sometimes it takes sand to be a leader, but the knowledge of boys' lievs touched for right and inspired to do the big things of life makes it worth while. E. F. DENISON.

Weeds on the Farm

It is estimated that the annual loss in the United States to farmers caused by weeds is over $300,000,000. Now is the time to stop this tremendous loss. It can be done by paying attention to the seed grown. The winter months are ideal to clean and fan the small grain. Not only should we get rid of the weed seeds, but the small, shrunken and inferior kernels should also be removed from seed grain.

The Interstate Commerce Commission recently cut the rates on live stock from Arizona points to Los Angeles and California feed lots.

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How you can grow it on your land
How to get "catch" first planting
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How to get more than average crops

These and hundreds of other questions that you want answered are clearly and distinctly covered in our new book just issued entitled "Alfalfa—Wonder Crop". This remarkable book contains a priceless fund of information about alfalfa growing, secured from many sources; United States Government, State Experiment Stations, the best posted authorities and successful growers. In simple language, easy to understand, it tells just the things that you want to know before you start to raise this greatest of all $cash money$ crops. This book will convince you that you have some land on your farm where you can profitably grow alfalfa. This information was secured at a great cost of time, money and research. It tells how to grow alfalfa, how to get results from first planting, how to select the field and prepare the soil. It tells all about fertilization, plowing, liming, preparing the seed, when to plant and how to plant. Tells what to do during the growing period, how to get bigger than average crops, and how to cut and cure. The contents of this book are worth many dollars to the farmer interested in growing alfalfa. This book is ordinarily sold for 25 cents but we will gladly send it without cost or obligation of any kind if you answer at once. Don't put it off—write for free book today.

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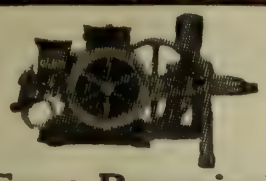

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You'll get your water at low cost, you save a lot of time and work—you'll have an engine that will do your pumping in a short time and be ready for general service the rest of the day. To make pumping no job at all, hitch this engine to a

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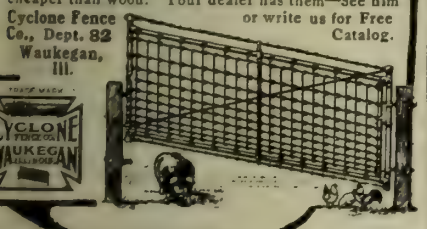

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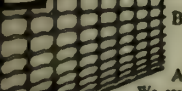

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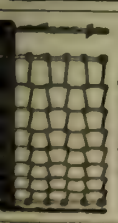

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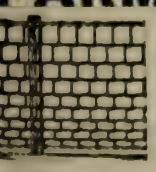

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Second Prize—Concrete Barn and Roof, 164 Barrels of Cement Used—Photo Submitted by H. A. Nolte, Elkhorn, Neb.

IT IS a notable fact that cement is coming more and more into use on the average farm. Many farmers are finding out that a cemnt construction is more durable, and, all things considered, much less expensive.

The farmer, however, that desires to get the best possible use from cement must be on his guard not to yield to the temptation to cheapen his product by using a less amount of cement than permanence of structure would demand. The ordinary rule for mixing cement for farm use is the 1, 2, 3 rule, which means one measure of cement to two of sand and three of crushed rock. Practical, experienced cement users say, "Follow the rule, and then add a little more cement." The farmer that uses cement will be wise to adopt this suggestion.

A structure composed of concrete, if it lacks the requisite amount of cement, will be brittle and easily broken, and besides, will absorb water, which, when it freezes, will cause the wall to chip. Use plenty of cement; it will be found to be cheap r in the end.

Stable floors, outdoor cellars for keeping vegetables, water tanks, watering troughs and many similar appliances may be built more cheaply and more permanently from a cement concrete than from lumber. All that is needed is sufficient care in mixing the ingredients, and then giving plenty of time for the mortar to set firmly after it has been put in place.

Missouri's Annual Farm Train

Missouri has established what it terms its annual farm train, which is conducted on the lines of the Kansas City, Clinton & Springfield railroad, in Missouri. This train is at the servce of the extension department of Missouri's agricultural educators and embodies practically every feature of farm interest. Lectures are given to the citizens all along the line, at every station. The home economics department will be supplied this year by women lecturers.

The free distribution of plants, seeds and eggs will be a new feature this year. The giving away of 18,000 strawberry plants, 3,000 packages of garden and field seeds and 1,200 eggs from fancy, prize-winnin~ poultry will be an incentive for attendance that promises already to be no mistake in the wisdom of the planner. This excursion will commence at Springfield March 17. The special seed and lecture trains have been of inestimable value to all states that have been fortunate enough to secure their service.

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Madero Talks About Mexico and Revolution

By Frank G. Carpenter

MEXICO CITY—I recently had a most interesting interview with the president of the Mexican republic. The audience was arranged through the United States embassy. The hour fixed was 4:30 p. m., and the place was the national palace. This palace is one of the largest buildings on the North American continent; it covers almost ten acres, standing on the same site where Montezuma had his palace and where, later on, Cortez lived. It is near the great cathedral, facing the Plaza de la Constitution, and in the very heart of the city.

The palace contains the executive offices of the government and those of five of the cabinet ministers. It has also the senate chamber, the national museum and some scientific bureaus. It consists of large rooms, running around courts, or patios, with floors of stone; it has three entrances from the front, and over its main gate hangs the liberty bell of Mexico, which was first rung by a Spanish priest the night of September 13, 1810, to call the people to arms to fight for their rights, and which is now rung at midnight on every anniversary of that night by the president himself.

It was through this gate that I came into the palace, passing the armed soldiers at the entrance. Inside I met the chief officer of the president's guard and by him was directed to the second floor, where I found several hundred people awaiting the president. My heart fell as I looked, for with all that crowd to be received my chance for a good, long newspaper talk with his excellency, Senor Don Francisco Madero, seemed very slim. However, I gave my card to the officials at the door of the lobby and took a seat with the crowd.

In Democratic Mexico

As I looked over the waiting throng, each of whom had some matter of one kind or other to present to the president, I was impressed with the democracy of Mexico. The people were of all classes and conditions of men, and of much more varied conditions than could be seen in a similar crowd at the White House. There were two score of gentlemen and ladies, representing

Francisco I. Madero, Elected President October 14, 1911. Deposed from the Presidency and Exiled February 19, 1913

the rich. The men wore silk hats and frock coats, and were as carefully dressed as if they were to be received at the court of Berlin; there were women in silks, wearing broad-brimmed hats, trimmed with ostrich feathers, and with gloves on their hands and jewels galore; there were people of the middle classes, substantial merchants in business suits and nice looking women and girls modestly clothed. On one sofa I saw three ladies in black; one was 60 or more years of age. Next her was a buxom woman of 30, while further on sat a girl of 16. All of these had black shawls over their heads. Further on were two girls in black, who seemed in deep mourning; their costumes were so black they were striking. There was not a bit of white to be seen anywhere except in the pale hue of their ivory skins and in the silver buckles on the high-heeled black slippers which peeped out below their black skirts; there was no lace at the throat or the wrists, and their black hats were loaded with black ostrich feathers.

And then there were haciendados, or rich farmers, who came in typical Mexican costumes; they had on tight embroidered trousers and roundabout jackets and sombreros loaded with gold and silver braid. There were also the people of the lowest classes, and even the peons. There were at least a score of Indians in blankets, each of whom had a great sombrero, which he rested on his knees or laid over his feet as he sat there and waited. Most of the peasants were in their bare feet, except for the sandals or strips of sole leather, which were tied on with straps and out of which plainly showed the bare, red, rough skin of the instep and their rosy-red, ragged-nailed toes.

The President Arrives

After waiting a while with this crowd, the major-domo, or aide-de-camp of the president, a handsome young officer in uniform, with a clanking sword at his side and silver spurs on his heels, stepped forth and called out, "Senor Carpenter," and it seemed to me that, as a foreigner, I was to be preferred over the others. I came to the front and was told that my interview had been arranged for. This man admitted me into a

(CONTINUED ON PAGE TWENTY-SEVEN.)

Ambassador Henry L. Wilson, Making the Speech in Which Uncle Sam Gave the Statue of Washington to Mexico

GOOD-NATURED AGAIN
Good Humor Returns with Change to Proper Food

"For many years I was a constant sufferer from indigestion and nervousness, amounting almost to prostration," writes a Montana man.

"My blood was impoverished, the vision was blurred and weak, with moving spots before my eyes. This was a steady, daily condition. I grew ill-tempered, and eventually got so nervous I could not keep my books posted, nor handle accounts satisfactorily. I can't describe my sufferings.

"Nothing I ate agreed with me, till one day I happened to notice Grape-Nuts in a grocery store, and bought a package out of curiosity to know what it was.

'I liked the food from the very first, eating it with cream, and now I buy it by the case and use it daily. I soon found that Grape-Nuts food was supplying brain and nerve force as nothing in the drug line ever had done or could do.

"It wasn't long before I was restored to health, comfort and happiness.

"Through the use of Grape-Nuts food my digestion has been restored, my nerves are steady once more, my eyesight is good again, my mental faculties are clear and acute and I have become so good-natured that my friends are truly astonished at the change. I feel younger and better than I have for twenty years. No amount of money would induce me to surrender what I have gained through the use of Grape-Nuts food." Name given by Postum Co., Battle Creek, Mich. "There's a reason." Read the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.—Advertisement.

Of Interest to Our Women Readers

Nebraska

(A Midsummer Phantasy.)

ight, warm and fragrant, rests upon the land,
On shallow waters drifting idly by,
ulling the drowsy cattle as they stand
In soft content beneath the open sky.

uspended o'er the broad and rolling field,
Like slender sickle, hangs the newborn noon,
'aiting until the teeming soil shall yield
Its golden harvest to the summer's noon.

hile splendid Jupiter in proud advance
Leads forth his starry legions on their march;
nd more remote the twinkling footsteps dance
Of nameless suns in heaven's unfathom'd arch.

Oh Hark!
ow the musical murmur of myriad songs,
nd the delicate trills of invisible throngs
ill the palpitant air with a message appealing
f diminutive lovers their secrets revealing!

he stately corn in close, unbroken file,
Silent and ghostly, with martial strain,
ike some mysterious army, mile on mile,
Follows the undulations of the plain.

o arms it bears, but from each noble shaft,
Full twice the measure of a man in height,
oring swelling ears of grain, with tender craft
Fashioned from elements of earth and light.

ere is Nebraska's pride—her treasure store!
Brimming her coffers with its golden stream;
icher than fabled mine of precious ore,
Passing the toll of Midas' fairest dream.

Oh See!
ow the whimsical breeze makes a ripple of light
s it tosses the silvery tassels in flight,
waking the gloom with a tremulous bustle
f whisper'd commotion and sibilant rustle!

—Edith Grant.

Our Home Chat

The Utah Agricultural college has ıst published a bulletin entitled, Labor-Saving Devices for the Farm ome" (Circular No. 7, Extension ivision), by Leah D. Widtsoe, which very farm home keeper should ave. When useful and practical abor-savers are brought to our attention, with their ridiculously low ost, it makes one almost ashamed f having done without them, especially those small kitchen and ooking conveniences which cost rom 5 cents to 25 cents, and pay or themselves, in time saved, within week.

Mrs, Widtsoe, in speaking of the ecessity of women finding some reef for their overcrowding duties nd labors, says:

"Man's work on the farm is intense, while it lasts, and it may over long hours, but when it is one, it is done, and the man rests while the earth rests. A woman orks incessantly while the man oes, but she has no period of rest, or busy fingers must use even the vening hours. During the night, lso, when the tired body should renvigorate itself for the morning's oil by sound, unbroken slumber, he woman is more often than not isturbed by a restless, ill or nursing hild.

"In the matter of securing hired elp, man's work on the farm is nore easily done than woman's. While at times it may be difficult o men to get all the help they eed, still more men than women re available.

"Besides the performance of her sual daily tasks, most women have the keen joy, as well as the great strain of bearing and rearing a family of children. This alone could occupy most of a woman's energy, but it must be done in addition to many pressing tasks, and as a result many children 'just grow.' Most men think it very bad policy to work their horses or use their cows to the last day before giving birth to young, but how many men think it necessary that a wife have a month's rest or recreation before that blessed period comes to her life?

"Either the average woman must have ways and means of performing her work with as little expenditure of energy as possible, or else she is going to wear out completely. From every point of view it is clear that woman should be enabled to do her work in the easiest possible way. It makes for the health and happiness of the entire family."

THE EDITOR.

Housecleaning

Beginning to think about the spring housecleaning, sister? Dreading it a bit, are you? Mostly, I expect, because John, or Tom, or whoever the particular man may be, gets so irritable—so positively cross—if you chance to touch his desk, or any of his belongings. Listen: I don't blame him! No—not the very least little bit; for, do you know, nothing comes so near stirring the very depths of my soul as to have one of the uninitiated go near my desk.

Two or three congenial spirits I know are who are allowed there, because I know they will not so much as lay a finger on my belongings; but if, as occasionally happens, one of the unallowed draws near, I watch every move with an anxious eye.

Try this year, sister, putting yourself in his place, just for once. Don't think your cleaning must be done in the twinkling of an eye. Indeed, personally, I don't believe in housecleaning; I think it is rather a relic of the dark ages. Once my bookcase used to be a source of dread to me. I had periodical times for cleaning it; it took a full half day, and I was dirty and tired at the end. Now that is done away with. I don't allow it to reach the point where a thorough cleaning is necessary, for each week, at the weekly sweeping and dusting, one shelf is cleaned. It is no effort, takes but little time and, doing them in rotation, the whole is kept practically clean continuously.

So, in a house, if it is kept clean all the year round, one room done and then another, at regular intervals, there need be no general upheaval of the whole house, with all the confusion and discomfort entailed thereby. But, if you have not tried it that way and have it all to clean now, go about it slowly and easily; take it room by room; don't upset everything at the same time, and don't work all day. Get up early in the morning if you like, for one can accomplish more then than during any other part of the day; but when it comes to noon, stop. You owe it to yourself, to your husband and to every member of your family.

If you have a woman in helping, let her work by herself in the afternoon, except for your own oversight and suggestions, for that is her work, but yours is in keeping the joy and comfort of home intact. Have one room finished before she starts on the next, and if, along in the afternoon, when she begins to lag and seem tired, you bring her a cup of hot tea, with a sandwich or a piece of pie, or cake, and give her a chance to sit in a rocking chair while she eats and drinks, you will find she can work far better, besides warming her heart, and your own as well, by the little touch of humanity.

And when it comes to that desk, if you would save many heart burnings, many tears, touch it with a careful hand. Throw nothing away. Do not try to bring order out of what looks to you like disorder. Put everything back, as nearly as possible, in exactly the place you took it from. And, let me whisper, if the one man is very touchy about that one particular thing, I would save the desk until he comes; then, slipping your hand within his, with a little throb of joy in your heart because you, as well as the desk, belong to him, tackle it together and so save all the tears.

LOU P. STEARNS.

Brief Recipes

Take one-half turnips and one-half potatoes, slice, boil and mash together, seasoning the same as potatoes. Add butter or cream when taking them up.

Crumble several crackers into a can of salmon, add boiled potatoes, mix thoroughly, season with salt and pepper, make into biscuits, roll them in flour and fry in hot lard.

One-half flour and one-half cornmeal, mixed together and baked in biscuits, make a bread fit for a queen, it being not only better flavored than corn or wheat bread alone, but cheaper and easier of digestion.

Boil rabbit till it is very tender, remove meat from the bone, take about two-thirds rabbit meat and one-third pork, chop up fine, season with sage, salt and pepper, roll into sausages and fry. During winter this may be put down in lard, and will need only to be warmed over when desired for the table.

Place any desired quantity of stale, dry bread in either sweet or sour milk and let it soak over night. Season this the next morning, beat into a batter and fry into pancakes. Stale bread is even more healthful than fresh bread, but must be free from mold, must or filth of any kind, else it cannot be rendered fit for human food.

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Fashions : Costume Ideas in Waists and Skirts

THERE seems to be no one accepted length for the new spring coat. The imported models show the short and three-quarter lengths in tempting form, and since there are women whose figures are adapted to either one or the other of these styles, both promise to receive an equal share of attention. Some houses feature the short, hip length jacket, with back and front pieces cut in one, and oddly-shaped basque arranged so as to give the effect of a draped girdle. Others, again, specialize in the bolero and blouse effects, in which the belt figures prominently, while the three-quarter length coat is well represented in simple tailored models, as well as those of a more elaborate character.

One handsome costume of greenish gray ottoman silk was accompanied by a three-quarter coat, with a basque abruptly cutaway in front and laid in plaits at the back. The Russian blouse tendency was decidedly pronounced. The broad, plain belt of the same material terminated at the sides, leaving the front perfectly plain but for a large enameled button surrounded by green stones, which was used for the closing.

The Byron collar is a smart detail of many coats and is developed in contrasting stuffs of rich oriental design. A jacket of taupe gray poplin had one of these collars in brocade, with shades of blue, green and silver, in striking contrast to the somber hue of the poplin. The high, rolling collar will also be very much worn. The thick look it imparts to the neck is considered ultra-fashionable. The flat, shawl collar combines cleverly with this form, one being set inside the other.

Cording, in different widths, embellish suits, dresses and wraps. In many cases it follows the outline of the armholes, the cuffs and collar, and emphasizes other points of the costume. Handsome ornaments made by braiding, or twisting the cord together, are used in place of buttons, or as a drapery holder on skirts.

The draped skirt is associated with the dressy jacket for spring, and their effect together is harmonious and artistic. The drapery is generally applied below the hips. Very often the front of the skirt is left entirely devoid of drapery, the back containing it all, and in other instances it is exactly vice versa. Drapery brought around from the back and gathered into a panel in front is an arrangement that is simple and effective and very much in evidence. One characteristic of the new coat and draped skirt is the lack of seams where they really should exist.

4907 4946

36 requiring 2⅝ yards of 27-inch material, with ½-yard eponge. Price, 15 cents.

4948

4756

4912 4905

4908

4931 4913

How to Order Patterns

The Twentieth Century Farmer will supply readers with perfect fitting patterns; all seams allowed.

With every pattern a cutting and construction guide.

When ordering give number of pattern desired and the size.

Address Pattern Department, The Twentieth Century Farmer, Omaha, Neb.

Description of Patterns

4948—The smartest-tailored shirtwaists are the absolutely plain models with Byron collar. Developed in plain white satin or brocade, they are extremely fashionable, but striped or plain wash silks are also much used. Waist No. 4948 is in sizes 32, 34, 36, 38, 40 and 42 inches bust measure, size 36 requiring 3⅛ yards of 27-inch material. Price, 15 cents.

4756—The jauntiness of the middy blouse has made it a general favorite with women as well as girls. The model slips on over the head, the laced opening making this convenient. Long or short sleeves may be chosen. Linen is illustrated with collar and cuffs of eponge. Middy Waist No. 4756, sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure, size 36 requiring 2¼ yards of 27-inch satin, iwth 1 yard of 36-inch all-over net lace for outside portions and 1⅜ yards 18-inch all-over lace for undersleeves and chemisette. Price, 15 cents.

4912—In this waist net lace over China or liberty silk is illustrated with trimmings of velvet and chemisette of plain net. A lining pattern is included. Waist No. 4912, sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure, size 36 requiring 3⅝ yards of 27-inch material, with ½-yard 20-inch velvet for the collar and cuffs. Price, 15 cents.

4905—Old blue albatross piped with dark blue velvet proved a pretty selection for this simple blouse. Collar and cuffs of white satin or cotton crepe improve the model wonderfully. Sleeves may be long or short. Waist No. 4905, sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure, size 36 requiring 2½ yards of 36-inch material, with ¼-yard 36-inch contrasting material. Price, 15 cents.

4907—The back gore, with the gathers held in at the top by a straight strap, is the new feature of this smart skirt model. Three gores make up the skirt, and the width around the lower edge is 2⅛ yards. Skirt No. 4907, sizes 21, 22, 24, 26, 28, 30, 32 and 34 inches waist measure, size 26 requiring 2⅝ yards of 54-inch material. Price, 15 cents.

4946—This four-gored skirt is quite a departure from the ordiary designs. A narrow inset panel separates the side front gores, while the unique back gore consists of a plaited portion and a plain applied upper section suggesting a postilion back. Skirt No. 4946, sizes 21, 22, 24, 26, 28, 30 and 32 inches waist measure, size 26 requiring 2⅞ yards of 54-inch material. Price, 15 cents.

4913—This attractive draped skirt is cut in three gores. The drapery, which is joined in the side seam, may be omitted, as the skirt is complete without it. Width 2⅜ yards. Skirt No. 4913, sizes 21, 22, 24, 26, 28, 30 and 32 inches waist measure, size 26 requiring 3⅜ yards of 36-inch material, with 1½ yards extra for the drapery. Price of pattern, 15 cents.

4908—Charmeuse and net lace were combined for this charming waist, while Venise was used for the undersleeves and chemisette. The closing is at the back, and a lining is supplied. Waist No. 4908, sizes 32, 34, 36, 38, 40, 42 and 44 inches bust measure, size 36 requiring 2¼ yards of 27-inch satin, iwth 1 yard of 36-inch all-over net lace for outside portions and 1⅜ yards 18-inch all-over lace for undersleeves and chemisette. Price, 15 cents.

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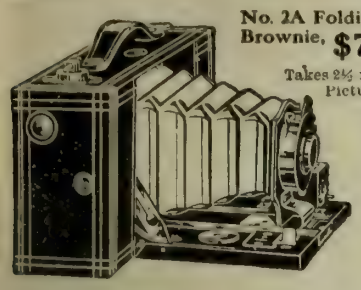

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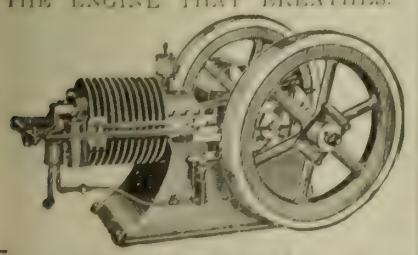

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Shorthorn Mission

Less than a generation ago it was the prevalent opinion among farmers that they were not in need of and could not be helped by scientific agriculturists. Among many, "book farming," as they termed it, was held in contempt. It is true that agricultural education at that time was in its infancy and was very incomplete, but it held the principles on which a broad and helpful system of scientific agricultural education was afterward developed. The sons and grandsons of men who had no patience with "book farming" have gone to agricultural schools and obtained the knowledge necessary to enable them to intelligently undertake the various problems of farm life—the restoration of soil fertility, the introduction of better varieties of grain and the improvement of live stock. Tedious and costly experiments, conducted at state and national expense, have introduced varieties of wheat that are hardier and more resistent to frost and that add materially to the annual productive value of the land. Other experimenters have introduced new varieties of cotton, with longer fiber, of better quality; while still others are experimenting to increase the disease-resisting powers of both plants and animals. All these efforts are worth while and many have already increased the knowledge and wealth of the agricultural class. Very few farmers have the time or convenience to conduct such experiments as these, but all farmers should have the ambition to improve methods, grain and live stock. The farmer who increases the productive value of his land, either by restoring soil fertility or by raising better grain, gains personal success and, to a limited extent, becomes a public benefactor. If this be true of the grain farmer, what can be said of the progressive stock grower? There never was a time when there was as great need of growing two pounds of beef where only one grew before. Such a marked increase may be possible only in some instances, but very great improvement is needed in the cattle of the majority of farms. The scarcity of beef cattle and their resultant high value will surely stimulate their production on farms from which cattle were eliminated by the low prices of fifteen years ago. In restoring cattle to the farms it will be an improvident and unwise man who will be content with cattle of indifferent quality. Feed has been high and will not likely be low again for some years. Hence only well bred cattle that give good returns for feed consumed and that contribute to the wants of the farmer will be profitable. Not every farmer can breed pure bred cattle, but none can afford to raise scrubs.

Under present prospective conditions, raising beef cattle on the farms will give a handsome profit. As a foundation for this industry, short horns are well adapted to every purpose. A searching test of more than 100 years in this country has fully demonstrated their worth. They are docile in disposition; they mature early, fatten easily and, when matured, have greater weight than others. For the production of beef and milk, they are the farmer's cattle.

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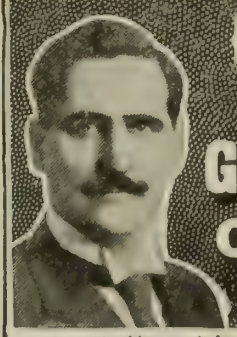

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Why! when my own experts came to me and told me the results of their final tests on this machine on which they had been working for three years I'll confess I didn't think such things were possible. Now, *after testing the separator itself, I know that they were justified a hundred times over in every claim made.*

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Save $25 to $50 on the First Cost Alone

If you do decide to keep this separator after the free trial, I'll let you have it at *actual factory cost* with only *one small factory profit* added. You pay no middleman's profit—I sell direct from my factory to you.

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Positively the greatest offer I've ever been able to make. If you will write at once, I'll tell you how you may get one of these wonderful separators *either partly or entirely free* and without any work or canvassing either.

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If you write at once I'll send you a copy of the great Galloway Cow Book absolutely free. The only book of its kind in the world. A mine of information for the farmer. Worth hundreds of dollars to me, but regularly it is FREE. I'll send it free and prepaid, together with my big separator catalog and full particulars of my great offer to you if you will write me at once or letter RIGHT AWAY. Write me NOW!

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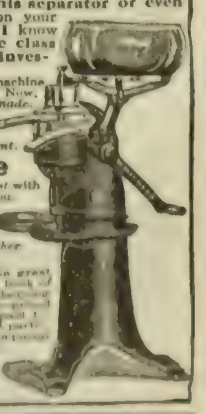
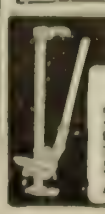
413 Galloway Sta., Waterloo, Ia.





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Now is the time to paint your roofs—and the paint for the job is Sherwin-Williams Roof and Bridge Paint

All through the year in every kind of weather a roof needs the protection of a good, durable paint as much as in winter.

Sherwin-Williams' Roof and Bridge Paint is made for the painting of barns, metal and tin roofs, bridges, iron work and unplaned lumber. It covers well, works freely under the brush—and lasts. It is sold by dealers everywhere. Ask for color cards. This paint is but one of the many Sherwin-Williams Paints and Varnishes for protecting and beautifying your buildings and other property. Write for our booklet,

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You Cannot Buy a Poor Boot if you ask for "Ball-Band" Boots. Look for the Red Ball on the Knee.

You don't hear men who wear "Ball-Band" Rubber Footwear complaining about the *quality* or *fit* of their boots.

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The Marlin hammerless 12-gauge repeating shotgun, Model 28, is a fine-appearing, beautifully-balanced gun, without any objectionable humps or bumps; no holes on top for gas to blow out through or water to get in; can't freeze up with rain, snow, or sleet; it's solid steel breech (not a shell of wood) permits a thoroughly symmetrical gun without sacrificing strength or safety; **it is the safest breech-loading shotgun ever built.**

It is **Hammerless** with **Solid Steel Breech** (inside as well as out)—**Solid Top—Side Ejection—Matted Barrel** (which costs $4.00 extra on other guns)—**Press Button Cartridge Release**—(to remove loaded cartridges quickly from magazine without working through action) **Double Extractors—Take-Down Feature—Trigger and Hammer Safety.** Handles rapidly; guaranteed in shooting ability; price standard **Grade "A" gun, $22.60.**

Send 3 stamps postage for big catalog describing No. 28 A, B, C, D, T and Trap Special and all other **Marlin** repeating rifles and shotguns. Do it now!

The Marlin Firearms Co.,
149 Willow Street, New Haven, Conn

Stories by Our Young People

When I've Been Bad

When I've been bad, my mother says,
"All right, son. Just you wait!"
And when night comes, we listen
For my father at the gate.
And if it's me that hears him first,
I run to let him in,
And tell him all about it
'Fore mother can begin.

And sometimes when I've finished,
He looks down at me and grins,
And says that it reminds him
Of his own boyhood sins;
Then he leads me in to mother,
And he says, "Poor little lad,
I really don't think, sweetheart,
That he's been so very bad."

But last night, by the window,
While I watched the shadows creep,
My eyes got very heavy,
And I, somehow, fell asleep.
I could have told him easy,
Just why I screamed and kicked;
But mother was ahead of me—
And that time I got licked!

—Anna May Cooper in St. Nicholas.

The Editor's Corner

Dear Boys and Girls: Many of you have written stories of how dogs have been the means of saving lives, and also preserving property, but not many have supposed that a cat may also render valuable service. Here is a true story of how a cat in all probability saved many lives in New York City, in a very large apartment house, in which many families live, each having its own set of rooms, a fire broke out. It was in the middle of the night and everyone was asleep. The fire had gotten a good headway and no one had awakened, when a kitten belonging to one of the families smelled the smoke. Now, kitty did not like the smoke, and she wanted out. She called and finally "youle1" just as hard as she could. She kept it up until she had awakened the people by her cries. As soon as they opened the door they discovered the smoke, and they started the alarm. Every one got out of the building, and the firemen succeeded in putting out the fire before a great deal of damage was done. But it is dreadful to think what might have happened had not that kitten been there.

THE EDITOR.

(Prize Story.)

One of the Family

By Audrey Akerman, Aged 13, Thompsonville, Mich. Original. Blue.

Jennie is the youngest member of our family and is very highly esteemed by all who know her. We love her very dearly, even our dog, Snoozer, and the cat, Puss, are very fond of her, and would not harm her for the world. Jennie is rather small for her age, but is very bright and sensible for one so young as she. She is dark-complexioned, but has eyes of a heavenly blue. She has learned to walk quite well and enjoys above all things to play with Puss. She has also learned to say a few words. When she hears her name spoken she answers by making sound that sounds very much like she was trying to say, "What."

I am sorry to say she has not been enjoying the good health she has been accustomed to, but I presume with proper care she will pull through all right. But if anything out of the ordinary should happen our beloved Jennie, we will never cease to remember her, but will always look back with sadness upon the remembrance of our precious cat.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

(Honorable Mention.)

The Farmer Girl

By Inez Van Etten, Aged 14, Easton, Ill. Original. Red.

Out from the kitchen,
Pail upon arm,
Goes little Mildred,
Girl of the farm.

Running on errands,
Bringing in wood,
Dinner time's hungry,
Appetite's good.

Happy when working,
Happy at play,
No task she's shirking,
Wee Mildred May.

When stars are gleaming,
And prayers are said,
Angel eyes beaming,
Watch o'er her bed

Old Jack

By Hollis Livinghouse, Aged 13, Madison, Neb. Original. Blue.

We had been camping for two or three weeks. It was early in January and bitter cold. We had been hunting and started for our camp. When about three miles from our camp a snowstorm arose; there was a very high wind and the snowflakes were falling fast. We came upon some tracks in the snow, but, to our dismay, we found that they were our own tracks. We had been walking in a circle and were lost on the open prairie. We were talking about what we should do, when suddenly there apeared a horse; it was "Old Jack," the favorite of the camp.

"If anyone can show us the way to the camp, Jack surely can."

We took hold of his bridle, turned him loose and followed him. We were soon in our camp. Our friends were very glad to see us; they soon had a blazing fire in the fireplace and supper ready. After this event old Jack did not have any work to do.

My Canary

By Mabel M. Coker, Aged 11, Afton, Ia. Original. Red.

I am a little tame canary. My name is Dick. I am all yellow except a little dark spot on the top of my head. When I first saw the light of day I was in a big cage with my mother, sister and brother. My mother's name is Bonny. When I was about 3 weeks old my mistress gave me to a little girl, who is very good to me, and in return for her kindness I sing her many a cheering song. This little girl's name is Mable. She feeds me crackers and celery leaves. When Mable's mother runs the sewing machine I sing with all my might. There is a little black and white kitten here that looks at me as though she would like to eat

me, but Mable is very careful to keep me out of her reach. I will be 1 year old next February.

John's Pet Pig

By Walter Williams, Aged 14, Alliance, Neb. Original. Blue.

John lived on a farm, so he had many pets. One of his pets was a small, white pig. His pig would follow him to town and had gone so many times that he knew the way. One Sunday John was playing with him and his mother called him to get ready for church and he forgot to lock the pig up. When he was in church the choir had just quit singing and the minister was just about to begin his sermon, when John heard familiar grunts, and, looking back, he saw his pet pig coming up the aisle. John took the pig on the seat beside him and waited for church to let out. When it let out John took the pig home and gave it a scolding, but the pig didn't care much for that. After that he always locked the pig up when he went to church.

The Lost Knife

By Lucile M. Tash, Aged 10, Walla Walla, Wash. Original. Red.

I am a knife. First I was in a store. One day a man and a little boy came into the store to buy a knife. The clerk showed them several knives, but they found some fault with all of them. Pretty soon the clerk showed them me; they said:

"There is a dandy."

They bought me. One day when my master was whittling with me I slipped and cut his finger. He threw me away and went into the house crying. Pretty soon he came outside to hunt me, but he could not find me. One day a litlte girl found me and gave me to the boy, and he threw me away again.

The Happiest Boys

A Chicago youth of 19, blind from early childhood, experienced the sensation of restored sight on Christmas eve and shouted with a joy he scarcely could express. A St. Paul boy who lost his legs received a pair of artificial limbs for a Christmas present and exclaimed that he was the happiest boy in America, with the richest Christmas gift.

What a priceless heritage is an unimpaired body with all natural powers and faculties intact! But it sometime seems to requires affliction to make us duly appreciative of the blessing. Here is this poor boy permanently deprived of his natural limbs shouting in ecstacy over the gift of unatural ones, while thousands of other boys with two sound legs that bear them swiftly wherever they wish to go, find something to make them unhappy, which means ungrateful. What would the crippled boy not give for his own feet and legs again? And the lesson is aplicable to the old as well as the young.

Additional Stories

Blue—Margarette Hassack, Armstrong, Ia.; Agnes Stofferan, Sheldon, Ia.; Mary Clarks, Casper, Wyo.

Red—Fern Sanders, Easton, Ill.; Alta Williams, Athensville, Id.; Orrie Campbell, Hubbard, Neb.; Inez Van Etten, Easton, Ill.; Wilbert Hilgenbrenck, Quincy, Ill.

A Bad Upset

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE—Bessie Kries, Ontario, Ore.: Why did the salt shaker? Because he saw the spoon holder.

If a blind man fell into the ocean, would he sea salt?

SECOND PRIZE—Clara Wantz, Johnstown, Neb.: If your son went west to farm, would the Boi-se Ida-ho?

If we lost Georgia, could we Savannah?

Lida Schmidt, Tuscarora, Nev.—If the British Isles could be blown up, where would Ire-land?

Ready Cooked Meals

are rapidly growing in popular favor.

Post Toasties

served either with cream or good milk, or preserved fruit, make a most appetizing dish for breakfast, dinner, or supper.

These delicious toasted flaky bits of white corn have a delicate taste that is very pleasing at this time of year.

Post Toasties are economical, make less work for the busy housewife and please everyone at the table.

"The Memory Lingers"

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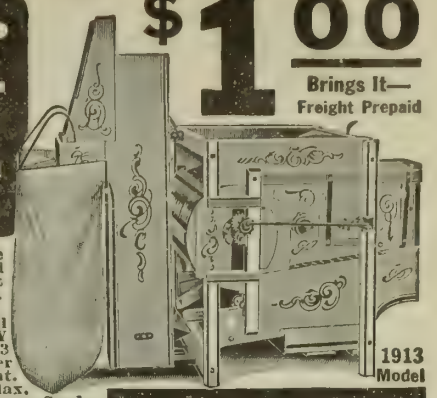
Is All It Now Costs to Have Your Seed-Grain Cleaned and Graded

Manson Campbell



$1.00 Brings It—Freight Prepaid

1913 Model

The CHATHAM Grain Grader and Cleaner

Now that farmers everywhere are cleaning and grading their Seed Grain, the question is, how to get it done *best, easiest* and cheapest. Here's my 1913 offer:

Send me one dollar and I will ship you, FREIGHT PAID BY MYSELF, this improved 1913 model Chatham Grain Grader and Cleaner with all equipment. Clean your Seed Wheat, Oats, Flax, Barley, Peas, Beans, Corn, Grass Seed, etc. Then PLANT those fine seed. AFTER you have harvested a bumper crop, pay me the balance of my low price. Not one penny need you pay, except the $1, until next November. And by November YOUR CHATHAM WILL HAVE MORE THAN PAID ITS ENTIRE COST in INCREASED CROPS. Then you'll have a "Chatham" to work FREE for you the rest of your life.

Your Dollar Returned

If you want it. I don't want your dollar or want you to keep my "Chatham" unless it pleases you. If, after a 30-day test, you are not satisfied, return the machine at my expense and I will send back the dollar.

A Machine That Fits Your Farm

After 40 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on *your* farm. Experience has shown that a Grain Grader and Cleaner should have special equipment for the particular farming section to which it goes. For example, I send an *entirely different equipment of screens*, riddles and gangs to Maine from what I send to California. In fact, *there are scarcely 2 states in the U. S.* to which *I send the same equipment.* Thus you get the exact and proper outfit to handle the grains and weed seed that grow on *your* farm. You *don't* have to pay for a lot of extras for which you have no use.

Extra Screens and Riddles Free

In case you want more or different screens, just write me and I will send them free. Not a penny would I ask for extra screens and riddles.

I also have a Free Service Department which will separate, clean and grade FREE any mixture you send in. If you've got some impurity in your grain that you cannot get rid of, don't get discouraged. Write me.

Handles all Small Grain and Grass Seed

My 1913 Chatham handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all sunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bully chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Easiest running mill on earth.

Special Corn-Sorting Attachment

Last year I added a Corn-Sorting Attachment, which grades corn so that a *round* or *edge* drop planter drops the right number of grains in 98 out of every 100 hills (in repeated tests at State Agricultural Colleges). Same planters, loaded with *ungraded* corn, make only 65 out of 100 perfect hills. In two months I shipped to Iowa farmers alone 4,000 machines with Corn-Sorting Attachments. Try my Special Corn-Sorting Attachment. *It will increase your corn crop amazingly!*

Postal Brings My New Book

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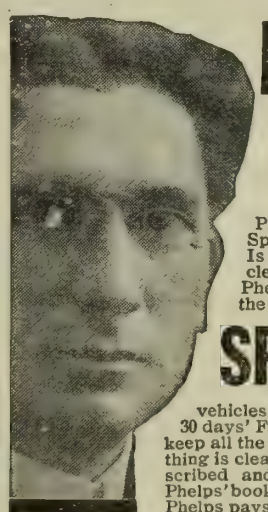

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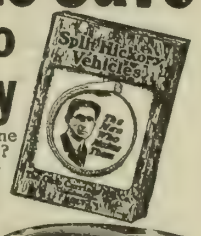

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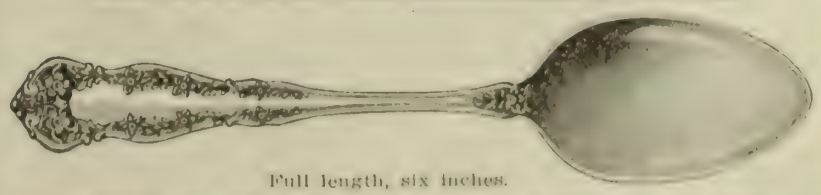

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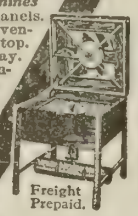

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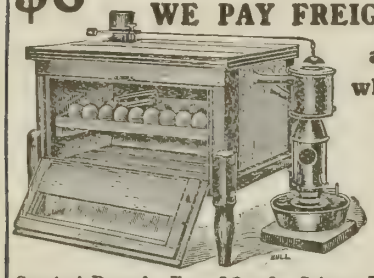

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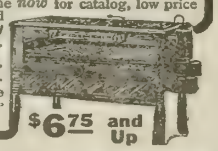
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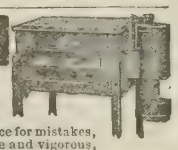

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Common Spring Poultry Disease

Responses to Significant Queries

THIS spring disease seldom afflicts more than one or two of the flock at first, and is a liver disease, made dangerous by taking cold. If birds so afflicted are allowed to sit and mope around with the flock the disease becomes contagious, and there will be other cases, and the strength of future flocks of chicks impaired because of a small neglect now. Usually the first taken are the over-fat old hens or the younger pullets pushed into heavy over-fat weight by an oevr supply of grin. These soon develop liver enlargement, after which, if you notice closely, they move more slowly, though they may look extremely healthy about the comb and face, and they may produce for awhile a reasonable number of eggs. It is when the shut-in days come that the danger sets in for these. An over-fat hen with sluggish lievr takes cold easily. They mope off to one side, and in some cases develop the sure signs of cold by difficult breathing and a rattle in the throat, although there are cases where the rattling does not show. But, no matter, at the first sign of the moping about the hen should be shut away from the flock, and at the first sign of the rattling killed and burned, if you would save others, for at that stage it has become an infectious disease. Don't wait for a dozen cases. The man who kills off the first sick and mopy fowls—and if they mope and are not vermin-infested, then they are surely sick, and you never know of what at first—so, as I began, the man who kills off every case of mopiness saves—it may be nearly a whole flock—from death. Notice for this disease in your flock this spring. Few farm flocks escape it.

Poor Hatches

Aldine, Wyo.: Concluded last year to turn my incubator into a brooder, and what do you think of that? It holds 150 eggs, and so far I have never succeeded in getting more than from twenty to thirty chicks out of that number. There should be plenty, seemingly, ready to hatch when hatching time came about, but they did not get out. And so, I said last year, "I use you no more as a hatcher." Now what was the reason, do you suppose?

Answer—If the chicks developed to the hatching time, then, surely, the incubator is not at all to blame. You did not give name of incubator plainly enough for me to make it out. The climate and you together may be at fault. It must be a very dry atmosphere where you live. There are climates so dry that poultry-raising is a cinch, though the getting of poultry to raise is more than a job and a half because of the dry wind hardening the shells of the eggs, out of which the young cannot pick a way. Did you ever write and ask that incubator's maker how much moisture you needed in that machine? Don't try setting it again until you do—that is, if you should change your mind and conclude once more to try it. I know some poultry keepers in your state who put a layer of sand toward the last ten days of the hatch in the nursery of the incubator and keep this wet all of the time. Then the last few days occasionally sprinkle the eggs, and thus report good hatches.

As for the making of the incubator over into a brooder, nothing to hinder that. I have often seen it done. Give it extra ventilation with the other changes.

Changing Breeds

E. C. C., Illinois: Would you kindly answer the following question? Last year I raised thirty pure-blood White Leghorns. In the fall bought that many more at market price. These pullets have been running with my old flock of mixed chickens, roosters and hens, the roosters a tolerably good grade of Plymouth Rock. The Leghorns have been laying of late, and I suppose their eggs, if set, would produce some sort of a colored half-breed. Now I have concluded to get rid, right away, of all my old flock, roosters and hens and put this money into all White Leghorns, and try to make a specialty of selling eggs for hatching purposes. I will start with about seventy-five hens. Now how many male birds of the White Leghorn must I put with this flock, and how soon until I can feel safe to sell their eggs without showing trace of the Plymouth Rock, and what color would these half-breeds be?

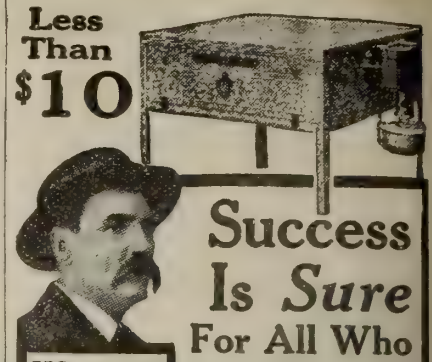
Answer—I would put in five male birds with that number of hens, and you must know they are strong and healthy and good breeders if you are going to sell eggs for hatching purposes. Just what the color might be I am not quite sure of, but I judge—from other crosses I have seen in the way of Plymouth Rock and other breeds—mainly black. As to how long it will be safe to sell the eggs of those sixty pullets as pure-bred, not less than thirty days after is the rule, for experiments have shown that as long as thirty-five days after the blood of a previous fertilization of the hen by another breed than her own has shown in some of the chicks hatched from her eggs.

The Bourbon Red

Mrs. M., Iowa: For some years I have not raised turkeys, though every year it was a wrench of the wish not to. But disease, the blackhead, I suppose, came on the place, and each year brought such bad luck with turkeys for me that I became discouraged. Then I could get no other kind but the Bronze near by, and these were never up to size, and so wild. I was ever on the hunt of their nests, and the crows and other things found them oftener than I did. Now, I feel that the disease must be off the farm, and I think I will invest in some eggs from off, and would like to know which are some of the breeds really considered domestic and stay-at-home. Thanking you in advance for your answer.

Answer—The Bronze and Slate are considered to be the roamers in the turkey family, the former leading in size and general popularity. The White and Buff are more easily kept at home than the above two. The Narragansett and the Bourbon Red are considered the stay-at-homes, and if kept pure and not allowed to mix in with other breeds, I believe they are most domestic. The Narragansett in color is black and steel gray—that is,

Less Than $10



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e main body of feathers is ack, edged with steel gray. is a large turkey, and the ourbon Red is as large if kept up standard. Its color is a deep ownish red, except the tail, which ust be white, as well as certain rts of the wings. They are ex-llent egg-producers and will lay nd the hen houses and barns, or ere you make them nests. They t their name from Bourbon unty, Kentucky, it is said, and the inois prairies, Kentucky woods d Allegheny ranges claim the edit of producing them first in a d state. IDA M. SHEPLER.

Tuberculosis in Fowls

uberculous fowls are usually found premises where the disease is pres- or has been present in either cat- or hogs or both. The disease is used by germs or minute vegetable ganism known as the bacterium berculosis. This organism is ictly parasitic, and does not find nditions favorable for growth out-e of the animal body, but it may e in the soil protected from sun-ne for a number of years.

The disease or infection may be nsmitted directly from a tubercu-s fowl to healthy ones, but it is doubtedly more frequently spread ough the foodstuffs which are ob-ned from the droppings of tubercu-s cattle or hogs. The droppings the diseased birds contain the ms which serve as a means of dis-inating the disease through the ire flock.

Some of the outbreaks have been ught to notice through the finding this disease among cattle and s by means of the tuberculin test. The general appearance of the ls received at this laboratory for gnosis and experimental purposes not been such as would lead one suspect that they were sick with erculosis or any other disease. In instance one of the fowls had a y pale comb and was extremely n, a condition which has been ularly termed "going light" by ltry raisers.

The disease develops slowly among ls as well as in other animals, and er they are noticed to be ill they ger for months before they die. ause of the slowness of the dis-e and lack of interest and curi-y concerning it, this disease has bably been allowed to go unrecog-ed by a number of poultry raisers. The chief bodily alteration arising m tuberculosis is a small, usually sed spot, varying in size, and ging from a white to a yellowish ite in color. This constitutes at is known as a tubercle. The ercle is soft at first, and of a eeselike consistency; later it be-nes hard and grity. This can be termined by cutting them with a ife.

In the chicken the liver is the chief gan selected as the point of attack. e liver becomes enlarged and cov-ed with small spots or tubercles, ich may be soft or calcified ritty) depending upon the stage of e disease. At times the intestines y be covered with tubercles and ey may also be found in the sheet-e tissue supporting the intestines. e lungs, or "lights," are rarely af-ted.

In order to prevent this disease it becomes necessary to provide sanitary surroundings. The hen house or brooder should be well ventilated and should have plenty of sunshine. The manure should not be allowed to accumulate in quantity. The interior of the house should be whitewashed twice a year. The drinking jars should be cleansed by boiling, and the feeding places should be cleansed regularly.

When an outbreak appears the healthy birds should be removed, if possible, into new quarters. If this is not possible, then the sick fowls should be separated from the healthy ones and the house should be thoroughly disinfected. Tuberculous chicken carcasses should not be fed to swine, as the latter may contract the disease from the carcasses. Eggs from tuberculous fowls should be considered us unsafe for food and should not be used unless thoroughly cooked. If tuberculous fowls are placed on the market they should be sold subject to inspection. DR. W. L. BOYD.

The Nonsitter

The demand for hens that are not cluckers is gradually on the increase, especially for those who hatch by the incubator and raise by the brooder. These people get provoked at the hen asking time to rest up a little. It has been almost impossible to breed out the incubating instinct, yet long strides have been made that way with the Leghorns, Hamburgs, Houdans and some others. Certain poultrymen insist that the hen is always a healthier hen if she is a brooding hen; that she produces a greater number of fertile eggs and that breeding out the desire to raise a family breeds out the mating instinct. However, this last would not matter so much were one in the business for producing market eggs in number. In fact, it would be a fine inducement if one could force such hens to lay fertile eggs during the time hatching eggs were wanted. There would be the rub. You must take the risk of using many eggs to get a moderate number of chicks.

Filling the Incubator

In setting the incubator some people fill it up with more eggs than it is made to hold. They place bottom eggs down on the small end and lay eggs on top. The large end of the egg contains the air cell, and this is why it is left free, I suppose. At the first testing, which should be not later than the seventh day, whatever surplus fertile eggs are left over from the exact filling of the trays with eggs in normal position can be put under hens. At a second testing these are likely to again be needed to fill out vacant spaces in the incubator trays. In fact, I always fill out after testing with eggs set under hens at the same time I filled the incubator. I find this the best way to get on a large flock of chicks all of one age.

If one risks filling the incubator with more eggs than its real capacity at starting, then one must make up his mind to keep a close watch on the incubator and turn up the eggs standing on end quite often to the right position, putting the top ones in their place.

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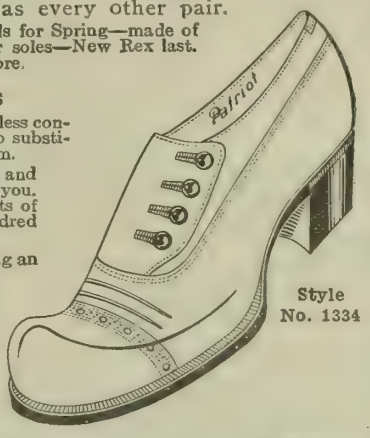

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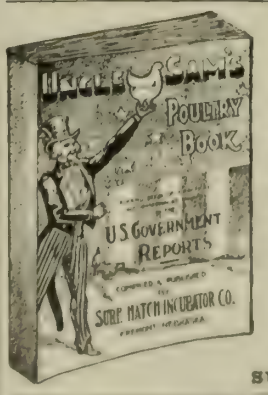

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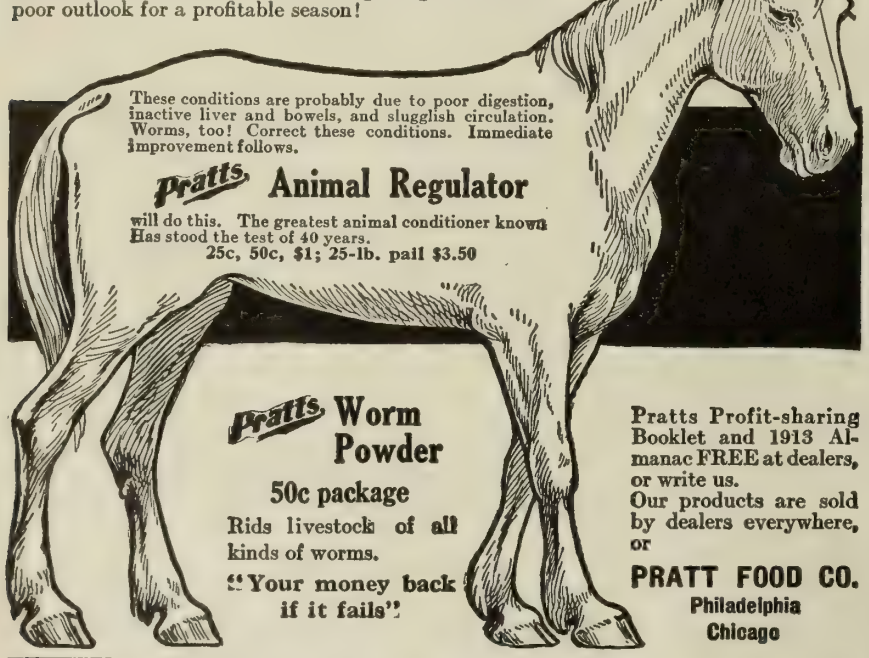

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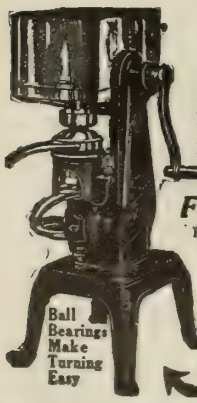

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Horse Picks Up a Nail.

A. S., Ong, Neb.: Would like to know what to do for the following described horse: He has a large foot, the cause of which I do not know. It has been so for about five months. I have blistered it, then poulticed, and used several remedies on it. The horse did not step on it until about a month ago, but is most awful lame. The swelling is in the shape of ringbone, but I am quite sure that isn't the trouble. It has grown a sort of a ridge down on the hoof. The hoof has contracted. He isn't stiff in the ankle, he steps straight on the hoof, and there is a little fever in the swelling. I neglected to tell you how this came on the horse. He was worked in the morning, and on taking out at noon was very lame, the first lameness that was noticed. His foot was cleaned, but nothing was found. The next thing was the blister.

Answer—From the description I would judge that this horse had picked up a nail. As a usual thing this is not noticed unless the nail happens to stay in the foot. The results of nail pricks are often very serious. It is possible that this may not be the case. It would take an examination by a veterinarian to determine the cause. If there is not a qualified man near, we would suggest using a cantharides blister, putting on at night and washing off in the morning. Tie the horse's head so that he cannot get his mouth to the blister. The part should be kept greased for two weeks, when the blister can be applied again. If a ringbone is the cause, the horse should be kept as quiet as possible for about seven or eight weeks, and the blister renewed every two weeks.

Soft Answer Turneth Away Wrath

W. R. W., Custer, S. D.: It is astonishing the amount of misinformation available. Referring to your reply to A. S. C., Wilbur, Neb., on page 22, February 1, will say that there are several subsoil attachments for ordinary walking and gang plows, one of which may be had for $5. This one is probably the best of them all.

Answer—There was no misinformation in the reply referred to. It simply stated that the writer did not know of any such attachment. That was not misinformation; it was merely the bare, undecorated truth, just as it emerged from a mind saturated with humility.

Trying Out a Pit Silo

H. E. C., Pender, Neb.: I will try to answer, in part, queries of E. C. K. in regard to pit silo, page 24, February 8. I put one down last fall; have filled it the second time with dry corn fodder. I run water on it, while cutting it, from a supply tank. I do not object to the presence of corn in the silage. I do not think silage a practical feed for hogs, nor do I regard as practical to put corn in the center of the silo. Pit silos should be walled up, four to six inches thick, below the frost line, and the remainder can be plastered. The plastering had better be done in sections while the pit is being dug. A good way is to take woven wire fencing and pack it closely to the earth wall, and then cement over it. I have not observed or heard of any chemical action on cement.

Answer—This writer does not state whether he regards the pit silo, when everything is taken into account, as the most economical and practical silo for ordinary use. Perhaps after he has had a few years' experience with it he may be able to give us further information on the subject.

Feeding Value of Sweet Corn Shucks

J. E., Nebraska City, Neb.: Will you please give me information in regard to the feeding value of the shucks of sweet corn, which are run run through a silo cutter and into a silo during the canning season, while they are green?

Answer—Besides being very succulent and appetizing, these shucks have the same feeding value that green corn silage, without the corn, would have. When fed in connection with alfalfa or clover they make a balanced ration. For fattening animals it would be advisable to add corn to the ration, in order to get the greatest and most economical result. For milk cattle, a little grain, with an extra allowance of alfalfa or clover, would make a proper feed. By all means put them into a silo while green, instead of allowing them to go to waste.

A Few Things About Ginseng

D. J. N., Idaho Falls, Idaho: Can you tell me a few things about ginseng? How tall does it grow? Will it grow in the mountains? How big do the oldest roots get? How much is it worth per pound? Does it grow in a dry country? Does it have any kind of berries on it when it is in bloom?

Answer—Unless you know where you can sell the roots at a profitable price, and the prospective purchaser will contract to take them when they reach the proper marketable size, at a specific remunerative price, it will not pay you to waste either time or thought over the matter. There is at present no general market demand for the root and no established market price. It requires expert knowledge to produce them, even in favorable localities, and Idaho does not have the best climatic conditions for this industry. You better turn your attention to something that is worth while.

A Telephone Experience.

To the Editor: In answer to an article written by "C. L. E., Mullen, Neb.," regarding telephone rights, I want to say that the sooner the people all over the United States begin to show the Bell Telephone company its place, the better. This company is a trust, and if it does not do right, get after it at once. We have had an experience recently. It bought out the independent line, which gave excellent service. I said it bought, I meant forced it out. Now it raises its rates from $1.50 to $2 per month,

nd not half the time can one get in call. It thinks the people must subit to it. There were over forty hones taken out last week, and more re going out. It is time the overnent got control. Such a trust or onopoly should not be tolerated. It akes all it can get and gives nothing ithout asking a big price. It canot take ground for lines without aying for it, and if I had my say, 'd fight it to a finish. I sincerely ope the Nebraska farmers will seek dvice from various good authorities ntil they find out whether a comany can take all and give nothing.
Idaho. A. G. BAIRNS.

Breeding Up the Indian Horse

In a recent issue of The Twentieth entury Farmer I saw a picture with n article on a certain sway-back are; the question of endurance is iscussed to an extent. The accomanying picture is taken on the apago Indian reservation in southrn Arizona and is one of a horse ome twenty odd years old that has

Swayback Horse, Twenty Years Old

een used by the Indians ever since was a colt, and while other horses ave given out on the trails the old way-back has always kept up, and s far as endurance is concerned he as good as any horse without a lemish, and better than most of hem. Old as he is, he is still in conant use by the Indians today.

Dr. Richards, the man holding the orse, is the government agent, and interested greatly in the breeding p of the Indian horses in this localy and worked hard to induce the overnment to send a first-class horse this part of the country for the exlusive use of the Indians. The reult of his endeavors is a registered oach horse. It is to be hoped that he government will keep the good ork up, as the Indians have little lse to depend on other than their tock, and the horse is the biggest art of the stock they own.
Yuma, Ariz. BYRON GRAY.

Winter Care of Horses

T. J. P., Weston, Ia.: Is it right, fter working horses all day or riving them, to turn them out these old nights, even if they are accusomed to being out in the field when ot working? If horses that are ept in the field nights are used a ew days and kept in the barn while hey are used, would they take cold y being turned out nights, after you re through using them, because hey were kept up while they were orking?

Answer—It is not best for any horses to spend winter nights in the field. The more comfortable a horse can be kept, the better it will thrive on the feed it gets. Exposure to inclement weather should be avoided at all times, whether in the daytime or at night. It is not well for a horse, habituated to a warm stable, to be exposed to extreme weather, unless it is at work. To violate this injunction subjects an owner to the danger of pneumonia.

More About the Silo

W. P., Fairfield, Neb.: After reading your answer to E. C. K., Kearney, Neb., on "Silage as a Food for Hogs," I will say, as I am agent for a stave silo, that I have been able to get a number of farmers' views on feeding silage to hogs, as well as to other stock on their farms. Silage has medicinal properties that aid digestion. In winter it furnishes a succulent food, when such food is most needed. The acids of the silage act as appetizers, keeping the animal hungry and the digestive tract healthy. A hog will consume four pounds of silage per day, with a very small amount of other food, and will be slick and smooth.

There are some results to be gained from the ground silo, but the pit silo is not generally favored except as a temporary expedient. When the pit silo is plastered with cement I find the acids in silage corrode and disintegrate the cement, and after long use the cement walls become rough and crumbly. The alkaline nature of the cement neutralizes the acids of silage, which produces a low grade of silage around the cement walls. From a recent experiment it was found that one ounce of pure cement would neutralize the acid in twenty-seven ounces of silage. There is always danger from gas, which forms in a silo that has no air drainage, as is the case with the pit silo. All building materials, such as brick, cement blocks or stone, are conductors of heat and cold and moisture. In silos built of such material there is often found a low grade of silage around the outside walls. A round, wooden stave silo, taking all things into consideration, has proved most satisfactory. The best results are obtained only from the best silos.

Answer—This paper would like to hear from others upon this proposition. There are many cement silos in use in the territory covered by this paper, and such have been in use in lower Canada for many years. Let the owners of such silos tell the public what they think about them. Perhaps the manner in which the cement is mixed—that is, the richness of the mortar—has something to do with the permanence of the cement structure.

Planting Ash Tree Seeds

A. E. A., Genoa, Neb.: I gathered a quantity of seeds from ash trees earlier in the winter. What is the

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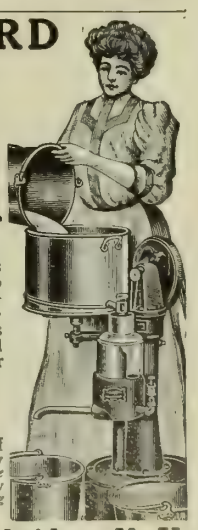

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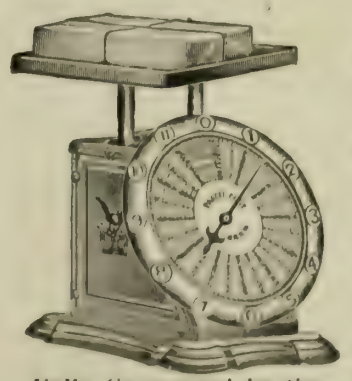

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best time and method for planting them?

Answer—As soon as the ground warms up a little in the spring, soak the seed for a day in water which at the beginning is as hot as you can bear your hand in it; then plant in about the same way that you would plant corn.

Lump on the Hock Joint

A. C. F., Bexburg, Idaho: I have a 4-year-old horse with a hard lump on his hock joint. I do not know, for sure, if it is a spavin. Could you, in your paper, The Twentieth Century Farmer, let me know of some remedy for it? He mired down in some mud and floundered around; next day it swelled up and I doctored with spavin cure and it got soft after two weeks' treatment, so I could press on it with my fingers, and it would take the shape of my fingers for a while; then it grew hard again. He does not limp and it does not seem to affect him at all.

Answer—If this animal is not lame, there is no necessity of much treatment. It is likely that the enlargement can be reduced somewhat by blistering. Rub a cantharides blister in well at night and wash off in the morning, then keep greased so that the skin will not get too dry. While the blister is on the animal its head should be tied so that he cannot get his mouth to it.

Wastes of American Farmers

(CONTINUED FROM PAGE SEVEN.)

kernel has its enemy. If the kernel escapes, the stalk, just out of the ground, has its pest. If the stalk escapes this, it has the tassel worm to destroy its tassel, and ear worm to partially destroy the ear. Land put to oats or wheat after two years of corn will be cleaned of the corn pests. In time the oats will have their enemies. Rotation does away with these, as well as helping the condition of the land for future crops. The same is true of pasture. To get best results these, too, must be changed.

In cultivation slack methods cause the growing plants to be covered or injured to some extent. This reduces the yield, for with no plant no yield can be expected.

Careless methods of harvesting leave grain in the field. The hay is strewn about, left in the shock until it rains; the wheat bleaches in the shock or becomes wet, and sprouts or rots somewhat, or likely is not properly stacked. The strawstack is burned or left untopped to invite the rains to spoil its value as feed for stock. Indeed, the country products would feed twice the stock it now contains were economical methods of saving our hay, straw, cornstalks and other crops of roughness put into practice.

Improper feeding of stock, either too much or not enough, and the premature marketing of stock or delay to market after the stock has reached the marketing point, are sources of waste, as much so as if so much actual cash were thrown into the fire. JAMES WILTSE.

He Didn't Mind

"Don't mind, Willie, don't mind," said a sympathetic little girl to her small brother, who had been chastised by their father.

"I d-didn't," sobbed the little fellow. "That's w-why I got l-licked."

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Kendall's Spavin Cure has now been *refined* for *human* use. Its penetrating power quickly relieves swellings, sprains, bruises and all forms of lameness. It is just what you need around the house. Write for many letters from users to prove its effectiveness.

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AYE BROS., Box 3, Blair, Nebraska.

Madero Talks About Mexico

(CONTINUED FROM PAGE SIXTEEN.)

smaller reception room, and then let in others until the room was filled by those who were entitled to special audiences. Later on there was a second weeding out, and at last I found myself in the president's own room, with only a score of others, including the pretty girls in black gowns, two of the Indians in their bare feet, a couple of sombrero-hatted haciendados and a half dozen statesmen.

This room faced the plaza, and I stepped out on the window onto the balcony to see the president come up in state. His excellency lives three miles away, at Chapultepec, where was the summer palace of Montezuma, and he drives in his motor car every Friday afternoon for this audience. Just beneath me was a company of soldiers guarding the entrance, and beyond them a great crowd had gathered to watch the president pass. As the clock on the cathedral struck 5 I saw a brown limousine, with a front shaped like a torpedo, fly over the plaza. The chauffeur was in livery, and beside him were two officers in uniform, while in the closed glass cage behind the president sat. The machine came along at the rate of thirty miles an hour, and as it did so the trumpeter blew a blast on his bugle, the soldiers presented arms and the motley crowd threw up their hats and yelled, "Viva! Viva! Viva Madero!"

How Madero Looks

It was perhaps fifteen minutes after this that the door of the reception room opened and the president entered. As he did so everyone arose, and remained standing while he was in the room. I was surprised at his appearance. I had been told that he was by no means imposing, and that his person bore few of the marks of the great statesman or ruler. The reality was worse than I had imagined. Let me tell you just how he looks. He is, I judge, about 40 years of age, and he impresses one as a weakling. He is not more than five feet tall, and when we stood side by side I had to look down, for I am eight inches taller. He is straight, but his bearing is not military, and of the twenty men in the room he seemed to me the slightest and weakest. He weighs, I judge, about 130 pounds, light. His face is not prepossessing; his forehead bulges a little and his chin comes out, while his nose is small rather than large. As one man expressed it, "he is somewhat dish-faced; his complexion is rosy and fair for a Mexican; his eyes are bright black; his hair is dark and his mustache and chin whiskers are black, mixed with brown. He wore morning dress and looked like a preacher.

In talking President Madero's expressions change; he smiles often, but now and then grows serious, when wrinkles come on his forehead and at the corners of his eyes. He has an honest way of talking and he impresses one as being both earnest and honest.

I am told that he is so; that he is a theorist and that he thinks himself a man with a mission. He impressed me as such, and as he went through with several audiences before I was presented, I could see that he paid attention to each subject as it came before him, and that he satisfied those with whom he talked. He kept notes of the conversation, writing them down as each man talked on a 5-cent paper pad, with a nickel lead pencil, which had a rubber tip on the end.

The first two men he received standing, leaning against the door as he did so. Next came the three beautiful ladies in black, of whom I have spoken. The president directed them to take seats on the sofa, and sat on a chair opposite them. He then talked earnestly, and, as I could see, sympathetically. Whether they were the daughters of some hacendado, outrage dand perhaps killed by the rebels, I know not. But at the close they went away satisfied, and so I suppose their requests have been granted.

The Revolution About Ended

When I was presented his excellency shook my hand cordially, and he freely answered my questions, talking as leisurely as though there were not still 200 people waiting outside. I told him of the importance of my newspaper connections, and he replied that he was a friend of the United States and would be glad to answer anything I asked. I then spoke of the unsettled conditions throughout the republic, whereupon he replied:

"The revolution is practically ended as far as its political aspects are concerned. This is so all over the country, but it has been succeeded by a state of brigandage, which we are trying to subdue and are gradually putting down. Within a few months from now I believe that Mexico will be in a stable condition, and that we will then have the bandits and others well in hand. What we are trying to do is to establish order under the law, and we feel that it is better that we should have trouble a little longer than to attempt to enforce order outside the law."

"But have you the men sufficient to do that?"

"Yes, we have increased the number of our rural police, and we now have forty-nine corps of such men in the ifeld, with a total force of more than 11,000. The rurales are armed with Mausers, Remingtons and Winchesters, and they are acting in the double capacity of a rural police and as an auxiliary to the regular army. By the act of May 2 of last year congress ordered an increase in the strength of the regular army, and we have now an effective force of about 50,000 men, commanded by more than 100 generals and 6,000 other officers. We are steadily improving the army, and I think it will be ample to maintain peace throughout the country."

My next question was as to democracy in Mexico. The prdesident replied:

"The Mexican people are rapidly improving along the lines of self-government. We have, you know, been under an autocrat for the last generation. The people have not been able to decide matters for themselves and they have been merely the creatures of the government. They are now having elections which elect, and the present congress is the choice of the people. This, to a large extent, is a new condition of affairs, and it will improve as time goes on."

"How about your 12,000,000 Indians who cannot read or write? Are they fit for self-government?"

"Your estimate of 12,000,000 of our people as unable to read and write is, it seems to me, incorrect," said Senor Madero. "Our illiterates are much less than that, and they have more sterling ability than the people think. The Indian is rapidly learning his rights. He is considering public questions and is learning to vote, and will, in time, make an excellent citizen."

"Can you have fair elections under your present law?"

"I do not see why not. We have many such elections now."

His Plans for Mexico

"What do you hope to do for Mexico?"

"The present administration is trying to better the condition of the people and the country. We are adopting new labor laws, which cut down the hours of work and improve the conditions of the men. We have already done this in many of the factories by giving certain privileges and a decrease of taxation to the owners, provided they give their men fair hours of work and wages. We also expect to improve the wages and hours of the men at work on the estates, to increase our educational facilities and to develop the country in every possible way.

(Copyright, 1913, by Frank G. Carpenter.)

Get Your Farm in the American Northwest

Locate in the Land of Prize Cattle and Crops Along the Northern Pacific Railway

❍Stay in your own home country—near to home markets and quick transportation—close to good neighbors and good schools. No isolated pioneering. More rapid development is going on along the Northern Pacific than you will find elsewhere in the Northwest.

❍The world's greatest prize for wheat—a $5000 tractor outfit was won by farmers in the Shields River Valley, Montana, on the Northern Pacific Ry., last fall.

❍The yield was 59⅓ bushels per acre from a 52-acre tract—farmed by the "dry farming" system of scientific agriculture.

❍An average man in Northern Pacific territory last year made a bountiful living for his family of eleven children and put $2,385 in the bank as the result of the season's yield from 40 acres of irrigated land.

❍There are 30 million acres of Government Homestead Land available to you for proving up under the revised and easy Homestead Law which requires only 3 years to acquire the land and allows 5 months leave of absence each year.

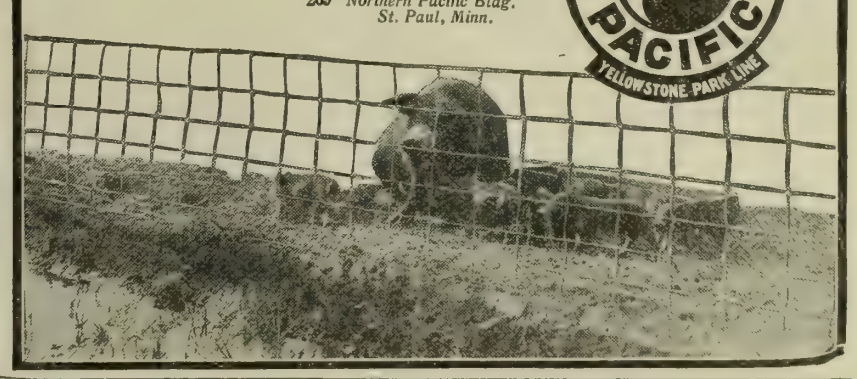
❍Tell us what state or section you are most interested in and let us send you free illustrated literature and particulars about low fares made especially so you can see these Great Prosperity States of America at small cost.

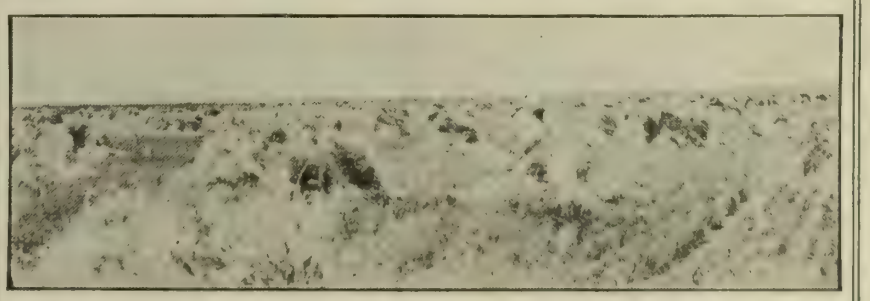
❍Ask for our Government land pamphlet.

❍Write today.

L. J. BRICKER,
General Immigration Agent
269 Northern Pacific Bldg.
St. Paul, Minn.

NORTHERN PACIFIC
YELLOWSTONE PARK LINE





One of the large wheat fields in the SHALLOW WATER DISTRICT, Logan County, Colorado. This field yielded 46 bu. per acre. This is the finest farm land in the West, and we are selling it at the very lowest prices. One crop pays for the land. Finest soil and water. Close to market. Agents wanted. Write for free circular. **PLATTE RIVER VALLEY LAND CO., 1119-22 City National Bank, Omaha, Neb.**

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Freight Prepaid—30 Days' Free Trial

I want to quote you a price that will cause you to sit right up and take notice on the grandest, best plow that ever turned a furrow. I can do it because we are the *actual manufacturers*, and sell *direct to you*. We don't have traveling salesmen—don't sell to jobbers or dealers. You save those expenses and profits when you order direct from our factory. But that isn't all. You get a *better plow*. I say to you that the

MONMOUTH SULKY OR GANG PLOW

will prove easier for you to handle, easier on your horses and will do your work better than any plow you ever saw, regardless of price. It is positively the only plow that actually carries the horses **on top** of the furrow—no pressure on bottom or furrow—no friction. Single Rod and Horse Lifts, and "Point Force" action.

ALL SOLD DIRECT FROM FACTORY

FREIGHT PREPAID, SO YOU KNOW EXACTLY WHAT YOUR PLOW IS GOING TO COST YOU

I'll give you a chance to prove every statement I make and we'll make the "shipping point"—freight *both* ways—if we "fall down" in a single assertion. I want to tell you all about these plows and our other implements—Cultivators, Disc and Spike Tooth Harrows, Grain Drills, Mowers, Rakes, Farm Carts and other farm tools—and get low prices. Entire Satisfaction guaranteed. Just write a postal for our complete catalog. Do it now. Write to me, "Plow Man," and get my Free Book.

Get My Free Book

Lightest Draft Plow Made

Monmouth Plow Factory. 137 So. Main St. Monmouth, Ill.

Review of Live Stock Market

By A. C. Davenport

BULL markets have been the rule in most departments of the live stock trade during the last week. Now and then the bears have raided the market in force and have put the bulls to rout, but as often as that has occurred, the bulls have speedily rallied, carrying the standard of prices to a still higher point. At times it has been a hard fight, but a winning one most of the time for the bulls.

Sellers of cattle have been especially well pleased with prevailing conditions, as prices have shown some little advance all along the line. Receipts have been everywhere moderate, but very little behind a year ago, taking the big markets as a whole. In fact, for the year to date at the five leading markets there has been a decrease thus far of only 28,000 head in receipts as compared with the corresponding period of last year. This decrease of itself is not of sufficient importance to materially effect values. However, the shortage, small as it is, becomes more important when taken in connection with the very good consuming demand for the product. The market is also receiving no little help from the feeling of confidence that gives it what might be called strong moral support.

The fat cattle market is being given the very best of support from the country. Farmers and feeders appear to have entirely recovered from the nervousness and want of faith in the future, so noticeable early in the winter. They are no longer showing feverish haste to dispose of their holdings. Still, they are letting the cattle come short-fed, the prevailing high prices apparently being too great an inducement to sell. Fortunately, the country is letting the cattle come gradually, so that there have been no gluts and no oversupply since the disastrous glut just preceding Christmas. It might be well to mention in this connection that there is also another reason why the country is steadily marketing its cattle after a short feed without waiting for them to become heavy and prime, and that is the moderate supply of feed in some localities. A good many farmers coming in with stock of late have been heard to remark that they would have fed their stock longer, putting on more weight, if they had had more corn. It would appear from these reports that the corn crop in a good many localities proved to be much lighter than expected in the fall, and the quality none too good. Whether due to a desire to take their profits or to a shortage in feed, the fact remains that the big bulk of beeves coming to market at most points is made up of lightweight cattle. This means fewer pounds of beef to supply the consuming demand and is one more reason for a strong market.

Hogs High, Packers Short-Lived

Hogs, like cattle, were under bull influences last week. Prices, which had been steadily advancing for some time back, kept right on, until the market reached the highest point touched since last October. Then, with a few days of liberal receipts and a temporary lull in the shipping demand to help them, the packers raided the market, gaining some advantage. Their success was short-lived, as receipts almost immediately fell off and a better shipping demand caused prices to spring back.

Big buyers have all along put forth every effort possible to hold the market down, but in spite of the most approved bear tactics, the market has gone against them. It is simply a case of bull influences being too strong to be downed. Foremost among these bull influences might be mentioned the shortage in supplies. Since the first of the year the five big hog markets have shown a loss in receipts of over a half million head. To make a still more striking comparison—since the beginning of the winter packing season, November 1, there has been a decrease in the number of hogs packed at western houses of 1,900,000 head.

Sheep and Lambs Good Sellers

Sheep and lambs were good sellers all last week, with sheep showing some advance owing to the light supply of that kind of stock. Lambs have been plentiful at most all markets and prices have not advanced beyond the high quotations prevailing the previous week. Receipts have been moderate, showing a falling off for the year to date of 140,000, taking the five largest markets as a whole. The outlook for the market is encouraging, but prices are already so high that further advances would hardly seem necessary to satisfy even the selling interests. The situation as regards both sheep and lambs may be summed up as very satisfactory, with the market in a good, healthy condition.

5 Big Offers

$3.50 FOR ALL FIVE COLLECTIONS

1 6 Hardy 3-year old Apple or Crab trees, reg. price 25c each; our special price... $1.

2 6 Currant bushes, 2 years, regular price 20c each; our special price..... $1.

3 500 Ash Seedlings, regular price $1.20; our special price.. $1.

4 10 Iris—mixed (Spring Flowers), regular price 10c each; our special price ..... 50¢

5 15 Dahlias—mixed (Summer and Fall Flowers), regular price 5c each; our special price..... 50¢

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Big Free Book

YOUR OPPORTUNITY is NOW In the Province of SASKATCHEWAN Western Canada

160 ACRE FARMS IN WESTERN CANADA FREE

Do you desire to get a Free Homestead of 160 Acres of that well known Wheat Land? The area is becoming more limited but no less valuable.

New Districts have recently been opened up for settlement, and into these railroads are now being built. The day will soon come when there will be no Free Homesteading land left.

A Swift Current Saskatchewan farmer writes — "I came here on my homestead, March, 1906 with about $1000 worth of horses and machinery and just $35 in cash. Today I have 900 acres of wheat, 300 acres of oats, and 60 acres of flax." Not bad for six years, but only an instance of what may be done in Western Canada, in Manitoba, Saskatchewan or Alberta.

Send at once for Literature, Maps, Railway Rates, etc. to

W. V. BENNETT, Bee Bldg., Omaha, Neb.

or Address, Superintendent of Immigration Ottawa, Ont., Canada

POWER ECONOMY

In Every Revolution

—That means T & M. Some engines "turn the wheels" and burn up gasoline; the T & M achieves perfect power economy. Air-and-gasoline spray, properly mixed, and subjected to maximum possible compression just before ignition, by quick, powerful explosion—yields utmost speed and energy for time and fuel consumed. Then—

T & M FARM ENGINE

—design and construction precludes expensive slow-downs and wasteful speed-jumps; highly-sensitive throttling governor holds the T & M steady under any load variation. Again—bull-dog build and big, wide base save power—prolong life.

No cranking, no tinkering; choice of four fuels (gasoline, kerosene, distillate or gas); low cost of upkeep; a grilling factory test—and the T & M "armor-plate" guarantee Sizes—1½ to 20 h. p. A mighty good engine—worth your immediate investigation.

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THREE MONTHS POWER FREE!

Galloway is giving away engine power! You can get all you want—1¾ H. P. to 15 H. P.—for one month, two months or three months absolutely free. That's the way I sell Galloway Engines. I send one to a man and let him try it. If he doesn't want to keep it, he just sends it back and I pay the freight charges both ways, so he don't put a penny.

$50 to $300 Saved! Permanently Guaranteed! I'll cut $50 to $300 off anybody's prices and put it in your pocket. And I'll give you the very best engine on the market today—THE GREAT GALLOWAY—backed by my ironclad guarantee of permanent satisfaction.

Get My Special 1913 Proposition! Write quick and I'll tell you how you may get one of these great engines partly or entirely without cost to you. No canvassing—no soliciting. I've been four years in working out this amazingly generous plan. Write today for full particulars.

Quick, Now—WRITE! You can make use of this power right now. Send a postal—get my big Engine Book and my Special 1913 Proposition—pick out the engine you want and I'll ship it right away. Write me today sure. Address

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KEEP YOUR Chickens Healthy with Germikil (the Great Roup and white Diarrhoea Remedy) Catalogue FREE AYE BROS. BOX 3 Blair, Nebraska

LOOK OUT FOR WORMS

For Worms This Month

LOOK OUT FOR WORMS

Mr. Feil Is a Registered Pharmacist Under Ohio State Laws.

Read These Letters

I'll Stop Your Worm Losses I'll Prove It Before You Pay

Don't let worms breed **contagious diseases** among your hogs this year. Don't let them kill off the young pigs and rob you of your season's profits. You can **prevent it** if you will just take "a stitch in time." **Now** is the time when worms begin to get in their **deadly** work. **Now** they are breeding, multiplying by the millions in the stomach and intestines, and if you don't get the best of them, they will surely get the best of you. Let me show you how. I'll get rid of stomach and free intestinal worms in your hogs, sheep, horses and cattle and prove it to your satisfaction (not mine) before you pay me a cent. I'll do it with

Beware of Imitations — SAL-VET — Look at the Name Carefully

The Great Worm Destroyer and Conditioner

I've done it for thousands and in addition they write me they never had stock thrive better, look better and bring them such profitable returns. Here is my offer to you.

Send No Money—Just the Coupon

Simply fill in the coupon, tell me how many head of hogs, sheep, horses and cattle you have. I will then ship you enough Sal-Vet to last them 60 days. You pay the small freight charge when it arrives—put it where all your stock can get free access to it—**and they will doctor themselves.** They eat it as they do salt—just as they need it, and at the end of the 60 days if you don't feel **satisfied,** write me and I'll cancel the charge. I take your word as final—I let you act as judge of its merit—I put everything up to you. How can you risk loss—how can you let your stock drag along when they should be thriving, growing into profit when such a fair, open offer like this is put at your disposal? You have all to gain—nothing to risk. Fill out and mail the coupon **now.** Don't put it off—lest you forget. Read the letters above.

Sidney R. Feil, Pres.—*The S. R. FEIL CO.*—Dept.TF Cleveland, Ohio

Prices: 40 lbs., $2.25; 100 lbs., $5.00; 200 lbs., $9.00; 300 lbs., $13.00; 500 lbs., $21.12

60-day trial shipments based on 1-lb. of "Sal-Vet" for each hog or sheep, and 4-lbs. for each horse or head of cattle, as near as we can come without breaking regular packages. No orders filled for less than 40 lbs.

[37]

I have been in the hog business for 30 years and have tried every known remedy for hogs, but have never found anything equal to your Sal-Vet. It certainly does the work and is easy to feed. I feed it to little pigs, boars, pregnant sows and find it O. K. I will never be without Sal-Vet.

C. F. MARSHALL & SON, Per G. F. M. Monroe, Ia.

"I had a lot of sick hogs and I lost five of them. I began feeding them Sal-Vet, my losses stopped and the hogs soon got into a fine, healthy condition.

V. P. UNDERWOOD, R. D. No. 1, Roachdale, Ind

While I cannot say positively Sal-Vet kept my hogs from having Cholera, I had no such sickness while my neighbors almost without exception lost hogs from Cholera. I certainly have great faith in Sal-Vet and it is all and more than you claim for it.

I. C. CONOVER, Chrisman, Ill.

I used your Sal-Vet regularly while feeding a bunch of fattening hogs and can say it is just the article. It made my hogs double their weight in 50 days. It is a great conditioner and worm destroyer— E E SHULL LaCynge.

Sal-Vet always comes in original "Trade-Marked" Packages Never sold loose in bulk or by the pound Look for the "Sal Vet" trade-mark.

Sidney R. Feil, Pres. The S. R. Feil Co., Cleveland, O.

Ship me enough SAL-VET to last my stock 60 days. I will pay the freight and report results in 60 days and will then pay for it if it does what you claim. If it does not, you are to cancel the charge.

Name ..... P O ..... Shipping Sta ..... State .....

Sheep ..... Cattle ..... Hogs ..... Horses .....

T F 3-1-13

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and for all Old Sores, Bruises, Exterior Cancers, Boils, Wounds, Felons, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

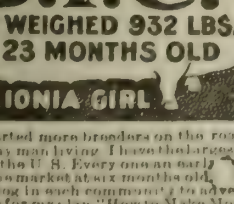
REMOVES THE SORENESS--STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

SAVE-THE-HORSE
(Trade Mark Registered.)



THE TIME IS NOW

All the winter long, the troubled owner of ame horse reads our advertisements. Then, y after day slips away, while he talks, la- nts, listens, takes advice and hesitating FAILS TO ACT—till the Springtime is him and his horse is not yet able to work. eantime the thrifty, prosperous, resolute n, reads, considers the evidence carefully Decides Promptly—and his horse is work- g in, say, ten days to two weeks. That's ctly what happens every winter.

We Originated the treatment of horses by il—Under Signed Contract to Return oney if Remedy Fails—and every minute very day for seventeen years our advice d treatments have been on the way wherever ils go and horses are. Our charges are derate. Spring work is near; Write.

ur Latest Save-The-Horse BOOK is a Mind Settler lls How to Test for Spavin—What to Do for a Lame se—Covers 58 Forms of Lameness—Illustrated. But e describing your case and we will send our—BOOK mple Contract and Advice—ALL FREE—to (Horse ners and Managers—Only.)

Y CHEMICAL CO 16 Commerce Ave., Binghamton, N. Y.
ruggists everywhere sell Save-the-Horse WITH ONTRACT or sent by us Express Prepaid.

Can Use 150 Men

uld you take a steady job selling my quick moving, ppy line of soaps, perfumes and toilet preparations? experience needed. I pay cash; no premiums. If you looking for an unusual opportunity for making big ney quick write me a postal saying, "Mail full par- lars." Address E. M. DAVIS, President
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GOPHER DEATH TRADE MARK

Kills Pocket Gophers, Ground Squirrels, Prairie Dogs, Kangaroo Rats, Ground Hogs, etc. Endorsed by experimental Stations. 1,400 tablets, $1.25, trial size 50c prepaid. Warranted. Booklet free. Ask your druggist or send direct

F. D. CHEMICAL CO., FT. DODGE, IOWA

O. I. C. HOGS

THIS
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SOW WEIGHED 932 LBS.
AT 23 MONTHS OLD
IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. Want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN RFD79 Portland, Mich.

Twentieth Century Farmer advertisers are deserving of your patronage. Read their ads and send them your orders as often as possible.

Warbles

As spring approaches warbles make their appearance along the backs of cattle, generally the young stock and immature cattle that are in poor, unthrifty condition. They may be felt as lumps about the size of a walnut, just under the skin. These come in the following manner:

During the summer months a fly, resembling the bot fly, lays eggs on the hair of the legs, flank and other portions of the body. These eggs are licked off by the cattle and finally pass into the stomach with the food. The heat and moisture of the stomach hatches them, and the small larvae then penetrate the various tissues and make their way to the back, just under the skin. Here they encyst themselves, cut a small hole for breathing purposes through the skin and undergo another transformation. In the spring they emerge, fall to the ground, burrow into it and finally come out as full-grown flies, to start another cycle of development.

Now is the time to get after them. The farmer may part the hair under such warbles and find a small opening through the skin; then he can load a small bicycle oil can with turpentine, insert the nozzle into the opening in the skin and leave a drop or two there. This will kill the grub and start inflammation enough to heal over the opening in the hide.

Live Stock Notes

North & Robinson's Drafter Sale

On March 20 and 21, at Grand Island, Neb., North & Robinson, the well known breeders and importers of that place, will hold a two days' sale of Percheron, Belgian and Shire stallions and mares that should receive the attention of every man who is interested in the breeding of draft horses. We spent some time in looking over the offering a few days ago and must say that as a whole it is made up of the best lot of horses ever offered for sale by this firm. The offering will consist of twenty-five stallions and thirty mares. The stallions range in age from 2 to 6 years and are a splendid lot of big, heavy-boned, drafty fellows, clean and right in every way. The mares range in age from 2 to 7 years. Among them are a number that have been strong prize winners at the leading shows. Quite a few of them will weigh a ton or better and practically all of them are safe in foal. We will give more complete information regarding the offering in a later issue. In the meantime write them for catalogue, mentioning this paper.

Shallenberger Sells Shorthorns

On April 10, at Alma, Neb., ex-Governor Shallenberger will offer for sale a draft of forty-five head of cattle from his famous Ashbourne herd of Shorthorns. Mr. Shallenberger informs us that, take it all the way through, this is one of the best offerings he has ever sold at public sale. Considering the splendid offerings he has made in the past, this means a great deal, for there are a very few men in America today who are more competent to judge what constitutes a good Shorthorn animal than is Governor Shallenberger. His offering at this time will consist of ten bulls, all of serviceable age, and thirty-five females. The bulls are sired by Imp. Scottish Sentinel, Imp. Scotch Bank and a son of Whitehall Sultan. No better lot of females were ever offered for the man who expects to continue in the breeding business. There will be ten cows, with calves at foot, sired by Imp. Scottish Sentinel and His Highness, a splendid son of Victor's Roan Duke and out of Maude 50th. The balance of the females will be well along in calf by sale day. They are sired mostly by Imp. Scotch Bank and Imp. Scottish Sentinel. There never was a more opportune time to get a few good Shorthorns. Don't overlook this sale, but get your name on the list for catalogue and watch these columns for further announcements. Kindly mention The Twentieth Century Farmer when writing.

Percherons, Belgians and Shires

The old reliable horse importing firm of Watson, Wood Bros. & Kelley Co. of Lincoln, Neb., have a splendid lot of horses in their barns at Lincoln at this time. This is one of the oldest and largest importing firms in America, and the horses they handle are of a high character. They are big, heavy, fat-boned, drafty fellows, with plenty of style and action. Write them for further particulars and also for their big illustrated catalog. In writing mention this paper when writing.

Sale Dates

Shorthorn Cattle

April 10—A. C. Shallenberger, Alma, Neb.

May 27—H. H. Roper, Humboldt, Neb.

Draft Horses

March 20 and 21—North & Robinson, Grand Island, Neb.

MAKE THE HORSE GLAD AND EAGER FOR WORK

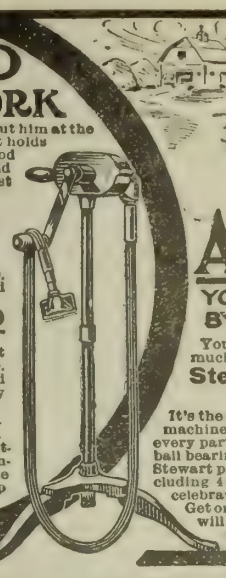
The way to do it is to clip him before you put him at the spring work. Take off his winter coat that holds the wet sweat and dirt. He'll get more good from his feed, look better, rest better and give you better service. The best and most generally used clipper is the

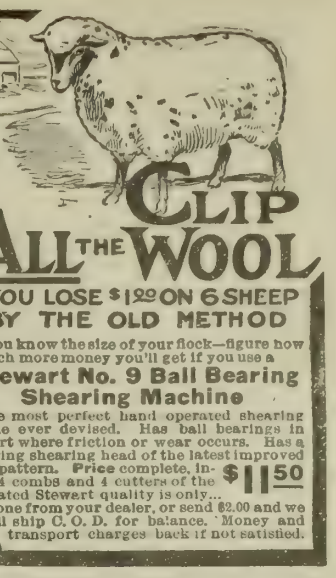
Stewart Ball Bearing Clipping Machine

It turns easy, clips fast and stays sharp. Gears are all file hard and cut from solid steel bar. They are enclosed, protected and run in oil; little friction, little wear. Has six feet of new style easy running flexible shaft and the celebrated Stewart single tension clipping head, highest grade. Get one from your dealer or send $2.00 and we will ship C. O. D. for balance. Money back if not satisfied. PRICE $7.50

Chicago Flexible Shaft Co., 112 La Salle Ave., Chicago.

Write for big new catalogue showing complete line of Horse Clipping and Sheep Shearing Machines.





CLIP ALL THE WOOL

YOU LOSE $1.00 ON 6 SHEEP BY THE OLD METHOD

You know the size of your flock—figure how much more money you'll get if you use a

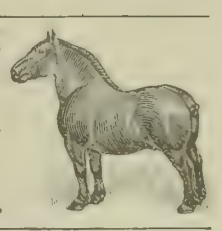
Stewart No. 9 Ball Bearing Shearing Machine

It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Price complete, including 4 combs and 4 cutters of the celebrated Stewart quality is only... $11.50

Get one from your dealer, or send $2.00 and we will ship C. O. D. for balance. Money and transport charges back if not satisfied.

HORSES AND MULES

RHEA BROS.' ACCLIMATED PECHERONS



We have 40 Stallions on hand today that we are selling at very reasonable prices. If you are interested write us or come and see them.

Reference—Packers Nat'l Bank, So. Omaha; Arlington State Bank, and First Nat'l Bank of Arlington, Neb. On main line of C. & N. W. R. R., 34 miles N. W. of Omaha, 55 miles north of Lincoln and 8 miles east of Fremont, Neb.

RHEA BROS., - - ARLINGTON, NEB.

FAIRVIEW FARM

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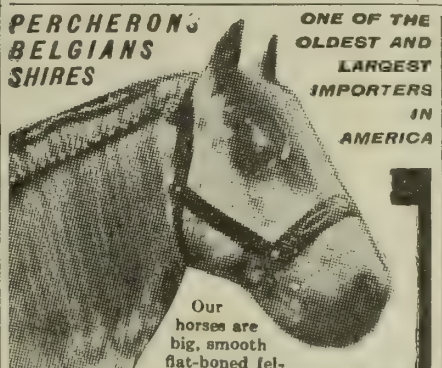

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For sale or trade for land, 2 extra good Duroc boars, 1 and 2 years old. Also 2 Jersey bulls, 1 and 2 years old. Inquire of Ed. Hoffman, Ashland, Neb.

Duroc-Jersey boars and gilts, sired by Crimson Wonder Jr. and Col. Lafollette. Prices reasonable. Write me. Ed. Hoffman, Ashland, Neb.

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I have a 30x60 dormitory sale tent for rent. F. Allbritt, Lincoln, Neb.

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Selecting Seed Potatoes

(CONTINUED FROM PAGE FIVE.)

grower can largely increase his profits by selecting seed from the best hills.

It is a matter of uniform experience among potato growers that potato seed that does not arrive at full maturity possesses a higher degree of vitality and vigor and productive capacity than potatoes that have been permitted to arrive at full maturity. Some growers recommend that as soon as the potato tops show that they are approaching the mature stage they be cut at once with a mower or some other instrument in order to arrest the further development of the growing tubers. It is claimed that under such circumstances the tubers produced will be much more satisfactory as seed than if they are permitted to run their full cycle of growth.

Those selected for seed from the seed plat should be separately stored. It is not wise to keep them in the same pit or cellar with regular market crop. Some successful growers have a small outdoor cellar built especially for storing their seed potatoes. The potatoes so stored should be free from wounds. It is through wounds upon the outside of the potato that most of the diseases succeed in infection. A potato that is free from wounds is safeguarded against such disease. Accordingly, in digging and storing the seed crop, great pains should be taken to handle the tubers carefully, so that they may not be wounded, and so be made liable to infection.

This may seem like taking a great deal of trouble from which very little is to be gathered, but if the future potato industry is to be safeguarded and promoted, it can be done only at the expense of just such treatment. Here, if anywhere, "an ounce of prevention is worth pounds of cure." By following the directions here given, for only a few years, a grower may place himself absolutely beyond the possibility of the disaster that now confronts the potato industry in all sections of the country.

Fruit Growing in Missouri

(CONTINUED FROM PAGE ELEVEN.)

fertilizing, picking, marketing and rent of land.

We will now ask our readers to journey back with us to the west side of the Missouri river to the state of Kansas, where the ambition has always been to do big things, and where the money-making idea is always being pushed to the front. We here find as an example of successful orcharding where Mrs. Frank Kotsch of Doniphan county, Kansas, as manager of her twenty-five acres of apple orchard, and eighteen acres of berries, cleared above all expenses last year, 1912, $7,564.80. The gross receipts from the forty-three acres was $12,127.38. Paid for help in picking and marketing 3,995 barrels of apples, $2,596.75; for spraying the orchard four times, $212.83.

Here is another example of missionary work, the redeeming of an insect-destroyed orchard by the horticultural department of the Kansas Agricultural college, whose expert entomologist, when called to advise on the cutting down and grubbing out of the apple trees in this orchard, advised Mrs. Kotsch that spraying and pruning was the demand.

Here are widely separated districts of country represented by the Ohio valley on the east and the Missouri valley on the west, and while the climate differs considerably, and the soil is not the same, we have the same diseases to contend with, the same troubles affecting the trees and the fruits; the same remedies are applied, the same system of cultivation and fertilizing resorted to and the same results are obtained in restoring the trees to bearing. And we produce the same big, red and yellow apples, of the same color and flavor.

What is the matter with this country? What need is there to call in the prune man or the orange grower to tell us what is the matter and administer to us a dose of high-priced orange or prune land scheme, when it is apples, small fruits and rich, cheap lands that we need, that we want and that we have all about in a wilderness of profusion, and only a comparatively small portion under cultivation?

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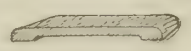
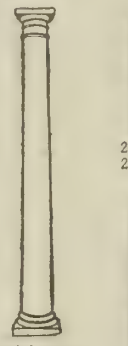


Clear fir casing, per lineal foot - - 1 1-2c



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8x8.8 Colonial Column Clear fir. $1.55

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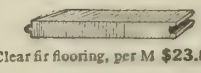

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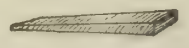

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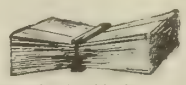

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Extra "A" red cedar shingles, per M - 1.80

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SEED OATS, "REGENERATED," Swedish Select, free from foul seeds, $1 bushel. Theodore Franz, Good Thunder, Minn.

SELECT STOCK SEED CORN—GERmination guaranteed. Address Paul Quass, Ashland, Neb.

EARLY GATHERED REID'S SEED Corn, first premium and sweepstakes 1913 Nebraska Corn Show; high germination test; $2.50 per bu., sacks free. Chas. Grau, Bennington, Neb.

250 STRAWBERRY PLANTS, $1. BEST varieties. Wholesale prices on nursery stock; free list. John F. Dayton, Drawer C, Waukon, Ia.

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ALFALFA SEED, TRUE TO NAME—Montana, Grimm and Siberian; timothy seed, Canadian Giant oats, pure Milk River grown. Address James Rannel, Harlem, Montana. Route 3.

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SEED CORN, MILLET AND TIMothy seed that will grow. E. Dooley, Selma, Ia.

ALFALFA SEED—WRITE FOR PRICE and sample. J. L. Maxson, Buffalo Gap, S. D.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Hagglund, Essex, Ia.

FENCE POSTS

IDAHO RED CEDAR SPLIT POSTS direct from producer to consumer, 4½c to 9c each here. Delivered prices carlots or application, shipped subject to approval before payment. A. R. Derr, Secretary Farmers' Local, Clarkfork, Idaho.

FOR SALE—SOUTHERN RED CEDAR posts, poles and piling. O. W. Anderton, Cherokee, Ala.

Will make a very attractive proposition to agents. I have a splendid assortment of land in Minnesota, North Dakota and Montana. Write me. My proposition includes a liberal commission for selling. D. J. McMahon, 518 Commerce Bldg., St. Paul, Minn.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

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The private fight of Wards against the high cost of living—started forty years ago—has become a national issue.

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Prattle of the Youngsters

An Advance in Wages.

John—Father, give me a nickel.

Father (severely)—Don't you think you are too old to beg for nickels?

John—That's so, father; give me a dime.

A Historical Fact.

Teacher was conducting a lesson in history. "John," she said, "what was there about George Washington which distinguished him from all other famous Americans?"

"He didn't lie," came the prompt answer.

Wanted Light.

The nurse was leaving her little charge and said to her:

"Now, don't be afraid dear; I am taking away the candle, but God will stay with you in the dark."

"Nurse," asked the child, "wont you please leave the candle and take God."

Reason Enough.

A little girl who lived on a street near a dentist's office, where a shooting affray occurred, happened to hear the pistol shots and shouts of the police. Revolving it in her baby mind, an explanation dawned upon her and, turning to her father, she said, "He must have pulled the wrong tooth for somebody."

The Type.

Charley had never seen his Aunt Ellen before. She had lived several years in England, and had returned to Boston an ardent suffragette.

"Well, Charley, how do you like Aunt Ellen?" asked his mother.

"Oh, I like her all right," he answered, "but I think she's an awfully gentlemanly lady—don't you?" —Youth's Companion.

Freddie's Examination Paper

The people who live in the uninhabited portions of the earth are mostly cannibals.

Geometry is that branch of mathematics that deals with angels.

Longfellow was a fullblooded American poet. He wrote "The Salmon of Life."

The Pilgrims came to America so that they might persecute their religion in peace.

Electricity is a current of very strong stuff.

Sir Isaac Newton invented gravitation out of an apple.

An axiom is something that is always so even if it isn't so.—Woman's Home Companion.

'Sufficient Unto Herself"

This is from a reader who knows the little girl. The little girl's mother was downstairs frying doughnuts, and the little girl, aged 5, was playing near. The grandmother, who was upstairs, called down:

"Do you need any help?"

The mother, busy with fork in hand over the sizzling receptacle, fearing the grandmother could not hear her reply, said to the little girl:

"Go to the stairs and say, 'I'm sufficient unto myself.' "

So the little girl ran to the stairs and called up:

"Gran'ma, mother says she's fishin' 'em out herself."

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Series of Sheep Articles

WE WILL print a series of articles on the fine wool sheep, its origin, its importation into the United States and its subsequent development and improvement down to the present time, with the personal history of many of the leading pioneer breeders and what they contributed in making this the greatest fine wool sheep country in the world.

This series of articles was written by G. W. Hervey, associate editor of The Twentieth Century Farmer. Mr. Hervey was one of the organizers of the first sheep record association in the United States. Last fall Mr. Hervey visited Ohio, his old home state; also Pennsylvania and West Virginia, investigating present conditions in the sheep industry, and was able to gather from the older breeders much interesting material for this series of articles.

With the advancing price of farm lands, the importance of sheep raising in the corn belt states is receiving more attention and consideration. It will pay our readers to carefully read Mr. Hervey's articles. His experience with sheep covers the period of the development of this industry.

Bright and Breezy

A Souvenir.

Mrs. Youngwedd (proudly)—This is my first pie.

Youngwedd—Er—don't you think, love, it would be nicer to keep it than to eat it?

Zangwill's Name.

Israel Zangwill, the well known writer, signs himself I. Zangwill. He was once approached at a reception by a fussy old lady, who demanded, "Oh, Mr. Zangwill, what is your Christian name?"

"Madam, I have none," he gravely assured her.—Lippincott's

A Curate's Wit.

During his first curacy, a clergyman found the women of the parish entirely too helpful. Such a storm of petty squabbles arose from their over-eagerness to help that in despair he gave up the place. Not long afterward he met his successor.

"How are you getting on with the women?" asked the escaped curate.

"Oh, very well," was the answer. "There's safety in numbers."

"I found it in Exodus," was the quick reply.

The Grocer's Fault?

Mrs. Newlywed's exploits in the kitchen have long served to add to the gaiety of nations. The Bristol Times submits an engaging example.

"I wish to complain," said the bride, haughtily, "about that flour you sold me. It was tough."

"Tough, ma'am?" asked thre grocer.

"Yes, tough. I made a pie with it, and my husband could hardly cut it. —Youth's Companion.

Joys of the Unjust.

Mrs. Norah Blatch De Forest, editor of the new journal of the Woman's Political union, said in New York the other day:

"There can be no justice for woman till she gets the vote. Man, having the vote himself and refusing it to the woman, is unjust. You know the story about the just and the unjust? It's very applicable here.

" 'The rain falls alike on the just and the unjust,' a clergyman once said.

" 'Not a bit of it,' a parishioner retorted 'Thee unjust have all the closed motor cars and unbrellas.' "

The Mother's Compromise.

Champ Clark, during the Baltimore deadlock, told a reporter a compromise story.

"Compromises," he said, "always strike one as unpleasant and unsatisfactory.

"There was once in the Ozarks a boy who, on reaching the age of 15, insisted on having a watch to wear. But his father refused him the watch. 'Can't afford no sech foolishness,' he said.

" 'Then, by heck, I'll leave home,' said the lad, and he went up to the attic and began to pack his carpetbag.

"At this point the mother in her desperation came out with a compromise.

" 'Willie,' she called up the ladder —'Willie, stay to hum with us, and ye kin wear the clock!' "

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Economical Method of Harvesting Corn

The Advantage to be Gained by the Use of the Silo

THE method of corn harvesting most usually employed in the Missouri valley, consists in letting the corn mature and ripen in the field, become dry enough for cribbing, and then shuck the corn standing in the field, leaving the stalks where they are. After the field has thus been harvested, the stalks are pastured with the live stock, generally cattle, which gain as much from them in the way of food as is possible. This method has been generally employed because it calls for less expense in harvesting than any other method. All the expense involved is the rate per bushel paid for shucking, the board of the team and man and the up-keep of harness and wagon. Into this expense is not generally figured the added household labor demanded by 4 o'clock breakfasts in order that the shuckers may be in the field as soon as it is light enough to see the ears.

Farmers, as a rule, figure into their expense account only the amount of money actually paid out. The loss through waste is rarely considered or taken into account. Many of these hired shuckers leave their wages in the field, in corn that they failed to gather for various reasons. They are working for the greatest number of bushels per day, and, as a rule, are not very particular about gathering either the small or the fallen ears, or in picking up the ears that miss the wagon through wild throws. But the big loss in such a method as this is the waste of valuable food forage and organic soil food that results from weathering of such forage in the field. It is estimated that in each of the corn-growing states of the Missouri valley territory there are several millions of dollars of loss each year from this source alone.

An indirect loss from this source, which also figures up into the hundreds of thousands of dollars, is brought about through the death of animals caused by such pasturage of cornfields. Cornstalk disease, impaction of the rumen and various other diseases are familiar to those neighborhoods where this practice is followed. The vegetation that has grown from the soil should be returned to the soil. The soil is hungry for it and needs it. A large proportion of the benefit that the soil might receive from such vegetation is lost through this process of weathering, never to be regained. Then, the poor residue that is left in the spring is usually raked together and burned, thus completing an enormous economic crime. Any farmer that burns vegetable matter such as straw or cornstalks, which are necessary to the soil, is guilty of an economic crime.

Another Method for Corn Harvesting

A second method of harvesting corn that is coming more and more into use is a little more expensive in the original outlay, but still more economic because it produces in the end a greater profit. This consists in harvesting the corn as soon as the ears mature and while the stalk and leaves are still green, by the use of a corn harvester, and then shocking it and allowing the shocks to stand in the field until they are properly cured. Too long weathering of the shocks in the field will also work injury. As soon as the shocks are in proper condition the crop is put through a combined shredder and husker. The corn is delivered into a wagon and the shredded corn fodder is delivered by a blower into a shed, or a pen, or a stack, for future use. This shredded fodder is used as feed for live stock in the barn lot. The portions of it that are not consumed by the live stock are used for bedding, or for littering down the barn lot, where it may all of it be converted into barn lot manure for future use. That part of it that is consumed by cattle is almost as valuable for manural purposes after it passes through the cattle as it is before. This method involves a little more expense in machinery and in labor than the method already described, but produces a far greater profit, both in the roughage that it furnishes for live stock and in the material that it furnishes for manurial purposes. This profit so far exceeds the additional expense involved that the farmer that is thinking more of profit than he is of expense will be sure to prefer it to the first method already described.

The above is an illustration of the barns and some of the cattle in the herd of H. C. Young, at Lincoln, Neb. Mr. Young has one of the most modernly equipped dairy plants in the west and his herd has been a strong winner at the leading shows in competition with the best herds in the country. In point of breeding there are no better, and every animal, in order to remain in this herd, must conform to a certain high standard, both as a breeder and also as a producer.

Silo as a Profitable Investment

If, when the corn is in right condition for shocking, it be taken directly from the field, while it is still full of sap and the leaves and stalks are green, and passed through an ensilage cutter into a silo, the greatest saving in method of corn harvesting is effected and the greatest profit is assured. In a well filled, well packed silo the silage undergoes a fermentation which develops a degree of heat that partly cooks the ensilage, releases the juices of the material so that they permeate the whole mass and soften it, and give it a succulent character that is much relished by stock. This ensilage approaches very nearly in value June pasturage. It is an appetizing, succulent and a highly productive food. It is of such a character that live stock assimilate almost the entire corn plant. The waste from weathering is entirely prevented. It is much more digestible, much more easily assimilated by live stock, than even shredded corn fodder, while the cornstalks that are allowed to stand and weather in the field bear no comparison whatever to it in value.

The Silo Expensive, But Necessary

It is admitted that the silo is expensive. The ordinary 16x32 silo costs in the vicinity of $350, excluding the cost of the foundation or of erection. To the ordinary farmer this price seems almost prohibitive. Some farmers claim that the silo industry has become so thoroughly commercialized and concentrated that it has all the

(CONTINUED ON PAGE THIRTY FOUR)

Fourth Nebraska Conservation Congress

Large Attendance from Every Part of the State, with Many Speakers of National Reputation

THE Fourth Annual Nebraska Conservation Congress, held at Lincoln, was, in many respects, the most successful educational and instructive convention of Nebraska citizens ever held. In point of representation from all districts and divisions of the state, it has never been exceeded. This, in part, might be attributed to the great interest, at this particular time, in the sessions of the legislative bodies, which are considering many measures of special interest to the people. To many persons, a visit to the capital city embodied the advantage of the meetings of the Conservation Congress and an advisory talk with the members of the legislature, which is always regarded from a political standpoint an evidence of good citizenship.

The Conservation Congress has developed into an institution of actual and real worth to the people of Nebraska. It has enlisted many citizens of the state in the work of thinking and devising for better and more practical means for developing the resources of the state.

Governor Morehead welcomed the conservationists in a short address, in which he spoke very flatteringly of Nebraska's resources agriculturally, as well as its good citizenship.

The congress was divided into many sections, or divisions, and classified to accommodate the visitors. The divisions were: Vital resources, health and sanitation, commerce and manufacture, religious conservation, women's department, statistics and publicity, education, pure food department, forestry and economic entomology.

Dr. Dowling of New Orleans spoke on "Sanitary Safety as the Supreme Civic Law for the Betterment of Humanity." He urged that the same standard of morals in man should be demanded by women that man demands of woman. He said this system of co-operation of man and woman is necessary in order to increase the stock of good, rich, pure blood, the only blood which produces efficiency. He asserted health conservation as the most vital of the forty-seven lines of conservation work.

"It is most important that instruction in the essentials of hygiene be given generally, and that the fundamentals of public health, including environment, community methods, pure food, water supply and personal habits and knowledge of methods of prevention should be enforced by drastic laws. The clean-up campaigns are chiefly educational, important only for their follow-up inspections and literature. Health departments should be freed from political domination and placed on a business basis to accomplish greater things in Nebraska. Economy in state and community governments is the watchword of the hour, and will mean more money for educational and health agencies, with the result of a greater efficiency in citizenship."

Louisiana Health Train

The Louisiana health train was the scene of great interest by visitors; school children and grown people flocked to the cars both days and night to view what proved to be the greatest health display that has ever been gotten up and sent out for the purpose of educating the public. This exhibit has been in existence for two years and has been pretty generally over the southern states and railroads.

The principles of hygiene as connected with child life was emphasized. Tuberculosis of the human body, as well as that of the cow, hog and smaller animals, showing the lesions produced by the unsanitary conditions in city and on farm, were shown in contrast with the sanitary, and how to renovate premises of unfit conditions. Methods of handling both cows and milk in order to preserve the best sanitary conditions was given attention.

Dr. Dowling, who is in charge of the car exhibit, discussed the sanitary question as it relates to cities and farm water supply. The conditions are entirely different in Nebraska as compared with Louisiana. His lecture were illustrated by the moving picture slides, which revealed the various forms of living things found in unboiled water. The wonderful activity of these little parasites undoubtedly caused many to resolve that no more uncooked water would be taken into their stomach if they knew it.

Advertising and Publicity

The advertising and publicity department of the congress held its meetings in conjunction with the commercial division at the Lindell hotel from 12 noon to 2 p. m. each day. C. C. Rosewater, V. E. Wilson of Stromsburg, W. M. Maupin, E. V. Parrish and others spoke on publicity as a means of educating the people to an appreciation of state statistics, publicity and general knowledge of the state's actual resources and business interests. The expression of these meetings was to the effect of more attention to the systematic gathering and compiling of facts, as to what Nebraska is and is doing, and its capabilities of growth and development.

There seemed to be a general feeling of approval and endorsement of the Norton bill 423, in the legislature, in the creation of a state commission to encourage development and prosecute the work of state statistics and publicity. Mr. Rosewater emphasized the need of Nebraska citizens having impressed upon them the importance of advertising the state's resources until it becomes a part of the mental ideas of the people. The need of the state is greater productivity, more than increased population, he declared.

Wallace Contributes His Share

Henry Wallace of Iowa, the well known editor and educator along lines of general conservation, was present to contribute his share in encouraging the work in Nebraska. Mr. Wallace feels about as much at home on the Nebraska side of the Missouri river as he does on the Iowa side, and gets just as cordial a welcome. He at the outstart got after the retired

(CONTINUED ON PAGE THIRTY-THREE.)

Two Illinois Dairy Cattle Breeding Herds

Guernseys at pasture on the farm of Charles D. Ettinger of Tinley Park, Ill. This is one of the most modern dairy farms in the west, and the cattle thereon are highly bred, both for utility and show ring purposes. Mr. Ettinger is the man who bought the $4,000 Guernsey bull two years ago.

Barns and Farm Buildings on the Farm of James Dorsey, Gilberts, Ill., One of the Largest Breeders of Holsteins in the United States

What a Woman is Doing as a Legislator

Mrs. Agnes L. Riddle, State Secretary of the Grange in Colorado, is Making a Record in Legislature

By Alvin T. Steinel

WHAT can a woman do in a state legislature?

That question occurred to me when I heard that Mrs. Agnes L. Riddle, for several years state secretary of the Grange in Colorado, had again been elected a member of the assembly. It seemed that if she had failed to make good during her first term of office, the people of her district—the counties of Adams and Arapahoe—would not have re-elected her, especially in a year when everything in Colorado went democratic. Mrs. Riddle is a republican and it occurred to me that, this being the case, it would be next to impossible for her to accomplish anything against a majority of democrats.

For several weeks now I have been attending sessions of the Colorado house of representatives every day, and have thus had ample opportunity to find out what a woman can do against sixty-three men legislators, most of them of opposite political faith from that held by the woman. There are two women in the house, Mrs. Frances S. Lee, being Mrs. Riddle's co-laborer, while Mrs. Helen Ring Robinson, in the upper house, is the first woman senator in the entire United States. But Mesdames Lee and Robinson are city women, while Mrs. Riddle lives on a farm and takes personal interest in all forward movements in agriculture, especially the things that relate to the welfare of the wives and children of farmers. So it is in her work that the readers of The Twentieth Century Farmer are particularly interested.

There are a dozen good bills pending which bear the name of Agnes Riddle, notably the measure creating a farm loan fund, which, if it becomes a law, will enable homesteaders in the dry land sections of the state to get money at 6 per cent, from a fund created by the counties. Now 6 per cent may not sound like a low figure to those accustomed to talking about the raifeissen system, or the farm loan banks of France and other European countries, but for the dry farmer it means a cut of just 6 per cent in the ordinary figure. Twelve per cent loans on farm chattels are the rule. Mrs. Riddle believes that the state could well afford to tie up a small portion of its revenue for this purpose to help the homesteaders get a start. Only the land owners could take advantage of it, as the author of the measure does not deem it wise to encourage tenant farming.

MRS. AGNES L. RIDDLE,
Secretary of the Grange in Colorado, Who is Serving Her Second Term as a State Legislator

Then, there is her dairy inspection bill, which provides that dairy products shipped into Colorado from other states shall be subjected to the same rules of inspection as apply to Colorado-produced milk and cream—surely a just measure; that, however, is meeting with opposition. It provides, also, for the use of pure, sweet cream in the manufacture of ice cream, and this feature is being opposed by lobbyists for certain interests. Just the other day Mrs. Riddle found she was being imposed upon by the chairman of a committee who was delaying the printing of her bill. The chairman denied that the delay was intentional.

Chairman Brought to Time

"Now, Mr. Speaker," said Mrs. Riddle, pointing her finger at the man who tried to delay the bill, "he has told me day after day that it had never been sent to the printer at all. the bill was in the printer's hands and had not been returned, and yesterday I went over to his desk and caught him with the bill in his hand. Now, I won't stand for such treatment from any man."

The house sustained her motion demanding immediate action on the bill, and the chairman of the offending committee took his seat in confuson. Disagreeable incidents seldom occur in the path of the woman legislator, but Mrs. Riddle finds herself equipped with ready wit and forceful language when needed. She asks odds of no mere man when it comes to legislative matters, and takes active part in the debate on every bill of a humanitarian character, in addition to being the special sponsor for agricultural bills.

But to return to the subject of these measures. There is the bill providing for eradication of prairie dogs—another measure calculated to aid the homesteader. The small land owner in eastern Colorado may labor ever so hard to kill the prairie dogs on his own farm, but he no sooner finishes the job than his fields are again covered by the animals, which swarm in from the vast areas of idle land, owned in large holdings by corporations and by state and federal government. The Riddle bill requires the killing of prairie dogs on all lands, no matter whether Uncle Sam is the owner, or it belongs to a homesteader.

Then, there is the bill providing that household arts, and agriculture or the mechanic arts, be made a subject in the schools of the state, for the seventh and eighth grades, emphasis to be laid upon the particular branch of the two last named subjects that is dominant in the community. That means vocational training in the common schools—a new step for Colorado, expect in a few of the large cities, where manual training is now taught. Under the provisions of this bill the boy in the mining camp will be taught some branch of mechanic art related to mining, while the boy in the agricultural districts—in whom Mrs. Riddle is chiefly interested—will get the rudiments of farming. Mrs. Lee is associated with Mrs. Riddle in pushing this measure, and in turn the latter is aiding Mrs. Lee in some of her child welfare bills. The two ladies sit side by side, and while of opposite politics, they agree on almost every measure. My observation has been that they pay far less attention to political lines than do the men. They vote as their hearts dictate.

The other day it was my privilege to witness a dramatic incident in the house. The bill seeking to abolish capital punishment was up for consideration. There is intense feeling in the state on this question. Colorado was one of the first states to abolish legalized murder, this action having been taken in 1891. A few years later the state changed front on this question, the legislature believing that a series of murders was attributable to the fact that those who took human life were not hanged. I do not believe that a careful study of statistics will bear out that view, but however that may be, thousands of people in the state, and notably women, who have exercised suffrage many years, want capital punishment abolished. They are working hard for it at the present session. When the bill came up the other day one of the men who believe in taking a life for a life rushed up to the desk of Mrs. Riddle and cried:

"If you had a daughter that was murdered by some fiend in human form, would you still vote against capital punishment?"

With all the calmness of a tried statesman, Mrs. Riddle replied:

"My brother asks me whether I would vote for capital punishment if I had a daughter murdered. My answer is, that if I advocated the taking of the life of a man who murdered a child of mine, I would place myself on the same footing with the murderer. What was it God said when Cain was fleeing from the wrath of man after he had killed Abel? 'Therefore, whosoever slayeth Cain, vengeance shall be taken on him seven fold.' I ask you, Mr. Biles, and the rest of the members of this legislature, how can we believe in a living, loving God: how can we believe in anything that is good, if we advocate taking a life for a life?"

Mrs. Riddle's Plea Wins

Mrs. Riddle's plea, backed up by a quotation from the Old Testament that is usually cited as authority for the law of "an eye for an eye," had the desired effect, and the house went on record, by an overwhelming vote, in favor of abolishing capital punishment. As the bill passed the house, it must be subjected to a referendum, and all the people will get a chance to vote on it at the next general election.

"I told them in my campaign," said Mrs.

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It is better to be master of one's work than to get so far behind that the work becomes master. It is always better to lead than to be driven. Taking time by the forelock becomes a habit with thrifty, enterprising, forehanded workers.

Adequate preparation is half of the battle. When everything for coming work is ready to hand, the work is easily and quickly done. Get ready for spring before spring gets here. It is better to wait for the spring than to run after it.

Winter wheat will soon need proper attention if a maximum yield is to be secured. For this, the pulverizing, mulch-producing roller is better than the harrow. It has been a dry winter. The wheat will need full protection against the winds of March and April if a big harvest is to be expected.

Plump seed produces thriftier plants than shrunken seed. They furnish the young plants with more food to go on until such time as they can get their food for themselves from the soil and from the air. While waiting for spring, thoroughly clean and grade all small grain seed.

Beautify the home place as spring approaches. Clean up the rubbish, remove all unsightly things and make the yard and all the surroundings such that the passerby will be glad to look at them. Nature is beautiful when not disfigured by man. Clear away the disfigurements and learn to find real joy in the good looks of things.

A Factor in Beef Production

From all over the corn-growing districts—north, south, east and west—comes the evidence that the greatest factor entering into the cheapening of cattle feeding lies in the converting of corn fodder, sorghum cane and kafir into silage. The trials and tests made during the last year, or feeding season, have furnished more evidence than all preceding time. The great scarcity of feed one year ago, in the feed crops produced during the growing period of 1911, set many farmers and stock owners to thinking of how to produce more feed for winter use without increasing the crop acreage.

The silo is the answer to this question. In addition to satisfying the question of crop acreage, it adds no additional expense, except that of putting the fodder crop into the silo and the necessary machinery, tools and help for this work. The fact that this class of feed is treated as a waste product, on most farms; that the expense of this crop is the cost of taking it from the field and storing it in the silo, minus such value as it may represent in grain when matured as a corn crop.

The feed value of the green stalk of fodder, and such ears as it may contain, has proven so great, in the estimation of cattle feeders in the various combinations of mixed rations, that there seems scarcely a limit in its praise as a cheap feed in the making of beef. One Kansas feeder, who has been feeding extensively of green corn silage during the 1912-13 feeding season, says it has reduced the cost of grain in fattening his cattle 50 per cent. He says: "I feed three pounds of cottonseed meal per steer per day and all the silage the cattle will clean up, and ten days before shipping feed ground corn and silage alone." The evidence of earlier maturing of cattle for the market and the cheapening of the feeding process are emphasized by many feeders.

The tendency to increased production of beef cattle in the feed lot and on the farm will be greatly enhanced when the process of making beef more cheaply is established. The high prices of the feed materials that enter into the making of beef has for a few years past been a critical feature of the feeding proposition, with the farmer as well as the professional or business feeder, who depended upon buying all his feed.

The silo will be extensievly used on the farm and feed lot from this time forward, and the advantages of the silage feed, in its cheapening of beef production, will be worked out upon a basis of the value of the materials used.

Western Hemlock

Some retail lumber dealers in this part of the country have occasionally been surprised to find in their shipments of fir, lumber that resembled fir and still was different from fir. Such have wondered whether there might not be different kinds of fir, and this interloper one of a new kind. The wood is practically free from pitch, has a handsome grain, takes paint and stain well and works smoothly. It is suitable for sash and door stock and all kinds of interior finish. It is used in bridges and trestles, and when properly treated with preservatives is a valuable cross-tie and pole wood. The right name for this wood is western hemlock. It is a valuable wood, against which many people will entertain a prejudice, thinking that it partakes of the same nature as eastern hemlock. This is a mistake. It is entirely different. Intrinsically, it is among the most important of western woods.

Pocket Gophers

Pocket gophers are an unnecessary pest on the farm. It will pay any farmer to devote time and money to exterminate them. If a farmer wants to make the growing of alfalfa a profitable business he will have to exterminate them. No man can raise a good big crop of alfalfa and of pocket gophers at the same time on the same ground. The gophers cut off the crowns of alfalfa and store them in their burrows for winter food, thus materially reducing the stand. They also feed on the growing plants. They are an unlimited pest and hindrance at the time of harvesting the crop.

The best way to destroy them is to poison them. Before attempting to poison them one should know something of their habits. They live in underground galleries. In constructing these galleries they use an instinct supplied by nature to assist them in deceiving their natural enemies. They rarely throw up the mounds of earth directly from the main gallery. They dig a little side gallery and throw up the mound of earth from this. In attempting to poison them it is necessary to place the poison in the main gallery, where it will be sure to be found by the gophers when they travel back and forth. This may be found by following the loosened earth under one of their mounds down until it reaches the main gallery. Poison may be deposited there and the hole filled with earth so as to exclude the light.

Some people poison potatoes or carrots, sweet potatoes or parsnips, in fact, almost any tuber will do, and place the poisoned pieces in the main galleries. There is a tablet advertised and on the market at a moderate price which seems to do very effective work.

But no matter what means is employed, every farmer should make it his business after spring opens and the mounds begin to appear to begin the work of extermination. This will not be so easy in the fall season when they are laying up their winter store.

People, the world over, are becoming aroused on the subject of deep plowing. The Hugenots, driven to South Africa by persecution, practiced tillage to the depth of three feet for vines. This was more than 100 years ago. The cuttings were planted with as many buds below the ground as possible; only two above. This gave them an enormous root system, which produced bunches of grapes of surprising quality, weighing as much as seven pounds to the bunch.

Seeding Kherson Oats

Kherson oats are exceedingly sensitive to changes in soil or climatic conditions. Under some conditions they are exceedingly shy stoolers, while under other conditions they do not exhibit this peculiarity. Of course, the amount of seed to be sown to the acre depends entirely upon the prolificness with which they throw out stools. On some soils only a single stalk will spring from a majority of the seed sown. On other soils they seem to throw up the average number of stalks. As an illustration, Prof. Montgomery, by a series of experiments conducted at the state farm in Nebraska, found that he got the best results when Kherson oats were sown at the rate of two bushels to the acre. The Experiment Station Record of August, 1912, on page 139, gives an account of experiments which prove that the best results were obtained by sowing from four to six bushels to the acre. In the writer's own experience, he has obtained the best results when not less than four and one-half bushels of seed were used to the acre, and he has sometimes used six bushels with satisfactory results.

The observing farmer who uses this variety of oats will probably know whether they stool abundantly on his farm or not. If they are shy stoolers, let him sow seed enough to insure a profitable harvest.

Much better results are obtained by drilling in the oats than by broadcasting them and afterward covering them with a harrow or with a disc. This is no longer a matter of experiment. Of course, it is a little quicker way to sow on top of the ground, then go over with some tool that will do only half of a good job. But this will never prove satisfactory except in seasons of exceptional rainfall. Even in such seasons the use of the drill is much to be preferred.

Too Many Retailers

An over-supply creates a bad economic condition. This is true not only of comodities, but of professions and of commercial enterprises that are semi-professional in character. This is especially true of the small towns scattered throughout the country. When there are more doctors or lawyers in one of these towns than the amount of business done in the town and in the surrounding territory demands, it makes bad business, not only for the doctors and the lawyers, but for the patients and clients, too. The community, in such a case, has to support more doctors and more lawyers than there is any demand for, and this imposes an unnecessary burden on the community.

This is especially true with reference to the retail stores in small country towns. When there are more stores than there is business enough in the community to support easily and profitably, it makes bad business for both merchants and for the customers. In such a case there is unnecessary expense for rent, for help, for delivery, for insurance and for all the items of expense that every merchant has to meet. This unnecessary expense must be figured into the basis upon which to reckon the margin of profit that would be

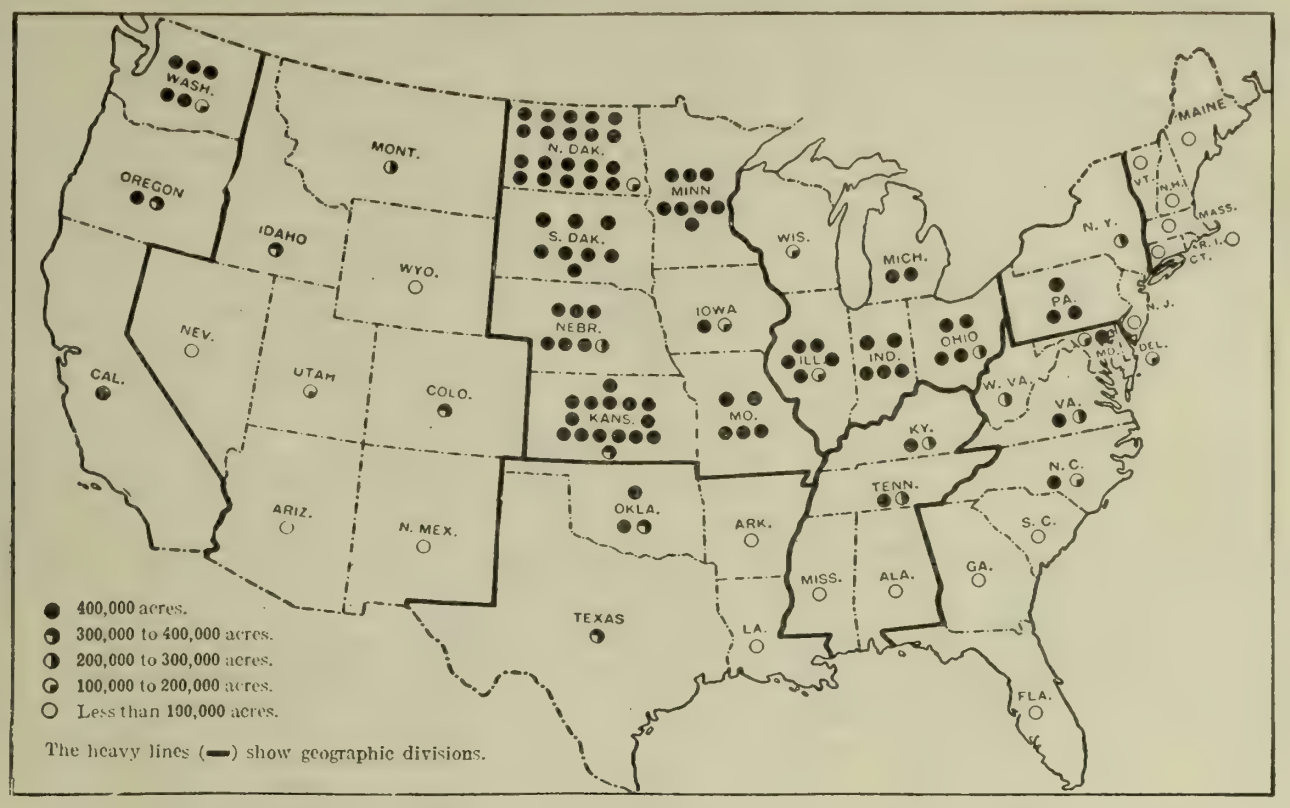
required. As a result, the customers must pay higher prices than would be necessary if there were no oversupply.

One little town in eastern Nebraska has five general merchandise stores where there is scarcely business enough legitimately to support two. This imposes an unnecessary tax upon the community in the way of higher prices and limited stocks of merchandise which is responsible for the fact that so many customers make their purchases away from home. If these five stores could consolidate into two, it would be better both for the merchants and for the customers. Over-supply here creates a condition that necessarily leads to a violation of economic law, and such violation always extorts its penalty.

One need not be a prophet to see that this bad economic condition is beginning to provoke opposition which will in the end result in a complete revolution of commercial methods. Consumers and producers will ultimately get together and deal direct with one another. If the provocation is permitted to continue too long, it will create a feeling that will practically wipe the small town out of existence.

It is to be hoped that retailers themselves will appreciate the condition that confronts them, and will correct, of their own volition, present economic inequities so that the coming commercial revolution will not be too sweeping in its effects. The country needs the small town. It needs the store in the small town, but it does not need several stores where there is no demand, no legitimate economic business demand for more than one, and it will not tolerate for a long time, such an unjust economic condition.

Acreage in Wheat by States



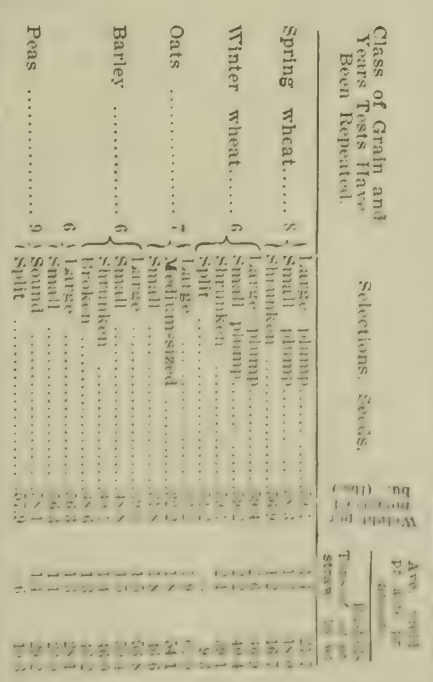
This map shows the acreage in wheat by states during the season of 1909. It is reliable, as it comes from the bureau of the last census. It would be well for each reader, as these maps appear, to figure out the number of acres in wheat in each of the several states, and make a list of them in the order of production. Such a list will be valuable for future reference. According to this map, North Dakota is the first wheat-producing state, and Kansas is the second.

Plant and Grow Plump Seed

Until such time as it can gather its soil food through its roots and its air food through its leaves, the young plant has to depend entirely for nourishment upon the plant food stored up in the seed kernel. The more abundant this plant food, the more vigorous will be the growth of the plant, other things being equal. The plumper the seed kernel, the more of this plant food for the young plant is stored up within it.

One would expect, from the well known operations of the laws of heredity, that a continued planting of plump seed through a series of years would result in producing grain of a uniformly greater degree of plumpness, and consequently of uniformly greater production. This would mean that under the operations of the laws of heredity, if a farmer should year after year grow his own seed and every year select from the preceding crop only the heaviest, plumpest kernels for seed, he would in the end, after a few years, succeed in producing a strain of uniformly heavier weight and uniformly greater producing capacity. If this should prove to be the fact, it is a matter well worth trying by every farmer.

This, under a series of careful experiments, has proved to be the actual fact. Prof. Zavitz of the Ontario Agricultural college, a recognized authority in matters of this kind, has conducted a series of careful experiments extending over a number of years, and his experiments have proved that the laws of heredity in the matter of grain-growing produce just the results that might naturally be expected. During a period of from six to nine years, he carefully selected the large, plump seed, the small, plump seed and the shrunken seed. In the following table the results are set forth in such a way as to be easily apprehended:



These results should not be ignored. The farmer has it within his own power to increase the grade and the production of his small grain. Let him every year thoroughly grade his seed grain, selecting only the largest, plumpest kernels for planting, and within a few years he will succeed in producing a strain of small grain of uniformly heavier weight and uniformly greater production. The cost of the machinery for making such selection is not worth considering when compared with the results that will be certain to be gained. The grain rejected for seed may be fed, or sent to the market, so that no loss from grading will result.

Improving Humankind

The latest breeding suggestion now introduced and receiving the attention of the scientific world is the improvement of mankind. Just why this very important work should have been left until all human effort and skill had been expended in the perfecting of better specimens of the lower order of animal creation has not been touched upon or made plain in the scientific lectures and discussions on this subject. The subject of improvement of mankind from the standpoint of better breeding, better physical and mental qualities in the parent, has become a live issue and is being discussed now openly by conservationists of the health divisions or health sections of the various conservation congresses. Better health and better human conditions and quality of humankind, induced and brought about by hereditary influence, seems to be the demand of present-day medical sentiment, and is receiving a strong endorsement from progressive thought.

The proposed science, called eugenics, meaning well born, nobleness of birth, is without question a great stroke of human reform and needs no argument when one sees the army of imbeciles that are crowding the charitable institutions of the country, and the other thousands that should be under the charge and care of public support. Mentally, morally, physically and from the standpoint of human sympathy, and a desire to encourage the upbuilding of humanity, one cannot but express a desire that there be a restriction enforced on the further propagation of imbecility, incompetency and degeneracy that this class of human beings represent, and must continue to represent so long as they are permitted to multiply and bring into the world of their kind.

The principle of reproduction in animal and vegetable life is so sensitive as to hereditary influences, for improvement or degeneracy, that there can be no question as to the policy of better breeding, if better men and women are to follow in the generations yet to come.

Many of the Kinkaid homesteaders in the sand hills of Nebraska have proved up on their claims. They are needing money to help start them in the dairy business, a business peculiarly adapted to sand hill conditions. There is plenty of money in Nebraska, all ready for loaning on proper security. A movement is on foot to bring the homesteaders and money loaners together for the advantage of both.

On a certain farm 100 acres of corn produced ninety-two bushels to the acre. On the same farm another 100 acres of practically the same soil produced fifty-three bushels to the acre. The seed for the first 100 acres was carefully selected and tested. The seed for the second hundred was not carefully selected or tested. Corn growers, draw your own conclusions.

Save That Hard Work

Save Your Horses, too, and Your Money

Get the machine that operates with least effort—that gives no trouble—that makes more profit—that is so strong, so simple, so durable, as to make it the one *perfect* spreader.

You take no chances in buying the GREAT WESTERN. Over 100,000 farmers have used them during the last twelve years and swear by the *old reliable, time-tried*

Great Western

Here is the *proved* GREAT WESTERN of other years, except that it now has roller bearings and is made low down—waist high—*just right*—with safe clearance underneath for rough ground, obstructions and top dress on growing corn.

Wheels are *under the load*—wheel base is short; result, *lightest* possible *draft*—easy pull—a saving on horses and harness. Double heavy oak bolster, 16-inch malleable fifth wheel; stands the *hardest* pull under worst conditions, and *won't pull out.*

Simplest Drive: Direct chain drive—no concealed gears, everything in plain sight; simple shifting device; entire mechanism is stopped while driving to or from field. Turns in its own length. Built for perfect permanent service—economical operation—lifetime durability. Buy your *last* spreader *now* by making it a **Great Western.**

Far More Economical and Satisfactory

Get Our New Spreader Book.

Things We Won't Do

We won't build them light or flimsy or hang the load between the wheels just to save a few inches in height.
We won't use a narrow front truck, because you couldn't top dress.
We won't cheapen the frame by using light construction with only two sets of rollers, or a half-apron, or any of the cheaper means.
We won't build a spreader in a cheap way just to sell, regardless of satisfaction in use.
We want you satisfied or no sale, and you will be with the GREAT WESTERN.

Things We Do

We build them right.
We put the wheels under the load so as to make light draft.
We use a heavy, double front bolster and heavy malleable fifth wheel, so you can't pull the front out.
We make a short wheel base so you can turn anywhere.
We use roller bearings throughout and an endless roller bearing apron with 102 rollers.
We build the "World's Best" Spreader to give you long service and the best work at the lowest possible cost. Ask for new spreader book, it's free.

Rock Island Plow Co., 382B Second Ave., Rock Island, Ill.

A Loss of $1,200.00

This farmer waited until it was too late—are you doing the same?

Less than ten dollars would have saved his silo, mill, etc.

The
Drive and Twist Anchor

is a simple device for substantially guying silos, fences, mills, litter carriers, bins, etc.

It is driven into the ground with blades folded against the rod, then twisted to open them in solid earth. Plenty of holding power. Send us your dealer's name and get our anchor literature.

THE VOTE-BERGER COMPANY,
1400 West Avenue, LA CROSSE, WIS.

Handling Soil for Production

VIII—Applying Manure to Insure Greatest Benefit.

THE benefit of manure to the soil depends entirely on the thoroughness with which it is incorporated with the soil. This does not mean a lump of soil with a lump of manure, but rather, a grain of soil with a grain of manure. The full benefit of manure is not secured until this incorporation becomes complete.

Fineness of Manure Necessary

The ideal way in which to apply manure, if it were not so expensive as to render the method prohibitive, would be to grind it as fine as flour. Then it might be mixed and incorporated with the soil with the least possible expenditure of time and labor. But this method is entirely out of the question on account of the expense that it involves. The next best way to apply it is by the use of some kind of machinery that will deliver the manure evenly over the soil, and fined as much as is possible. The modern manure spreader answers to this demand. It is a waste of time, labor and money to attempt to do by hand what cannot be thoroughly done by hand, when a machine, now on the market, to be had at a reasonable price, will do the work somewhere near to the manner in which it should be done. In these days it is not worth while for any farmer to fool with the manure proposition unless he has a manure spreader to assist him.

Right Use of a Manure Spreader

The manure spreader should be so used as to deliver the manure in as fine a manner as possible. It all depends on the manner in which it is set to control the speed of the traveling apron which delivers the manure to the beater. If the machine is set so as to give to the apron the slowest possible speed, then the beater would get several strokes at the manure, when, if the apron were given a high speed, it would get only one stroke at it. The oftener the beater, with its fine teeth, strikes the manure, the finer will be the condition in which it delivers it. Every farmer should give orders that his manure spreader should be used only with the slowest possible feed to the apron. When this is done, the amount delivered to each acre of ground would not be nearly as much as it otherwise would be. If, in the opinion of the farmer, the machine so set does not deliver as heavy a quantity of manure as he desires, he can go over the same ground again until he gets as much manure on the ground as he desires. This will take a little more time, and use a little more horse flesh, but the better condition in which manure is delivered by this method will more than compensate.

Manure Best Used as a Top Dressing

Until within the last few years it has been almost universal to apply manure to the soil and then plow it under. It was thought that this was the only way in which the full value of the manure might be gained for the soil. In the early days all manure was spread by hand with a fork. It is practically impossible to spread as finely and evenly with a fork as it is done with a machine. The result always has been that the plow covered great lumps of manure. This was bad for the soil and bad for the growing crops. These lumps of manure robbed the surrounding soil of moisture that they demanded and took, in the process of fermentation, disintegration and decay, which dried out the soil, and sometimes the soil was injured by the heat developed in the process of fermentation. This is the basis for the opinion that at one time was so universally current in the middle west, that manure burns out the soil. Another injury resulted from the fact that any plant that became established in the soil above such a heating and fermenting mass of manure, grew well enough, until its roots penetrated to the fermenting mass, and then its growth was suddenly arrested and it died, killed by soil heat and by lack of the moisture that had been absorbed by the manure in its process of decay.

It has now been practically demonstrated that it is not best, all things considered, to plow manure under. It is not necessary to do so in order to conserve its fertilizing elements. The best way to apply it is to use it as a top dressing and then partially to cultivate it into the soil by the use of the harrow, the disk harrow, or the cultivator. It has been repeatedly demonstrated that larger ultimate returns from manure of a certain quality may be gained by using it in this way than by plowing it under. It has also been fully demonstrated that greater results may be obtained from the use of fresh stable manure as a top dressing than can be obtained from the same manure after it has been rotted. The fertility that is in the manure is not available for the use of plants until decomposition has passed to its last stages. On cultivated land, such decomposed elements are washed into and absorbed by the soil and released to the soil by the rainfall. By following this method no element of fertility is lost and the damage that is so frequently charged up against wrong use of manure is entirely avoided.

There is one condition under which it is not only permissible, but advisable, to plow manure under. On many farms there are small areas of shale, gumbo or heavy clay soils which are very deficient in vegetable matter, and for this reason have become so consolidated that they are not productive. Such soils may be reclaimed and made valuable. Plow deeply, filling every furrow with manure and covering it with the furrow slice. Level and give such preparation of soil for cropping as is possible under the conditions, but plant no seed. The next year do the same thing. It will then be found that the vegetable matter of the manure has become so incorporated with the obdurate soil that it has loosened it up and made it ready for cropping, giving it a spongy character. Under no other condition will best results be obtained by plowing under manure.

When mauure is applied to the surface soil and only partiy cultivated in, it serves as a protection to the soil

ıd to vegetation growing thereon ıainst injury from wind. The ma- ıre acts also as a mulch in helping prevent unnecessary evaporation of oisture from the soil. On light soils at are liable to drift with the wind, ch a use of manure will be found to of inestimable benefit in prevent- g a soil from drifting.

Application of Stable Manure.

Stable manure should be applied rectly from the stable. Unless this done and the manure becomes even ghtly compact, there is a fermenta- on set up within its body, which re- ases, by chemical reaction, nitrogen the air. When handled in such a y that it does not become compact, that fermentation cannot take ace, this nitrogen is saved to the il. Nitrogen is the most necessary, e most elusive and the most expen- ve element of fertility. Taking the anure direct from the stable to the nd prevents this loss of nitrogen. would be well, however, before do- g so, to shake all roughage out of e manure, throw the roughage into e barn lot and deliver simply the oppings of animals to the soil.

ırious and Instructive Illustration.

One of our principal western cities ıds all manure gathered by its ard of health, on cars without any st to the receiver. One large land ner in the immediate vicinity has is manure, carload after carload, ken to his land. It is there un- aded by hand into a compost heap. is compost heap is afterward rked over several times by hand bor in order that it may become oroughly decomposed. It is then t upon the land and plowed under. is process involves several distinct ements of loss which might easily prevented if the land owner could made to know what he is doing. ıe fermentation in the compost ap should take place in the soil, cause the chemical reactions and e bacterial activities which promote d are the result of such fermenta- on, have a distinct advantage to the il. Here is one large element of ss involved in such a process. The nd labor required in manipulating e compost pile is another distinct ss. The nitrogen that is released to e air during the process of fermen- tion is another loss, the sum of hich reaches a high figure. By plow- g under the manure, instead of us- g it as a top dressing, there is a dis- ıct loss to the soil caused by a lack protection from wind and sun, that e manure mulch would give. It is timated that, with the amount of anure so received from the city, ındled in such a way, the distinct ss amounts up into thousands of ollars. A less amount of manure, ındled in the same way, will result a correspondingly less loss. But is method will always involve both ss of fertility in the manure and ss to the soil and to growing vege- tion that a right application might ve. Farmers, if they are wise, will void this kind of loss.

Barn Lot Manure.

Barn lot manure, which is com- osed largely of waste roughage, but lso contains what it can absorb of ıe solid and liquid excretions of ani- ıals, should be differently handled. ry roughage after it becomes incor- orated with the soil, robs the soil of necessary moisture in the process of decomposition and decay. If it is not so incorporated, it is liable to be blown away by the wind and lost. In the barn lot, it will be trampled by the animals there, its fibers broken so as to render it more capable of absorbing moisture. It will receive the necessary moisture for fermentation and decay from the rainfall, and when this decomposition has progressed far enough, it will be in a condition to be applied to the soil in the most advantageous manner. The barn lot, however, should be arranged in such a way as to prevent the washing of the elements of fertility out of its contents. Eave troughs may be used to carry the roof water away, and grading about it may be done in such a way that surface water cannot run across it. Then all the water that it gets it will get from natural precipitation from the air. In the Missouri valley territory, with its average rainfall, if the barn lot is protected in this way, there will be very little loss from leaching, if sufficient roughage is used to absorb what moisture the lot gets. There are some disadvantages to this method of handling barn lot manure, and there are also some advantages under ordinary circumstances in this territory. The advantages will be found to outweigh the disadvantages.

Misplaced Precision

"Oh, I just love cake, and it's awfully nice!" cried little Dorothy, regarding her chocolate-frosted dessert with high approval.

"You should not say, 'love cake,'" reproved her mother; "say you 'like' it; and don't say 'awfully;' say 'very.' Don't say 'nice,' but 'good.' And, by the way, the word 'just' should be omitted, and also 'oh.' Now, my dear, repeat the sentence correctly."

"I like cake; it is very good," repeated Dorothy.

"That is much better," said her mother.

But Dorothy was far from being satisfied.

"It sounds as if I was speaking of bread," she said, with an air of disgust.—Youth's Companion.

What We Pay for You

By R. E. Olds, Designer

Note what we do to save cost of upkeep with users of Reo the Fifth. To save repairs and troubles. To insure you an honest car.

Cost Us $200

These extra precautions, which some call extremes, cost us about $200 per car. I employ them because, in years to come, they save $500 per car.

I have proved this fact a myriad times in my 26 years of car building.

To merely sell cars, these things are unnecessary. But to hold users' good will—hold it year after year—these things must be done.

Our Extremes

Our steel is all made to formula. It is analyzed twice before using. That saves us countless mistakes.

Our gears are tested in a crushing machine to stand 75,000 pounds per tooth. Our springs are tested for 100,000 vibrations.

Each engine is tested for 48 hours. There are five long-continued tests.

There are fully one thousand tests and inspections applied to every car.

Overcapacity

I require in each driving part an overcapacity of not less than 50 per cent.

I use oversize tires—34x4—to cut your tire upkeep in two.

I use 15 roller bearings, which cost five times what the usual ball bearings cost. And, to avoid all flaws, we use 190 drop forgings, at twice the cost of steel castings.

I use a $75 magneto—

A doubly heated carburetor—

An expensive centrifugal pump—

14-inch brake drums—2-inch, seven-leaf springs—a 17-coated body.

And we limit our output to 50 cars daily, to insure accurate fitting, abundant tests. To make sure that each car is right.

Does It Pay?

You know that it pays to get a car built like this if you've owned a car that wasn't. All the difference won't show at the start, of course, but in after years you'll see it.

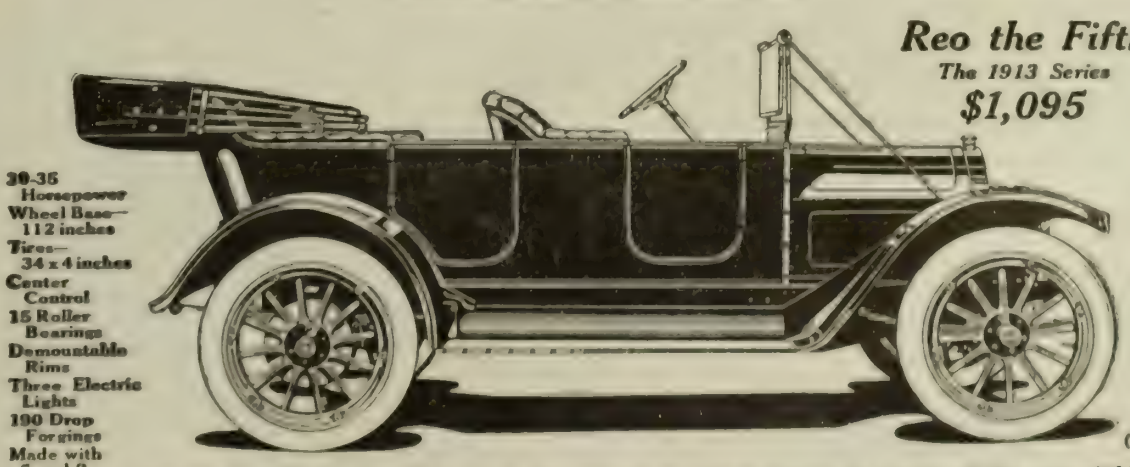
Every dollar I spend in these extremes saves users from two to four dollars. That's why Reo the Fifth stands at the top of its class, after 60,000 of my cars have been used.

See in this car our new center control. Note the absence of levers. Both front doors are clear. Note that it has the left side drive, like the leading cars today.

Note the flush electric dash lights. Note the splendid finish. Let our dealer point out to you the countless small perfections. This is the climax of a lifetime of effort. See what it means to you.

Write for our catalog and we will direct you to the nearest Reo showroom. They are everywhere.

R. M. Owen & Co., General Sales Agents for Reo Motor Car Co., Lansing, Mich.
Canadian Factory, St. Catharines, Ont.

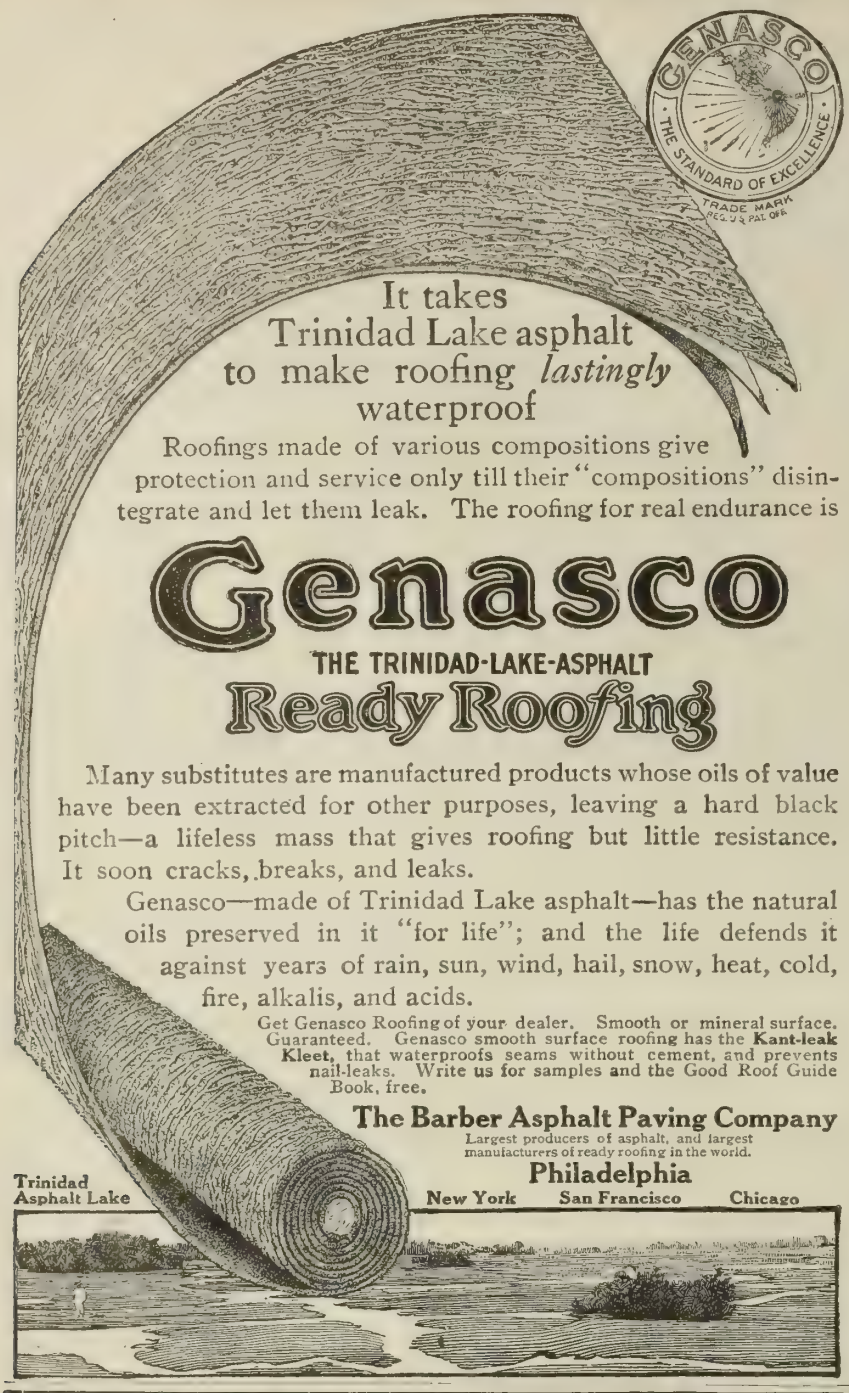


Reo the Fifth
The 1913 Series
$1,095

30-35 Horsepower
Wheel Base—112 inches
Tires—34 x 4 inches
Center Control
15 Roller Bearings
Demountable Rims
Three Electric Lights
190 Drop Forgings
Made with 5 and 2 Passenger Bodies

(135)

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer, self-starter, extra rim and brackets—all for $100 extra (list price $170).



It takes
Trinidad Lake asphalt
to make roofing *lastingly*
waterproof

Roofings made of various compositions give protection and service only till their "compositions" disintegrate and let them leak. The roofing for real endurance is

Genasco

THE TRINIDAD-LAKE-ASPHALT
Ready Roofing

Many substitutes are manufactured products whose oils of value have been extracted for other purposes, leaving a hard black pitch—a lifeless mass that gives roofing but little resistance. It soon cracks, breaks, and leaks.

Genasco—made of Trinidad Lake asphalt—has the natural oils preserved in it "for life"; and the life defends it against years of rain, sun, wind, hail, snow, heat, cold, fire, alkalis, and acids.

Get Genasco Roofing of your dealer. Smooth or mineral surface. Guaranteed. Genasco smooth surface roofing has the **Kant-leak Kleet**, that waterproofs seams without cement, and prevents nail-leaks. Write us for samples and the Good Roof Guide Book, free.

The Barber Asphalt Paving Company
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.
Philadelphia
New York San Francisco Chicago

Your Boys Can Feed Silage With Safety From—→ The HINGE-DOOR SILO
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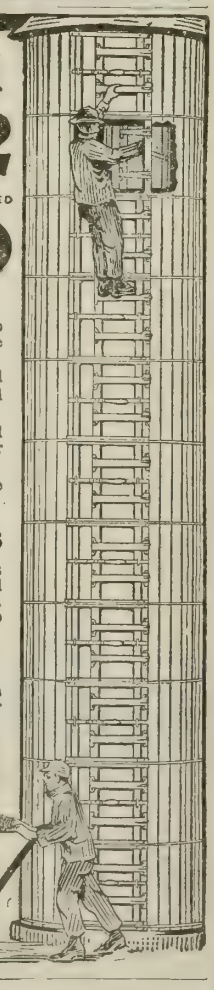


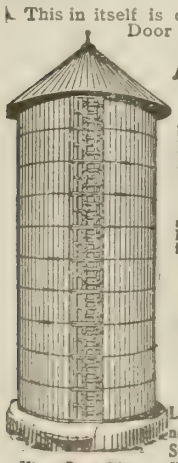
You need not hesitate to send your boys to do feeding from this silo.

The big, rigid, malleable iron ladder with *7-inch foothold* on each step and the doors that open and close easier than your barn doors, assure safety and convenience.

Hinge Door Silos save half the time in feeding that's required around ordinary silos. Also prevents nine-tenths of silage freezing in winter and drying in summer, because they are *always closed.*

It's because the doors are so easy to close, you, your boys or your hired help have no excuse to leave them open. They can't bind, stick, sag or freeze in.

This in itself is one big reason why *you* should investigate the Hinge Door Silo. Don't overlook the *Big Points of Construction.*


Hinge-Door Silo

Also Learn About Lansing Silos

Your choice of two famous silos. Lansing Silos from Lansing, Mich., are now manufactured and sold by us. They have many new improvements this year. Practically same high grade construction as the Hinge Door.

Send your name at once for our catalog No. 34

Silberzahn Silage Cutters

also featured in our catalog. Have big capacity and work on low power. Greatest safety for the operator. Reversible, moving feed table.

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Missouri Valley Fruit Growing

III---Possibilities of Small Tracts of Land

THE orcharding industry is commanding the attention of more people at this time, in this country, than any other single line of work or pursuit that seems available to the man of small means. People of the cities and towns are becoming more restless, the spirit of discontent is based upon a steadily increasing inclination for more freedom, more liberty, from the confinement of the office and the shop. The free open air of the country is appealing more now to people than in the past. Agriculture and agricultural education is revolutionizing sentiment in favor of land ownership and soil culture. The fruit farm, the five, ten, twenty and forty acre farm appeals to the great majority of city and townspeople as the ideal basis upon which to build the home where all the comforts of life may be had, and shared in peace, quiet and contentment.

The possibilities of these small tracts of land should be studied and understood by every one whose ambition is to become a home owner and home builder, surrounded by the natural resources of independence and self-support. It is not every one who has the fancy and desire to enjoy these luxuries, so to speak, that is capable of building and maintaining them, under conditions that would guarantee independence and profit. While nature is carrying on a great and mighty work in the orchard, in the growing of trees, vines and plants, there is a work for man to do that is just as important, to secure successful results. In all matters pertaining to the soil and crops, it might be observed as a safe motto, "No excellence without great labor," and especially does this apply in the orcharding industry.

Illustration of What Can Be Done

We have in the orchard industry of G. S. Christy of Johnston, Nemaha county, Nebraska, a very good illustration of what can be done when the proper means are employed in the work of handling the orchard. This is one of the best examples we are familiar with, for conveying the idea of the adaptation of the land, the

G. S. CHRISTY,
Orchardist at Johnston, Neb.

soil, climate and existing natural conditions of this great division of country we term the Missouri valley district, to the production of commercial fruits. It is well for the man of limited or small means not to attempt to market "all his eggs in one basket." Some time one kind of fruit succeeds remarkably well, while another, from some local cause, fails. The orchard of variety seldom, if ever, fails all around.

Mr. Christy, in his orcharding work, represents forty-six acres apportioned as follows: Thirty-five acres of apple orchard, three acres of cherries, one acre of pears, three acres of raspberries and four acres of strawberries. His 1912 crop yielded him $5,000 net, or an average of $108.70 per acre. His five-years average has been approximately $3,000. His property has not depreciated, but on the contrary, advanced in value, not only from the basis of land values, but in producing capacity. Here is what might be termed a business orchard, a few acres of good Nebraska land that might have been devoted to raising corn or some other farm crop at an average income of

Brock, Neb., Ladies' Aid Society in Front of the Winesap Tree, Three Years Old, Which Produced Twenty-Six and One-half Bushels for G. S. Christy

0 to $25 per acre, and been above iticism, from an every day business oint of view.

History of Two Trees

To show the possibilities of orarding in this district we will take ro trees from this orchard and give e detailed history of their proiction and sales for 1911. Two ome Beauty trees in 1911 produced irty-nine boxes of apples. Nine of ese sold at $1 per box or $9. The maining thirty boxes were kept un- March, 1912, and sold at $2.50 r box, or $84 for the produce of e tw trees.

The expense was storage for the irty boxes, 20 cents per box, $6; eight on the thirty boxes at 9 cents, .70; boxing the thirty-nine boxes 25 cents, $9.75; total expense, 8.45, which leaves $65.55 net ofit on the crop from these two ees in 1911. In order to get this to a tangible orchard problem that be readily understood we will ke the average number of trees an acre of apple orchard, proply platted and planted, which ould be forty, and we have, at the te of production and sales of Mr. ristys two Rome Beauty trees, ,311 per acre for the 1911 crop.

A little additional history from the oduce of these two trees, relates at the last thirty boxes were reiled by restaurants at Johnston d Brock, in the county where proced, selling at 5 cents each or .60 per box. Thus the retailer akes his 100 per cent, no matter hat price he pays the producer, and e consumer foots the bill. It is erefore very important that the nsumer be kept well supplied with sh in order to meet the demands at are made on him in trade.

What Is This Land Worth?

What is this land with its acquired uipage of trees, bushes and vines orth? Those who read this article ight figure this problem out just suit their ideas of a land propoion that is capable of turning to owner above one hundred dollars r acre per annum. Think of this nen you dream, think of it in your sions of orchards weighted down th their great crops of golden uits, think of it when you are mpted by some fruit land scheme invest in some far away district country where your opportunities e narrowed down to one chance.

The aggregate production of this chard for the year 1912 is not early up to many we have reports om, but gives a better variety in e illustration of the diversified orarding industry—apples 10,000 shels, pears 150 bushels, cherries 0 bushels, raspberries 100 crates, rawberries 300 crates. If the proice of this orchard has been marted upon the same basis of prices ceived by the Douglas county, Nebraska Fruit Growers' association r their produce of the 1912 crop, would have netted the owner approximately $7,000, conceding the rop to be of good merchantable uality and condition.

Methods of Marketing

Mr. Christy supervises his own arketing, mainly, though he is associated with the Southeast Nebraska ruit Growers' association, which is n extensive distributer of fruits for its members. He says: "My apples I sell largely to retail merchants in Nebraska, Iowa, the Dakotas, Minnesota and Illinois. I have special orders from Ohio and Colorado, from parties that say Nebraska apples taste the best, and as these orders have come regularly for four years, I conclude they know what they are talking about. The apples cost them nearly $5 per barrel for the 1912 crop. This was a big crop, though cheap apples. I have sent apples to sixteen states and one foreign country—England. I never consigned but two cars of apples and on one of these I lost $150. Cherries, raspberries and strawberries are shipped to merchants over the state, mostly over the Burlington road to towns from Falls City to Crawford in the northwestern corner of Nebraska."

In varieties of fruits, Mr. Christy confines his effort to a small list in apples—Winesap, Gano, Jonathan, Grimes Golden, Missouri Pippin, Ben Davis and Rome Beauty. Cherries: Early Richmond and Montmorency.

Orchard Cultivation and Care

There is a regular system of orchard cultivation and care observed in this orchard, as in all well managed orchards of the present time; sprayed three to five times each season; pruned as needed; cultivated and fertilized and otherwise given the personal attention of the owner, just as accurately as a herd of cattle or hogs would be looked after, except the liabilities are much less in the matter of injury or loss.

The largest yielding apple tree is a feature of interest, and since the inquiry has elicited some attention among orchardists we have published a few of the big yielders. Mr. Christy reports a Winesap tree, 17 years old, that produced in the crop of 1912 twenty-six and one-quarter bushels of very fine apples. A Grimes Golden, the same age, twenty-five bushels, and a Rome Beauty, 16 years old, twenty-two bushels. These are very remarkable trees for their age and will be hard to beat in one orchard of no larger acreage. There are some trees reported in Nebraska 22 to 35 years old that have claims of thirty to thirty-nine bushels. A list of the big yielding trees will be published later, as a special feature.

In connection with the apple tree

(CONTINUED ON PAGE TWENTY-SIX.)

No-Rim-Cut Tires 10% Oversize

One Million Sold Another Million in a Single Year

One year ago—in our 13th year—we announced that one million Goodyear tires had then gone into use.

This month we touch the two million mark, and it's only one year later.

It took 12 years to bring motor car owners to use a million of these tires.

It took only one year for those million tires to sell a million others.

Mark What Those Tires Told

A million tires, within 12 months, sold a million others. That breaks all the records of Tiredom.

Don't you think you should know how they did it?

This is How

Men found that rim-cutting, with old-type tires, ruined 23 per cent of their tires.

They found that Goodyear No-Rim-Cut tires ended this loss entirely.

Men also found that the 10 per cent oversize added 25 per cent to the average tire mileage.

Hundreds of thousands of men learned this, then told the facts to others.

The resulting demand now compels an output of 6,000 tires daily.

Are They Wrong?

You who still use other tires must infer that these men are wrong.

But these are days of odometers. Men are keeping track of tire mileage.

Mileage figures only sold those million tires—the mileage figures on the previous million tires.

And Goodyear sales, because of those figures, are seven times larger than two years ago.

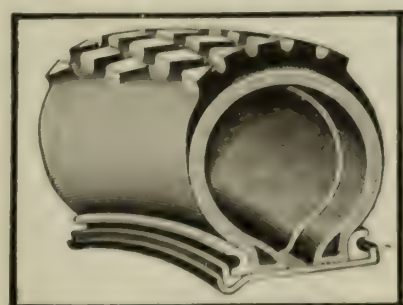
Find Them Out

For your own sake, test No-Rim-Cut tires. They save the average user almost half one's tire bills.

Think how that cuts tire bills. Think how it saves annoyance.

These tires now outsell every other tire in the world. Find out why they do it.

Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.



GOODYEAR
AKRON, OHIO

No-Rim-Cut Tires
With or Without Non-Skid Treads

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO
Branches and Agencies in 103 Principal Cities — More Service Stations Than Any Other Tire
We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits
Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

(1011)

SettleImportantThingsFirst

THE time to investigate harvesting and haying machines—the time to know which binder or mower is the best for you to buy, is before, not after, you have given your order. The success or failure of your whole season's work, from the plowing of the ground to the ripening of the grain, depends upon the quality and efficiency of the machines you take into the harvest field. Therefore, the selection of the harvesting machines that you will use is the most important decision you make. Settle that first—now—before the busy days of the season are on. Get catalogues from your local dealers, or send to us for them, and study carefully the harvesting and haying machines and tools made and sold under these names:

Champion Deering
McCormick Milwaukee
Osborne Plano

Bear in mind when you come to pay down your money that these machines have harvested the grain, and cut and cared for the hay from fields in every part of the world, and some of them have been in use in the United States for more than seventy years. The efficiency gained through this long period of field work under practically every conceivable condition adds nothing to the cost of the machine. In fact, it is because of this long experience that you can buy these time-tried and field-tested machines at the lowest market prices for reliable harvesting and haying machines and tools.

Another important point to bear in mind when considering the purchase of a harvesting or haying machine is the facility with which you can obtain repair parts if they should be needed. Delays at harvest time are too expensive to take any chance with them. You can secure practically any part of an I H C harvesting or haying machine within a few hours of the time that an accident occurs, and when you get the part to the binder it will fit in the place of the broken one.

To get the best work out of a binder it is imperative that the twine used be strong and smooth, strong enough not to break under the strain of tying the bundle and smooth enough to run freely from the can to the knotter. Twine that will do this is sold by I H C dealers under the trade names, **Champion, Deering, McCormick, Milwaukee, Osborne, Plano,** and **International.** There are four grades of each brand, namely, Manila, Pure Manila, Sisal, and Standard.

Your neighbors know I H C machines and binder twine. They will tell you what their experience with them has been. The I H C local dealer can furnish you with catalogues and full information, and will explain fully all the good points of the machines he handles.

You can get catalogues from the local dealer, or by addressing a letter to the

International Harvester Company of America
(Incorporated)
Chicago U S A

JUST HALF PRICE
For Thirty Days Only

The Twentieth Century Farmer - - - - -
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All Three One Year for Only **$1.80**

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The Ventilation of Cow Barns

An Experiment That is Worth Trying Out

DO YOU notice odors or closeness on entering your cow barn? If you do, the barn needs ventilation. Is the air in the stable moist and the walls covered with frost? If so, the barn needs ventilation.

The cows in an ordinary dairy barn will pass all the air in the stable through their lungs once every four hours. But what does this matter? Try this experiment and then answer the question: Set an ordinary glass fruit jar on the table. Take a small rubber hose, or paper tube and insert in the jar, letting the end of the same rest on the bottom of the jar. Then fill the jar with your breath by means of the tube. Then quietly lower a burning candle into the jar. Or, first insert the candle and then fill the jar with once breathed air. The candle will go out if you have quietly done your experiment in a closed room. The once breathed air will not furnish oxygen for a candle, much less for an animal. But this is not all. Moisture is given off through the lungs and skin. Each animal will thus give off to the air nearly half a pound of water per hour, which must be removed by changing the stable air.

Moisture and the absence of the great purifier, oxygen, and frequently the absence of the other great purifier, sunshine, are the ideal conditions for the development of disease germs and especially tuberculosis. The chances of the cows resisting the development of these germs in their bodies is also at a low ebb because of the reduced oxygen supply and resulting low vitality. One method that has been found to work, is to make one or two large flues extending from near the floor to the roof. These act as chimneys to draw the colder air off from the floor. This air is probably worse than that nearer the ceiling and certainly takes with it less heat. The fresh air is brought from the outside near the foundation, up between the studs and discharged into the barn near the ceiling. This plan prevents drafts as the cool air settles slowly and also tends to prevent a reversal of the air currents. Use many small in-takes and very few large out-takes and make the area of each such that an allowance of twenty-eight square inches per cow is to be had. Dampers may be placed in both in-takes and out-takes for control of ventilation during windy weather.

Human beings are given the "open air" treatment for tuberculosis. The oxygen supply and the resulting increased vigor enables the human to overcome the disease.

Why not give your cows a little of the "open air treatment," not to cure them, but to keep them healthy and thus render safe their milk for human use?

The amount of air need per animal for cows is estimated at 3,500 cubic feet per hour, or nearly nine changes of air per hour. This amount of fresh air allows for the breathing of 3 1-3 per cent of air once breathed. This is a common accepted standard. The moving of this much air through a stable without drafts and with as little loss of heat as possible is the ventilation problem.

The flue system works well in warmly constructed stables tightly closed. When windows and doors are open dependence for ventilation must be placed on them entirely, as the flues will not work satisfactorily then. Another plan is to depend on windows. The windows are hinged at the bottom and tip in at the top between cheeks. The incoming air is then directed upwards, avoiding drafts. The "force" causing ventilation is the wind and the windows have to be adjusted accordingly.

The first is known as the King system, the latter as the Sherringham valve windows. Both work, though the former is more popular. Both give the cow a little of the "fresh air treatment."

E. W. HAMILTON.

Two New Orange-Judd Books

By far the large proportion of farmers and farmers' boys in the country are, by their circumstances, excluded from the privileges and benefits conferred by an agricultural college course. They feel the lack and regret that they are not in a position to take advantage of offered opportunities. Here are two books, published by the Orange-Judd Company, in New York, which will, in a large measure, supply this lack. Every graduate student of an agricultural college may profitably use them to refresh what remains in mind of what he has learned, and besides, such will find many things here of interest and of value that the agricultural college did not teach.

One of these books is entitled, "First Principles of Feeding Farm Animals." It discusses fundamental and scientific matters so simply that anyone may understand them. It is a complete compendium of this most necessary knowledge and advice which is needed by every grower of live stock. It should be continually at hand and be used every day as a valuable reference book. It is fully, clearly and entertainingly illustrated by cuts taken from photographs.

The other book is called "The Young Farmer; Some Things He Should Know," by Prof. Thomas F. Hunt, and the mere name is an assurance that the book contains matter well worth reading. It discusses the fundamental principles of farming as a business. Every farmer is beginning to see the need of putting his farm operation on a thorough business basis. This book will help to do this. All this knowledge and all this advice may be had for $3 from the publishers. Each book costs half that sum.

Have the trees and vines been properly pruned? The time to do this is while they are still dormant. If this work is put off too long and the sap starts the fresh-made wounds will bleed.

OH I SEE
O. I. C. Lines Are As Good As Every Claim Made for Them.

FLYING SWEDE

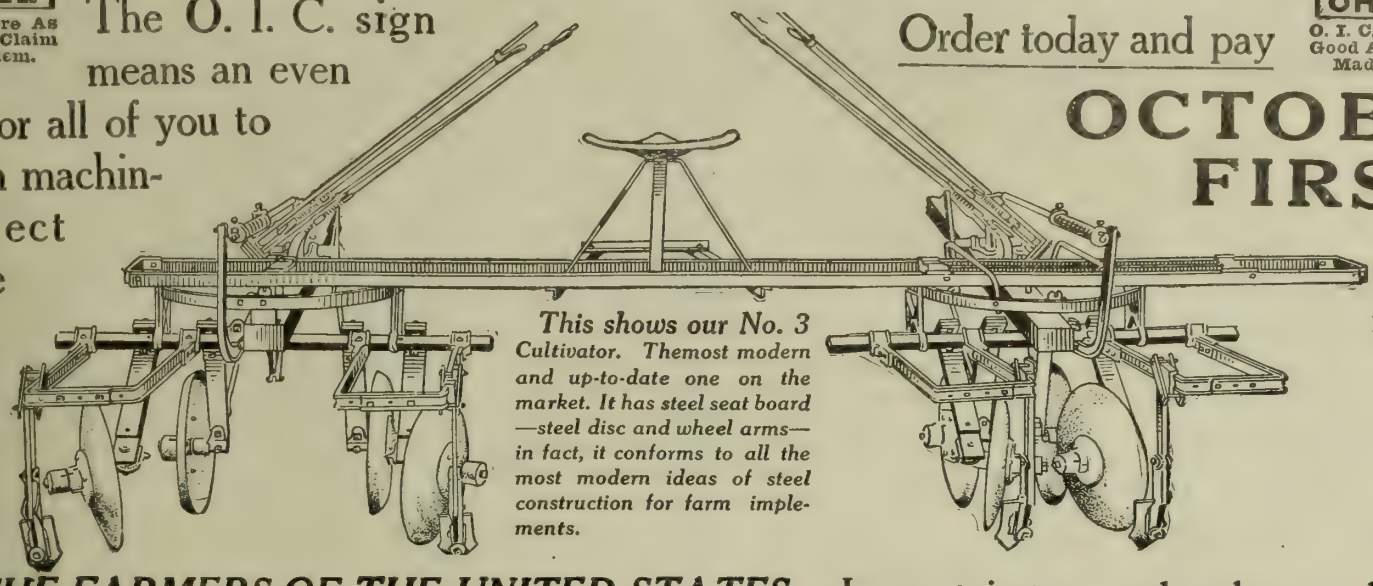
The O. I. C. sign means an even chance for all of you to buy farm machinery direct from the manufacturer for better prices on better terms

Order today and pay

OCTOBER FIRST

$30

for a No. 1 two row Flying Swede Listed Corn Cultivator



This shows our No. 3 Cultivator. Themost modern and up-to-date one on the market. It has steel seat board —steel disc and wheel arms— in fact, it conforms to all the most modern ideas of steel construction for farm implements.

OH I SEE
O. I. C. Lines Are As Good As Every Claim Made for Them.

TO THE FARMERS OF THE UNITED STATES:—I am going to undertake to sell you high grade farm implements at better prices and on better terms than you ever got before.

READ THIS LETTER FROM A FARMER IN KANSAS:

"O'Neil Implement Company,
La Salle, Ill.

Dear Sirs:

I called on our local hardware dealer a day or two ago and inquired about repairs for the Flying Swede Lister Cultivator. He said he had three on hand that he was going to close out and quit them, as the Kansas City jobber was not going to handle them any more, because the former owner had sold out to a couple of green horn farmers that had more money than sense, etc. Now I think it would be very unfortunate for us, as we cannot get repairs, and also for other farmers that would buy these machines. I have one that I have cultivated about 520 acres with and it has only cost me about 50 cents for repairs, which I think is very good. And for work, I will put it up against anything that runs on wheels or straddles a corn row, either single or double, in lightness of draft or doing good work. There are four here almost on adjoining farms and all are giving complete satisfaction.

Your ad in the "Mail and Breeze" does not sound much like quitters—this for your information. I would like a catalogue of your goods.

Yours very truly,

_____."

NOW GENTLEMEN, you see the trust agents and dealers think they are belittling me by calling me a farmer, etc. I am perfectly willing to accept the title as a farmer. I was born and raised on a farm and farmed all the days of my life up to the day that I went into the retail implement business about seventeen years ago and from that day to this I have actually been selling and manufacturing farm implements to and for the farmer. I want to say to you right now that the first experience and the first knowledge that I gained about farm implements was learned on the farm and I find this experience to be as valuable as any experience that I have had to the present day. I am perfectly willing to be called the **FARMER** that is now manufacturing farm implements **FOR THE FARMER.** As I remember now, when I was on the farm, we were generally called the "rubes" and "hayseeds" by the fellows in town and I well can remember these days spent on the farm, when it was necessary to get up about four o'clock in the morning, go out into the open, surrounded by a wire fence, and sit upon a one-legged stool with a tin pail between my knees, milking cows, then go and finish the rest of the chores, go out into the field and husk and crib 80 to 100 bushels of corn and then go through the process of milking cows again before my day's work was done. These experiences, together with the others that go with them, never have vanished from my mind and I never could well appreciate the general expressions given by the people who think that they are beyond doing common work, who now stand up and say that the farmer is living on the fat of the land; that his farm represents a summer resort; that he is riding in automobiles and that he is amply able to pay any price that they can impose upon him by organizations, etc. In view of all these facts, I want to say to you, that I have **NEVER** joined any organizations or associations for the purpose of **RAISING THE PRICE TO THE FARMER.**

WHAT YOU WANT IS AN EVEN CHANCE and better goods for better prices than what you are getting and paying for today. I am going to undertake to give you better goods and give you better prices. Send me your orders and you get the goods.

ORDER YOUR GOODS AT HOME. A great deal of argument has been presented that you should always buy your goods at home. I believe that truer words were never spoken and I ask that you sit down and read our catalogue over, make out an order while you are **SITTING AT YOUR OWN TABLE** and are able to give it full and due consideration, then mail to us. In doing so, I say that you are **BUYING AT HOME** and that you are sending less money away from home than what you would be sending from home were ou to buy from other sources.

WHEN YOUR CREDIT IS GOOD. There is no reason why you should not send the order today, even though you do not have the cash. Much has been said and written concerning mail order houses throughout the land—that the only thing they were interested in was **YOUR CASH** and that they did not extend credit to you when in need. I fully believe that this statement is a fact and I further do believe that at the present time the great majority of the mail order houses throughout the land are financed by the same people, through the same Wall Street bankers, that the trust manufacturers are; and that these mail order manufacturers are not aiming to do otherwise than to charge and get a price as large as their methods will permit. And I further wish to say that I contend that we are not a mail order house—that we are actually **IMPLEMENT MEN—FARM IMPLEMENT MANUFACTURERS.** That we have a knowledge of what farm implements should be; that we are making them and supplying them; that we have a knowledge of what the farmer's wants are; that we are in position and we will give them to you; that we are going to open up a branch house with a full stock of machines and repairs in the most central distributing point for each state where the farmers will give us enough co-operation to warrant us in so doing.

MAKE USE OF PARCEL POST. We are going to open up these branch houses with a stock of repairs in each state, as stated before, so that you can make full use of the more progressive conditions now existing, which is **PARCEL POST.** It will make it possible for you to get repairs quicker than you ever got them before, because you can send us the order by mail or wire and in most cases Uncle Sam's Rural Delivery will deliver the goods to you **THE NEXT MORNING** right at your farm. Think of the time saved over the old process of going to town to have your dealer order the goods; then for him to send the order to a house where perhaps his credit is not good and then for the manufacturer to send the goods to his store to consume time again, which then requires his re-sending to you by Parcel Post or else your coming for them. Order the goods from us. We are equipping to give you the benefit of the new and better service and you will profit by it.

A FULL LINE OF FARM IMPLEMENTS. While at the present time we do not manufacture and supply what might be called an implement for every possible purpose that you might have for one on your farm, I want to say to you that we are going to add additional lines to our present ones and are going to undertake to supply you as many of the different kinds of implements as follows, viz:

HARVESTING MACHINERY	**PLOW GOODS**
MANURE SPREADERS	**BINDING TWINE**
THRESHING MACHINERY	**ETC.**

and right at the present time we are in position to supply you—

LISTED CULTIVATORS	**GANG PLOWS**
MOWERS	**BUGGIES**
GRAIN ELEVATORS	**HAY STACKERS**

SWEDE TERROR RIDGE BUSTERS, ETC. and while I stated that we were going to add to the lines, we are not going to add any line to our present ones until we know that the goods we will offer you will be equal, if not superior in quality, to any goods now offered to you on the market.

O'NEIL IMPLEMENT COMPANY is not an incorporation and in asking for your co-operation, all we are asking is that you give us your order for machinery when we are able to supply you with **BETTER GOODS,** at **BETTER PRICES.** This I know you will do. I have no **STOCKS** nor **BONDS** to offer you to buy and if you give us your patronage, we will use the small profit in perpetuating and increasing the volume of the business until we actually set the **STANDARD PRICES** which will not only govern the out-put of our factory, but all the other implement factories in these United States.

"HE WHO IS NOT WITH YOU IS AGAINST YOU" are words that Christ used when on earth —hence I say there are one or two issues that you now must decide. The trusts are either with you or against you and I say if the trusts were with you, they would recognize all your requirements and supply you goods at as reasonable a price as possible, instead of organizing to sap from you the fat of your land and the savings of your labor. If you decide that the trusts are not with you, then I say that every time you buy a trust made product, you are contributing to a power that is detrimental to your own welfare and you are bringing about a process that will leave it only possible for you to leave to your children an inheritance of only a **BONDED BURDEN OF SLAVERY.**

CASH OR ON TIME. I am going to supply you with the machinery that you are going to buy from me, either for cash **OR ON TIME,** as your conditions require. While I prefer the cash, still I want to say to you that in the past I have sold many thousands of dollars worth of goods to **FARMERS.** I always gave them value received and the farmers always **PAID ME.** Hence, I am willing to extend credit, if it requires my last dollar in doing so, to the farmer to buy implements with which to raise a crop until a crop is possible for him to raise.

QUALITY AND GUARANTEE. The machinery that I supply you is of such a high quality that I consider that I am taking no risk in trusting you to pay for it, because when the machines work so well and give you such good satisfaction, you **WILL** pay me for the goods, if it takes your last dollar to do it. Then again, when I sell you the goods on time so long that you can thoroughly test them out and harvest a crop, you know that the goods must be absolutely right or I would not do it and that my guarantee is as good to you as if I was worth **ONE HUNDRED MILLION DOLLARS.** If you are in need of a **FLYING SWEDE CULTIVATOR,** a **LEWIS HAY STACKER,** a **SWEDE TERROR RIDGE BUSTER,** a **GANG PLOW,** a **BUGGY** or other farming implements, don't fail to write me at once, telling me of your needs and asking for catalogue and price. We will mail them to you promptly. We will appreciate your business. We will give you full value received. You will find our goods as good as every claim made for them—the quality a little better and the price a little better than we think you can get elsewhere in the United States. Spring is object at hand. There is going to be a tremendous rush, so don't delay. **LET US HEAR FROM YOU AT ONCE.**

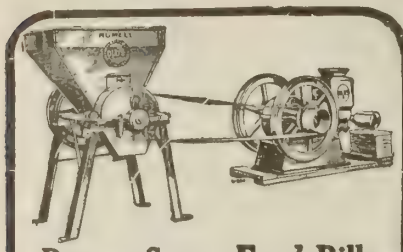
Western Offices and Transfer Stock at { Kansas City, Mo. / Council Bluffs, Ia. / Wichita, Kansas.

Write Today—Now For Our New Well Illustrated Catalogue No. 12.

OH I SEE
O. I. C. Lines Are As Good As Every Claim Made for Them.

O'NEIL IMPLEMENT COMPANY, LaSalle, Illinois

OH I SEE
O. I. C. Lines Are As Good As Every Claim Made for Them.



Power Saves Feed Bills

Don't waste the feed. Get the full value from the grain you feed your stock—grind it—get all the beef and pork out of every bushel. Get a feed mill outfit. Here's a good one—

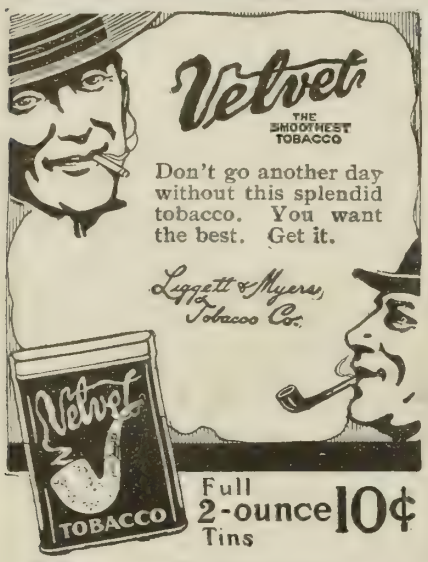
A 4½ Rumely-Olds Engine and a Rumely Feed Mill

We don't have to tell you about this engine. It's proved its worth. Thirty-five years of experience goes into every engine. It's built right—every part of the best material. You'll find a hundred uses for this engine. It will make money for you every day. Inquire about this engine—you can't go wrong on it. It's built for service and will save money for you every day that you own one.

The Rumely Feed Mill is the right mill to grind feed—made of the best materials—least number of parts—easily adjusted.

Send for Data-Book No. 344, on the Rumely-Olds Engine and information about this feed mill. Ask the name of our nearest dealer.

RUMELY PRODUCTS CO.
(Incorporated)
Power-Farming Machinery
LA PORTE, IND. 553



BAND INSTRUMENTS

Cornets, $7.75 up; Altos, Baritones, Basses, Trombones, Drums, Clarinets, Flutes, Piccolos, Saxophones, etc.

Our catalogue shows all the different instruments—and a big variety including the very best standard makes. It tells how to form a Band and gives our low prices on everything. We send our instruments on SIX DAYS TRIAL. Our liberal monthly payment purchase plan is open to individuals or entire bands. Instruction Book and Music free to every purchaser. It's easy to learn. START NOW and join the Band in your town. Write today for our catalogue (free) and say what instrument you play or would like to learn.

If you have an old instrument and want a better one, we'll take the old one at its fair value in exchange.

W. J. DYER & BRO.

Established 43 years. Dept. 121 St. Paul, Minn.
Wholesale and Retail Musical Instruments.

Make Farm Work Easy For Man and Horses.

Heider eveners distribute the load so every horse pulls an equal share That means better work from each horse, easier work for you. They are made for 2, 3, 4, 5 or 6 horses The 4-horse plow evener works four horses abreast on gang, sulky and disk plows, 1 horse in furrow, 3 on unplowed ground. Heider 3-horse evener for wagon, manure spreader, grain drill, or any implement with pole

The famous Heider four-horse Plow Eveners.

Heider Eveners

Made right work right without side draft. Will last a lifetime.

Sold by dealers everywhere. If your dealer has none in stock don't accept any other. Write us for free catalog.

HEIDER MFG. CO.
180 Main St., Carroll, Iowa.

KEEP YOUR **Chickens Healthy with Germikil**
(the Great Roup and white Diarrhoea Remedy)
Catalogue FREE **AYE BROS.** BOX 3 **Blair, Nebraska**

Big National Pawnshop in Mexico City

By Frank G. Carpenter

MEXICO CITY—The revolutionary troubles are crowding the national pawnshop and scores who have been ruined by the recent bombardment are "hocking" everything under the sun.

How would you like to borrow money of Uncle Sam at 1 per cent a month?

I do not mean big, long-time loans, but something like five, ten or fifty "plunks" to tide you over till next salary day. This is what you can do in Mexico City. The government here has a pawnshop in which you can "hock" your watch or your wedding ring, or even an oil stove or a porcelain bathtub. It is known as the Monte de Piedad, or national pawnshop. The Spanish words mean a "mountain of piety," and this mountain of easily getable gold stands just opposite the cathedral and within a stone's throw of the National Palace, on one of the corners of Cinco del Mayo street and the great plaza, right in the heart of the capital. It is a big, three-story building which looks like a prison. It has a cross on one corner of the roof, and the Mexican coat-of-arms over the portals. It covers almost a block and it is filled with everything pawnable under the Mexican sun. It has millions of dollar's worth of gold and silver stored away in its vaults, and in the sale cases today I saw a peck of gold ornaments and of precious stones, and also rings and bracelets galore.

A Snapshot in the Thieves' Market

In the National Pawnshop.

During my stay I went through the various rooms, seeing people of all ages, sexes and financial conditions borrowing money on articles of very description. I watched the selling and saw crowds looking over the stocks of various pledges to get bargains. In the loan rooms the people stood before long counters, above which were wire networks like those of our banks, and in the great patio or square, around which the rooms of the building run, I saw them bring in automobiles, steel safes, baby cradles, parlor sets and pianos. I watched the opening of an upright piano. The owner was a pretty girl, dressed in black, with a mantilla over her head, and the tears stood in her eyes as she saw it unpacked. In another part of the patio were a man and his wife getting a loan on their parlor carpet, which showed the dust of recent wear, and away off in one corner lay a half dozen old bathtubs, which had been evidently taken from the houses and brought here as pledges. It may be they will be redeemed by Saturday night.

In going through the building I saw warehouse after warehouse filled with household goods of every conceivable kind. There were hundreds of porcelain and zinc bathtubs, chairs, stools and candlesticks and tables and beds without number. There were great shelves filled with clothing, and organs, talking machines and pianos by dozens. There were also kitchen and cooking utensils and things one would not be able to pawn in the states. The smallest sum loaned on any article is 6 cents of our money, and the loans run from that to $2,000. I am told that about 50,000 pieces are pawned every month and something like $500,000 in loans is given out in that time. All but about 10 per cent are redeemed, the interest paid in monthly payments amounting to $20,000 upward.

How Money Is Loaned

I watched the process of loaning. The moment a pledge is brought in an expert valuator fixes the price, and the loan is only a certain percentage of this. The price is low, for if the pledge is unclaimed and it cannot be sold the valuator has to take it himself, giving therefor the amount of the loan and the interest. As long as the interest is regularly paid all pledges are held, but after this they are offered for sale. In going through the courts, warehouses and salesrooms I found price tags on everything. These showed the original values and the loans, and in many cases the values had been reduced three or four times, and most things seemed to me wonderfully cheap. Indeed, the first price is about what the goods would bring in a second-hand store. This is held for a month, and then, if no one comes to buy it, is reduced. The next month it is further marked down, and this goes on from month to month until five months, when if not sold, the valuator must take back the article.

I spent some time in the jewelry salesroom. Here were cases of pearls and diamonds, and quantities of rings, brooches and pins set with jewels of every description. I saw earrings with pearls as big as the end of your finger, and great sapphires and emeralds valued at from $500 to $4,000. Many of the jewels were in sets, consisting of bracelets, brooches and earrings, with now and then a tiara of diamonds to match. Most of these trinkets seemed to me very cheap. Just now Mexico is in the throes of hard times owing to the revolutionary troubles, and the sales of unredeemed pledges are large.

CLEAR HEADED
Head Bookkeeper Must Be Reliable

The chief bookkeeper in a large business house in one of our great Western cities speaks of the harm coffee did for him. (Tea is just as injurious because it contains caffeine, the same drug found in coffee.)

"My wife and I drank our first cup of Postum a little over two years ago and we have used it ever since, to the entire exclusion of tea and coffee. It happened in this way:

"About three and a half years ago I had an attack of pneumonia, which left a memento in the shape of dyspepsia, or rather to speak more correctly, neuralgia of the stomach. My 'cup of cheer' had always been coffee or tea, but I became convinced, after a time, that they aggravated my stomach trouble. I happened to mention the matter to my grocer one day and he suggested that I give Postum a trial.

"Next day it came, but the cook made the mistake of not boiling it sufficently, and we did not like it much. This was, however, soon remedied, and now we like it so much that we will never change back. Postum, being a food beverage instead of a drug, has been the means of banishing my stomach trouble, I verily believe, for I am a well man today and have used no medicine.

"My work as chief bookkeeper in our Co.'s branch house here is of a very confining nature. During my coffee-drinking days I was subject to nervousness and 'the blues.' These have left me since I began using Postum, and I can conscientiously recommend it to those whose work confines them to long hours of severe mental exertion." Name given by Postum Co., Battle Creek, Mich.

"There's a reason," and it is explained in the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.—Advertisement.

Sometimes tourists pick up great bargains in jewelry. I know of one man who got a beautiful brooch containing a half dozen pearls and four diamonds for $100, and of another who bought a fine diamond ring for half that amount. I coveted a set of jewels whose price had been cut from $500 down to $300, but I thought of the customs, which are rigidly enforced on the borders of Texas, and did not invest.

At the Pawnbroking Auctions

I wish I could show you one of the auctions of this national pawnshop. They are attended by the motley throng which makes up the crowds of the Mexican capital. There are men in somberos, short jackets and tight-fitting trousers. There are women in black with mantillas over their heads, and there are people dressed much the same as those of our cities. At the auctions the pledges include chromos and oil paintings, bicycles and mirrors, saddles and harness, household goods and clothing and jewelry and trinkets of every imaginable kind and description. The goods are put up at the request of the would-be purchasers and are often sold to the first bidders. The man picks out his article and it is knocked off after giving the others a chance. Everything has been appraised, and there is no false bidding. The great bargains in good things, however, are usually sold before the auctions take place.

In the Thieves' Market

In addition to the national pawnshop there are many private pawnshops in Mexico City. At these the loans are more costly and 5 or 10 per cent a month is frequently paid. It is unsafe to attempt to borrow on stolen wares at the Monte de Piedad, but this is not so of the private pawnshops, and I am told that many of them are fences or receivers of stolen goods.

Indeed, there is one market here which has so much questionable merchandise that it goes by the name of the Thieves' market. It is not far from the cathedral and just off the main market house of the city. It is on a street once occupied by the palace of King Montezuma and where the bull ring was afterward established by the Spaniards. On the same spot thirteen heretics were condemned to be burned to death by the inquisition of 1649, and it is only within a century or so that the land has been cleared and the property of the city.

In my walk through this market I kept my hands on my pocketbook, but I was not molested. I examined the goods, but there was nothing of value in the shape of curios or gold and silver set with jewels. The most of the wares seemed to be trinkets, household goods and old clothing. There was a great stock of the latter and as I looked at the silk dresses and men's suits of one kind or another I bethought me of the warning I had when I spent my first night in Mexico. My adviser was an old resident. Said he:

"In going to bed on the ground floor you must be careful to put your trousers under the mattress and lay your other clothes near the wall farthest away from the window, especially so if you keep your blinds open. This country has many sneak thieves and there are many professionals who have jointed rods with a hook at the end by which they can reach through the bars and drag out your clothing. You must also watch out for your pockets and especially in crowds and on the street cars. It i not safe to leave your car window open while traveling on the railways and you want to keep track of your camera."

"The Revolution and Its Hold-Ups"

Since then I have found reason to appreciate these suggestions. A man traveling with me had his pocket picked two days after he entered Mexico, and this has scared him so that he now does not venture out without one hand in his trousers. I am told that the thieves steal wire cable and electric wiring; they cut through the roofs to get into the stores and warerooms, and even try to rob the poor boxes of the churches. The railways lose thousands of bolts from the cars and tracks every year, and they even take the fishplates from the rails. Nothing left out of doors unwatched is safe, and I am told that doormats are usually chained down. It is not safe to put an ash barrel out into the street and potted plants and flowers are sometimes stolen, while a vacant house frequently loses its lead pipe, electric globes and bath fixtures.

Just now in these revolutionary times much of the stealing is barefaced and open. There are parts of Mexico which swarm with brigands and banditti, and where it is unsafe to travel even by rail or in automobiles. This is especially so outside the cities. Indeed, in a recent railroad ride which I took through a disturbed section I carried my surplus bills in my stocking. I had $150 in American money, consisting of a $100 bill, two twenties and a ten. I put these next my bare feet, with the idea that if my train were held up they would not be found. Fortunately, I got through all right, but the passengers on the same road two days later were robbed by a party of bandits, and lost all but their clothing. In the mountainous districts even one's clothing is liable to be taken, and there are recent instances where men have been stripped and left naked. So far Americans and other foreigners have been robbed only of their money, but such cases are frequent.

Banking and Money Matters

Speaking of money matters, I find it best to travel in a country like this with a letter of credit. I have one issued by the Riggs National Bank of Washington on one of the leading banks of London, and with this I can get money in any of the cities. The place I patronize here is the National Bank of Mexico, an institution whose capital is more than $17,000,000, with deposits which compare with our largest United States banks. Its profits are something like $3,000,000 a year, and it has branches in nearly every Mexican city.

Another big bank here is the Bank of London and Mexico, which was established by British capital at the close of our civil war and and which is paying something like 12 per cent on its stock.

(Copyright, 1913, by Frank G. Carpenter.)

Who Can Make the Best Car for You?

The Case "40" is made by the J. I. Case T. M. Company, Inc., at Racine, Wisconsin. You know what this company stands for. For 70 years it has given thousands of customers the finest machinery in its line. These same customers are buying Case Motor Cars. The Case Reputation is at stake in these cars, just as it is in all Case machinery. We can *and do* make the best "40" that runs. Note the reasons:

We Know American Roads

For 70 years we have made machinery to travel country roads in every section of the American Continent. No concern knows so well what these roads demand. No other car that we know is equally fortified against all American road conditions.

How We Can Afford These Values

When we started making motor cars we didn't create a new business. We had 10,000 dealers and 65 branch houses before a car was made. We saved that selling expense.

We are capitalized at $40,000,000. We saved the salaries of officers, sales and advertising departments, rent and other overhead charges. These costs are added to the price of other cars and are costs that the buyers pay.

We Put Them Into the Car

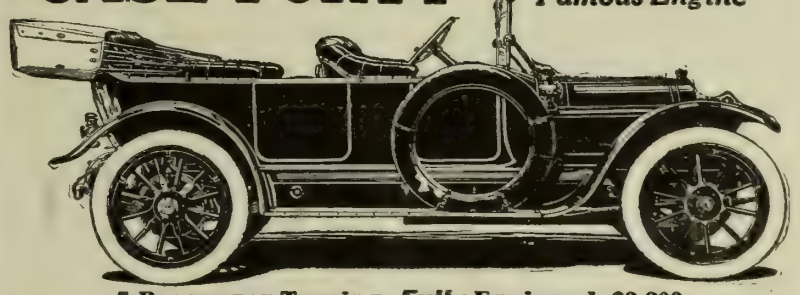
We put all these savings into the car. You pay nothing extra for them. We are able to give them. You might as well have them.

We could save on our motors by using cheaper materials. We could use cheaper clutches, drive shafts, axles; wheels, and save in other essential points. We could cut our assembling cost in two, and this is one of our largest costs.

Case extra values amount in each car to several hundred dollars.

CASE FORTY

The Car With the Famous Engine



5-Passenger Touring, *Fully* Equipped, $2,200

Westinghouse Electric Starter; Westinghouse Electric Lighting System for all Lamps; Side and Tail Lamps, Combination Oil and Electric; Warner Autometer; Electric Horn; Rain Vision Ventilating Windshield; English Mohair Top, Side Curtains and Cover; 37x4½-inch Tires; Firestone Universal Quick-Detachable Demountable Rims; 124-inch Wheel Base; Three-Quarter Elliptic Springs; 4½x6¼-inch Cylinders; Brown-Lipe Transmission; Timken Full Floating Axle; Rayfield Carburetor with Dash Adjustment; Bosch Magneto, Dual System Single Point Ignition. The usual Tools, Tire Repair Kit, Jack, etc. **And in addition Extra Tire and Tube on Rim, Extra Tube separate, Tire Cover, Tire Chains and Handy Work Light on long wire.**

Mail the Coupon—Have the Catalog

Cut out and mail it now, while you think of it. Don't buy a car until you know what the Case has done. Note the equipment that comes with each car. Observe its style and finish.

J. I. Case T. M. Company, Inc.
Racine, Wis.
Case Cars are sold through 11,000 Dealers and 65 Branch Houses

J. I. Case T. M. Company, Inc., (105)
657 **State Street, Racine, Wis.**

Send me Case Catalog describing Case "40," $2.200, and Case "30," $1,500.

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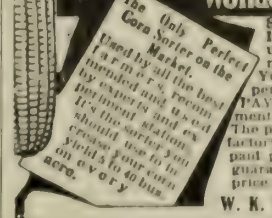
Factory Branches at
Factory Branches at Lincoln, Neb.; Des Moines, Ia.; Indianapolis, Ind.; Chicago and Peoria, Ill.; Portland, Ore.; Spokane, Wash.; Denver, Colo.; San Francisco, Cal.; St. Louis and Kansas City, Mo.; Billings and Lewiston, Mont.; Minneapolis, Minn.; Oklahoma City, Okl.; Mitchell and Watertown, S. D.

Trojan "More-Corn" Sorter

Wonderful Time Saving Money Making Invention

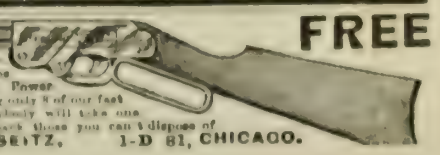


SAVES THE GOOD SEED, DISCARDS THE BAD
Increases both quality and quantity, sorts corn in uniform sizes so your planter will drop 3 good kernels to a hill 99 times out of 100. None other like it. Your boy or girl can operate it. Just fill the hopper, turn the crank and the Trojan does the rest. PAYS FOR ITSELF ON 4 ACRES. A small investment that is guaranteed to pay for itself on 4 acres. The price is cheap because it is sold direct from factory to you. Get my special low freight prepaid price, and my special free trial offer and guarantee. Write for illustrated circular and price today. Address

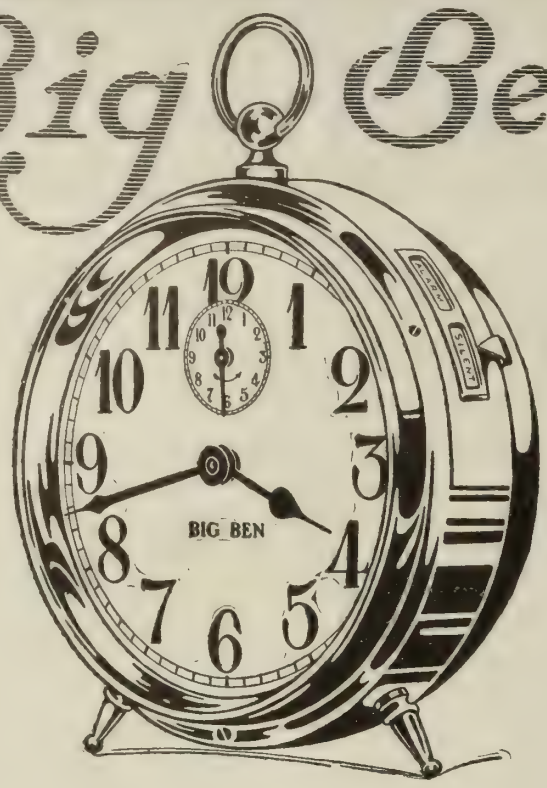
W. K. Voorhees, Mgr. Standard Mfg. Co., 405 State St., Cedar Falls, Ia.

FREE

POWERFUL AIR RIFLE Length 37 inches. Working parts of the best grades of steel. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 8 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one. **IT COSTS YOU NOTHING** to try, as we take back those you can't dispose of. Send no money, just your name and address. **M. O. SEITZ, 1-D 81, CHICAGO.**



Big Ben



Big Ben—Two Good Alarms in One

Take your choice in Big Ben He rings either way you wish — five straight minutes or every other half minute for all of ten minutes unless you switch him off. He's two alarms in one.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five minute call. You can slumber then without the get-up worry on your mind.

When morning comes, and it's announced by Big Ben's jolly bell, you can't help getting up at once, for Big Ben never fails to get you wide awake.

Big Ben is really three good clocks in one, two excellent alarms and a fine time-keeper to keep in any room and tell time all day by.

If you have got to get up bright and early, if you have to get your help in the field on time, ask for Big Ben at your jeweler's and try him for a week. You'll never want to be without him afterwards.

Big Ben stands seven inches tall. He is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is $2.50 anywhere in the States, $3 anywhere in Canada If you can't find him at your jeweler's, a money order mailed to *Westclox, La Salle, Illinois,* will send him anywhere you say express prepaid.

Test These Wheels FREE

30-DAY TEST WILL PROVE
that you can end the drudgery of high lifting and save your team on heaviest hauling over softest fields by equipping your wagon with *low*

EMPIRE STEEL WHEELS
Save 25% of the Draft

We will ship you set of four Wheels to fit your wagon for 30-day test. If they're not all we claim — return them and test costs you nothing. All sizes, fit any axle. *Ask for Special Money Saving Offer on 1913 Model Empire Farmer's Handy Wagon.* Twenty styles. Book free. Write today.

EMPIRE MANUFACTURING CO., Box 249, Quincy, Ill.

FACTORY PRICES YOURS 60 DAY FREE TRIAL

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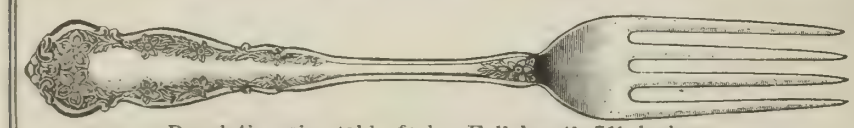
WITTE IRON WORKS CO.
1557 Oakland Avenue, Kansas City, Mo.

You have the spoons; now get the forks!



Regulation size table fork. Full length 7½ inches.

The Twentieth Century Farmer has been giving away handsome Wm. Rogers & Son's silver teaspoons. Forks of the same pattern have now been obtained. Because of the extra expense in handling the forks, and in getting the designs, the price for mailing is 20 cents. You may still get the spoons, each, for 10 cents. Complete your set of spoons, and also get the forks. Start now.

Use coupon below.

COUPON.
Plese send my fork to

Name.....

Address.....

Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

Address Silverware Department

Twentieth Century Farmer
OMAHA.

Rearing Boys on the Farm

VII---How Shall We Keep Them There?

A CERTAIN man whom I knew, telling the reason why he left the farm, said that when he was a boy his father made him a present of a rather sickly pig. He nursed it along to health and then cared for it until it became a hog ready for the market. All this time the boy had been figuring out how he was going to spend the money which he would receive. When the market was right his father loaded in the hog with others and took it to town. When he came home at night he handed over to the boy, who was all anticipation, some articles of clothing and said to him, "Here, my son, is the money from your hog."

"From that day," said this man, "I planned to leave the farm just so soon as it was possible for me to do so. The injustice of it rankled in my heart and I formed a hatred of the farm because of this unkind act."

We know of another boy who stayed on the farm faithfully until he was almost 21 years old. As he was planning to leave for school his father came to him and said, "My son, I'm getting old. I'll give you almost any chance that you want."

The reply was, "Father, every day I have stayed on the farm for the last three years has been under protest."

There must be a reason why so many of the best boys leave the farm and this we must discover before we can determine how to hold them. But we are assuming that we should hold boys on the farm. Why not as well assume that we should make doctors out of all doctors' sons, or sewing machine agents out of all boys whose fathers happen to be engaged in that occupation? Because a boy's father happens to be a farmer is no reason why we should think that the son is qualified for that calling.

Boys leave the farm for a variety of reasons. To many the farm stands fof drudgery. It may sound well to speak of sixteen-hour days, but sixteen hours or much less for the growing boy is too long and body and mind protest against it. This protest is not necessarily a sign of laziness on the part of the boy. Farm life at best is apt to be monotonous when it is unmixed with relaxation and fun. But many have left because of the call of what they believe to be a larger and more effective life, many going on to college or into business.

This idea that the farm does not offer opportunity for the full expression of life is largely due to the farmer himself. Too long has the farmer decried his calling; all too seldom has he dignified it by making it of large account.

The agricultural colleges are doing much along this line. There is no reason why the farm should not require the highest type of intellect and the largest expression of social service. There is sufficient need in every farm community for the best that any man can do. Unfortunately this has not in the past been emphasized.

An Ambition to Do Big Things.

There comes a time in the life of every boy who amounts to anything when his rightful ambition impels him to big things. When this time comes to the farm boy too often he is confronted with the depressing, deadening, constant emphasis upon the material or he is led to believe that the farm does not offer sufficient opportunity for the expression of his powers. If at this time some wise parent or teacher or pastor would encourage him to train himself to the utmost, not for some distant city, but for his own farm community, many a boy would respond to the call.

Wise fathers will encourage their boys to get the best possible education. They will teach them the dignity of the farm; they will encourage them to be of service to their communities.

The best boys leave the farm because of the depressing social atmosphere found in too many farm homes and rural communities, because of the continual emphasis upon financial success, with too little recognition of other kinds of success.

The solution of the problem of holding these boys on the farm is to put the business of farming on the same basis as other lines of activity. The farm is a means toward living, rather than an end in itself. Interpreted in this way there will be a place for recreation, for comradeship, for education, for social uplift. The farm is the natural place to grow sterling men. It will continue to produce them just to the extent that it recognizes that a boy is more important than a horse, and that life is larger and fuller and broader than raising corn. Except as these facts are recognized the best boys will leave the farm, looking for the realization of their lives in other fields of endeavor.

Sanctify the farm home, rejuvenate the rural community, emphasize the importance of individual service to the neighborhood, systematize the work by scientific farming. Then will the drudgery become pleasure, the monotony pass into a socialized service, and the brightest, keenest, biggest visioned boys will see in life on the farm ample opportunity for their largest accomplishment.

E. F. DENISON.

Orchard and Garden Notes

Prepare a garden plan and order the seed needed for a good succession of vegetables during the season.

Begin to test the vegetable and farm seeds this month. Look for impurities in the seed, as well as seed of low germinating quality.

It has been proved many times that the large, plump, well-formed seed will give the best and quickest crop returns. Moral: Plant only large, well developed seeds.

The reason Europeans get such large returns from a small area is that they apply immense quantities of manure and then thoroughly cultivate the crop.

Spinach is one of the earliest and quickest maturing of vegetable crops. It is excellent used as "greens." Triumph and Bloomsdale are two good varieties. Plant early, as it runs to seed quickly when sown in hot weather.

Practical Styles For the Home Dressmaker

All the Patterns on This Page Ten Cents Each

ILLUSTRATED below are a few practical designs, all of which can be very easily made up by the home dressmaker. These patterns allow for all seams and are perfect fitting. Full instructions and a chart accompany each pattern. All patterns 10 cents each; no extra charge for postage.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want, enclosing 10 cents for each pattern.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Description of Patterns

2508—**A Practical Kitchen Apron. For doing work about the kitchen an apron that completely protects the dress is necessary. Here is a design that is both practical and dainty. Gingham is the best material to use for making an apron. The pattern 2508 is cut in sizes 32, 36, 40 and 44 inches, bust measure. Medium size requires four and three-quarters yards of twenty-seven inch material. Price of pattern 10 cents.**

5991—Girl's Dress. Here is a dainty little frock for the small girl. The garment closes at the right side of the front and has removable shield. The skirt is a three-piece one. The pattern 5991 is cut in sizes 6 to 12 years. Medium size requires three and three-quarter yards of twenty-seven inch material. Price of pattern 10 cents.

5869—Misses' and Small Women's Dress. This pretty little dress closes at the front. The skirt is a six-gored model. Serge, cheviot, broadcloth or linen can be used to develop this dress with the collar and cuffs of contrasting material. The pattern 5869 is cut in sizes 14, 16 and 18 years. Medium size requires three and one-half yards of forty-four inch material with seven-eighths of a yard of twenty-seven inch contrasting goods. Price of pattern 10 cents.

5995—Ladies' Shirt Waist. This is a splendid type of a tailored shirt waist and is just the thing for general wear with the coat suit. It is made with or without box plaits, can have either long or short sleeves and either standing or rolling collar. The pattern 5995 is cut in sizes 32 to 42 inches, bust measure. Medium sizes requires three and one-half yards of twenty-seven-inch material. Price of pattern 10 cents.

5848—Ladies' Shirt Waist. This shirt waist is made in a simulated sailor fashion with an attractive collar and a handkerchief pocket for completion. It can be made with a high or low neck and has the new style set-in sleeves. Silk, pongee, linen or any pretty wash material may be used. The pattern 5848 is cut in sizes 32 to 42 inches, bust measure. Medium size requires two and one-eighth yards of thirty-six inch material with a half yard of twenty- seven inch contrasting goods. Price of pattern 10 cents.

A Farmer's Club Meeting

Three sections of the Lancaster County Farmers' club held their monthly meeting at the state farm, Lincoln, Neb. on February 6. Dinner was served to 260 people in the judging pavilion, after which the club members visited the dairy building, barns and the home economics department, and returned to the pavilion for a short program. Prof. C. W. Pugsley briefly stated the scope of the farm demonstration work. Short talks were given by Prof. Bliss of the animal husbandry department, Prof. Frandsen of the dairy department and Prof. Chase of the agricultural engineering department. Prof. Chase, with his usual talent for statistics, had noted the amount of money invested in automobiles and carriages. He compared the condition twenty years ago, when a spring wagon was an exception among the lumber wagons used by the farmers, to the conditions today, when the only spring wagon found on the place was one belonging to the farm. Such meetings as these help to bring all people interested in agricultural problems more closely together.

The girls' normal training department of the School of Agriculture visited the museum in the university last Friday. It was the first time that a number of these girls had realized the primitive conditions under which their colonial ancestors had to live. Such visits make a girl appreciate the great saving in human labor and the opportunity for other work which is made possible by the great increase in modern conveniences and comforts.

ALICE LOOMIS.

SALZER'S Big Offers

Flower Seeds. Special collection—brilliant bloomers—enough to plant a big garden. Six generous packages rarest seeds—will give you an endless amount of flowers during summer and fall.

14c

1 pkg. Elegant Asters
1 pkg. Lovely Alyssum
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Six packages postpaid for 14 cts. Easily worth 35 cts.

Vegetable Seeds. Salzer's collection of favorite vegetables in generous packages. Will furnish rich, juicy vegetables and lots and lots of them during spring and summer. Enough to plant a big kitchen garden. One package each Salzer's Earliest Cabbage, Short Horn Carrot, Early Market Cucumber, Prizehead Lettuce, Mixed Onion and Flash Light Radish. Easily worth 35 cents—all six, postpaid, for **16c**

Combination Offer. above two for 25 cents or

Send 30c and we add the wonderful New Earliest Red Riding Hood Tomato Novelty, alone costing 15c.

Special Farm Seed Offer

For 10 cents we gladly mail one package each new $1,000 Prize Marquois Wheat, Twentieth Century Alfalfa, Rejuvenated Bonanza Oats, and many other farm seed samples, together with our great seed book.

Don't fail to get our big 1913 catalog and premium list. Free for the asking. Send for it and one or all of the above special offers.

JOHN A. SALZER SEED CO.
127 South Eighth St., LaCrosse, Wis.

Seeds Seeds Seeds

The Kind Your Grandfather Planted.
Known Favorably for 129 Years.
A Long Time in Any Business.

Send us your name and address, mention this paper, and we will send you, free of charge, one 10c packet of Landreth's Red Rock Tomato, and our new 1913 Seed Catalogue.

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HEDGE LOCUST—FOR WINDBREAK
Grows 6 feet from seed first year.
Small pkt. 5 cents, seed for 4 rods 25 cents, 10 rods 50 cents, with catalogue and instruction book
MANKATO NURSERY, Mankato, Minn.

NORFOLK NURSERY
A general assortment of selected high grade stock. Send for list. E. D. HAMMOND, Proprietor, Norfolk, Neb.

SWEET CLOVER Seed for spring sowing, white and yellow cultivated biennial varieties, at farmers' prices. Circular how to grow it Free. JOHN A. SHEEHAN, Fairmouth, Ky., R. F. D. No. 1

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Address Twentieth Century Farmer, Omaha, Neb.

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Grow Your Own the Kellogg Way

4 Qts. for 1¢

KELLOGG'S BIG RED strawberry garden will produce all the strawberries your entire family can eat, summer and winter, at a cost of one cent per gallon. It contains extra early, early, medium and late varieties. All heavy fruiters. Berries extra large, sweet and delicious. You can have fresh strawberries and cream, shortcake, preserves, jam and canned berries the year round. Help yourself and eat all you want.

LET US RESERVE A GARDEN FOR YOU before they are all sold. Our special delivered price is less than $3.00. This garden will yield about 500 quarts of berries each season, and with good care will fruit for three years. When it is time for you to make garden, we will deliver your plants prepaid, all pruned and ready for setting.

OUR BEAUTIFULLY ILLUSTRATED BOOK of instructions, our thirty years of strawberry experience and full information about the Kellogg Way of making a strawberry garden is yours for the asking.

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THAT'S WHAT VAUGHAN'S SEEDS MEAN—sold by us for nearly forty years. Half a million gardens planted with VAUGHAN'S VARIETIES last season prove how carefully selected and tested they are.

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FOR THAT EARLY GARDEN OF YOURS—1 packet each of Vaughan's Egyptian Beet, Grand Rapids Lettuce, Cardinal Forcing Radish, Earliana Tomato & for Green Onions from seed Vaughan's Ideal White Globe with Catalog 10c.

OUR NEW CATALOG, the finest ever published (160 pages) lists and describes the very best there is in Grains, Vegetables, Flowers, Bulbs, Plants, Shrubs and Trees. Four color plates photographed from nature. It contains many novelties for the garden you can't buy elsewhere.

VAUGHAN'S SEED STORE

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CLOVER

A gold mine of information

We have just published a wonderful new book entitled "Clover, the Great $Cash Money Crop$." It tells you how to get a sure "catch" first planting; how to keep clover in the rotation; about clover as a soil enricher; how to handle the crop for hay and seed production; how to grow clover that makes richer feed—that produces more beef and milk. It explains the cause of clover failures; how to avoid **winter killing**; how to prevent **ground heaving**; how to guard against the loss from **heat** and **drought**; all about the causes of "**clover sickness**" and how to deal with it. Hundreds of other questions, covering sixteen clover varieties, are fully answered. Ordinarily this book sells for 35c, but for a short time we will mail a copy free, or until a certain number have been distributed. Write at once.

GALLOWAY BROS.-BOWMAN CO., BOX 416 K WATERLOO, IA.

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We Sell cheaper than any other factory. **TIRES, Coaster-Brake rear wheels,** lamps, repairs and all sundries at *half usual prices.*

Do Not Wait; write *today* for our *special offer.*

MEAD CYCLE CO., Dept M186 **CHICAGO**

SEEDS Fire dried SEED CORN Husked before the frost dried on independent seed ear racks with air and steam heat. Sure to grow, because germ is preserved. Also Clover, Alfalfa, Oats, Rye and **Garden Seeds.** Write at once for **Free** Catalogue and receive free Souvenir. Fred Echtenkamp, B. x L, Arlington, Neb.

5,000 Bushels Seed Corn

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Reid's Yellow Dent, Silver Mine, White Cap Yellow, Legal Tender, Blair Yellow, Neb. White Prize, P ie of the North, Blair White.

SEND FOR FREE CATALOGUE

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Box 3. Seed Corn Center of the World.

The Farm Reading Table : Past and Present

"JOHN and I gave more thought to the question of reading matter than to any other one subject. For myself, I don't think I should have ever left the farm if it hadn't been for false notions I gathered from the reading of my girlhood days. I was really the one responsible for our mistake in moving to town."

The woman who spoke thus was a farmer's wife. She had spent her girlhood on the farm, had married a farmer's boy, but under false impressions of what the farm afforded in happiness had lived nearly a dozen years in town. When she made this remark she was talking of the problems she and her husband met after they came to their senses and went back to the farm.

"We had five children," she continued. "William, the oldest, was 15, and Grace, the next, was 13. Just the right age to be filled with improper notions, as we both were.

"John and I had long sessions over it. All that we know of farm papers we had gathered years before. A glance into the better ones now told us of the change that had taken place in their columns. They are now edited by live men and women, instead of scissors, as when I was a girl. They breathe the spirit of the uplift movement for country life. I know how disheartened I used to feel in reading of some delightful plan or party in the farm paper, to find before I got through a mention of a trolley car, or something else distinctly of the city. It makes one feel that there is no place in the scheme of things for the country, or anyone who lives in the country. Well, of course, the better farm papers settled that for me.

"But then, there was the other household journals, one or two which had become my friends while in the city. I suppose no one else ever notices it, but we on the farm do. Some of these household journals seem to give the country woman no place in the scheme of things, just like what I read when I was a girl. We decided that the better they were edited and gotten up, the more we would like them. We got sample copies of a dozen or more. Finally, we settled upon two which gave the new life we were going to live, and the one we wished to bring our children up to follow, its proper place. We didn't expect a farm paper out of it. But if you watch the columns of the better ones, you will find that their attitude to country women and country life differs greatly.

"You know there are some papers devoted to country life which seem to throw a false glamour over the farm—devote their columns to country homes, landscape gardening and golf links. We decided that a little of that sort of thing wouldn't harm our children. It won't hurt them to realize some of the greater possibilities of country life. Of course, we selected one which was very practical, and came down to schemes within the reach of an ordinary well-to-do farmer. 'Let them dream about those things in the country,' was the way John put it. 'It's far better to have them dream of having them here than dream like we did of having them in the city, where we hadn't as much chance of getting them as we have here.'

"Of course, we had a few distinctly literary magazines. There is really no chance here to select for adaptability for farm life. The reasons for selection were purely on general qualifications.

"Then, lastly, there was the building up of a farm library. We had a good start in books we had collected while we were living in town. But John wanted William to have access to scientific reference works devoted to farm subjects. You know many a subject would appeal stronger to a boy; he would feel the importance of his own life and surroundings if he could really see that they were given the dignity of special treatises by scentific men. And you know this is really so of every phase of farm affairs. I know William uses what few we have constantly. It is such a satisfaction to him when a neighbor gets a new breed of stock which he has never heard of, to find out all about its history and good points in the stock books we have.

"Of course, Grace has access to a number of books which would interest a girl. She is rather young yet, but I find she frequently consults one of the books on domestic science, home decorations or household and flower gardening. When I was her age I thought those things on the farm were so insignificant that it wasn't worth while writing a book over them. Their absence belittled in my sight my whole surroundings, and I wanted to get out into things of importance.

"Of course, we do not have all the reading matter we wish in our own library. Last year we made use of the circulating library started out by the State Library board. But before that we wrote to the city library at L— and asked if we might have a collection of books for a month. We were given the permission readily, provided we allowed the neighbors the use of the books. They were sent and returned to the library at very small cost to us. When I was in L— I visited the librarian.

The Favorite Farm Paper

She told me that they were always glad to extend such privileges to people in the country. She said she couldn't very well advertise the fact, but many farmers' families could avail themselves of this opportunity.

"Yes, this reading question was finally settled. It may seem that I am exaggerating the importance of zealously guarding against any reading matter that gives an improper impression to things of the farm. But I know that was what put false ideas into my mind. Of course, when the importance of farm life as really the proper way to live becomes more generally appreciated, there will be less chance of any of the periodicals conveying the wrong tone.

"Yes, that was the way John and I settled the question of reading matter for our children. We not only settled that question, but we also settled something else."

Just then Grace and William, both what any parent could be proud of, typical products of the modern realization of what farm life is, entered the room. The mother smiled at them as they interrupted the secret she might have confided to me. Then she looked at me, and I knew what the something else was.

D. DICKINSON.

A New Moon

Small Edgar happened to see the new moon.

"Mamma," he queried, "did God make that moon? What did he do with the old one? Did He cut it up into stars?"

Of Interest to Our Women Readers

Six Little Feet on the Fender

In my heart there liveth a picture
Of a kitchen rude and old,
Where the firelight tripp'd o'er the rafters
And reddened the roof's brown mold;
Gliding the steam of the kettle
That hummed on the foot-worn hearth
Throughout all the lifelong evening
Its measure of drowsy mirth.

Because of the three little shadows
That frescoed that rude old room—
Because of the voices echoed
Up 'mid the rafters' gloom—
Because of the feet on the fender,
Six restless, white little feet—
The thoughts of that dear old kitchen
Are to me so fresh and sweet.

When the first dash at the window
Told of the coming rain—
Oh! where are the fair young faces
That crowded against the pane?
White bits of firelight stealing
Their dimpled cheeks between,
Went struggling out in the darkness
In shreds of silver sheen.

Two of the feet grew weary
One dreary, dismal day,
And we tied them with snow-white ribbons,
Leaving them by the way;
There was fresh clay on the fender
That weary, wintry night,
For the four little feet had tracked it
From the grave on the bright hill's height.

Oh! why on this darksome evening,
This evening of rain and sleet,
Rest my feet all alone on the hearthstone?
Oh! where are those other feet?
Are they treading the pathway of virtue
That will bring us together above?
Or have they made steps that will dampen
A sister's tireless love?

—McCall's Magazine.

Our Home Chat

A woman road officer is almost unheard of, but there is one who has a very large territory, the United States. This is Mrs. Frank De Garmo of St. Louis. Mrs. De Garmo formerly lived in Louisiana and became interested in investigations which convinced her that the low attendance in schools was very largely due to poor roads, especially in that southern country where roads are particularly hard to keep in good condition, and are as badly or worse neglected than in more northern states.

As a woman would, she turned her thoughts to the children, in an effort to solve this problem. She has organized the boys into good roads armies, after a semi-military plan. The state organization is called a brigade; the county, a regiment, with the township unit as a battalion. The plan is to have boys care for a certain stretch of road, working under an officer from their own number, usually called a "corporal." The boys not only drag and level the road, but look after fences and bridges along the roads in their territory.

Perhaps the best work along this line is being done in Missouri, under Mrs. De Garmo's personal supervision, but progress is being made in Iowa and other states. Mrs. De Garmo works with the district school, and it is found that with improved roads the attendance increases. When roads become almost impassable school children are almost compelled to stay at home, though many follow the dangerous practice of walking down the railroads tracks, where such happen to run conveniently.

If this work had the co-operation of the mothers throughout the country in helping to organize the boys of each district school, the question of good roads would be largely solved, for the bright, sturdy country boys are very capable of organization and successful work of this kind. THE EDITOR.

About the Common Floor

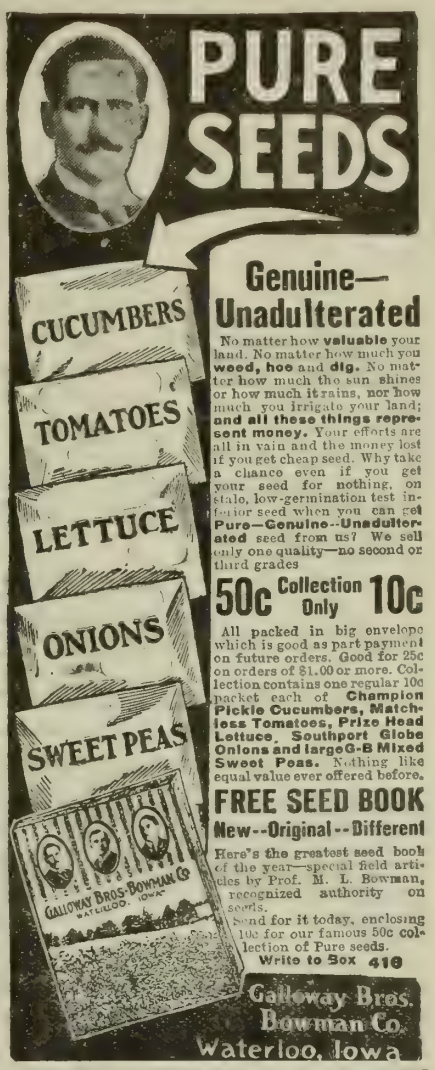
Although this is the day of hardwood floors, the old-fashioned floor is still in evidence in many homes, and the problem is how to make such a floor conform to the present-day use of rugs. Many old floors are still pretty respectable, as they have been covered with carpets, and have had little actual wear; still many of these floors have cracks between the boards, and so make rather unsightly margins for the large central or small rugs. To renovate such a floor, the first thing is to fill the cracks, and this may be done by anyone who can press a pulp into the crevices. A good filler for this purpose may be made at home from old newspapers, combined with alum and flour. To fill the cracks in between the boards of a medium-sized room, take about three pints of boiling water and shred old newspapers into it, until the paper has absorbed all the water and is soft and pulpy; then take four ounces of powdered alum and four ounces of flour; mix together dry, and then stir into the paper pulp and cook till it is as thick as putty.

The floor to be treated should be clean and dry. Apply the filler warm, pressing it well into the interstices and making it smooth. When this work is done and the filler dry, the floor may be stained any color desired and finished with any one of a number of standard floor finishes. Some paint the floors with a yellow paint to give body to the finish, but this makes a rather dark finish; a coat of white paint under a light oak finish gives quite the effect of light oak. It is best to look the matter of finishes up and decide just what is desired before attempting the real work. To apply a coat of floor finish requires quick work and a little experience in order to make a smooth and even surface. Many can do it themselves, but there are others who cannot seem to get the knack.

ROSE S. MILLER.

Women Corn Huskers

The women huskers shown in the accompanying picture are husking the corn for the husks. A Cook county, Illinois, farmer, who keeps but little stock, has all of his corn husked on this plan. The women sell the husks to a mattress manufacturer and he takes all of the husks that may be offered. In addition to the husking, the women sack the corn. They carry the husks away with them after their day's work is over. The big, white sacks shown in the picture are packed with the husks, and sacks filled with ears also are shown. The farmer has been making this kind of a contract for several years, and others take the same plan of getting help for the fall work. It helps to solve the help problem. J. L. GRAFF



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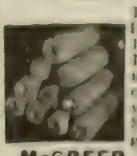

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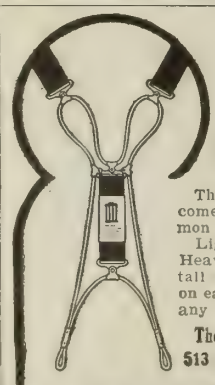

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Stories by Our Young People

The Song of the South Wind

Now rouse ye, all ye little rills,
I come to end your sleep!
Make music in the silent hills,
Tinkle, and run, and leap!
How merrily you'll laugh and sing
When you have heard the news I bring.
Behind me—listen—comes the Spring!

Wake, lakes and ponds that dormant lie!
For you must mirror soon
Soft silvery clouds, and budding boughs,
And the white April moon!
Rouse all the little frogs that sleep
Cradled so soft, cradled so deep,
And tell them they must learn to sing
Their sweet, high song to greet the Spring!

Poor, ice-bound rivers, mute and white,
I come to set you free!
Glide on, glad rivers, day and night,
And find your goal, the sea!
Whisper my tidings, as you go,
To vines and branches, bending low;
And river-reeds beneath the snow.

For up from the south, through the heaven's deep hollow,
With glad wings about her, and bright wings to follow,
With bluebird and whitethroat and robin and swallow,
Comes to us—listen!—the Spring!
—Maud Going in St. Nicholas.

The Editor's Corner

How many of you have ever stopped to think where the games you play originated? Many of them are so very old that there is no telling where they did first begin. Possibly ball is one of the oldest of all games, and has been played in many ways and in simpler forms, in times past. At first the ball was simply tossed from hand to hand, so old records and writings indicate; then it came about the ball was struck with a stick, and from this has come both the modern ball game and tennis.

"Hide and Seek" is another very old game, and it used to be played in Scotland and in England indoors, when the houses were built very large and many people lived in them. They were called castles. There is an old English legend, put to verse, called "The Mistletoe Bough" which tells of a bride who when playing this game, hid in an old chest, which fastened with a kind of spring lock. She could not get out and they could not find her, so she perished. In fact, the story goes that she was not found until many years afterward.

"Blind Man's Buff" was played in Greece and in Rome hundreds of years ago in a little different form. Then the person who was "it" was hooded, and the others buffeted him about with their cloaks. In fact, the game gets its name from the word "buffet."

THE EDITOR.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

(Prize Story.)

A Valentine Surprise

By Irene Townsend, Valparaiso, Neb., Aged 12 Years. Original. Red.

Tommy Brown nearly drove his teacher frantic; he was always into something, never had his lessons and seemed to think he had not done his duty if he had not annoyed someone. He was a poor boy and did not seem to have much ambition. The teacher made him worse by misusing him. Some of the girls felt very sorry for him, as he was kind-hearted, and they decided they would try to get him to be better. They got everyone in the room to send him a valentine. When the time came to open the valentine box everyone was excited except Tom. He had never received a valentine and did not expect one. He was so much surprised when he found he had so many valentines that he thought he amounted to something, after all. From that time on his teacher found that he was not so reckless or naughty.

(Honorable Mention.)

A Lesson In Obedience

By Genevieve Hicks, Mildred, Kan., Aged 10 Years. Original. Blue.

Our Tabby cat teaches her kittens lessons in obedience. One day Tabby and the kitten were together in their basket, when I called the kitten. It sprang from the basket and followed me into the next room. Tabby was displeased and followed, growling warningly. She shook the kitten by the back of the neck and replaced it in the basket.

Again I called the kitten, and again it came at my call. This time Tabby, growling still more threateningly, followed us. She siezed the kitten by the tail, evidently as a punishment, and pulled it roughly along, the kitten mewing helplessly.

A third time I called, and once more the kitten came to me. The mother cat was silent this time, but she came and dragged it off and bit it again and again. This time her method was successful, and I called in vain.

A Sensible Horse

By Ruth Swanson, Aged 12, Wahoo, Neb. Blue.

One evening when we came home from the cornfield we drove our load up on the dump and took away the horses and put them to the power. I drove the horses and papa tended the corn. When we had taken up about half of the corn one of the horses suddenly stopped; then the other horse stopped. I did not know what was the matter, so I tried to make them go. I couldn't do it, so thought that there must be something the matter. I looked down and saw that the halter rope was loose and she was standing on it. I told papa and he came and tied the rope. When he tied it he patted her and said:

"She's got sense."

Additional Stories

RED—Madge Brown, Afton, Ia.; Berhard Bendixsen, Alexander, Ida.; Verna Erickson, Sterling, Colo.; Stanley Morris, Malden, Wash.

BLUE—Hilda Peterson, Hamilton, Mont.; Bertha Bendixsen, Alexander, Ida.; Maud Wallin, Mainard, Mo.; Maria Rathjen, Garrison, Neb.; Georgia King, Sturgeon, Mo.; Haxel McFadden, Loup City, Neb.

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE—Mrs. Charles Dickinson, Cornville, Ariz.: If I were to run away with Conn., the Md., would Pa. Miss. Me?

What nurse girl has the job of Wheeling, West Virginia?

What novel fiend is Reading, Pennsylvania?

SECOND PRIZE—S. E. Henderson, Hastings, Ia.; If Hetty Green is the richest woman, how much is Nicholas Long-worth?

If she saw a calf hide, a catfish, a cowslip and a dorn iron would Minnehaha?

If a felloe got tight and the tongue spoke, would the houns run till the wheel got tired or the wagon brake?

Fred L. Lawson, Aztec, N. M.—Did the driver use the wagon tongue when he spoke to the felloe, and did the message reach the houns without a brake (break) and make the king bolt?

Affie N. Hanna, Wallowa, Ore.—If the baby cried, would the chair-rocker?

If the brakeman died, would a hair-switch?

If the logging engine slipped, would a stump-puller?

If a small railroad had no rating, would the operator?

Why the Sky is Blue

Why is the sky so blue? has been asked so often of Prof. L. R. Ingersoll of the physics department of the University of Wisconsin that he has prepared the following brief explanation of the phenomena:

"It would seem as if the explanation of such a universally observed fact should be generally well known, but the truth is that the real reason for our sky colors and beautiful sunset tints has been known even by scientists for only a comparatively few years, although the general principles of color have been understood for a long time.

"A leaf appears green because it reflects or sends back to us more of the green than of the other colors which go to make up the white light with which it is illuminated. White paper or paint appears white because it reflects all colors equally well, and black looks black because it absorbs all colors, sending back none.

"All these facts have been known for many years, but they apparently led to no explanation of sky color for the simple reason that the air itself is colorless. Lord Raymond, the English scientist, finally attacked the problem from a somewhat different standpoint and so discovered the true reason for sky color. Realizing that even the purest air always contains more or less of fine dust suspended, he studied the effect of such particles on a beam of light and found that they could turn aside or shatter in all directions a certain small share of this

An Uninvited Guest

light and that the finer the particles were, the more blue would be the shattered light. The general blue of the sky is due, therefore, to this shattered light turned aside in all directions by these fine particles of dust in the atmosphere. The higher we go the finer the dust we should expect to find and consequently the deeper the blue color. This is the reason for the deep blue or even the indigo blue sky seen from high mountains tops. Conversely, the lower levels of the air have relatively larger dust motes and these turn aside all colors equally, hence the whitish appearance of the horizon sky.

"The sun and the surrounding clouds at sunset appear red because the light has been robbed of so much of its blue light by its passage through the great thickness of air through which we see the rising or setting sun. Anything that tends to increase the amount of fine dust or smoke in the air enhances the beauty and brilliancy of the sunset, as was illustrated in the years 1883 and 1884 after the eruption of Krakotoe, which literally filled all the air in the world full of very fine dust.

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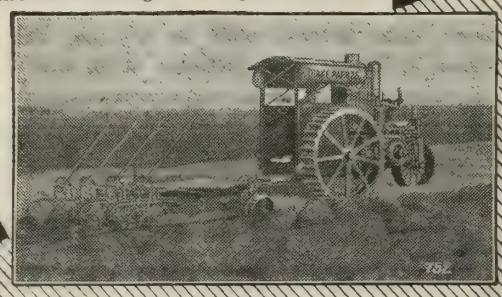

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Press down foot lever, release wire and this Janesville Corn Planter *drills close for ensilage*. Press down foot lever, attach wire and away she goes, planting 2, 3 or 4 kernels to the hill, as you desire. Change from one to other *instantly*, without getting off seat, without stopping team. It's the greatest ensilage planter *ever built*—and the greatest corn planter. Look here, at these additional advantages. Shaft drive, no chains to break or get out of order. Runs in oil, greased at factory *for a whole season* with axle grease—no kerosene needed—dust-tight gearing. Flat and edge drop plates free. Change of plates made in a second. Shoe, stub or disk runners on same machine. Automatic wire release. Perfect fertilizer attachment if desired.

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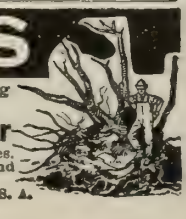

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

From a Rancher's Wife

Mrs. J. C. A., Benton City, Wash.: Availing myself of your kindly offer, I long to pour out my soul for sympathy on the rotten deal we wheat farmers have had handed out to us this last year on gunnysacks. I wish also to ask some one who knows to arise and explain to us benighted country jakes, who evidently don't know enough to demand, much less get their rights, what right has the government or anyone else to appropriate the goods manufactured in our penitentiaries to themselves, and then make the farmers who are obliged to use them pay such wholesale robbery prices for them.

Are not the farmers taxed to support the inmates of the penitentiaries? Are these institutions of much benefit to the farming class? It seems to me that most of the inmates are city-bred gents. If we women are to be given the ballot, I, for one, should like to know something about these things, and so be able to cast an intelligent vote, for the general good of the people. I am not like a woman I once asked why she voted for a man for county school superintendent, whom we both well knew to be a most vicious and unprincipled man. "Oh, he is our nearest neighbor, and came over and asked me to and I did not like to refuse," she told me.

Few people work harder, or put in longer hours, than farmers' wives. It is generally admitted that no one else is quite as poorly paid. I believe this is especially true of the "wheat farmer's wife." I can only speak for myself, however, as I see no one else. My nearest neighbor is six miles away. We have been here seven years, and during that time have cleared and put under cultivation over 300 acres of sagebrush land; have had to haul all the water, both for stock and for household use, more than three miles, and have never harvested over six bushels of wheat to the acre. But this last year a much better crop was raised, and all were in hopes of being able to pay some debts. Strange to say, the merchants in all our little one-man towns are making good all the time, though they never fail to tell us of the bad debts others have made, and left the country without paying. We well know that the few honest ones of us that are left will have to pay the bill. Until last year we had never paid over 7 cents apiece for sacks. This year there was no cash to pay for sacks until some of the wheat was harvested and sold, but sacks we had to have, and we were charged 12½ cents straight for them. As soon as wheat could be hauled we went to settle for the sacks, and were then charged interest on the bill. As if that was not quite small and mean enough, when we took a load of wheat to the warehouse, where the sacks were bought and paid for, they actually took off one pound for every sack, although, of course, they kept the sacks. As we sold all the wheat at 68 cents a bushel, they could have been decent about it, for then the sacks would have cost them only a trifle over a cent each. Please tell us how those sacks came to deteriorate so fast during the few days we were filling them with wheat? And, also, please tell us if the farmers will ever be allowed to say what they can afford to sell their produce for?

Answer—This is a letter from a rancher's wife. She lives in a region of very scant rainfall, where conditions are so severe and untoward that generally they raise a wheat crop only once in two years. She has ample cause for complaint against unfair and illiberal dealing. It is to be feared that business conditions will not materially change there or anywhere else among the farmers until the farmers learn to co-operate. They must get together, work together and act unitedly in sufficient mass to demand attention and receive their just deserts. The farmers feed and clothe the world, If they should get together, they might have the world at their feet, begging for food and clothes. Then they might set their own price on all the produce.

Horse Stiff in All Its Legs

D. E., Norfolk, Neb.: I have a sorrel horse 8 years old, weighing 700 pounds. He seems to be stiff on all four legs. He is awful thin; does not seem to eat very much grain of any kind. Can you give me advice, so that I may help his stiffness?

Answer—Without a complete history of this case it would be impossible to say what has caused this stiffness. It may be founder. In this case treatment would be of little help. It is evident that he needs a very careful examination by some veterinarian, and I would suggest that you take him to your county seat and have this done. The fact that a horse acts somewhat stiff conveys very little meaning unless he can be carefully looked over. It is possible that this stiffness causes sufficient pain to keep him thin. The first thing always in a case of this sort is to remove the cause of the trouble.

Preventing Scours in Calves

W. P. J., Lamar, Colo.: I will tell the brother farmers through The Twentieth Century Farmer how I prevent scours in calves raised by hand. When I first began using a separator people told me I would be bothered with scours in my calves. I always was before, so I thought I would try a preventive. And I reasoned that, as scours were caused, nearly always, by indigestion, that something to help digestion would be a good thing to begin with. So I began using salt, about a teaspoonful to a feed, with a little pinch of common baking soda added, about as large as half a grain of corn, or less. After using this for nearly a year with success, I never had a case of scours again, even in hot weather. It occurred to me that a little oil meal would help the calf, so I added a couple of tablespoonsful of that, also a small amount of stock food. I have been very successful with this treatment, as my calves are fat and sleek, and take to hay or grain readily. I mix the stock food—any good kind—with the cottonseed meal in the right proportion, and have a vessel in the milk room, with a measure, and find it is very little trouble; also the salt can, and one with the soda, handy. Try it.

Answer—Our correspondent is right in saying that indigestion is the cause of scours in calves; that is, ordinary scours. White scours is a disease caused by a specific bacterial infection. One of the best pre-

ventives of indigestion is limiting the ration. This indigestion in calves is generally caused by over-breeding. Cut the ration in two in the middle and the ailing calf, generally, will speedily recover.

Consider the Horse

Some people are very inconsiderate of a horse, the faithful horse, the means of doing the greatest part of supporting the family. These poor animals are compelled to stay out in all kinds of weather, some are worked during the day and turned out at night, a most cruel thing to do. It seems to me that a person guilty of such an act is not a fit person to have horses.

What is more welcome to a person after being out in the cold all day than a cheerful fire? Isn't the horse after working all day in the cold entitled to shelter at night? Would it not appreciate a warm barn with a bed of straw to sleep on as much as a man appreciates a fire? Should he be turned out in the cold with the hard cold ground to lie on? Better keep him in the barn with no feed than to feed him and then turn him out in the cold; it would be less injurious. After exercising all day and being warmed up, his muscles are relaxed and he is very susceptible to cold. It seems as if a person is very heartless and uses no reason when he treats the faithful animals in such a manner. Man knows that after he has worked in the cold, when he sits down in the evening he feels very chilly unless near a good fire. How does the horse feel on being turned out in the cold? The pigs, cows and chickens usually are provided with a shelter; but the horse, more valuable than these, and which does more toward getting a living for the family, is turned out in the cold. Farmers take care of the horse, and if you are in a new country and have no barn, fix up a temporary shelter for it. Take it in nights, feed it, and get it in condition for spring work. Now is the time. If you don't keep them up for the reason you don't like to clean the barn, change work with someone, and if you have no one to change work with, you had better change your occupation so that you will not have to use horses, and let someone use them who will care for them in the proper manner. Take care of the horse and shelter it, at least when it works. If there are any of the readers who have anything to say on the subject or have different ideas, let them express themselves, and I know all who are interested in the horse will appreciate it.

Iowa. SAMUEL DOLAN.

Editor's Comment—Good care is never wasted on a horse or on any other animal. The reason we do not have better horses is because we do not take good enough care of them. The man that merely wishes to make money out of horses will find that it will be profitable for him to give them the best care in his power. If he is a kind-hearted man, he will sleep better at night by knowing that his faithful animal servants are comfortable.

A Bouquet, Not a Brickbat

In renewing my subscription to the best paper I take and they number more than a dozen—I think it is a duty, as well as a pleasure, to throw a few bouquets at your feet in praise and appreciation of your untiring and very successful labor to produce the very best paper for general information for the farmer and his family. You ask for suggestions to enable you to do better. Well, as for me, I have none, but am willing to leave that to you, believing that you will in the future, as in the past,

Two Horses Do the Work of Three

Roller Bearings roll around the axle instead of wearing them out like the ordinary frictional sliding bearing and do away with one-third the usual friction. Our improved hardened steel bushing takes away practically all wear on the bearing and box. Don't think of buying a new wagon until you have seen the

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Saves horses because it pulls easier; saves time because you can go faster; saves repair bills because the whole wagon stands up better. Roller Bearings need oiling only about once a month and never get hot or tight on the wheel. They are the crowning feature of the old reliable Peter Schuttler "The One Best" wagon that has lead all others for quality since 1843.

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You Can Make the Same Kind of a Saving in Hauling Your Own Loads

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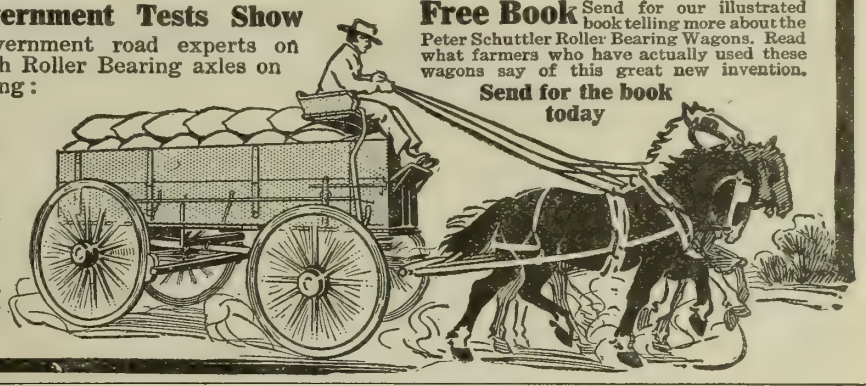

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All Copper Movable Reservoir—Other Exclusive Features

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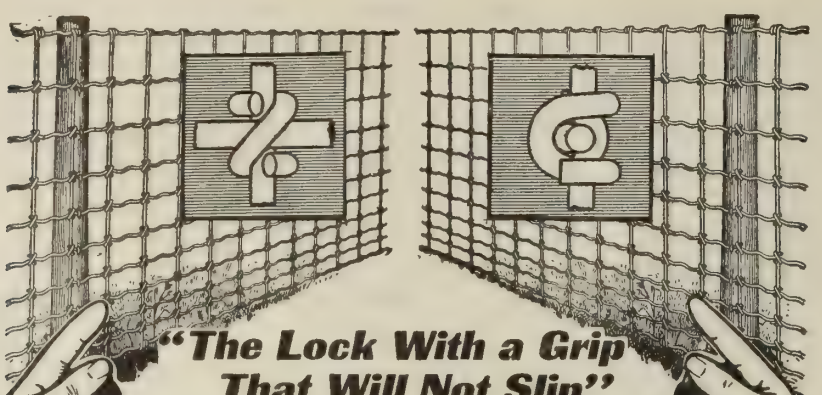

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The Square Deal Lock **double** grips the one-piece stay wire to the strand wires and absolutely prevents them from slipping. It locks every joint of Square Deal Fence so your stock can't spread the stay wires—**holds every strand with an iron hand.**

Lets you forget you have stock full of life and energy on one side of the fence and fields of growing grain or hay on the other. Every Square Deal Lock is a lasting guarantee of fence satisfaction. There are no brittle welds to snap—no cumbersome knots to hold moisture, gather rust and weaken the fence. The simplest, strongest, **safest lock ever used on a wire fence.** Get Square Deal prices and see this fence before you buy.

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HAS WAVY STRAND WIRES, giving it elasticity—making it springy so it will quickly come back into shape after a sudden heavy strain—keeps it tight and trim the whole year round. These elastic waves are woven into the strand wires. They won't stretch out and let the fence sag between the posts. They are like so many steel springs keeping the fence tight and trim, giving your farm a well kept, prosperous appearance, and adding years of life to the fence.

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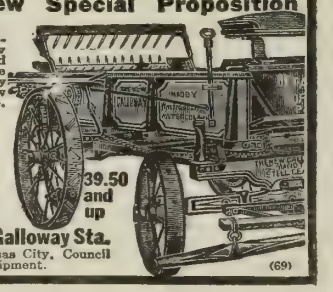

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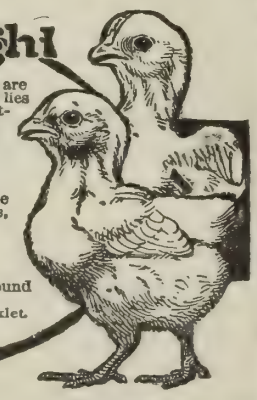

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contains just the necessary ingredients to give them during the first three weeks the best possible start, at a cost of 1c per chick. In boxes and bags, 25c, 50c, $1 up. After the third week mix

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in the ration to aid digestion and make the greatest gain for every pound of feed consumed. 25c, 50c, $1. 25-lb. Pail, $2.50.

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continue in the lead, with the banner of progress hoisted on the main mast and the captain on the lookout, alert for anything that will be of interest to your thousands of readers. I wish I had time to write to you oftener, so that I could tell you how well I like The Twentieth Century Farmer. W. P. JAMES.

Colorado.

Question for a Solomon

J. S., York, Neb.: If the farmer plants a watermelon near a line fence and some of the vines run onto his neighbor's farm, and some watermelons grow there, is it stealing if the neighbor takes the melons, or is it stealing if the man that grew the vine, gets the melons?

Answer—These question remind one of the old problem: "Which is the mother of the chicken, the hen that laid the egg or the one that hatched it?" The best way to settle the matter is for the man that planted the melon seed and the neighbor on whose farm the vine trespassed, with their respective families, and all of the neighbors that can be induced to come, to hold a love feast kind of a picnic, and cut the melons and dispose of them and of this problem at one operation.

Concerning the Alfalfa Weevil

I notice in your issue of February 1, in your editorial column, an alarm against alfalfa seed from infected districts. You have not made very much study of the weevil or you would not have made such a statement. In the first place there is absolutely no danger of the weevil being spread by the seed. It hatches out in the latter part of May, June and the forepart of July. The weevil feeds where it hatches until September, when it commences to migrate and continues to do so until the first cold weather comes on, when it hides for the winter. Then in spring it comes from its burrow and commences to feed upon the tender buds of the alfalfa, and as these buds grow, the weevil bores into the stem of the alfalfa and deposits its eggs in the heart of the stem where they soon hatch and thrive on the sap of the plant. Now it follows that seed maturing late in August and so late as October 1, comes on at a time when there are no eggs to contend with, so that the weevil in beetle form is all we have to contend with at seed time and during the winter. Now look at the process of threshing and cleaning the seed in its preparation for the market, and look at the photograph of a weevil in the beetle form, and you can easily see that the chance of one getting in the seed is so remote that the danger is too fine to consider. The great danger in the spread of the weevil is in freight cars, in baled hay, in burlap-sacked grain, and other like articles which are shipped from infected districts during September and October. Go into an infected district in September and you can see thousands flying. They are slow, awkward flyers. They lodge or light on any object that happens to come in their way. They hide in the bark of trees, fence posts or weed stalks, and collect in swarms around the barns and stacks, and remain dormant until the warm weather of spring brings them out as it does the buds and flowers. Your fight does not lay against the seed, as I have pointed out above, but rather against hay, grain in burlap sacks, etc., which afford good hiding places for the beetles.

Utah. WILLIAM H. MILLER.

Editor's Comment—We are glad to get this letter as it gives the general facts about the life history of the alfalfa beetle, which will make interesting reading for most of our readers. All that the writer says about means of transporting the live beetles is only too true. But here is a fact to be remembered. Alfalfa weevil do not always breed in season. There are occasional exceptions as to the time of breeding, as is the case with most other insects. It is a fact that the eggs of the alfalfa weevil have been found on alfalfa seed coming from infected districts. The writer thinks that this danger is too remote for consideration. This paper wishes to guard against every danger, no matter how remote it may seem to be.

Missouri Valley Fruit Growing

(CONTINUED FROM PAGE THIRTEEN.)

and apple picking picture, labeled "Christy's Prolific Winesap," surrounded by the representatives of a ladies' aid society from a nearby village, who had voluntarily contracted to pick apples in the interest of their church treasury, we find a most practical demonstration of equal rights and the ability of woman to widen her sphere of usefulness when given an opportunity.

Mr. Christy, learning that this association of church women practiced going out among their membership periodically and contributing of their time in sewing, etc., for the munificent sum of 10 cents per day each, conceived the idea of testing these self-sacrificing women in their earnest endeavor to acquire funds to carry forward their work. It was a question whether or not they could be relied upon to step out of kitchen and parlor and assume the stern realities of labor, business and self-support that man has been so jealously guarding, as though he was the only practical feature of creation that could do things and take care of the voting also. He proposed to the president of this society a wage of 15 cents per hour per woman as a trial for picking apples. The proposition was accepted and next day nine of the aid society representatives appeared for work. They had a fine social time and a lunch picnic equal to any holiday dinner, and at quitting time Mr. Christy's timekeeper returned an order for a check of $18 in favor of the secretary of the aid society.

This trial was so very satisfactory that he contracted for three more days' labor from the aid society, and this time settled by drawing a check for $60, more money they declared than they had made in a year previous, and everybody felt as though they had had a picnic. Good apple pickers are usually hard to get. This aid society has propositions now from orchardists all over the apple growing districts of southeastern Nebraska for engagements for next year's apple crop. The two champion pickers made a record of forty bushels each, per day. A contest may develop out of this experience, whereby liberal cash prizes will be offered the woman who picks the greatest number of bushels of apples in a day.

Why do people imagine they have to be dressed up in their best finery to worship God?

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Some Important Poultry Items

Transferring Bees From Box Hives

THERE are more ways than one to make a chicken take medicine. Once when mine were quirking around with a cold, and they refused to drink the coal oil placed before them in one of their drinking vessels, I sprinkled bits of bread on the water, and they picked all these out as fast as I put them in. In this way they got the coal oil floating on top that water. Since then I use the same bait to get them to take medicine or Epsom salts when I judge they need it.

***

It seems odd to find poultry lessons taught by moving pictures. What next will they do with moving pictures? Prof. James Dryden, head of poultry industry at the Oregon Agricultural Experiment station, it is claimed, put on a moving picture show at the Oregon State fair last fall, the reels made up of a chicken story. The farmer husband in the film story thinks chickens a nuisance and expense, and kicks them out of his way, sets the dog on them, etc., in the way of cruelty. But his wife knows their worth and steals feed from his granaries and feeds them in plenty. After a while he begins to wonder where she gets so much money with which to buy groceries and clothing, and she shows him her egg account book; then the farmer takes the business in hands and goes at poultry keeping in the right way, all of which the pictures show the poultry student.

***

It is a wonder sometimes how easily certain poultry keepers, women mostly these are, for when men go into the work they go into to know the right way and remember it—forget this year the experience they got last. One woman reads a certain line of feeding to start chicks and poults, and gets just one item to stay in her head, say crumbled egg yelk. If this is good, she argues, why, of course, plenty of it is necessary, so she fills up chicks and poults on crumbled, hard-boiled egg yolk so long that all die of indigestion. I have known it too often; or, it may be cornmeal or oatmeal or curd cheese. Oatmeal, if fed too long and too much, is one of the most constipating foods you can give young poultry. Cornmeal is not so constipating, but it is irritating and heating. Curd cheese, like too much egg yelk, is difficult of digestion. Too much bran is decidedly irritating. Some of each is good, but never as a principal diet.

IDA M. SHEPLER.

Transferring Bees from Box Hives

Joseph J. Waldmann of Custer county, Nebraska, asks how to take bees out of boxes and put them in movable frame hives. For this simple operation it is necessary to have a movable frame hive with empty frames, a smoker and bee veil, a sharp caseknife, a basin of water and some rags for wiping up leaking honey, a box or table on which to work, a ball of common cotton wrapping twine and a little bit of nerve.

The box should first have a few puffs of smoke at the entrance, where the bees fly, and then be lifted carefully a few feet to one side; put the new hive where the box formerly stood, with the entrance of the hive exactly where the entrance to the box was; flying bees will go immediately into the hive. Have the table, cloths, basins, etc., near the box and out of line of flight of the bees; give the box some more smoke and knock one side off with a hammer; this will expose the combs and the bees; pick the box up and carry it in front of the new hive, jarring it quickly on the ground in front of the hive so as to dislodge as many of the bees as possible; these will go into the new hive. This operation may be repeated as often as one can dislodge a good bunch of bees.

Now, removing the box near the work table, proceed to cut out the combs one at a time, knocking off the other sides of the box if necessary; lift the comb carefully in one hand and with a whiskbroom, or bunch of weeds or grass, brush the bees off carefully in front of the new hive; keep a sharp lookout for the queen; if she can be located and put in the new hive your troubles are much less. Take the comb from which the bees have been removed and lay it on the table; notice that the cells have a slant downward and put the comb in the new frame in the same manner, right-side-up, or with the cells slanting downward; lay the empty frame over the comb and cut around the edges with the knife, so that the comb will fit inside the frame; if the comb is not big enough piece it out with another comb. In fitting the comb in the frame select such portions as have most of the sealed brood (young bees) as you wish to preserve the strength of the colony. The sealed brood is tough and easily handled, while honeycomb breaks easily and makes a troublesome job, especially if the day is hot.

When the comb is fitted to the frame slide the frame over to the edge of the table, so it projects over the edge, and begin to wrap the twine around to hold the comb in place; keep sliding and wrapping with a cross-turn to hold all securely and tie the twine; press the comb carefully in place and hang the frame in the hive, covering it up quickly. The bees will at once cluster on the new frame and get busy. Wash the honey off the table carefully and repeat the operation until all the comb is used up; shake all the rest of the bees out of the box, remove it entirely from the yard, and your job is done.

The bees will wax the combs fast in a few days and remove the strings which temporarily hold the combs in place. This job requires about an hour, if one is prepared, and leaves the bees in condition to be valuable producers, box hives are a makeshift and a nuisance.

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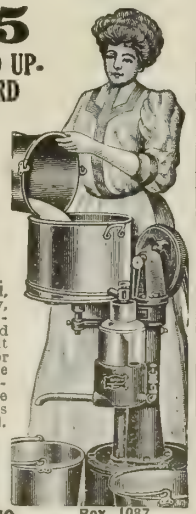

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How to Handle Dairy Cows

Gentle Treatment Essential

I WANT to lay a lot of emphasis on gentleness among cattle. It is so important that cows and growing young stock be gently handled that I want to give a little advice, because it means dollars in your pocket. Making milk is a complex process with the cow, and while she is going forward with it from day to day she must be gently treated or her nervous system is disarranged and she cuts down the flow, and you notice it in the milk pail. Every comfort must be given her in the way of handling and stabling, and she must not want for the smallest thing her appetite or bodily comfort crave if she is to stand up to the strain of making a good profit.

If she is stabled on a hard floor without bedding, is irregularly fed, knocked on the rump with milk stools, whipped and yelled at until she is so nervous she wants to jump into the manger or through the stanchion—if these things are forced upon her she is going to make her owner pay well for the privilege of doing them. Go into the barn of any first-class dairyman and look about for yourself. You will see cows contented and peaceful, chewing their quids, resting, apparently doing nothing—except making milk.

Especially among highly-bred cattle will harshness shown to them be seen to result in a lessened milk supply. A heavy milker is always one that is highly strung in nervous temperament. She is just as hardy, as strong and as willing as the loafing cow that takes your bit of rough treatment without showing it. If one of my milkers would go down my line of Holstein cattle, either along the calf pens or behind the milking cows, and rap them with stools or pails, or sticks, or their hands, I would get him off the farm at once. Every time he uttered a harsh threat while stanchioning the cows I know it would cost me a quart of milk.

A cow that has to lie down on a cold, unbedded floor runs chances of injuring her udder by the cold. She soon learns to stand rather than lie down. Then she becomes restless and shifts about and will step on the udder of the cow lying next to her if given half a chance. Many a cow has been injured in just this way.

Regular feeding is very important. When feeding time approaches a good cow begins to move about in her stall, or stanchion, and look for the feeder. If she is kept worrying about it she will not give the greatest amount of milk, because the demand of her digestive organs is not responded to with food.

Habit has much to do with this also. Let a feeder who does not care when he feeds and milks take charge of a herd which has had punctual attendance, and right away the flow of milk drops down, and unless the owner knows the reason the flow is never recovered.

In winter, force the cows out on a raw day and make them stand humped in the wind or go foraging down the lane and into the cornstalks, and you'll get no milk. An abundance of unchilled water, winter and summer, is one of the important cow comforts. Salting regularly is another. A cow is a very peculiar factory into which is taken the raw stuffs and from which she turns a highly finished product. Everything she needs to make the most output is an important cog in the wheel, and if omitted she fails to do perfect work. Don't forget this. She must have every comfort. She must not be exposed. She must not be abused. She is almost human, for though she cannot talk she can make herself understood by the dairyman who knows his cows.

WILLIAM GALLOWAY.

Causes of Acid in Silage

Studies made on the amount of food materials found in corn at different stages of growth have helped to solve the problem of what causes too much acid in silage.

In the first place, it was found that the total amount of dry food nutrients in the corn plant increased fully 50 per cent between the tasseling stage and the time the ears were in the early glazing stage. It was also found that the sugars of the plant were rapidly changed to starch as the plant matured. These two facts were found to have a marked influence on the amount of acid developed. In other words, the riper and, to a certain extent, the drier the corn before being cut, the better would be the silage.

The drier corn in the mass heated up quicker, and the proportion of lactic acid in the drier and more starchy silage was greater than in the case of very succulent fodder. The most acid silage was formed where very green, immature corn was put into the silo. The important point, then, seems to be to haev the corn in that stage of growth where most of the sugar has been converted into starch, and where the water content is sufficient to cause it to pack solidly. This period of growth will be found to be when the greater part of the ears are in the early glazing stage.

In addition to the fact that the fodder when thus harvested is in condition to preserve well in silo and to furnish the largest amount of valuable nutrients, there is a decided saving in the amount of water to be handled.

Silage corn will increase fully 5 per cent in dry matter between the stage where the ears are just formed and the early glazing stage. Corn fodder, with the ears well formed, will contain about 20 per cent of dry matter, while if about half the number of ears are glazed the same corn fodder will contain 2 per cent of dry substance.

The Man and the Cow

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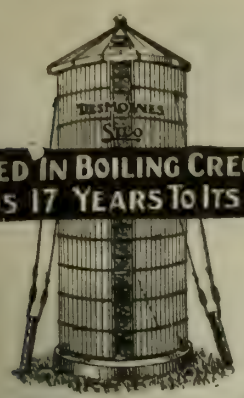

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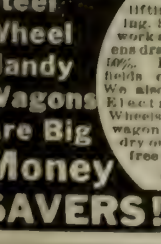

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What a Woman is Doing as a Legislator

(CONTINUED FROM PAGE SEVEN.)

Riddle to me, "that I was going to Denver to represent the poor people, the homesteaders and the children. I told them that the wealthy corporations and the big interests had enough representation and that if they thought the rest of the people didn't need anybody at the state capitol, I'd sooner stay at home and look after my chickens. They voted to have me come back, so I'm here to help those that need it."

Helps Those Who Need Help

That is her whole aim in life—to help those that need it. Agnes Riddle was born in Germany and came to this country at the age of 16. Her parents were not blessed with this world's goods and there was a large family, so the young woman was obliged to make her own living at an age when most girls are still in boarding school. She prepared herself by taking a course of instruction on household economy under a French chef in St. Louis, and then followed a course in a training school for nurses. Nursing was to be her life work, and she followed that profession until one day a milkman, with whom she occasionally rode on his morning round, said to her:

"Agnes, don't you want to cook for me?"

Agnes was rather practical herself and she liked this prosaic way of making love in a milk wagon, so she accepted the young man, and that is how she became Mrs. Riddle. She has no children of her own, but took as her family the six children of a sister on the latter's death, and these she has brought to mature years, the youngest of the half dozen being still in school. Her kindness of heart is illustrated by a story of her own telling.

Good Advice Bears Fruit

"We had seven bachelors in our neighborhood, and I, being a nurse, was always called for when one of them got sick. I took care of them in turn, but one day I got tired of it and told them all to get married. Well, sir, they followed my advice, and now, instead of seven bachelors, I have been called in to help out on the arrival of every baby in the seven families."

And then she let go of a Riddle laugh, such as members of the Colorado Grange and the legislature are familiar with—an infectious, hearty laugh, that goes with her German love of a joke.

The Riddle farm is at the edge of Glendale, a suburb of Denver, six miles from the state capitol, and over a mile from the end of the electric line by which Mrs. Riddle makes the trip to and from town every morning and evening.

It would be difficult to find a public man who accomplishes more for the benefit of humanity than does this woman—this self-educated woman of foreign birth, but every atom an American, with ideals of the highest type, and a broad, practical grasp of farm and home problems that make her easily the best friend the farmers have in the Colorado legislature.

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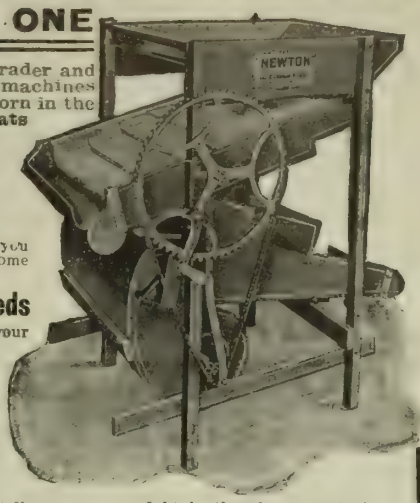


That's exactly what you get in our grader and cleaner. Not necessary to buy different machines when you buy the Newton. It grades corn in the most satisfactory way. **Separates oats from wheat.** Cleans and grades all kinds of grass and field seeds.

Let the Newton Grader and Cleaner Do the Work for You

No other grader on the market will give you better work than the Newton. Few will come anyways near doing the work it will do.

Don't Sow Ungraded or Dirty Seeds

It's especially important this year to grade your grain before seeding. On account of the excessive wet weather at threshing time much of the oats, wheat and other grain in present condition is totally unfit for seed grain. With our grader you can take out the light, mouldy, dirty and chaffy grain, leaving only the plump, well matured grain for seed. Grading your grain this year should save the price of our grader on the larger yield of the season's crop, and the grader will last many years. Don't take our word for it. Ask the college experts, ask the farmer who has tried it, and they will tell you we are right in the above conclusion. Write us today—write now—and get circular telling all about this simple, practical, big capacity corn grader and grain grader and cleaner—two machines in one. It tells all about its many points of advantage over other machines and the work it will do.

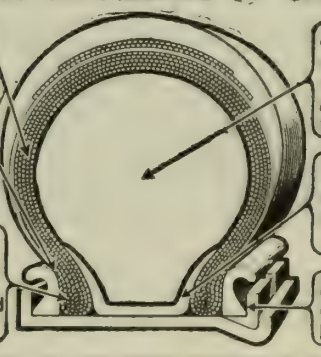
Address all inquiries and send all orders to **BERGMAN MFG., Newton, Iowa**

We guarantee our machine to be exactly as represented.

The Genuine DUNLOP

Straight Side Tire is an Ideal Tire for Country Use

6 Distinctive Points of Superiority



1st The most flexible tire on the market

2nd Absolutely guaranteed not to rim-cut during the life of the tire

3rd Held immovably to the rim by seven strands of imported piano wire

4th No tire has ever been built with a larger average air capacity than this Dunlop

5th Tube-pinching is made impossible by this special protecting flap

6th Fits any Quick Detachable Rim

Everywhere men who use their cars in cross country service are turning to the Genuine Dunlop straight side tires.

Here they have found a tire that is fortified at every possible point to withstand the extra rough service over country roads.

Country drivers want maximum flexibility in their tires—they want protection against rim-cuts and tube pinching—they want security of fastening and extra size.

The Genuine Dunlop Tire combines all of those advantages and in addition has the extra strength and durability that comes from the co-operative four-factory methods of manufacture used *exclusively* in the making of *all* United States Tires.

The Dunlop is in no sense a new tire.

It was placed on the market over ten years ago, and has been steadily gaining in popularity since then.

But remember—the Genuine Dunlop, the only tire that combines all the advantages of this type—is made exclusively by the

UNITED STATES TIRE COMPANY

Makers of the Famous Nobby and Chain Tread Tires
(Made in 3 Styles including the Dunlop)

Get Your Farm in the American Northwest

Locate in the Land of Prize Cattle and Crops Along the Northern Pacific Railway

Stay in your own home country—near to home markets and quick transportation—close to good neighbors and good schools. No isolated pioneering. More rapid development is going on along the Northern Pacific than you will find elsewhere in the Northwest.

The world's greatest prize for wheat—a $5000 tractor outfit was won by farmers in the Shields River Valley, Montana, on the Northern Pacific Ry., last fall.

The yield was 59⅓ bushels per acre from a 52-acre tract—farmed by the "dry farming" system of scientific agriculture.

An average man in Northern Pacific territory last year made a bountiful living for his family of eleven children and put $2,385 in the bank as the result of the season's yield from 40 acres of irrigated land.

There are 30 million acres of Government Homestead Land available to you for proving up under the revised and easy Homestead Law which requires only 3 years to acquire the land and allows 5 months leave of absence each year.

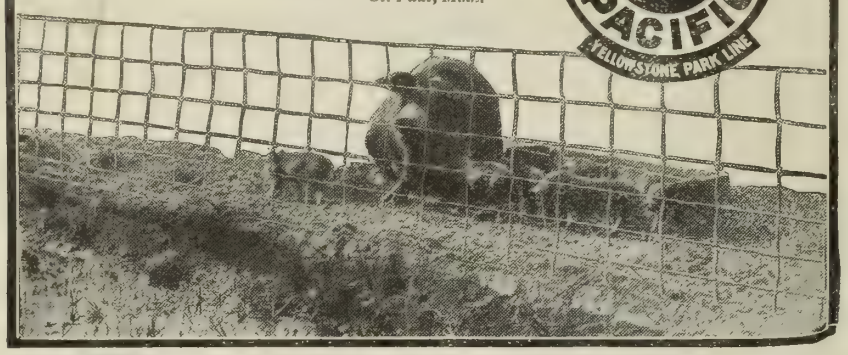
Tell us what state or section you are most interested in and let us send you free illustrated literature and particulars about low fares made especially so you can see these Great Prosperity States of America at small cost.

Ask for our Government land pamphlet.

Write today.

L. J. BRICKER,
General Immigration Agent
269 Northern Pacific Bldg.
St. Paul, Minn.

NORTHERN PACIFIC — YELLOWSTONE PARK LINE



E. Myers, President, E. Myers Lye Company

$26,500,000.00 Hog Cholera Losses In 6 Months

The above is a conservative estimate of the stupendous sum lost by American farmers during the first six months of 1912 from hog cholera alone! (Not including the **enormous loss from hog worms.**)

Now, men, let's make a mighty, united effort to put an end to this terrific slaughter—this awful waste of money. **We can do it** if we work together. **I know** we can do it. I have the remedy that **has been proved will prevent** hog cholera, put your weak hogs on their feed, **rid them of worms,** make them strong, hearty, fat and healthy. My remedy,

Merry War Powdered Lye,

is very simple and inexpensive to use and results have been **proven.**

In an interview, which was so important that it was given a full column on the front page of the Fort Dodge, Ia., Messenger, on November 7th, 1912, Mr. Collie Bowers, a prominent hog raiser in that section, says: "Last Fall I had lost twenty-six young pigs, when I was told to get some MERRY WAR POWDERED LYE and feed it with swill. Every one of the eight or nine pigs that were then sick recovered and I had no more trouble. This Fall the same sickness started after I began feeding this year's crop. I started the Merry War Lye treatment and the pigs got well. My brother used the Lye with his pigs and saved all the sick ones. Earnest Stromberg heard about the treatment and came to our house in the night to learn how to use it. We told him and he drove to Fort Dodge in the night and got a grocer up to get the MERRY WAR POWDERED LYE. His pigs all got well."

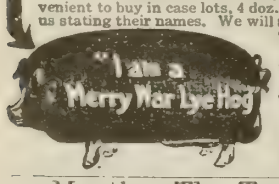
You can easily prevent an outbreak of cholera among **your** hogs, for again I say to you that MERRY WAR POWDERED LYE is the **safe preventive** of that dread swine disease. You can tell your neighbors about it just as Mr. Bowers in this interview is telling his farmer friends about it. You can in this way help to put an end to this needless and enormous money loss. Will you do it?

There Are No Substitutes

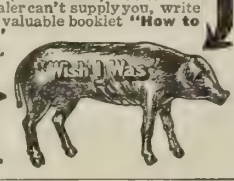
Go to your nearest dealer today and get a few cans of MERRY WAR POWDERED LYE. Don't accept an ordinary, old-fashioned lye as a substitute. To use such a lye would be but a doubtful and perhaps a **dangerous** experiment. MERRY WAR POWDERED LYE is the specially prepared lye that is **safe** to feed to hogs—that is **not** an experiment. **Insist** on the genuine.

Its wonderful merit has been **proved by experience.** Price only 10c per can **(120 feeds).** It is convenient to buy in case lots, 4 doz. cans, $4.80. If your grocer, druggist or feed dealer can't supply you, write us stating their names. We will see that you are supplied; also send you, **free,** a valuable booklet **"How to Get the Biggest Profits From Hog Raising."**

Order direct from us in case lots 4 doz. cans, $4.80, if your dealers won't supply you.



Which Kind Do You Want?



E. MYERS LYE COMPANY
Dept. 88 St. Louis, Mo.

Mention The Twention Century Farmer When Writing.

Live Stock

THE breeding of draft horses has come to be a very profitable adjunct to diversified farming, and at no time during the last fifteen or twenty years has the price been higher for good draft and heavy farm horses. While the automobile may, to a certain extent, have replaced the horse for city delivery, still the bulk of farm work is done with horses, and prices for good stock are as high, or higher, than ever. There is not the demand for medium quality and lightweight horses that there used to be, but good, smooth draft and heavy farm horses are bringing good prices. There is little reason why the farmer should not continue to raise horses of this kind, since brood mares, and stallions, too, for that matter, will produce stronger and better colts for having been kept steadily at work on the farm.

On the home farm we can raise some of the cleanest, best colts, and work the mares right along. There are certain conditions under which it does not seem to be practical to put the breeding stock into harness, but on many farms these conditions are not met. Where a farmer must rely almost wholly on hired help to drive his team, it may not be practical to put pure-bred stock into harness. If the farm boy shows an interest in horses, raise some good drafters. Put a good harness on them, and tell the boy this is his team to work, and there will be no question about the care it will get. You will find the boy, after a day's work, out currying off the horses, making sure they are comfortable.

Spring Care of Calves

The spring care of calves is a matter that should receive careful attention. Don't be tempted to stake them out in the cold and wind on the first sunshiny day in the spring, or there will be trouble. Keep them inside until along in the summer, when the grass begins to harden, so that it will not derange them and start them scouring.

The best calves are those that are started in December and never see the outside of the barn until the next July, and then only for a few hours at a time, when they are accustomed to the changed diet. A good plan to avoid the flies is to let the calves run in a yard at night and keep them in a darkened stable during the heat of the day.

Hereford Breeders Active

At a recent meeting of the directors of the American Hereford Breeder's association at Kansas City, it was decided to make an exhibit of Herefords at the Panama exposition in San Francisco in 1915. No specific appropriation was made for this purpose. Amounts were voted to the 1913 annual shows and state fairs, in about the usual apportionment.

The Hereford association is loyal to it own breeding interests, and thus becomes quite generally a good patron of all state fairs in the central west. This is one of the successfully organized and managed breeders' associations of the country, and is do-

KRESO DIP No. 1

STANDARDIZED.
EASY AND SAFE TO USE
INEXPENSIVE

KILLS LICE
ON ALL LIVE STOCK

DISINFECTS.
CLEANSES.
PURIFIES.

It has so many uses that it is a necessity on every farm.

CURES MANGE, SCAB, RINGWORM, SCRATCHES

Destroys All Disease Germs

DRIVES AWAY FLIES

Write for Free Booklets

PARKE, DAVIS & CO.
DEPARTMENT OF ANIMAL INDUSTRY
DETROIT, - - MICHIGAN

LIGHTNING RODS
9c PER FOOT

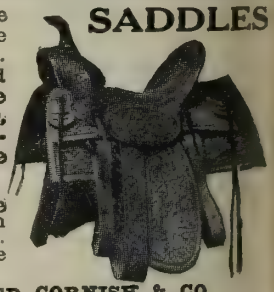
Best Quality Copper—Extra Heavy Cable
A *better* conductor than required by Insurance Companies. System complete with full directions for installing. No agents. *You* get wholesale price.

Buy Direct—On Trial—Freight Prepaid
Pay after you are satisfied. Our Rods are securely protecting thousands of farm homes and will protect yours. Write postal for FREE book on lightning protection. Tells plainly just the facts you will be interested in. Ask for it today.

The J. A. Scott Company
Dept. Z Detroit, Mich.

FAMOUS COLLINS SADDLES

None genuine without the Collins stamp. The same old saddle at the same old price, the best saddle ever made and made by the same old men that have made them for 25 years. Write for free 1913 catalog.



ALFRED CORNISH & CO.
1212 Farnam Street, OMAHA, NEB.

30% SAVED ON HARNESS

By ordering direct from factory you get the middleman's profit. Best stock used, you examine goods before paying, surely fair to you. Send for Catalogue.

CONSUMERS HARNESS CO.,
Dept. A. Chicago Heights, Ill.

Veterinary Course at Home

$1500 A YEAR and upwards can be made by taking our Veterinary course at home during spare time. Taught in simplest English. Diploma granted. Graduates assisted in getting locations or positions. Cost within reach of all. Satisfaction guaranteed.

Dr. E. H. Baldwin writes: "I took the course for my own benefit on the farm, but the success I had started me in practice and now I am going night and day. Your course has been worth thousands to me, and will be to any man."

WRITE FOR PARTICULARS
The London Veterinary Correspondence School
London, Ontario, Canada

ing a great work for the improvement of the cattle stock in every direction.

From Feed to Grass

In changing cows from dry feed to grass, in no case should the change be made suddenly, as the change may be a reduction in vigor of the animals for the time being. This results from an access of succulence in the grass. Much care is required in changing any kind of stock from winter conditions to grass without reducing the weight. Such reduction is sure to follow if the bowels become much lax. When it does it means at least temporarily lowered stamina, and this means more or less loss in producing power.

Notes of the Hog Lot

A great many breeders seem to think if they possess a pure-bred boar the quality of the sows does not count for much. This is a sad mistake, indeed, and farmers cannot be too careful in the selection of well-bred sows.

It is a fact that the pigs of large litters are usually more uniform in size and fatten more quickly than those of small litters. Here is where the good breeding of the sow comes in.

Agee's Good Sale

The sale of Duroc-Jersey bred sows held at Valley, Neb., on February 24 by the Agee Land and Live Stock company of that place brought out a very fair-sized crowd and resulted in an average of around $40. The top of the sale was lot 8 in the catalogue. This splendid granddaughter of Ohio Chief went to A. E. Agee at $67.50, and was certainly a snap. The sale was snappy from start to finish. C. B. Compton of Waterloo and A. T. Hughes of Gretna were both strong bidders on the better stuff. The offering as a whole was an especially good one and in first-class condition. Colonel J. P. Spearman did the selling in his usual effective manner. Below will be found a list of those selling for $30 or over:

No.		Price.
4	—C. B. Nickols, Valley, Neb.	$42.00
5	—Henry Meier, Elkhorn, Neb.	47.50
6	—A. R. Dodson, Valley, Neb.	50.00
7	—A. E. Crink, Elk City, Neb.	55.00
8	—A. E. Agee, Valley, Neb.	67.50
9	—S. H. Howard, Valley, Neb.	45.00
10	—John Hofeldt, Waterloo, Neb.	57.00
11	—John Hofeldt, Waterloo, Neb.	51.00
12	—C. B. Compton, Waterloo, Neb.	51.00
13	—Jake Suter, Papillion, Neb.	49.00
13	—C. B. Compton	47.00
14	—A. T. Hughes, Gretna, Neb.	48.00
15	—C. B. Compton	41.00
16	—C. B. Compton	45.00
17	—C. B. Compton	35.00
18	—C. B. Compton	41.00
19	—A. E. Agee	36.00
21	—C. B. Compton	37.00
22	—C. B. Compton	47.00
23	—C. B. Compton	30.00
24	—C. B. Compton	36.00
27	—A. E. Agee	39.00
31	—J. T. Eggers, Elkhorn, Neb.	40.00
32	—J. T. Eggers, Elkhorn, Neb.	31.00
37	—A. T. Hughes	38.00

Mulefoot Hog Association

At the recent annual meeting of the American Mulefoot Hog Record association, held in Columbus, O., John H. Dunlap of Williamsport, O., was elected president, Prof. C. W. Burkett of New York was elected vice president and Hugh Huntington of Columbus secretary. Applicants for membership are coming in from all over the United States to the association, and the future seems very bright for the association. While much interest is centered in Mr. Dunlap as the largest breeder of these hogs and one who has spent a great deal of time and money breeding them, other people throughout the land should be congratulating them at the same time. He was the first breeder to advertise the Mulefoot extensively and has made sales in every state and in foreign countries.

Sale Dates

Shorthorn Cattle

April 10—A. C. Shallenberger, Ashland, Neb.

May 7—H. S. Roper, Humboldt, Neb.

Draft Horses

March 20 and 21—North & Robinson, Grand Island, Neb.

The Backbone of the Farm

The horse is the backbone and sinew of every farm—the call for horseflesh and muscle is continuous.

This everyday utilization of tissue and muscle must be constantly repaired and can only be repaired by *digested food*. But as the horse has the smallest stomach of any barnyard animal of its size and its feed much more highly concentrated, it is necessary to invigorate and tone up the horse's digestive organs to make sure of his getting the good out of his dinner.

DR. HESS STOCK TONIC

Dr. Hess Stock Tonic contains:
Nux Vomica. Digestive and Nerve Tonic.
Quassia. Digestive Tonic and Worm Expeller.
Sulphate of Iron. Blood Builder and General Tonic.
Sulphate of Soda. Laxative and Liver Tonic.
Common Salt. Appetizer, Cleanser.
Epsom Salts. Laxative.
Nitrate of Potash. Stimulates Kidneys.
Charcoal. Prevents Noxious Gases.
Fenugreek. Tonic and Aromatic.
The above is carefully compounded by Dr. Hess (M.D., D.V.S.), with just enough cereal meal to make a perfect mixture.

is a scientific preparation formulated by Dr. Hess (M.D., D.V.S.) and composed of bitter tonics that give tone to the general system, gentle laxatives that regulate the bowels and diuretics that act gently on the kidneys. It not only gives the workhorse spirit and stamina, but it will make your cows give more milk, your steers digest more food, and its results are especially marked when fed to hogs and pigs. It relieves the minor stock ailments and expels worms.

Our proposition: If it does not give your workhorse spirit and stamina, make all of your stock thrive better, free from disease and free from worms, take the empty packages back to our dealer and get your money back. Every pound sold on this guarantee. A 25-lb. pail $1.60; 100-lb. sack $5.00. Except in Canada and extreme West and South.

FREE. Dr. Hess (M.D., D.V.S.) will at any time prescribe for your ailing animals free of charge if you will send him full details. Mention this paper and send 2-cent stamp. 96-page Veterinary Book also free.

DR. HESS & CLARK, Ashland, Ohio.

DR. HESS POULTRY PAN-A-CE-A. Your hens that are now laying eggs for hatching should be in the pink of condition, so that the offspring may have an even chance to reach maturity. Just a penny's worth of Dr. Hess Poultry Pan-a-ce-a will feed thirty hens, which will insure red combs and plenty of hen music. It will make your hens lay, it will insure health in your poultry flock, excellent for little chicks, prevents those little bowel troubles and complications, also prevents and cures gapes, cholera, indigestion and the like. 1½ lbs. 25c (mail or express 40c); 5 lbs. 60c; 12 lbs. $1.25; 25-lb. pail $2.50. Except in Canada and extreme West. If your dealer cannot supply you, we will. Send 2c for Dr. Hess 48-page Poultry Book, Free.

INSTANT LOUSE KILLER KILLS LICE

HORSES AND MULES

PERCHERONS BELGIANS SHIRES

ONE OF THE OLDEST AND LARGEST IMPORTERS IN AMERICA

Our horses are big, smooth flat-boned fellows, with great quality style and conformation. Will please the most critical. Prices reasonable. Satisfaction guaranteed. Letters from hundreds of satisfied customers and big illustrated catalog mailed free.

Watson, Woods Bros. & Kelly Co.
BOX 3 LINCOLN, NEB.

RHEA BROS.' ACCLIMATED PECHERONS

We have 40 Stallions on hand today that we are selling at very reasonable prices. If you are interested write us or come and see them.

Reference—Packers Nat'l Bank, So. Omaha; Arlington State Bank, and First Nat'l Bank of Arlington, Neb. On main line of C. & N. W. R. R., 34 miles N. W. of Omaha, 55 miles north of Lincoln and 8 miles east of Fremont, Neb.

RHEA BROS., - - ARLINGTON, NEB.

FAIRVIEW FARM

Percherons, Belgians, Shires, Mammoth Jacks and Jennets

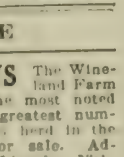
SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets—in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS, STALLIONS AND MARES.

I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. **W. L. DeCLOW, Cedar Rapids, Iowa.**

PERCHERONS



3 coming 4 2 coming 3, 2 coming 2-year-old stallions; gray, black, blue roan; home bred; registered P. S. A.; heavy, well grown and sound. Just east of Omaha. Fred Chandler, R. 7, Chariton, Iowa.

JERSEY CATTLE

WINELAND FARM JERSEYS The Wineland Farm herd of Jerseys contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

HOLSTEIN-FRIESIAN

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers..... } Just being bred to a son of a 24-pound dam
50 1½-year-old heifers..... }
100 2 to 2½-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912
100 2½ to 3-year-old heifers..... }
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.
A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dotes, Dept. B, Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

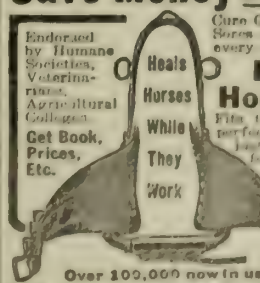
We have several good sires of Kalmuck, Skylark, Johana and of King Segis Lyon for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Save Money and Horses

Endorsed by Humane Societies, Veterinarians, Agricultural Colleges.

Get Book, Prices, Etc.



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Humane Horse Collar

Fits the horse's shoulder perfectly at all times. Adjustable one hour does for all horses or mules, ranging from 1 to 2 in size. Does away with harness and sweat pads. Saves time. Lightens draft. Write for FREE BOOK. Horse Collar Booklet giving prices and testimonials from users.

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DUROC-JERSEY HOGS

DUROC-JERSEYS

[illegible] spring and all are good boars and [illegible] Will [illegible] at Fairfield, Neb. [illegible] Duroc-Jersey [illegible] lutely the best conditioner on the market. Try [illegible]

RED POLLED CATTLE

Bulls [illegible] Price right. W. J. Schwab, Clay Center, Neb.

O. I. C. HOGS

[illegible] C. S. BENJAMIN [illegible] Portland, Mich.

CALVES Raise Them Without Milk
The Nebraska Seed Co., Omaha, Neb.

Only One Kind of Paint Fits This Climate

If the paint you use is not made to withstand the degree of moisture—the exact climatic conditions—in this section, you may expect it to crack, check and peel off.

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Lincoln Climatic Paint

Made of four formulas—each to meet a particular climatic condition, whether damp, medium, dry or very dry.

The symbol on a can of Lincoln Climatic Paint shows the kind of climate it should be used in. Write today for the

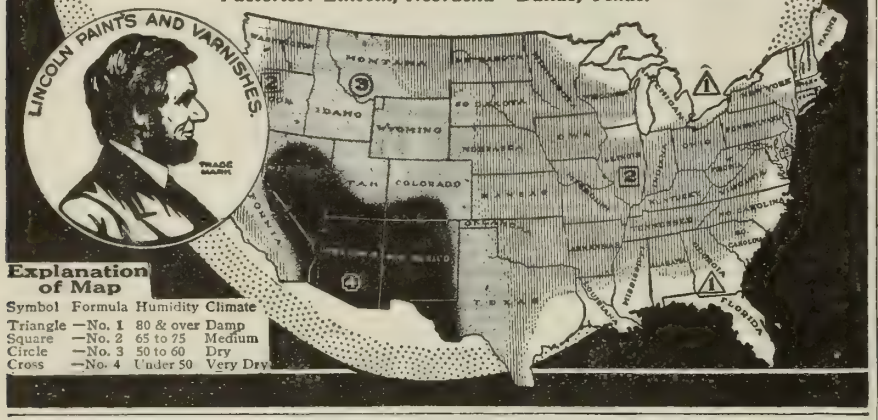
Lincoln Climatic Paint Book **Free**

telling why and how climate has everything to do with the durability of paint. Also ask for new free booklet, "Home Painting Jobs—How To Do Them"—showing simple, inexpensive ways of beautifying the home and lightening labor by the proper use of paints, enamels, etc.

Ask your dealer for Lincoln Climatic Paints, Lincoln Floor Paints, Lincoln Enamels, Lincoln Carriage and Automobile Paints, Lin-Co-Lac for interior finish and furniture, Lincoln Walamo for giving walls a fine, washable flat finish.

The Lincoln **Standard of Quality** is found in these and all our other paint specialties.

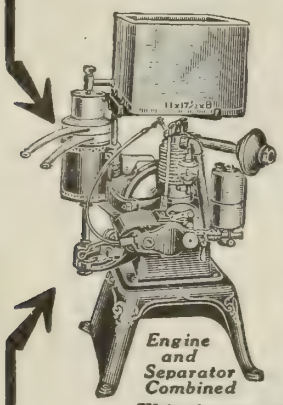
Lincoln Paint and Color Company
Dept. 86 **Lincoln, Nebraska**
Factories: Lincoln, Nebraska—Dallas, Texas.



Explanation of Map

Symbol	Formula	Humidity	Climate
Triangle	—No. 1	80 & over	Damp
Square	—No. 2	65 to 75	Medium
Circle	—No. 3	50 to 60	Dry
Cross	—No. 4	Under 50	Very Dry

"AUTOMATIC" CREAM SEPARATOR Magneto Equipped



This is our latest improvement. Protects ignition of the little gasoline engine even better than the battery and coil system hitherto used with excellent results. The "AUTOMATIC" is now more automatic than ever. Not even a battery to renew nor a coil to adjust.

The Engine is a Little Wonder

It is only a ½ horse power but has double the capacity needed. Compactly built into the separator itself. Starts dependably, by the simple pulling of a cord. The engine will do any work on the farm that man power can do. And it won't balk. The self regulating gasoline feed keeps it running, whatever the atmosphere or load.

It Runs for Hours Without Watching

There is nothing to watch but the fuel supply, and that is good for a six hours' steady pull. The "AUTOMATIC" requires no cranking. It skims while you milk. And it skims closer than can be done by hand power.

Write for our catalog A No. 17. It is filled full of practical facts about the use of gasoline power in a cream separator. This is information which every up-to-date dairyman should have.

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Chicago New York Kansas City San Francisco New Orleans Toronto

Live Stock Market

By A. C. Davenport

THERE has been a good deal of sameness in the live stock markets of the country during the last two weeks or more, in fact, during the greater part of February. Very few features new to the trade were developed, business having been conducted largely on the strength of conditions well understood weeks ago. Prices fluctuated to some extent, but recent changes have been small and of no very great importance to the trade in general.

Cattle receipts of late have been somewhat more liberal, so much so, in fact, that the shortage in the receipts at the five leading markets of the country has been wiped out, leaving the total for the first two months of 1913 practically the same as for the corresponding months of last year. Large receipts gave the packers an opportunity during the middle of last week to break the market 10@20c or more, but as receipts decreased almost immediately as a result of the break, the market recovered the lost ground during the later part of the week. Thus, at the close, prices on all kinds of cattle were fully steady with the previous week and as high as they have been any time this year. Beef steers are perhaps the highest that they have been thus far in 1913. This means that current prices at present writing, considering that very little else than short fed cattle are coming to market, are very high.

While occasional breaks are to be anticipated as often as receipts become large enough to make it possible for the packers to take the bear side of the deal, most traders are decidedly bullish in their ideas. This does not mean that everyone is anticipating a big advance in the market, but it does mean that no one is looking for a permanent break in prices. A good many operators are willing to admit that prices are already very high and that it is hardly necessary for them to show any very great improvement above what they already are in order to make it a bull market. Still a considerably higher market would not be in the nature of a surprise. Conditions are generally regarded as favorable for higher prices so far as the supply of live stock is concerned, but it is recognized generally by the trade that there is a limit to the purchasing power of the people and that the future market must depend largely upon how high consumers will go before limiting their purchases of beef.

Hogs have been in fair receipt during the last wek or more, but still there is a shortage in receipts at the five leading markets of over half a million head for the two months as compared with a year ago. Packers have consistently followed bear tactics trying to hold the market down, and have raided it as often as receipts have proved at all liberal. Their efforts have been crowned with success to the extent of bringing about temporary breaks, but the market has shown great vitality, going a little higher after every break than it was before. At the close of February, hogs are selling the highest for this season of the year since 1910, when the average price during the last week of the month got beyond the $9.00 mark.

No change of any great importance has taken place in the market for sheep or lambs, although there has been a slightly lower tendency to the lamb market and a slightly upward tendency to the sheep market, due to the large supply of lambs and very moderate supply of sheep. For the two months the five leading markets show a shortage of about 100,000 head as compared with last year. It is now safe to say that the small feeders of the country, especially those west of the Missouri river, are pretty well sold out. This leaves the Missouri river markets largely dependant for future supplies upon Colorado and northwestern Nebraska, where all reports agree there are more lambs on feed possibly than ever before.

As pointed out before in these columns, the feelings is not very strong as regards the future of the lamb market. The price during February reached as high as $9.00 at the river, which from a consumer's standpoint is altogether too high and which in consequence caused a rapid shrinkage in the consuming demand.

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The day of the skyscraper Silo is here. No Silo too high for the Smalley! When George Crow, of Hutchinson, Kan., got ready to fill his big 60-ft. Silo he promptly sent for a **Powerful "Smalley"** and patented chain-drive **Blower** to do the cutting and filling. When **C. I. Cook**, Menominee, Mich., wanted to fill the four biggest Silos in the **U. S.** he got a **Powerful "Smalley."**

Real business farmers like Mr. Crow and Mr. Cook have no time to fool with the old **slat-apron** type of machine. They want this **force-feed chain-table, grip-hook** kind, made by Smalley only. Thus they save a **tremendous** amount of work and do a **quicker, cleaner** job. No coarse, uneven silage. All **uniformly cut.** Which means greater tonnage per silo.

POWERFUL SMALLEY FORCE-FEED SILAGE CUTTER

not only handles **green** silage, but is also a wonder at cutting **dry feed.** Handles alfalfa, for instance, **to perfection.** Letters in catalog prove it. Many farmers use their **Powerful "Smalley"** to cut **corn** in the **fall** and **oats** and **peas** in the spring for feeding when pastures dry up in July. Only one drive pulley on Blower outfits. No Idler to bother with. Ten per cent steel guaranteed in all foundry castings. No oiling by hand—hard oil cups on all important bearings.

You won't know what a **real** Silo Filler is till you've seen the **Powerful "Smalley"** or had the Smalley Catalog. Why not send a postal this minute for the latest Smalley Catalog and learn about the Silage Machine that four out of five silo owners now use? Write **now** and you'll get this fine, useful Book by **return mail.**

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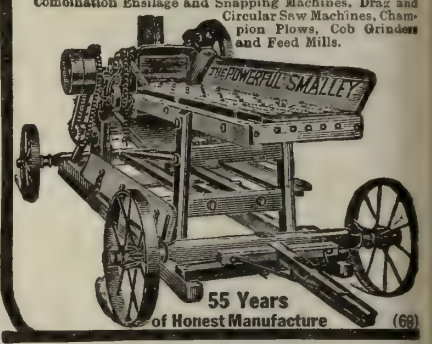

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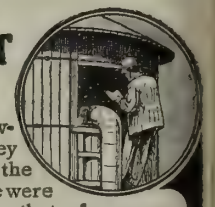

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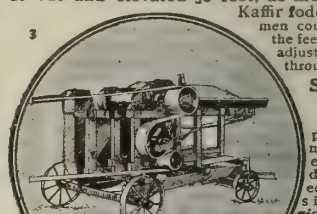

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140 Chicks from 140 Eggs

This World's Championship Record is not uncommon with users of my **Belle City** incubator. Many are doing this right along. The United States government is one of my 201,840 **Belle City** users. Make **Sure** of **Success** by using my **proof-backed Belle City.** Write me for all of the proofs or order direct from this ad. Jim Rohan, Pres.
Belle City Incubator Co., Racine, Wis.

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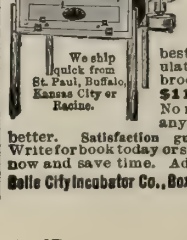

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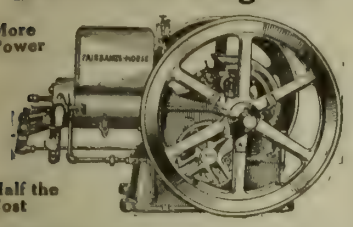

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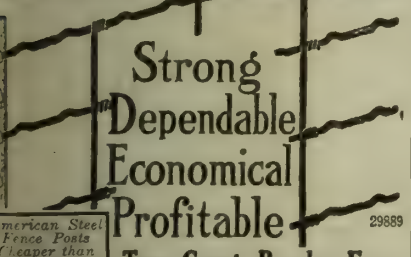

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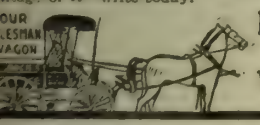
If you are ambitious for a business all your own, write for our plan—we will explain everything in detail. Many are making big money every week under our direction and plans of **Modern Merchandising.** You can do the same—this is your opportunity—take advantage of it—write today.



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Twentieth Century Farmer

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Fourth Annnal Nebraska Conservation Congress

(CONTINUED FROM PAGE SIX.)

admonished them all to go back to the farm and stay there and lease the farm, if need be, on the long term lease, and on such terms as would require all the fertility of the farm to remain on the land. He complimented the girls of Nebraska for their fine, healthy appearance, but cautioned them in mating to look up the pedigree of the man they marry and see that he comes from a good line of ancestry. He regards the pedigree of the human family of vastly more importance to the boy and girl than that of the barnyard animal.

J. B. White, the millionaire lumberman of the south, was a guest of the congress and addressed several of the meetings. Mr. White is a genial, hard sensed man. He has a history that if put into book form, would make one of the best educational guides for the boy or young man that could possibly be developed from a life history. His is a lumberman's life, from the time he was 19 years old, newspaper publisher, politician, etc., but never deserting the saw mill for any side issue. He is called the millionaire lumberman of Kansas City. He says he never works, yet is never idle. He is so much in earnest in all his undertakings that labor to him is not work. He is a large man, physically strong, mentally balanced, with his body in activity and power. He is a giant in capacity which he has demonstrated in his system of business and accumulation in an occupation that means industry and good management. He is so sentimentally opposed to the use of tobacco that he never hires a hand that uses it, nor keeps in his employ a tobacco user. His talk was an admonition to the man and women, boy and girl, to do right and conserve health and character.

A Fact Not Generally Recognized

This famous conservationist said: "Conservation is a matter of individual saving All costs fall finally upon the ultimate consumer. When you buy a hat you help to pay the merchant's insurance. When an American city burns, it is the loss of the nation, not of the insurance company, a fact that is not as much recognized as it is true."

Mr. White assured his hearers that there will be no dearth of lumber. There are so many substitutes now coming in to take the place of timber. Timber can now be raised in fifty years. Trees are like any other crop and the land growing them should be treated as land growing crops and there should be legislation passed favoring the growing of such crops.

Lack of Home Ventilation

Dr. W. A. Evans, former health commissioner of Chicago, delivered several fine addresses, distributing his time around among different divisions of the congress. His strongest effort was against the lack of ventilation in the home, especially in the sleeping apartments. He asserted that there is now more consumption and tuberculosis on the farm than in the city, due to being cooped up in poorly ventilated sleeping rooms "Ventilation is the most important of all means of conserving health."

"The Church the Social Center" is practically the substance of the religious discussion that was held in the religious division. This seems to be the big question, not only in the country church, but in the village the church is rapidly drifting toward the same ruinous rocks by the force of the same tidal wave as the town and city church.

Officers Elected.

The following officers were elected:

W. G. Whitmore, Valley, president.
S. C. Bassett, Gibbon, secretary.

Mrs. H. L. Keefe, Kimball; Mrs. F. E. Heald, Osceola; C. H. Cornell, Vice-pres.; S. P. Delatour, Lewellen; William Dyas, Tecumseh; J. A. Otis, Ord and E. P. Wilson, Chadron, vice presidents.

The following executive committee was elected:

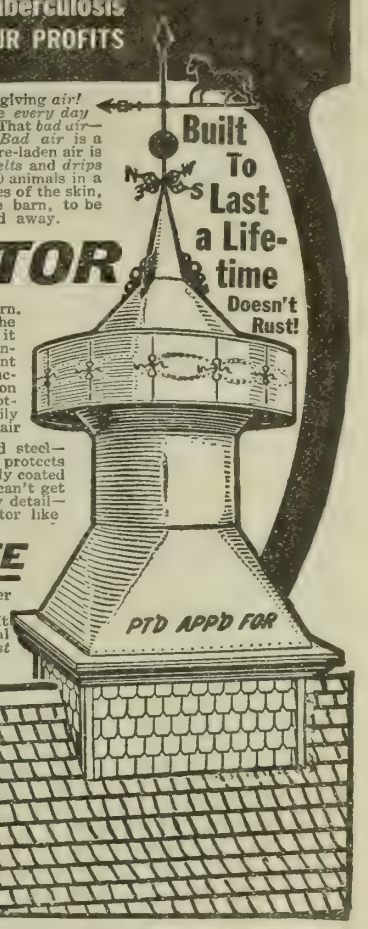
G. E. Condra, Lincoln; V. E. Wilson, Stromsburg; T. P. Kennedy, Omaha; Mrs. Cole, Omaha; Mrs. S. L. Gilbert, Lone City; Andrew Young, Crete; W. B. Rhoades, Union; Dr. W. H. Wilson, Lincoln and E. A. Burnett, Lincoln

On YOUR Barn So Your Stock Can Breathe Fresh Air

Prevent Tuberculosis
BOOST YOUR PROFITS

YOUR cows, horses and other stock *must* have fresh, pure, life-giving *air!* Every horse and cow gives off *10 pounds* of invisible moisture *every day* full of *poisonous carbonic acid gas*, full of *unhealthy heat!* That *bad air*—must be carried away *quickly* and replaced with *fresh* air. *Bad air* is a breeding place for germs and disease—*tuberculosis!* Foul, moisture-laden air is what forms *frost* on the ceiling and inside of roof—frost that soon *melts* and *drips over everything*—keeps your barn damp, unsanitary, *dangerous.* 40 animals in a barn means a *barrel of moisture* coming out of the lungs and pores of the skin, with the foul air, *every day!* And *all* that moisture is *kept* in the barn, to be breathed and exhaled *again* and *again* by your stock, unless carried away.

The KING AERATOR



solves the problem of *correctly* ventilating your barn. It is absolutely automatic in action. Draws out the impure air and the moisture it holds, replacing it with fresh, pure dry air—without drafts. It insures the health of your stock—helps prevent tuberculosis, etc. It means a bigger milk production—more beef on your cattle—more muscle on your horses. It saves feed money—prevents rotting of barn—saves doctor bills for yourself and family now caused by going into damp barn full of germ-laden air

Lasts as long as any barn. Made of heavily galvanized steel—washers, bolts, braces screens—*all galvanized.* Shape protects the King against most severe wind pressure. Beautifully coated with alumimum. Screens keep birds out. Snow or rain can't get in. Built along scientific lines—absolutely correct in every detail—every feature protected. No one else can build a ventilator like the King Aerator.

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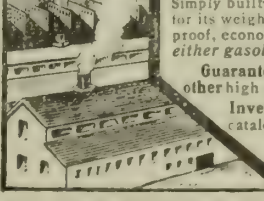
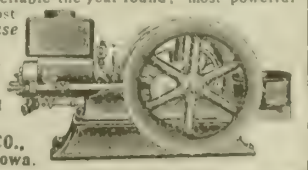
has many strong points of merit not possessed by any other engine. Simply built—a woman or child can operate it; reliable the year round; most powerful for its weight and rating; automatic in action, frost proof, economical and durable. *Equipped to use either gasoline or kerosene.*





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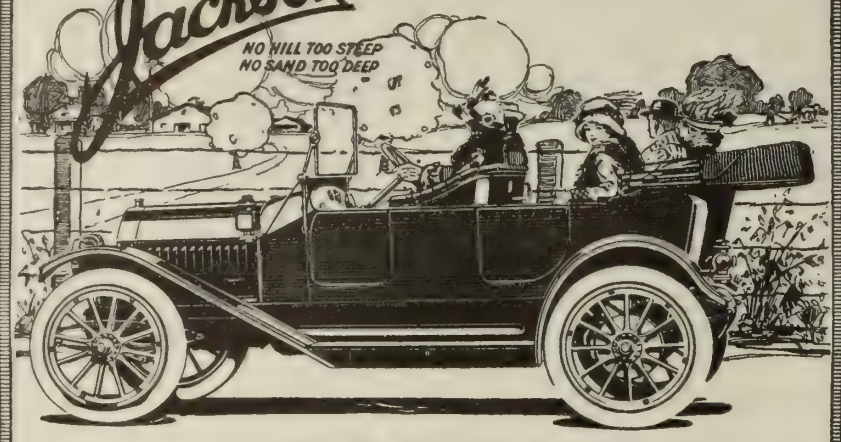
The Saginaw stands alone and unassailable as the Silo of Silos. No other can even be mentioned in the same breath. It's built to last a lifetime. And every part of Silo is that goes into Saginaw is treated bright and clean. That's why better farmers all over the country are using Saginaw Silos.

Write! Our latest Silo Book is ready for you. It tells why experienced Dairymen and Stockmen everywhere are putting up Saginaws. Read what they say. Let us tell you how you can get a Saginaw now by paying for it out of the returned profits. Write us today. Write us now. Write us before you forget it. Write us for the Silo Book. Write us for the Silo Book. Write us for the Silo Book



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35 H. P. four-cylinder touring car, completely equipped. Electric starter and lights are optional, at an extra cost of $225.

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You've made up your mind that you want comfort in your car this year.

And you know the Jackson has always been a comfortable car.

In view of this reputation, and the experience back of it, we believe we are justified in saying that this year—more than ever before—the Jackson stands first among easy riding cars.

This experience goes back eleven years in the automobile industry; and twenty years farther in the carriage building business.

There we learned the value of full elliptic springs; so we use four on every Jackson model.

There we learned that high seat backs and soft thick cushions are easiest riding; so we build Jackson seat backs to shoulder height, make the cushions 10 inches thick and tilt them a trifle toward the rear.

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Our engineers do their share toward comfort by determining the right weight and balancing it correctly; by providing enough power, and a reserve; by designing a mechanism that is silent, faithful and durable.

Comfort has been a hobby with us for years; and we give you the maximum result of our experience and study and experiments in these Jacksons.

Write today for his name and the handsome new catalog.

Have the Jackson dealer give you a ride over your own roads.

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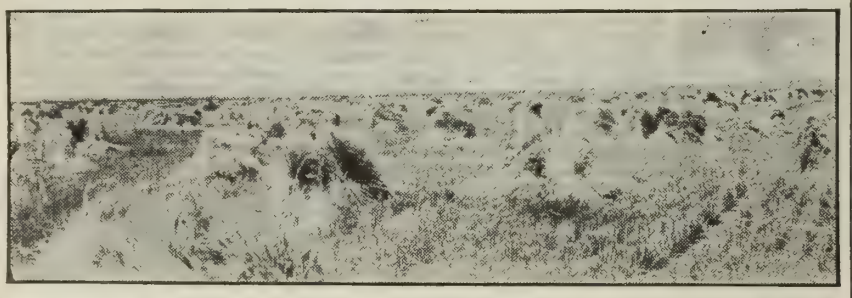

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or write Superintendent of Immigration, Ottawa, Canada.

Economical Method of Harvesting Corn

(CONTINUED FROM PAGE FIVE.)

effects of a monopoly in its power to set the prices of silos where it pleases. If this is true, the farmers have only themselves to thank for it. Co-operation in any branch of industry will put an end to extortion. High price is no argument against the silo. The silo at present prices is profitable. Some enthusiasts claim that any silo will pay for itself in one season and leave a margin of profit besides. But if it pays for itself in two seasons, reckoning on the food value, it would still be enormously profitable. And still there would be the manurial value to figure into the account.

The ordinary purchaser of a silo ordinarily demands in it better material than he has in his own house furniture. It must be tank stock of the very first quality. There must be no knots and no sap in the wood. It must be clear and straight-grained, the finest quality of lumber that it is possible to buy. Now this is clear economic foolishness. No one builds a barn or other outhouses of such expensive material, and there is no reason why he should insist in having it in silos at such a great expense. There are some silo manufacturers who build silos for their own use out of material that their customers reject. Of course, if a man has money to spend, and can afford to pay for such material, he might as well spend it in silo stock as in any other form of luxury. But it is not necessary. Any lumber that is good enough for barns or any other outbuildings is good enough for a silo. Farmers reject a piece that has a knot in it, not knowing that the knot, with the surrounding wood tissue, if the knot is sound, will outlast and outweather the rest of the piece in which it was found. If the farmers would content themselves with a lower grade of material they would be able to command a lower price.

Silage Helps Out the Pasture

Silage is not merely a winter feed. Perhaps its chief value lies in the fact that it affords an abundant succulent feed during the heated periods when the pastures are brown and bare and afford very little nourishment. These pastures lose their value just at the time when it is most needed; when the live stock need special nourishment to sustain them in their conflict with various pasture insects. Here is where silage plays one of its important roles. The live stock may be shielded in the barn lot or in the sheds during the daytime, when insects are most active; they may receive there an abundance of appetizing and nourishing silage, and be turned out at night upon the pasture, where they will be free from daytime pests. The effect of such a method as this upon production, either of dairy products or of beef products, cannot be overestimated.

Silage Not for Cattle Alone

It is generally supposed that silage is fit food only for dairy cattle. How such an idea ever arose is difficult to see. It is an ideal food for all kinds of live stock Like any other food, it should be fed in limited amounts, according to the necessities of the animal to which it is given. Horses thrive upon it; beef cattle produce with it better than with any other form of roughage. Sheep make adequate and economic use of it; hogs and chickens will eat it in small amounts. Let no one ever think of putting up a silo simply for hogs and chickens; it is a universal, all-around roughage for live stock—succulent, appetizing and productive. It is said that when all items of expense are figured into the account, silage, the best carbohydrate roughage that is known, can be produced at $2 per ton. This makes it the cheapest ration of its kind to be found. No hay, equal in nutritive value, can be had for any such sum as that.

As already has been stated, silage is principally a carbohydrate ration—that is, it is a heat, energy, fat-producing food; it does not furnish the animal with the proper supply of muscle, bone, nerve-building food. It should be supplemented by the use of some protein roughage, such as alfalfa, clover or any other leguminous roughage. When used in this way, the greatest and most economic results are obtained.

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T W

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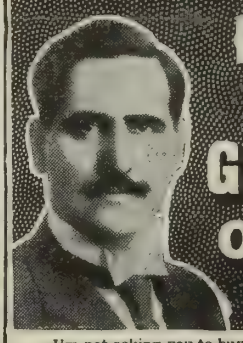

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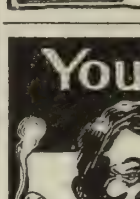

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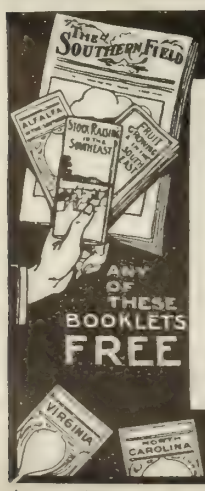

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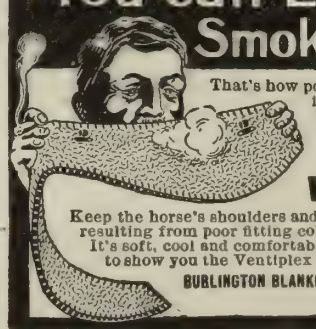

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Prattle of the Youngsters

Elmer Knew

Teacher—Elmer, you may define the word, "respect."

Little Elmer—It's the feeling one kid has for another what can lick him.

Not a Matter of Color

Grocer—What kind of tea do you want, little girl—black or green?

Little Girl—Oh, it doesn't matter. Papa and mamma are both color blind.

What He Got

Little Girl—What'd you get for Christmas?

Little Boy—A lot o' toys, an engine, whole lots of candy, nuts an' cake, an' a dose of castor oil.

Musical Appreciation

Big Sister—I do hope papa will take me to the concert. I'm so fond of music.

Small Brother—Then why don't you never let me play my drum in the house?

It Paid

Father—Willie, why are you so naughty?

Willie—'Cause mamma gives me a nickel every time I promise to be good, an' she never asks me to be good 'less I'm naughty.

An Open Countenance

"Tommy," said the visitor, "I hear your father gave you a new watch for your birthday. Was it a hunting case watch?"

"No, ma'am," answered Tommy. It was a bare-faced watch."

A Good Medicine

Mother—Johnny, did you take your cough medicine regularly in school, as I told you?

Johnny—No'm; Tommy Rodd liked it an' he gimme an apple for it.

Disposed of the Family

"I ate a worm," said a little tot in the kindergarten. The teacher, thinking that perhaps the child had really done such a thing, protested warmly over the undesirability of the proceeding.

"Why, just think," she said, as a final argument, "how badly the mamma worm felt to have her little baby eaten up."

"I ate she's mamma, too," was the triumphant rejoinder that proved too much for the teacher.

Kipling Endorsed.

A quick-witted Chicago youngster, convicted of some childish fault, was mildly reprimanded by his father. His mother, on the other hand, considered the offense serious, and the well-scolded lad presently found himself en route for bed in the day time. From the safe vantage of the upper landing he fired this parting shot:

"It's true enough, evidently! The female of the species is more savage than the male!"

An Old Prescription.

"Mother," asked John, "did Moses have the same indigestion as father has?"

"Why, John, What do you mean?"

"Well, it says in the Sunday school lesson that the Lord gave Mosses two tablets."

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Series of Articles on Co-operation

FARMERS must get together, work together, and act unitedly in sufficient mass to demand attention and receive their just deserts.

The farmers feed and clothe the world. If they should act together they might have the world at their feet, begging for food and clothes.

Farmers will not unite, in very large numbers, in any co-operative movement until they have learned by actual, personal experience what benefits co-operation is sure to bring them.

Next week we will begin the publication of a series of articles upon co-operation, which will explain and exemplify both methods of co-operation and the benefits to be derived from farmers getting together and acting unitedly.

The Twentieth Century Farmer will give its readers the best that can be gathered from experience and observation handling the subject from the standpoint of the farmer. The products of the farm should reach the consumer by as direct a route as possible. This means the useless middleman should be eliminated.

Bright and Breezy

A Good Indication

Lawyer—What is the defendant's reputation for truth and veracity?

Witness—Good.

Lawyer—What do you personally know about him?

Witness—Well, he was always the last man in the neighborhood to see the first spring robin.

Patrick of the Left Hand

Pat, who was left-handed, was being sworn in as a witness in the West Side court of Denver, Colo.

"Hold up your right hand," said the judge.

Up went Pat's left hand.

"Hold up your right hand," commanded the judge sternly.

"Sure and I am, yer honor," declared Pat. "Me right hand's on me left-hand side."—Woman's Home Companion.

Had Changed the Water

He had asked an unsuspecting friend to take a cross-country walk, and had picked a route that ran through the long-unvisited scenes of his childhood. His fond recollection presented every last one of them to view—the orchard, the meadow, the deep tangled wildwood and every loved spot which his infancy knew. Finally he pointed to a very small mud pond.

"Would you believe it, when I was a boy I used to bathe in that mudhole?"

"Yes," answered his friend, wearily, "and it doesn't look as though they had changed the water since."

A Tight Place.

Colgate Hoyt, jr., at a dinner in New York, told a story about Washington.

"When Colonel Lee," he said, "was getting up a subscription for a monument to the Pater Patriae, he called on a certain rich man.

"But the rich man refused to subscribe.

"'No, sir,' said he. 'I see no necessity for a monument to Washington. His fame is undying, sir He is enshrined in the hearts of all his countrymen.'

"'Is he enshrined in your heart?' asked Colonel Lee.

"'He is, sir.

"'Then all I have to say, replied the colonel, 'is that he is in a tight place.'"

Vic Murdock Followed Copy

Victor Murdock, the red-headed Kansas representative and editor, does not speak French. His wife and daughter are abroad Recently, when near Paris, they wrote to the head of the family. In the letter they said their address would be found printed on the envelope

Mr. Murdock took their word for it, and addressed his reply as per instructions. He "followed copy" down to the period. In his wife's answer he got a translation of what he had written. This was it

"Madam Victor Murdock, Hotel Grand Prix. Every room with bath. Situated in large park. Tramway cars alongside. Has good cafe menu. Prices moderate. Means melon, near Paris. Figure."

And the best part of it (but it is true

Attractive Entrance Road to the Ellmendorf Farm Near Lexington, Kentucky

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

New Spirit in Farm Life Quite Evident

How the Automobile Contributes to Efficiency of Labor and Joy of Living

SOCIOLOGY presents no more interesting or profitable study than the study of the conditions and causes that have resulted in the change—a change so marked as almost to constitute a revolution—in the conditions that are most osely related to agricultural efficiency and to gricultural life. It has been demonstrated hat the quality of a man's work reacts upon e man himself; that the kind of ork that a man does is one of the rincipal elements that determine hat kind of a man he shall be.

In the early days of agriculture roughout this territory, the work as principally done by mere muscur effort. No one can measure the utalizing effect of mere muscular bor upon the man that exerts himlf in no other way. When a man's ntire energy is consumed in unreitted, unrelieved physical toil, there nothing left to enable him to exrcise his mind, or to develop social tivities, or to learn how to live, to ake an art of living. The man hose energy is given exclusively to e grinding necessities of unremitng toil is thereby excluded from the ssibilities of life, higher in quality, ore elevated in aim. It will be difcult, unless this condition of affairs changed, to raise such a man very igh above the level of the brut reation.

In the early days, the haying on e farm was done exclusively by nd. The grass was mowed with a ythe, was raked by hand into windws, shocked by hand and handled hand. At harvest time the grain as cut by hand, bound by hand and reshed by hand. Most of the lar of seeding and of cultivating the ops was done by hand. The hoe as at first the only implement in e cultivation of hoed crops., Later me the double shovel with a single rse used for the cultivation of rn It is not strange that, doing ost of his labor by hand, driven to e extreme of physical endurance by e necessity of providing for himself nd his family, that the farmer did not develop is intellectual powers, did not become a free, ndependent, original thinker. His energy was xhausted in other channels. There was no urplus left out of which he might cultivate and evelop the humanizing side of life. Now all his condition of affairs is largely passing by. It ould be a difficult matter today, except in rare nstances, to find the kind of man upon our arms typified by the "man with the hoe." The hange is so marked as to amount virtually to a revolution in domestic and industrial conditions.

This change is strikingly demonstrated in the changed attitude that the ordinary man sustains to political matters. A few years ago the floating vote was the most disreputable vote cast at election time. Today, the floating, independent vote represents the best there is in universal suffrage, because it is a self-poised, self-reliant, independent, individual vote. Past masters in political manipulation fail utterly to grasp the significance or the reality of the change, and do not see how to adapt themselves to the new conditions.

The same is true of all the commercial activities that bear relation to farm life. In the early day the farmer knew nothing about market values, thought nothing about them, paid whatver margin of profit was demanded by the retailer, regarded relief from the exactions of the retailer as impossible, grumbled, then submitted. Today the average farmer knows market values as well as the average merchant, takes advantage of this knowledge to relieve himself from petty exactions by buying his goods, when necessary, in other than the local markets. So, in all departments of farm life, there is a new, more energetic, more enterprising condition. The mean, brutalizing drudgery of toil is giving way to higher forms of human effort, that increase efficiency, and at the same time increase profit.

What agency has wrought this change? In a broad sense, it may be stated that change in methods of labor is responsible for the change in the conditions of labor. Horse power first supplanted hand power. The farmer of today uses horses where he formerly merely used his hands and his back. He has taught his brain to help out his muscles. His hay is cut by horse power, raked by horse power, loaded by horse power, unloaded by horse power. His harvesting is done by other than human power. This lifting the load from his muscles has given his mind a chance to develop. He has used the opportunity thus afforded. He has begun to think for himself; to use brain, where formerly only brawn was used.

The substitution of horse power has given to the manufacturers of modern farm implements and machinery the opportunity for assisting in this development of farm life. By the use of improved machinery, the farmer has been enabled better to plant and tend and harvest his crops than was possible under the old order of things. The manufacturer of modern farm machinery has been a most efficient agent in developing, elevating, sweetening and ennobling farm life. The farmer has taken advantage of the respite afforded by the use of modern farm machinery, to develop other capacities and other powers.

The rural free delivery, which has increased almost beyond computation the circulation of newspapers upon the farms, has furnished him food for thought, of which he has availed himself. He is no longer the subservient slave of conditions he was helpless to change. He has become independent, not only in thought, but in action; has devised new ways of doing old tasks more easily. The agricultural colleges have taught him the principles of a better agriculture, and he has been, through the relaxation of mere physical toil, given the opportunity to study the natural laws under which he operates,

(CONTINUED ON PAGE TWENTY-SEVEN)

An Automobilogue

The auto stood beside the road—all mournfully it stood,
With wheels a-limp and sorrow in the drooping of its hood.
"O woe is me!" it gasped and wept, and "Woe is me!" once more.
"Injustices of many sorts have cut me to the core.

"They take me out to have a ride—and suddenly, alas!
They find that through an oversight I haven't any gas.
Who gets the blame? Do they themselves? That's how the case should be;
But, on the other hand, they hoot and howl and curse at me.

"Ahead of me I see a place where glass is on the path—
A puncture comes, and instantly there is a time of wrath,
Instead of censuring the one whose duty 'twas to see,
They curse the tire man, curse the tire, and double-dash-blank me!

"Transmission troubles will occur, unless ere they commence
My owner exercises care and likewise common sense;
But what cares he? The clutch gives out and all that he can see
Is just another chance to put the guiltiness on me!

"My carbueter gets choked up, a cylinder will miss—
My owner tears his hair and yells, 'What do you think of this?'
He yanks me with a monkey wrench and howls aloud that he
Has never seen a bunch of junk that ever equaled me!

"He lets me skid; he will not feed me properly with oil;
He overlooks the water and then I begin to boil—
And does he then condemn himself? Not much! In raucous key
He uses all his cuss words in some brief remarks at me.

"I wish I were a horse or mule, for then I'd get some care,
But autos have to stand for all the evils they can bear."
The auto wept again and said: "Here comes my owner—he
Is stuck because of his own fault. The blame will come to me."

—W. D. Nesbit in Collier's.

Map Showing Tentative Locations for a National Highways System

Explanatory Note for Highways Map

The above map gives an outline of the National Highways system proposed by the National Highways association. It will be seen that there are three main trunk lines running east and west. These are marked Nos. 1, 2 and 3, representing, respectively, the northern, the central and the southern line. There are also three main north and south lines, Nos. 4, 5 and 6, which represent, respectively, the Atlantic, the Mississippi and the Pacific north and south main lines. Other proposed subordinate link lines appear on the map, and may be readily traced, although they are not numbered. If this system shall be adopted, it will be worth while to preserve this map for reference.

Road Building Financing and Supervision

By John N. Edy

THE financial end of road building and the organization that will supervise the expenditures are of the utmost importance to the community.

Suppose, for instance, that your county has decided to build a new court house or jail building. Do your commissioners design the building and "boss" the erection, while the citizens pay their portion of the costs in labor?

Or, choosing a better illustration, suppose it is proposed to increase the value of certain low land by building drainage canals. Do the taxpayers each dig a portion of these canals, of any shape, depth, grade and length that they choose? That's the way our highway work has been handled. We would never think of spending the county funds for buildings or drainage as suggested above. But road building is a different thing, you say. Your merchant—or farmer—commissioner hesitates to tell you how to build the court house, or the drainage canal, but he is right at home when it comes to building roads. Now, isn't there truth in that statement? Surely you can see that it is the wrong way. You very probably have only a small fraction of the money that should be spent each year on your roads. Suppose you have only $25,000; do you believe that you get $25,000 worth of roads and bridges for that money? Don't you think that 10 per cent, or $2,500, is wasted, or lost, or misspent? Very likely so; and that waste would pay a first-class man to supervise your expenditures, plug up the leaks, build your roads as they should be built, and where they should be built.

There is no use discussing the present sources of revenue. For the most part, we depend upon public donation or subscription, and poll tax labor, the first of which is unfair and unbusinesslike, and the latter an out and out farce. For instance, how much of your total poll tax levy was collected last year? And of that, how much was really worth 50 cents on the dollar? About the only way to be sure the poll taxpayer is doing good on the road is to have him drag it.

Now, in the first place, it is hardly reasonable to expect the present generation—that is, you and your neighbor—to stand all the expense incident to road improvement, while the next generation reaps the benefits of increased facilities without paying the price. True, your land will increase in value, and whoever buys it will pay more than it cost you, but increased land values is perhaps the least of the benefits to be desired.

Distribution of Expense

What we want is a system of raising road and bridge money that will give us the cash immediately, and yet distribute each man's portion of the expense over a number of years. This may be done, for instance, by means of organizing a "special road district," as provided by some laws, whereby a certain district is bonded, the tax being levied against the land so as not to be a burden, and so that whoever owns the land pays the tax. In this way we get the improvement at once, and pay for it out of our increased profits. Furthermore, should you care to dispose of your place, you get more money for it, and your purchaser continues the payments on taxes. On a larger scale, we have laws which permit the bonding of the counties, and even the state. But the principle is the same. The idea is to issue bonds and get the cash immediately. With this money the improvements are made in a permanent manner, and because the work is paid for in cash, and is done on a large scale, much better prices are secured.

More Road for Our Money

In other words, by adopting this method of making our improvements now and paying for them in twenty years, we get more road for our money than were we to build one-twentieth of the work each year. If you look at this proposition from a business standpoint, you will very soon discover the cash value of a system of improved highways.

It is very probable that your own highway law has some such desirable statute as those mentioned. You may be permitted to build roads by organizing a special road district, or by bonding the county, and may not know it. Have you ever read your highway law? The real advantage of all this good roads discussion is that it makes men think. It makes you inquire as to what you can do, and why you cannot do what you want to. The rest is easy.

Spending the Money Right

Now as to the spending of this money. Anybody can spend $10,000, $50,000 or $100,000, but it requires ability, judgment and experience to spend it right, to apply it in such a way that the community will receive the most benefit, and the loss and waste be eliminated. I will outline briefly an ideal organization, which may or may not be in effect in your state.

First, there is the State Highway commission, the important member being the state engineer. This commission supervises the expenditures of any state funds, the engineer approving all plans for improvements of state aid roads. He should, and would, provide plans and estimates for the

different counties, whether for roads, bridges or culverts. The commission would maintain a testing laboratory, wherein road materials would be tested and criticised free of charge.

The real unit of our organization, however, should be the county. Here the county commissioners, or county court, should retain control of the county roads, having no authority over those roads designated as state roads. The engineering features of the county improvement should be in charge of a highway engineer, selected by the county commissioners from a list of competent men furnished by the State Highway commission. This, of course, involves an examination of all men who would hold these county positions, which is entirely reasonable. The engineer should be appointed for a term of not less than two years, and preferably four years, at a yearly salary. He would have absolute charge of all road and bridge work, subject to the approval of the state engineer. He should direct the road supervisors in their work and should devote his entire time to the duties of his office.

The last, but by no means the least, important division of the organization would be the supervisors. These men should be appointed by the county commissioners, reporting only to the engineer. They should be chosen for their fitness and ability, and not on account of any party affiliation.

Here, then, we have an organization of road builders, with the authority concentrated as it should be. Spending the county money would in this case be made a business, and the man who could show the best results would be rewarded by some just means. There can be no question of the advantages of such a system. The only argument against it is usually brought by those so-called "practical" men who have been doing county work for years, and who often present narrow-minded antagonism. But it is to be presumed that a road builder—the man who will spend your money—should possess certain well defined qualifications, and any man of the required ability would be eligible to hold office.

Valuable as personal, practical experience is in this day of rapid progress, a man can hardly depend absolutely upon his own experience. He must keep in touch with experiments being conducted in other communities; must observe what progress other men are making in that line of work and, most important of all, he must be able to separate the good from the bad; pick out of the results that which applies to local conditions, and meet the problem with a sure, direct and economical solution.

It isn't a question of where your road builder was born, or educated. It is the question of ability to deliver the goods that determines who will be chosen to supervise your road and bridge business.

Getting away from our ideal organization, we might do well to see how much of our theorizing can be applied now, without waiting for action on the part of the legislature. Most states provide that the county surveyor be commissioner of roads and bridges, working only upon directions from the county commissioners. Now, why not let the commissioners instruct this surveyor to take charge of the road work, devoting all his time to the work, for which he would be paid at the regular day rate. A deputy surveyor would do all the outside surveying. Or, if your county surveyor be incompetent, engage a deputy to supervise the road and bridge work. He could hold meetings of the overseers and instruct them in their duties. He could prepare plans for the work, concentrate the purchase of tools and equipments, etc. The apportunities for improvement are great and that without evading the law. Some classification of your roads should be made, laying out a system of "trunk lines" to be first improved, and to be improved to the highest degree of perfection. In order to determine which of your roads might be considered main roads, the traffic should be observed —a "traffic census" taken—and definite information obtained.

In the meantime, you might consider organizing good roads' leagues, through which to make a united effort for favorable legislation. For without this favorable legislation your efforts will always be handicapped.

Potato Drying for Stock Food in Germany

New Industry that May Become Important in the United States in Disposing of Potato Crop

By H. C. Price

DRIED potatoes as stock food are a standard product that is regularly found upon the market in Germany. The industry of drying them is a new one that has been developed within the last ten years, but the results have been so successful that it is rapidly growing and factories are being built in all parts of the empire. In 1907 there were but 119 such factories in operation in Germany, and last year there were over 400.

German Potato Crop

The potato crop is much more important Germany than it is to the United States; in fact, Germany grows nearly five times as many bushels of potatoes as we do, and the country is only one-fifteenth as large as the United States. The average yield per acre is twice what ours is, and the acreage about twice and one-half our own. In Germany potatoes are grown very extensively for manuacturing purposes—for the manufacture of starch and of denatured alcohol both of which are important industries.

The Germans have paid particular attention to developing the starch content of the potato in order to increase their value for manufacturing purposes. At a potato driers' exposition held in Berlin last year hundreds of samples of potatoes were exhbited from potato experiment stations that are maintained in different parts of the country, and with each sample was given the yield of potatoes per acre, the per cent of starch content and the yield of starch per acre. It was interesting to note that the starch content varied from 12 per cent to 25 per cent, and 18 per cent was about the average.

Development of the Drying Industry

The development of the potato drying industry has been the direct result of over-production and low prices. With such a large acreage grown, as is the case in Germany, in years of good crops, there is a large overproduction. Since the potato cannot be stored and carried over from one year to another, as is the case with grains, and, moreover, the fact that they are so easily frozen, and when once frozen are ruined, made it a serious problem to dispose of the surplus. The success the Germans had in drying beet pulp suggested using the potatoes in the same way. The government and the national agricultural societies offered prizes in the '90s for the best method of preserving potatoes, both for human and for stock food. As a result much interest was taken in the matter and many different kinds of drying apparatus were perfected. But it was not until 1900 and later that the industry attained any commercial importance. It was necessary to test out the new feed and to introduce it on the market, and this took several years. The government experiment station tested it thoroughly and reported favorably upon it. With the farmer it is simply a matter of the price at which it can be bought as to whether he is justified in using it or not.

Two Methods Used

There are two types of drying apparatus on the market. The one produces the so-called potato "schnitzel," which is made by shredding the raw potato into pieces about as thick as a small lead pencil and drying it under very intense heat. The other produces what is known as potato "flocken"—flakes. In this latter method the potatoes are first cooked by steaming and then mashed and dried by passing between hot rollers heated by steam. Since the rollers are placed near to one another the mass passes between like a sheet of paper. The heat causes them to adhere to the exterior walls of the rollers, and the motion is so regulated that they are completely dried before the rollers have half completed the revolutions. Two knives on the outside of the rollers cut off the dried mass which has a bright yellowish white appearance, a good smell, and forms a coarse sort of potato meal.

In the drying of the raw potatoes the shredded pieces are first exposed to very high temperatures, often as high as 1,000 degrees Centrigrade, as they are carried slowly through a long chamber, with the temperature constantly decreasing. When they go into the drying chamber as raw potatoes they contain from 75 to 80 per cent water, and when they come out as the dried product, or "schnitzel," they contain from 12 to 15 per cent water. In the manufacture of the "flocken" such high temperatures are not necessary, as the potatoes are first cooked, and as they pass through large rollers that are very hot and are pressed into thin layers, the moisture is driven out of them, so that when finished they contain approximately the same amount of water as the "schnitzel."

The amount of raw potatoes required to produce 100 pounds of the dried potatoes depends upon the starch content and dry substance in the potatoes used, as well as upon the amount of moisture contained in the finished product. The following table shows the amount of dried potatoes, either as schnitzel or flocken, containing 15 per cent moisture that can be produced from potatoes of different qualities:

AMOUNT OF RAW POTATOES REQUIRED TO PRODUCE 100 LBS OF DRIED POTATOES, CONTAINING 15% MOISTURE

When they contain	
12%	starch and 17.8% dry matter ... 480 pounds
14%	starch and 19.8% dry matter ... 460 pounds
16%	starch and 21.8% dry matter.... 390 pounds
18%	starch and 23.8% dry matter.... 360 pounds
20%	starch and 25.8% dry matter ... 330 pounds
22%	starch and 27.8% dry matter.... 310 pounds
24%	starch and 29.8% dry matter ... 290 pounds

Compared with Other Feeds

While it can be fed to all kinds of live stock, its use thus far has been more largely for hogs than for any other class. It is high in carbohydrates and rather low in protein, and is very digestible; especially is this true of the potato "flocken," or flakes. According to Kellner, whose work is the Germans' standard for feeding values, the dried potato compares as follows with other common feeds

Dried potato	8.0	7.4	0.4	4.6	7.1	69.9
Dried beet pulp	88.8	9.1	0.6	[illegible]	1.6	4.9
Corn	8.6	10.0	5.0	6	2.2	64.6
Wheat bran	8.8	14.3	4.2	3.4	10.2	42.6

(CONTINUED ON PAGE THIRTY)

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

Montana has just organized an Eastern Montana Producers' association, with a capital of $30,000, and will work along co-operative lines.

The high schools of Oregon have raised their standards for admission. What effect will this have upon the efficiency of rural school education?

At the 1915 exposition at San Diego there will be on exhibition a Chinese junk, built in 1806, of camphor wood, which afterward was engaged in smuggling salt and opium, and also in traffic in slave girls.

Corn that seems to be dry, still has plenty of moisture. An ear of corn that had been kept for three years in a dry place showed 10 per cent of moisture, while another ear that had been picked for seed and stored in a rack, with all chances for drying out, showed 20 per cent of moisture.

The publicity man of the Nebraska State Fair board should be careful in writing his headings that he does not mislead the public. Here is a sample: "Nebraska Leads in Agriculture, At the Head of the Corn Belt in Value of Farm Products." This is untrue. Nebraska does not lead in agriculture, and is not at the head of the corn belt in value of farm products. In the body of the article the publicity man makes an entirely different statement. Here he talks about the per capita value of farm products. This is a different matter. It does not pay to mislead the public by a title. It will not help Nebraska to attempt to do it.

General Utility Automobile

It is one of the good signs of the times that so large a number of farmers are investing in automobiles. Bankers and promoters think that this is a bad sign; that it is not well to send the money that is produced in the community out of the community; that it should be kept at home and there allowed to multiply. There would be some force to this objection were it conceded that the sole object of farming is to make money. But the prime object of living on a farm is to live, instead of merely to exist; it is to know something of the dignity and joy and glory of life, rather than merely to bear its brutalizing drudgery. Other things being equal, the farmer with an automobile lives more and lives better than he would without it.

But the farmer is inclined to regard utility in making his purchases. When a farmer is so situated that he can afford a touring car merely as a luxury, he should not be denied the luxury. But many farmers are so situated that they must, if possible, combine luxury with utility. They want a car that may be used not only as a "joy wagon," but also as a utility machine, to do practical work in farm transportation.

The firm that succeeds in placing upon the market a machine that is adapted to both uses will make large sales among farmers who feel that they must combine utility with pleasure.

Such a machine must be convertible from a touring car into a car adapted to transporting small loads of farm produce, the combination of the coach and the delivery wagon. To meet the demand, no lines of beauty should be sacrificed. When arranged as a touring car, it must have all the lines of grace, all the comfort and all the beauty of a touring car. When converted to its utility use, it must be strictly adapted in power, in strength and in endurance to the work that is to be required of it. Such a car will find ready sale, where the touring car, under present conditions, is impossible. What manufacturer will first meet and satisfy this demand?

Interstate Breeders

The Interstate Farmers' and Breeders' association held its thirteenth annual meeting at the Martin hotel, in Sioux City, Ia., February 27 and 28. A very interesting and profitable program was offered. Among those from a distance to address the meeting were Prof. Van Pelt, Waterloo; Prof. Ferguson of Chicago and Prof. H. R. Smith of the University of Minnesota. Among the subjects discussed were "The Farm Tenant System," "Why and How to Grow Winter Wheat," "Legumes," "Silage," and two numbers were given to the beef cattle industry. The Ladies' association held a meeting under the auspices of the Sioux City Woman's club. "Science in Our Farm Homes" and "Standards of Living" were among the subjects discussed. Friday morning the ladies visited the Armstrong school to observe the work being done in manual training, sewing and cooking. In the afternoon they were entertained at an Orpheum party. The meeting closed with an attractive and entertaining banquet at the Martin hotel, at which both ladies and gentlemen were present.

This association is doing important work. It is bound to grow, both in numbers and in practical results attained. The farmers in attendance were in earnest, trying to find out means by which they might make their farming operations more effective. The farmers of either of the three states included in the association have the reputation of doing what they set out to do.

Fact About Lumber

An old farmer was complaining the other day that the quality of the lumber in the market today is far below the quality of forty years ago. Said he:

"Look at that barn there. It was built forty years ago of white pine, and every board in it is as sound today as it was when it was first put up. We don't have any such white pine any more. That house over there was built about the same time, and is as sound today as it ever was. Yonder is a barn that was built less than ten years ago, and already some of the siding has had to be replaced. We don't have good, lasting lumber any more."

The fact complained of is admitted. The explanation of the fact has received very little attention. The fact is explained by the difference in method of manufacturing lumber that prevails today, as compared with the method of forty years ago.

In the early days most of the lumber supply was drawn from Michigan, Wisconsin and Minnesota. The sawmills shut down and ceased operations October 1. Then all hands, engaged about the mills, went into the woods to cut and log the logs for the next year's cutting. All the lumber in those days was cut from the stumps during the winter, when the "sap was down," as the woodsmen say.

Today, the cutting and hauling of logs goes on continuously from one year's end to the other, through all seasons. Of course, some of it is winter-cut, but a great deal of it is spring and summer-cut. The lumber that is cut from the stumps in spring and early summer, "when the sap is up," will not last as well as the winter cut lumber. Here is the explanation for the fact complained of.

Even now, if a buyer has personal relations with the mill, he may be able, through these personal relations, to secure carload lots of winter-cut lumber. Comercially, however, it will be impossible for him to do this, because the different cuts are mixed together indiscriminately as they are placed upon the market. The fact remains that, if lumber is cut when "the sap is down," whether it be building material, or fence posts, or bridge timber, or lumber used for any purpose whatsover, it will withstand decay much better than lumber cut when "the sap is up." This, according to a well posted lumber man, accounts in full for the difference between the lumber of today and the lumber of forty years ago.

An Age of Quality

It seems that everything is now pointing to better quality. It matters not what one has to sell, if the quality is not first-class, the top price cannot be had for it. On the other hand, extra quality has practically no limit in price with a certain class of people. Prices are now being charged and paid for articles of food and clothing that would have been considered extravagant a few years ago.

The old merchandizing idea that 10 per cent profit was sufficient for any kind of business, in buying and selling, would find no support at the present time. Many retail merchants do not hesitate on 25, 50, or even 100 per cent profit, and think it a legitimate transaction to take all they can get and get all they can take. Grocery business is to some extent operated upon that basis today, in some localities and by some operators. Potatoes are sold at 25 cents per peck that cost 50 cents per bushel; apples the same. The cheaper-priced stuff in the wholesale market affords the greatest opportunity for expansion in price, when it comes to disposing to the cheaper class of trade.

There is a very wide difference in price between the well selected, carefully packed and attractively packaged articles, just as they come from the producer, and this high price is maintained through to the consumer. The lower grades, which go to the retail trade at greatly reduced prices, are turned over to the consumer quite generally at extravagantly high prices, with the argument of high prices that are representing the higher-classed stuff. Windfall and low-grade apples that are shipped to market in bulk by carlot shipments retail on the strength of prices asked for No. 1 boxed or barreled apples.

In the matter of quality, independent of the tricks of trade practiced upon the innocent and ignorant consumer, who depends on the small retail purchase from day to day, or week to week, there are great possibilities for the producer who can handle his stuff from the farm to the consuming trade, or to the commission trade that distributes it to the retailer. The greatest opportunity for the producer is to aim to satisfy the high-class consuming trade, which means the man who has money to pay for what his fancy craves, "The best in the market, regardless of price."

There is a general tendency over the country among producers to produce better, to handle better and to get a better price for what they do produce. There is gradually a tendency being created to bring the producer and consumer closer together. A bill has just been passed by the Ohio legislature to compel commission merchants and brokers handling farm produce to give the person for whom they have sold goods the names and addresses of those purchasing same, with the amounts paid. This is believed to be a pretty good move toward regulating the amount of commission appropriated for conducting the transfer of the produce between the shipper and buyer.

Western Nebraska Defined

Years ago, when the western third of Nebraska was being discussed as to its adaptability for a farming district, The Twentieth Century Farmer took the stand that, when put to practical demonstration, it would be found too uncertain and too expensive to warrant cultivation for exclusive farm crop or grain production. It has steadily adhered to this belief and has had no reason to change its opinion, notwithstanding the dry land farming advocates have resented its expressions as disloyalty to western Nebraska's interests in the settling up of its lands by the homesteader and the homeseeker.

The grain farm idea advocate, over this division of the state, has generally been one whose interests were not founded upon the evidences of success with the settler in his tillage of the soil, but to fill up the country with experimental citizens whose adaptability to the existing conditions was to later determine whether or not they could stay to make the homes that they had pictured in their imagination, or be obliged to surrender the effort. The great majority of these settlers represented the man of small means whose ambition was to acquire a farm where, in his meager way and limited resources, he could make a living for himself and family, and eventually become the owner of a farm property.

For years we have watched the persistent work being done at the North Platte experiment station, under the supervision and direction of Prof. W. P. Snyder, one of the most conservative, careful and painstaking men who has ever been connected with the Nebraska experimental crop and farm work. Prof. Snyder's years of toil and study have not been in vain; he has been through the good and the bad years; he has met all the varied conditions to which those dry districts are subject, and has at last reached the logical conclusion that western Nebraska is a live stock country, adapted to the growing of cattle, horses and sheep, and in these lines of stock industry it cannot be excelled.

Prof. Snyder, at the Nebraska Conservation Congress, in an address entitled, "What We Have Learned at the North Platte Experiment Station," said: "I believe that the solution of the dry farming problem is to induce the farmer to be content with a small but fairly certain income, derived from live stock of various kinds, rather than to be looking for quick wealth from great fields of grain."

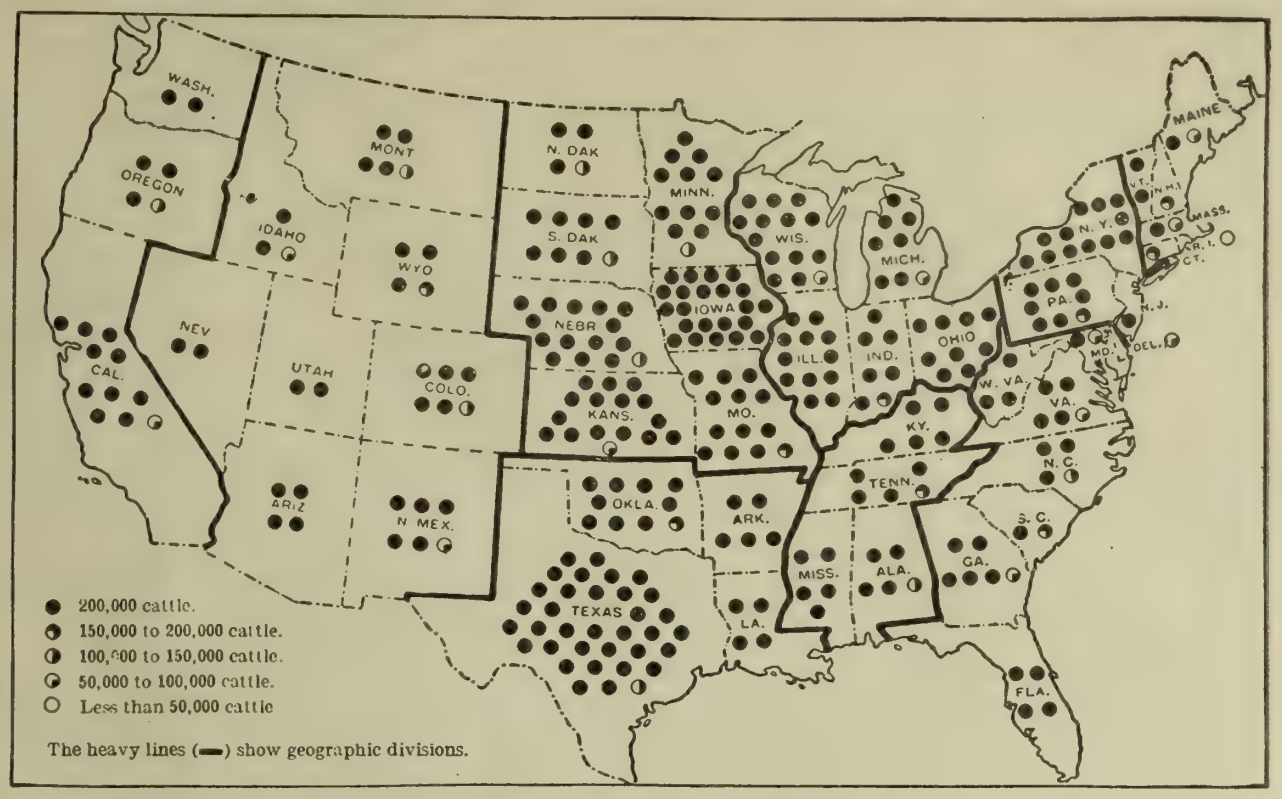
He is a strong advocate of more live stock for western Nebraska. He declared that live stock was the most drouth-resistant crop that the farmer can raise, and that the western Nebraska farmer or land owner can turn his attention to the raising of hay and forage crops to winter much more stock than is now being kept, and thus get into a sure and profitable industry, which the feed and climatic conditions favor.

This we regard as the most forceful and far-reaching expression of opinion that the experiment station of Nebraska has ever made. Here is represented nearly half of the area of this great commonwealth, which is almost equally divided in its adaptability to these two important interests of agriculture, grain-growing and live stock production. Every live stock man and observing business man, familiar with the western side of the state, knows Prof. Snyder's expression is correct. Every homesteader and new settler should commence practicing this as rapidly as possible. He should grow feed for winter use, aiming to raise the most valuable forage crops, the most drouth-resisting crops, including live stock. Pasture is abundant, winter feed is often scarce, but usually very necessary.

If the North Platte experiment station never does anything more, it has accomplished ten times what it has cost, in this plan and honest declaration of Prof. Snyder.

It must not be understood, however, that the North Platte station has finished its work. It is important now for Prof. Snyder and his corps of excellent workers to go right on experimenting and directing the live stock raiser of this part of the state. The live stock industry, in the hands of the small cattleman, who owns no more than a Kinkaid homestead, merits the attention of the experiment station, in directing him how to start, how to breed and how to manage his little herd in order to get the best results from the pastures and hay grasses of western Nebraska, the equal of which is not found on the continent.

Number of All Cattle on Farms, by States



The accompanying map gives the total number of cattle on farms in the United States by states. These are the figures as given by the last United States census. According to his map, Texas stands first, with 6,900,000 head of cattle; Iowa second, with 4,400,000; Kansas third, with 3,150,000; Nebraska fourth, with 2,900,000; Wisconsin fifth, with 2,750,000; Illinois sixth, with 2,400,000; Minnesota seventh, with 2,200,000, and New York eighthe, with 2,200,000. Such a bird's-eye view of the number of cattle in each of the state is very interesting and instructive, and well worth preserving for future refernce.

The Department of Agriculture at Washington estimates that the waste in resinous wood, resulting from the methods employed in the lumber industry, is not less than 8,060,000 cords a year, from which $300,000,000 worth of by-products might be profitably manufactured.

Death of George Bellows

The recent announcement of the accidental death of George Bellows by automobile accident on his farm, near Maryville, Mo., was received with feelings of sorrow and mourning throughout the entire central west live stock country, where he was well known as a live stock auctioneer and live stock authority, especially in Shorthorn cattle, which he specialized in for many years as a breeder. Mr. Bellows was found under his automobile dead only a short time after he had left his home. Some mysterious accident, which resulted in the auto leaving the road and turning entirely over, crushing him to almost instant death, is all that can be ascertained to tell the story of this peculiar and sorrowful accident.

George Bellows was a very popular man—citizen, breeder and auctioneer—and through his integrity and fairness in dealing with the public had attained a wide acquaintance that recognized in him an authority in live stock matters. His genial social qualities had gained for him the distinction of beng every man's friend.

His familiarity with the Shorthorn breed of cattle, as a breeder and auctioneer, gave him a knowledge of pedigree in the prominent lines of breeding which but few men ever attain, and to the live stock auctioneer is a fund of information of inestimable value. Only those personally acquainted with the deceased can appreciate his loss to the community in which he lived, and the live stock interests of his state and the country at large.

The College of Agriculture of Wisconsin recommends caustic potash in sticks for dehorning young calves. Those that have tried it say that a saturated solution applied by means of a swab attached to a stick is much more convenient, and avoids the danger of burning the operator's fingers.

The withdrawal of the Colorado State Live Stock Growers' association from membership and support of the American National Live Stock association, owing to a decided variance of opinion as to the government's disposition and control of the forest reserves and other public lands, is not a surprise. Colorado stockmen have for years favored state control and state development of the state's resources, including all public lands, and to continue longer in membership and support of an association working directly in opposition to their ideas and principles, seemed inconsistent and damaging to their cause, therefore the withdrawal. It is reasonably certain that the live stock association of Colorado will be heard from in the matter of disposition and control of the public lands of that state. It is a large association in membership and has acquired the reputation of being aggressive and progressive.

A graduate of the Wisconsin College of Engineering is dean of the College of Engineering of Nanyang university of China. This may bear some relation to the fact that there are now forty Chinese students registered at the Wisconsin university, and they constitute the largest delegation there from any foreign land.

The south has been doing something in the eradication of southern cattle ticks. As a result of their recent progress in this matter, 19,000 square miles of territory have been released from quarantine.

Winter Time.

Words by
MARK BEAM

Music by
A. L. GILMORE

Moderato

When the summer days are o-ver, And the trees of leaves are bare, And the snow is soft-ly fall-ing, And the frost is in the air; That's the time to go a-woo-ing, And with some girl by your side, To the tune of sleigh-bells ring-ing, Thro' the bright moonlight you ride.
The fair-est day of summer In its beau-ty can't com-pare With the snow-capped hills and val-leys, As the moon-light lin-gers there. Thro' the woods the bells are ring-ing, And the whole world is in song, When your sweet-heart's close be-side you, As you gai-ly roll a-long.

Tempo di Valse

Win-ter time, Win-ter time, Sleigh-bells ring in a fros-ty rhyme; North winds blow, As you go to-geth-er through the fields of snow. Win-ter time, Win-ter time, While a-bove the bright stars shine; When the night is clear and cold, And your ba-by's hand you hold, Then Love's sweet-est tale is told in Win-ter time.

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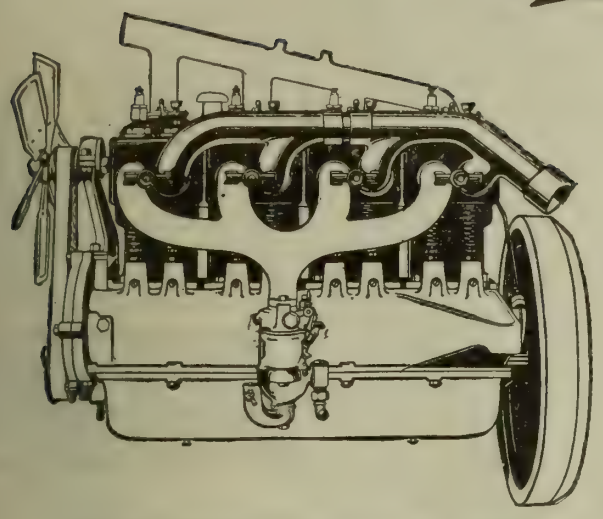
Overland



How Overland motors are made

All Overland motors are designed by Overland men—made by Overland men—and made in Overland factories. We will build 40,000 motors this year. No other automobile manufacturer will build as many of this type. That is why we can build them better, and for less cost. We employ the most skilled motor builders in America.

Following are a few of the most important facts about the Overland motor.

Cylinders have large water-jackets and are cast singly, increasing cooling efficiency with the advantage of being able to replace a single cylinder at low cost should an accident occur. The crank shaft and connecting rods and all other forgings are of high carbon manganese steel.

All bearings, cylinders, pistons and rings are ground to accurate and tested smoothness, insuring long life, freedom from wear and positive compression.

All the wearing surfaces of the valves are ground to a one-thousandth part of an inch. Owing to their peculiar design and large size they enable the motor to develop at least fifteen per cent more horsepower than any other motor of the same bore and stroke.

The cam shafts are drop-forged (in our own drop-forge plant, which is the largest in the industry) oil-treated and case-hardened. They are ground and machined automatically, insuring positive accuracy in the relative position of one cam to another.

This is the only car of its class provided with a five-bearing crank shaft. This crank shaft is drop-forged from one piece of carbon manganese steel and rotates in five bearings of unusually liberal size insuring quietness and extreme long life.

The crank cases are cast in two sections, of the finest grade of aluminum alloy attainable—and cast in our own foundry.

No other motor in the world is given a more severe test and thorough inspection. The engine is belted up for two hours, and driven by other than its own power to limber it up so that it will start easily. Then it is put onto the block and run from 8 to 16 hours under its own power.

The Importance of a Powerful Motor

AS the motor is the most important part of a car, it is safe to assume that you can judge a car by the performance of its motor. Therefore, be guided and informed by the following information.

Every practical farmer knows the value of a good motor in an automobile. He knows, too, from experience, what constitutes a good motor and what is expected of it. He wants power, economy and silence.

The motor is the most expensive single unit of the Overland car. It has a 4" bore and a 4½" stroke. It is the most efficient 30 horsepower motor made. We say efficient for it has, by demonstration in tens of thousands of cars, proven to be the best for your specific purposes.

It is exceptionally economical to operate—using less fuel per mile than any other motor of equal size.

It is remarkably powerful, developing forty to fifty miles an hour with ease; and over your kind of roads, without eating up an unnecessary and costly quantity of gasoline.

It is the only motor of its size made with a five bearing crankshaft which makes for real smoothness, silence and ease when in operation. This feature is only found on very high priced cars.

It is remarkably simple. It is practically frictionless. Requires no coaxing or continual adjusting. In fact, you seldom have to lift the hood. Is always obedient.

And the self-starting feature adds the final touch of perfection. Just throw a little lever and you're off. Your daughter can start, operate and drive an Overland as well and as easily as you can. It will always start in bitter cold and freezing weather as quickly as in the summer—by just switching the little lever on the dash.

So we ask you to judge the exceptional value of this car by the exceptional efficiency of its motor.

This big, powerful, comfortable touring car costs you 30% less than any other similar car made.

We have some very interesting books we would like to send you. They are free. Write us for a set today.

Please address Dept. 107

The Willys-Overland Company, Toledo, Ohio

$985

F. O. B. Toledo

Completely Equipped

Self-starter

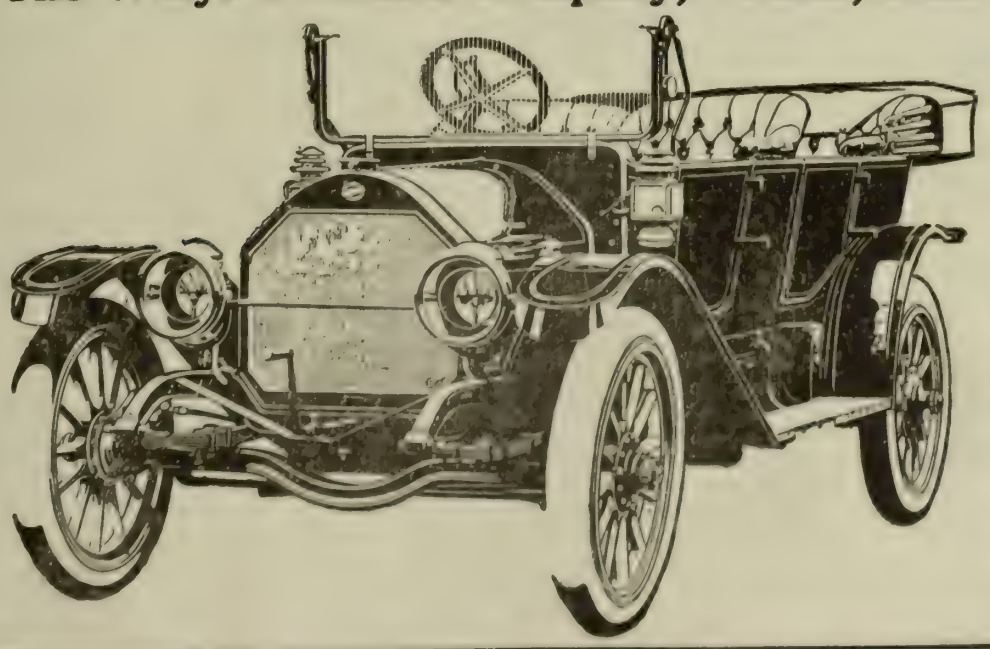
30 Horsepower

5-Passenger Touring Car

110-inch Wheel Base

Timken Bearings

Center Control



$985

F. O. B. Toledo

Completely Equipped

Remy Magneto

Warner Speedometer

Mohair Top and Boot

Clear Vision, Rain Vision Wind-Shield

Presto-O-Lite Tank

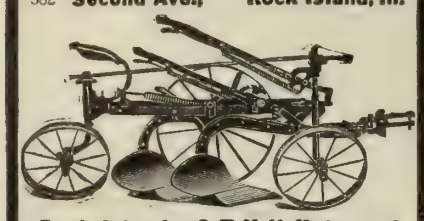
A Wonderful Plow

A really UNIVERSAL Plow at last! It "walks" right through *tame sod, old cornfields, stubble, meadow, sandy loam, mixed soil, heavy clay, gumbo,* etc. Turns the slice clear over, *flat* and *smooth.* All trash buried. Dirt thoroughly pulverized. Leaves top flat against *subsoil.* No air spaces to cut off moisture from below. In dry weather, moisture comes up to the plant roots—just like kerosene comes up your lamp wick. *No other plow gives you this drought protection.* No other plow ever produced such perfect plowing.

Its perfect work and absolute satisfaction has made the "C.T.X." the greatest selling and most popular plow ever produced.

You can't afford to buy or use just "any old" plow. Investigate this sensational plow first. Look into this proposition. Send a postal now and get the Rock Island Plow story in *complete form.* And we will tell you nearest place you can see this plow and price it. Then you can judge for yourself. You will like it. Don't wait till you need a plow. Investigate *now.* Address

ROCK ISLAND PLOW CO.
382 **Second Ave., Rock Island, Ill.**



Rock Island "C.T.X." Universal

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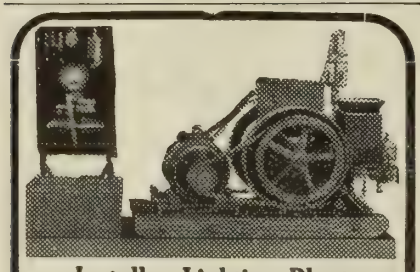

Install a Lighting Plant

Enjoy the comforts that electricity brings to your home—the convenience of electric lights and the many uses to which electricity can be put. Install a power plant of your own. An

8 h.p. Rumely-Olds Engine

will furnish electricity cheaper than the metered kind. Makes electric lights possible anywhere.

The Rumely-Olds Gasoline Engine comes in all convenient sizes—a high class engine, economical in operation, furnishes power for every sort of a job where power is required. Use this engine in connection with a

Rumely Automatic Electric Light Plant

This outfit works automatically with no trouble to you. It will light your house and buildings. Rumely Automatic Electric Light Plants are worth investigating.

It will pay you to consider this outfit and write for Data-Book No. 344, on the Rumely-Olds Engine and information about the Electric Light Plant. Ask the name of our nearest dealer.

RUMELY PRODUCTS CO.
(Incorporated)
Power-Farming Machinery

556

30 DAYS' FREE TRIAL **SAVE ½ YOUR LABOR**

National Rotary Harrows for Plows

It will surprise you to know the low price that we are quoting the first ten farmers in each township on our famous Rotary Harrows for Plows, to quickly introduce them. We refund the purchase price and pay freight charges if not satisfactory.

75,000 in use and sales doubling each season.

Pays for itself on first five acres plowed.

Guaranteed to increase yield twenty per cent.

The new way of harrowing as you plow proved to the farmers last season that it saves time, labor and money in preparing the seed-bed. Write us today for special introductory prices and circulars.

National Harrow Co., Le Roy, Illinois

Harvey Bolster Springs

prevent damage to eggs, garden truck, fruits, live stock on road to market. Make any wagon a spring wagon. Soon save cost—produce brings bigger prices—wagon lasts longer—horses benefited—thousands in use—"my wagon rides like auto" says one. Get a pair at dealers. If not at dealer's write us. Insist on Harvey's. 40 sizes—fit any wagon—sustain any load to 10,000 lbs. Catalog and fistful of proofs free.

HARVEY SPRING CO., 762-17th St., Racine, Wis.

GUARANTEED

Handling Soil for Production

IX—How to Increase Supply of Barn-Lot Manure

AN old farmer, as he turned over his farm to his son for future operation, gave this advice: "My boy, make it a point to raise every year as big a crop of manure as possible, and then in time the other crops will take care of themselves." This advice was directly to the point. The farmers of the west have depended too much on the fertility of their soil, and the ease with which it has been handled, when compared with the stiffer soils upon which their ancestors worked, and have neglected the means best adapted for keeping this soil in its virginal condition. They said in the early day that throughout the middle west all that was necessary was to tickle the soil with a hoe in order to make it laugh with a harvest. That time has passed, never to return again. Some more unmistakable demonstration must be made than mere tickling, and some more effective implement be used than a hoe. The vegetable, organic material in the soil has been well nigh exhausted, and before its virginal productivity may again be approximated this organic component must be renewed. The only way in which it may be renewed is by the use of manure.

Manure-Making Not a Side Issue

At the present time, generally throughout the west, the ordinary farmer regards manure as cumbersome waste material about the barns that must be gotten out of the way. In the early days it was not unusual to haul it into buffalo wallows and old sloughs to get rid of it. It was regarded as undesirable material. A good many farmers are seeing farther than this now, but most ordinarily make no attempt to increase the amount of manure produced on their farms, but merely to use what they cannot prevent being produced. If the farmers of the west are to be made to approximate the possibilities of production, this end may be accomplished only through adopting the advice of the old farmer that has already been set forth.

Live Stock Necessary

The only way in which an adequate supply of manure may be produced on every farm is through the agency of an adequate number of live stock. These animals not only furnish manure in the shape of solid and liquid excretions, but they are necessary agents in converting the waste roughage of the farm into barn lot manure. The day of the farmer that uses his land exclusively for cropping is past. The necessity for mixed farming, the farming that combines cropping with the growing of live stock, is at hand. It will not be many years before every farmer will recognize the fact that live stock in adequate supply is indispensable, if the producing capacity of his farm is to be maintained. It is the opinion now generally accepted that dairy live stock are best adapted to this purpose, because they not only help convert the waste material of the farm into barn lot manure, but also because, when properly handled, they give larger returns of profit for the amount of capital invested than any other kind of live stock as it is handled upon the ordinary farm. But the kind of live stock is not so important. The farmer in this matter may suit himself, or may adapt what he does to the conditions in which he is placed. But live stock he must have, if he is to maintain the capacity for production.

Barn Lot Must Be Manure Factory

In the barn lot proper feed racks and appliances should be erected, and here should be brought all waste roughage of the farm. This should go first into the feed racks, and when the live stock have consumed all of it that they will, the remainder should be scattered about the barn lot to serve as bedding, as absorbing material for both liquid and solid excretions. It will be broken and tramped by the live stock, its fibers loosened and separated, and it will be put in condition for absorbing the moisture that falls upon it, which will be necessary to start the process of fermentation and decay. From now on the intelligent farmer will burn no more waste vegetable matter. He will bring it to the barn lot to be converted into manure. This manure has a certain definite value, and the farmer will learn that the manufacture of it through the saving of all roughage possible is very profitable.

Threshing Should Be Done at Barn

It is customary now on many farms to do shock threshing in the fields, leaving the straw where the machine delivers it. This method is wasteful of the roughage, of the elements required for the production of barn lot manure of good quality, and it is also wasteful of land. These straw piles in the field are generally allowed to rot down where they stand. They occupy quite an extended surface of soil that is thereby excluded from the possibility of production. The weathering of the straw dissipates and releases to the air elements of fertility needed by the soil. If the straw is ultimately to find its way to the barn lot this field threshing is wasteful of labor. It is possible by threshing at the barn to save one handling of this material. It is easier to haul the straw in bundles than it is to haul the loose straw after it has been threshed. When the bundles are on the wagon it is merely a question of a few minutes' drive to deliver them to the machine at the barn rather than to the machine in the field. Then the straw will be where the farmer needs it, convenient to hand for feeding to his live stock and for use as bedding either in the stable or in the barn lot. Then the whole surface of his field may be cultivated. This suggestion is made simply for the purpose of making it easier for the farmer to produce the adequate amount of manure. But one thing is certain, the straw should be brought to the barn lot and there converted into barn lot manure. All of it should be brought there. It must be brought there if the producing capacity of the farm is to be maintained. It should be spread over the surface of the barn lot and as often as it becomes tramped down smoothly, an additional covering should be put on, and this process

Gasoline Engines

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60 Days Free Trial—You Run No Risk

The Witte is conceded the best engine in America. Made by E. H. Witte, master builder for 25 years. Ask any Witte user. Any size from 1½ to 40 horse-power all tested to ten per cent overload. 61 special advantages.

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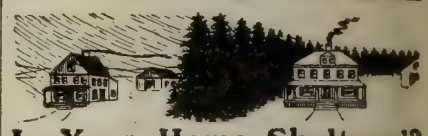
The WITTE Cuts Gasoline Bills in Half



Is Your Home Sheltered?

Save dollars by saving heat. A wind-swept home is a cold home. Shivering cattle take on no fat. Cold hogs make the smallest gains. Wind-tossed chickens lay no eggs. Protected gardens get the earliest start.

TRANSPLANTED 100 EVERGREENS $7.50
Express Prepaid.

These trees have been transplanted and root-pruned, insuring an abundance of fibrous roots—nature's guarantee of life to young trees. They are backed by the fairest guarantee of any nursery in the United States and by the forty years' reputation of

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I ship direct from the ground on the day the order is received. The trees you buy of agents have been out of the ground often three weeks. That is why they don't grow. Buy direct of me and you will be satisfied. We can also sell you prize-winning **"True-to-Name" Fruit Trees** and berry plants guaranteed to prove hardy or cost you nothing. Catalog of special bargains FREE.

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POWER . ECONOMY

In Every Revolution

—That means T & M. Some engines "turn the wheels" and burn up gasoline; the T & M achieves perfect power economy. Air-and-gasoline spray, properly mixed, and subjected to maximum possible compression just before ignition, by quick, powerful explosion—yields utmost speed and energy for time and fuel consumed. Then—

T & M FARM ENGINE

design and construction precludes expensive slow-downs and wasteful speed-jumps; highly-sensitive throttling governor holds the T & M steady under any load variation. Again—bull-dog build and big, wide base save power—prolong life.

No cranking, no tinkering; choice of four fuels (gasoline, kerosene, distillate or gas); low cost of upkeep; a grilling factory test—and the T & M "armor-plate" guarantee. Sizes—1½ to 20 h. p. A mighty good engine—worth your immediate investigation.

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TERMAAT & MONAHAN CO.
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CUP ELEVATOR

Always ready for use. Placed inside the crib in the dry. Easy running, durable and strong. Elevates oats, wheat, or ear-corn, 50 bushels in three minutes.

SET IN YOUR CRIB BEFORE YOU PAY

The first successful **Upright Ear Corn Elevator made—SOLD DIRECT to the Farmer.** Free Catalog showing 8 styles with crib plans which save you money. Write for it today.

INTERLOCKING FENCE CO. BOX 87 MORTON, ILL.

Be sure to mention The Twentieth Century Farmer when writing.

hould be kept up throughout the ear. This is more important than rop growing because it is the only ıethod by which the capacity for rowing productive crops may be ıaintained.

Through the expenditure of only a ittle extra labor and money the en- ire roughage of the corn crop may e saved for food and fertilizing pur- oses. Under the present method a ery large share of this is now wasted very year. The amount of this waste s almost incalculable. Waste is a iolation of economic law. Economic aw always extorts penalties for vio- ation. The penalty of this violation omes in the form of decreased ca- acity for production. By harvesting nd shocking the corn, by passing it hrough a combined shredder and usker at the proper time, all this oughage may be saved in the shape f shredded corn fodder for food and or manurial purposes. This method f handling the corn crop will entail little additional expense, both of noney and labor, but the gain in the nd will show that it is exceedingly rofitable. Many farmers suffer very year for an adequate supply of oughage for their live stock. They hen begin to think of cutting down he number of their live stock in rder that their supply of roughage nay prove adequate. It would be nuch better to turn their attention o increasing the supply of roughage nd this might be done in such a way s to relieve every farmer of any ap- rehension regarding the adequacy of is supply. All that he has to do is o utilize the material that he grows n the corn field rather than to per- nit it to go largely to waste. Leav- ng the value of this roughage for nanurial purposes entirely out of the uestion, the improved condition of is live stock as a result of this hange of method would amply bear ll the additional expense of the hange, leaving the manurial value of he roughage as net profit.

Old stack bottoms that are now enerally thrown aside as useless and llowed to weather and waste should e hauled to the barn lot and there onverted into something valuable. he tidy, thrifty farmer will see that ll the scatterings about the barn nd yard are taken to the barn lot to e made into manure rather than to e wasted and lost. Waste is the reatest and most prevalent economic rime among the farmers of this ter- itory. Waste through carelessness ndicates a loose, shiftless manner of hought and of action. The thing ne does always reacts upon the one hat does it. By preventing at odd noments all unnecessary waste and onverting it into a profit will have a uickening, sharpening effect upon he mind of the man who takes this natter seriously in hand. It will nean not only more money to follow his suggestion as here set forth; it vill mean increased manly efficiency, etter citizenship, better exemplifica- ion of the art of right living.

Weeds work greater damage to rowing crops than the exigencies of he season. A way to get rid of veeds is to stop sowing them. Take he weed seed out of the small grain when preparing it for the field. Farmers will soon realize the import- nce of this advice.

Plant Bearing Both Tomatoes and Potatoes

This was made possible by grafting a young tomato plant to a young potato plant. Both of the vegetables raised on this plant were of choice quality. The grafting was done by George H. Rupp of Shiremanstown, Pa. Mr. Rupp comes from a well known family of horticulturalists and agriculturalists, and this season he expects to do some remarkable things in this line.

It's Always A Good Thing

To have a

Clear Horizon

at both ends of the day.

A dish of

Post Toasties

for breakfast and again at the evening meal opens and closes the day with a dash of sunshine.

Toasties are bits of hard, white Indian Corn, first carefully cooked, then rolled thin and crinkly, and toasted to a delicate, appetizing brown.

Not a hand touches the food in manufacture, and it is ready to serve direct from the package—to be eaten with cream or milk—and sugar if desired.

Post Toasties taste deliciously good and are richly nourishing.

TESS AND TED SCHOOL SHOES

Look Better—Fit Better—Wear Better

"TESS and Ted" school shoes have become famous for their style, finish and long wearing qualities. Four pairs will outwear five pairs of ordinary shoes made for children's wear.

Many shoemakers yield to the temptation to use substitutes for leather in children's shoes, because of the high price of leather, but we have built up our enormous business by making honest leather shoes.

Cut up a pair of "Tess and Ted" or any other "Star Brand" shoes and you will find that they have sole-leather heels, soles and counters. No substitutes for leather are ever used. See No. 3130—a new model for boys.

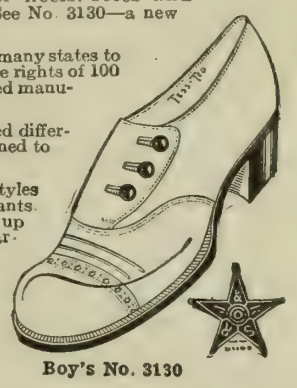
Pure Shoe Legislation is pending in Congress and many states to protect you against fraud. We heartily endorse it. The rights of 100 million consumers are greater than those of a few hundred manufacturers.

"Tess and Ted" school shoes are made in a hundred different styles for boys and girls of all ages. They are designed to properly fit the foot of growing children.

"Tess and Ted" school shoes and over 700 other styles of "Star Brand" shoes are for sale by 20,000 good merchants. Don't just go into any store and ask for them, but hunt up the "Star Brand" dealer, or write to us for name of nearest merchant who sells them.

The name on the sole and the "Star" on the heel insures honest values.

"Star Brand Shoes Are Better."

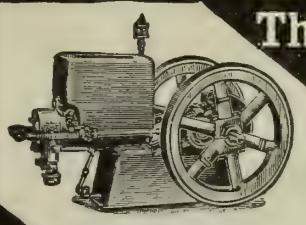


Boy's No. 3130

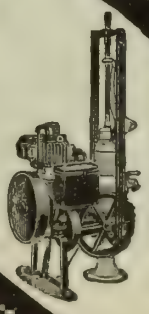
ROBERTS, JOHNSON & RAND

MANUFACTURERS Branch of International Shoe Co. ST. LOUIS

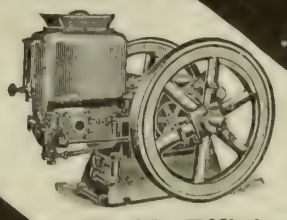
The actual work done in the field is what has made the great demand for Fuller & Johnson Engines



People's Price Engine



Farm Pump Engine



Double-Efficiency Engine

No farm is complete without one.

73 years of manufacturing means economical, serviceable and durable engines.

Write for Farm Pump Engine or General Purpose Engine Catalog. State which.

FULLER & JOHNSON FARM POWER

FULLER & JOHNSON MFG. CO. (Est. 1840)

3 Thornton Street Madison, Wis.

Get this dessert spoon

Full length, six inches

Through The Twentieth Century Farmer, the beautiful dessert spoon, designed and made especially for this magazine by Wm. Rogers & Son, may be obtained for the cost of handling, 25 cents. The beauty of this spoon is bewitching.

COUPON

Please send my dessert spoon to

Name

Address

Enclosed find 25 cents to pay for postage and handling.

If you want teaspoon and fork you may still get them—spoon, 10c; and fork, 20c.

Address:

Silverware Department

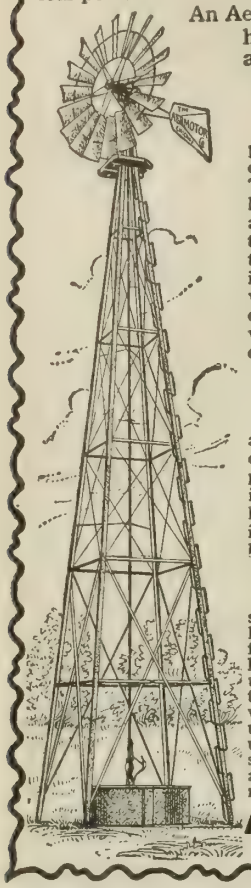
Twentieth Century Farmer

OMAHA, NEB.

Water to Float a Navy

If all of the water which has been pumped by Aermotors could be collected in one great body, it would form a sea on which all the navies of the world could maneuver. But you do not have to pump oceans of water to supply your own needs. What you want is some reliable and economical power which will supply plenty of water for your house, barn and fields.

An Aermotor of suitable size erected on a tower of proper height will do the work for you without bother or worry and with practically no expense.



Power for Pumping

It costs nothing for power if you use an Aermotor to do your pumping. More water is pumped by Aermotors for stock and domestic purposes than by any other kind of pumping machinery. They do their work silently, surely and satisfactorily. Aermotors have been pumping water faithfully for the past 25 years. Go to any part of the inhabited world today and you will find the Aermotor there ahead of you. From Alaska to Patagonia, from Hongkong to Liverpool, from Siberia to the Cape of Good Hope and on all the islands of the sea you will find them. You cannot travel far today without seeing an Aermotor standing out as the most prominent object in the landscape. Aermotors have gone everywhere because wherever they have gone they have been found to be the most economical, and most reliable device for pumping water.

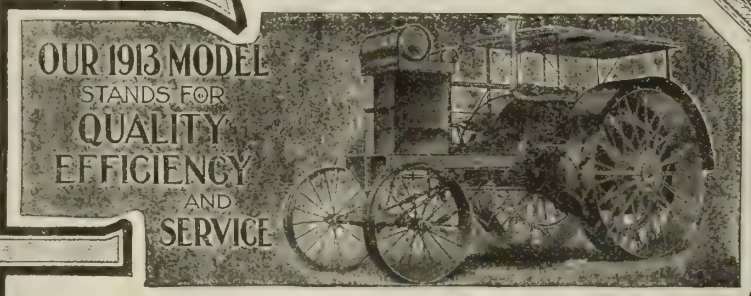
Count the Cost

The price of gasoline has taken a big jump. It is likely to go up again any day. The air is free and the supply is inexhaustible. No one can corner your source of power if you use an Aermotor for pumping water. The first cost of an Aermotor is small, the upkeep is almost nothing, the service is most satisfactory. Anyone who has used an Aermotor will never be satisfied with any other pumping device. It was the first steel windmill and has always been the best. Aermotor Galvanized Steel Towers are best, too.

"Storage Solves the Water Problem"

We have just issued a large hanger, 16 x 44 inches, on the above subject. It contains over 100 pictures of Aermotor outfits which have been pumping water for the farmers of one community for from 1 to 20 years. These picures have been made from the finest lot of farm photographs that have ever been taken. If you will put up one of these hangers in your living room it will be the most talked about object there. It is 100 pictures in one and each individual picture shows a prosperous farm where the Aermotor is used for supplying all the water required. This hanger gives valuable information about the storage of water for household and stock purposes. You should certainly have one. It is free for the asking. Just one word "Hanger" on a postal card, with your name and address, will bring it.

Aermotor Co. Twelfth Street and Campbell Avenue, **Chicago**



Experience Concentration Perseverance

In these three words lies the key to the success of the "Flour City" Tractors. The result of fourteen years' specialization, continually concentrating on improvements of mechanical design, has made the "Flour City" what it is today.

The 1913 "Flour City" surpasses all previous models in mechanical efficiency. It embodies all the desirable features that enter into the construction of a successful farm tractor. Its development has been guided by the requirements outlined by the progressive farmer, along the most conservative lines. Its reputation is of the character that comes through actual work in the field.

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Missouri Valley Fruit Growing

IV---Suburban Orcharding by City Man

SUBURBAN fruit growing is one of the topics of everyday discussion by many persons. There is probably no other subject that will admit of such wide and diversified exploitation of its possibilities. The imagination of man can be stimulated to almost any extent by a skilfully prepared suburban fruit acreage proposition. There is nothing so enticing to man as a fruit proposition, and there never has been since the history of Adam in the Garden of Eden.

Man has a natural inclination to work in the soil. If he is given more than he can do, he becomes careless of the small things, the finer things, the flower sand fruits. This is often the case with the farmer whose ambition and necessities direct him in the cultivation and growing of field crops. The city man, however, in his ideas of land cultivation and improvement, inclines toward ornamentation as well as utility and profit. He realizes the opportunities of business and employment in the city; he reads and hears of the possibilities of the suburban acres devoted to gardening, flowers and fruit growing.

How suburban acre property may be made the home of the city business man and operated profitably in small fruit industry, without interfering with the regular business operations of the home owner, is a subject that is today receiving thoughtful consideration by thousands of well-to-do people. They formerly viewed the suburban acres as property adapted only to the use of the dairyman, the gardener, the huckster and the small fruit orchardist, whose entire time and attention must be devoted to the operation of these industries.

A practical illustration of this feature of owning and operating the suburban acre property in the interest of profitable investment and the building of comfortable homes is presented in the history of a suburban resident of Omaha, Lewis J. Ihm, a machinist in the employ of the Union Pacific railroad shops.

Fourteen years ago Mr. Ihm decided he would become the owner of some acre property near Omaha, and in conjunction with his position in the shops improve these acres for a home for his family, devoting the land to the growing of small fruits. The year following he carried his resolution into effect, purchasing a tract 297 feet wide by 596 feet long, containing 4.06 acres. This small piece of unimproved ground was just outside the city limits and near a suburban street car line, and cost $250 per acre.

Mr. Ihm was one of the many who become dissatisfied with making only a living, and no prospective assurance of a self-supporting business on which to retire. For years he had visions of a few acres of land and a comfortable home near the city, but when the opportunity presented itself, and he determined to launch the undertaking, he had only his savings with which to buy the land and make the initiatory improvements for the basis of his enterprise.

The E. H. Walker Suburban Vineyard, Florence, Neb.

Mr. Ihm was wholly unfamiliar with the proposition he had planned; he was not a horticulturist in theory or training, but had conceived the idea of establishing for himself a home and providing with this home the means of producing the greater portion of his living. His ideas of a fruit industry, on a commercial basis, commenced developing as he took up the study of trees, plants, soil tillage, etc., by reading all the reliable literature he could get hold of. He was a critical student, and, being a skilled machinist, he understood the necessity of exactness in every feature of mechanism in order to produce results. He carried this principle into the growing of trees, vines and plants. He understood the value and advantage in quality of the materials he used, and he placed stress and emphasis on the highest quality of trees and vines, in his nursery purchases.

The first improvement made on this property was a comfortable residence, costing $1,500. Following this, the land was all plowed, heavily manured, crops planted and cherry orchard set out. Plats of ground were planted to gooseberries, currants, strawberries, grapes, raspberries and garden vegetables, until the acres were fully covered, leaving only

space for the needed buildings, yards, etc. This tract of land contained 4.06 acres, from which there was a strip 50x200 feet reserved, running crosswise through the center. On this were located the residence, work shop, packing and crating house, where all fruits are congregated and prepared for market; barn, machinery and tool shed, poultry house and yards, etc., leaving in fruit orchard only 3.83 acres.

This small fruit industry was planned and handled from the outstart by Mr. Ihm, with a view to strict economy in use of ground. The cherry orchard consists of 427 cherry trees, 33 apple trees, 312 grapevines, 959 currant bushes, 1,085 gooseberry bushes, 400 red raspberry bushes and 1,310 black raspberry bushes. The cherry trees are planted fifteen feet apart and in rows fifteen feet apart. In each row of trees and between the rows are currant and gooseberry bushes, five feet apart, thus using all the space and admitting of perfect cultivation, until the trees have attained more than half their age of usefulness.

Aside from the cherry orchard, the gooseberry and currant bushes are planted in plats, observing the same spacing—five feet. The first year admitted the growing of a row of potatoes between the rows of bushes. Blackberry and raspberry bushes are planted in rows seven feet apart, and three feet apart in the rows. These spaces made it easy in the cultivation with a horse and cultivator, cultivating both ways, thus minimizing the cost of labor in keeping the orchard perfectly clean. The system of planting bushes between all trees secures a crop each year, while the trees are growing to bearing age, putting the orchard on a paying basis from the beginning. With this system of planting, cultivation and every year maturing, Mr. Ihm was able to make his orchard yield him from the fourth to the eighth year from its planting from $600 to $1,000 per year, and from the eighth to the present time an average of $1,500.

Last year, 1912, he sold, through the Douglas County (Nebraska) Fruit Growers' association, $1,130 worth of fruits. This was all wholesale trade. Above this he sold $400 worth to the retail trade at the orchard and in Omaha. His stuff is all put up in the best of condition and brings top prices. Cherries sold last season at from $2 to $2.40 per crate—24-quart crates; currants at 8 cents per quart, or $1.95 per crate; gooseberries, $1.95 per crate; raspberries, $2.75 per crate.

Here is an example of a machinist who labors at his trade nine months in the year, and spends the other three at home on his little fruit farm helping to harvest and market his crops, and from the latter source alone adding to his earnings $1,500 per year, from 3.83 acres of land.

What does this teach in example of horticulture? What inspiration is this to the man of small means, who thinks he should have an independent business above his salary, realizing that any salaried position is temporary at most and can be depended upon only while the laborer is able to make his services valuable, and his physical and mental ability is able to respond to the demands of his employer.

Here is a man who in a few years established himself in an industry which yields what would be a good salary for the well paid wage earner, $1,500 per year, and this is done in practically three months.

For the city man who desires an example of the possibilities of fruit growing on suburban acres, Lewis J. Ihm of Omaha has set a mark that few of the best skilled horticulturists can come up to. What this man has accomplished, and is able to show and fully explain, is worth millions to the inexperienced, untutored thousands of dissatisfied wage earners, who are looking, prospecting and mentally figuring, in vain endeavor to possess just such a place as Lewis J. Ihm has made for himself.

The Orchard in Bloom

Potash will at no distant date be a fertilizing necessity on most of the farms in this country. At present most of the potash for agricultural purposes is imported from Germany. The president has recently withdrawn from entry lands containing potash deposits in California and Nevada, so that the potash may be available to the agriculture of the whole nation.

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Does that eternal feeding, watering, harnessing and lugging hay get on your nerves?

Wouldn't you like to be really through when you come in from the fields at night? You can with a

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15-30 h. p. Tractor 30-60 h. p.

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Your GasPull is ready when you come out and you are off for a happy day with five times the work accomplished that your team could do.

It is such a light, handy, inexpensive tractor, too.

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Here is freedom from high prices on lumber

You carry the burden of five middlemen—yes, actually *carry* them, when you buy lumber or millwork of your local dealer. They all get a fat profit out of what you pay. Their materials come from a mill of the combine. Too high a mill price to begin with. By the time the five profits have been added, the price to you is a regular hold-up. Throw off high price burdens—

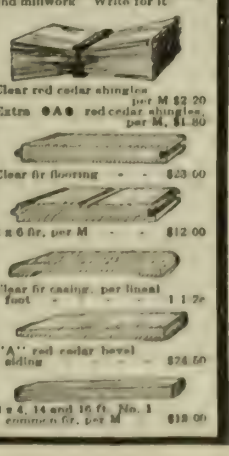
Buy Direct from Our Mills Save 40% to 60%

We are one of the biggest independent lumber companies. Own thousands upon thousands of acres of choice western timber. Do our own cutting, logging and railroading. Operate six huge mills. Produce daily 20 to 30 cars of highest grade lumber and millwork—sash doors, shingles, etc.

It's easy to see why we can put high prices to flight easy to see how we can save you 40% to 60%.

Besides lowest price, we offer you better materials and efficient delivery service.

These Prices Save You 40% to 60%
F. O. B. Seattle
These few items are a mere glimpse at the hundreds of bargains in our big catalog of lumber and millwork. Write for it.



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We ship everything for building complete—lumber, sash, doors, shingles, millwork, hardware and paint.

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These words were used by one of our customers from Villisca, Ia., Feb. 11, 1913, just before leaving our office for home. This gentleman bought a large bill of lumber and millwork. Before purchasing he examined our entire stock.

I mention the above for the reason that I know we have the finest stock of building material in the west and always make prices that are reasonable for high grade goods. Ask for quotations.

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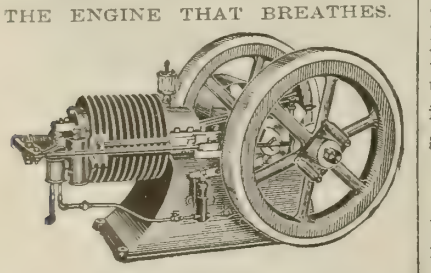

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Will United States Eventually Own Mexico?

By Frank G. Carpenter

MEXICO CITY—Does Uncle Sam own Mexico?

The question is startling, but it is one which the fingers of destiny are writing in letters of gold upon the sky of the financial universe. The answer is:

"No, not now, but the time when he will own it is already in sight."

This is a foregone conclusion, and it is independent of peace or of war, as the following figures will show. We may not flaunt our title in the face of the world, and we may keep our controlling partnership silent. But the facts are that we already own two-fifths of all the wealth of this country, and that it is a question whether our possesions are not already greater than those of the Mexicans themselves.

I have before me a table of financial statistics which was transmitted only last July to our government at Washington by Consul Marion Letcher of Chihuahua. This gives an itemized balance sheet of the wealth of Mexico, according to the nationality of the owners. Consul Letcher states that his figures are those of a mining engineer of long experience in the Mexican republic, and that they are based upon the reports of the Mexican national and state governments, of mines and smelters and of the various other industrial companies, banks and financial institutions.

How Mexico's Wealth is Divided

In this estimate Consul Letcher puts the aggregate wealth of Mexico at a little under $2,500,000,000, and he shows just how the money is divided, classifying the investments as Mexican and American, English, French and other foreign ownerships. Of the $2,500,000,000 he gives more than $1,000,000,000 as owned by Americans, and less than $800,000,000 as owned by the Mexicans. He puts the possesions of the English at $321,000,000, of the French at $143,000,000 and of all other nations at a little more than $118,000,000.

Just before the present revolutionary troubles began American money was rolling in here by the tens of millions a month. The flood is now dammed back by the unsettled conditions, but when peace and stability come it will pour in again, and this proportion, already two-fifths, will rapidly increase to the point where, considering Mexico as a capitalized stock proposition, Uncle Sam will own by far the majority of all the stock of the company. I leave the question as to how far this will ultimately control the politics and government of Mexico to President Wilson and his congress and to the editorial writer.

Where Our Money is Invested

It is interesting to know where the American money is and how our investments compare with those of other nations. The folowing is based upon the figures given by Consul Letcher. According to his statement, we own more than half of the railroad securities. Our railway stocks and bonds have a combined value of $640,000,000, while the Mexicans, in round numbers, have invested therein only $137,000,000 and the English $168,000,000.

As to the stock in the Mexican banks and bank deposits, we have about $30,000,000 to Mexico's $192,000,000, and in all the investments the French lead us as far as bank stock alone is concernced. They have an equal amount of stock with the Mexicans, the great surplus of the latter being in bank deposits only, which amount to about $162,000,000.

Taking next the item of mines, the Mexicans are pikers compared to the Americans. Their investments in their own country amount to only $7,500,000, while ours are equal to $223,000,000, an amount which more than equals three-fourths of all the mineral properties in Mexico. We have over two-thirds of the smelting investments, more than half of the petroleum properties and many millions in lands, factories and other industries.

In Lands and Live Stock

In timber lands, ranches and farms we have $12,000,000 to Mexico's $66,000,000, while in cattle and other live stock their investments are more than five times ours. The Mexicans have large holdings in houses and personal property; they do the bulk of the retail business, and they have $75,000,000 invested in various institutions which are public or national. They own, also, the hotels and theaters, the most of the breweries and about half the insurance investments, although we have twice as much of the latter as they.

Americans have $8,000,000 invested in timber lands, $9,000,000 in live stock, over $9,000,000 in factories and a little more than $4,000,000 in wholesale and retail stores. Our oil investments are put down at $15,000,000, and our rubber industries at the same amount.

One Thousand Million Dollars

Adding the various items, the grand total of American ownership equals the enormous sum of $1,057,770,000. This is Consul Letcher's estimate. According to the figures given by Sir Edmund Walker, president of the Canadian Bank of Commerce, at an annual meeting of that bank, regarding its Mexican branch, our possessions are equal to one thousand millions, of which 35 per cent are in railways, 45 per cent in mines and the balance in other industries. Sir Edmund Walker estimates the British investments at $700,000,000, and the French, German, Belgian, Dutch and Spanish at less than half that.

I have met other men here who say that this American estimate is too low, and that the property our citizens own is nearer a billion and a half than one billion, and I have talked with some men who put the total at less than one billion. In speaking of Consul Letcher's figures, Mr. C. R. Hudson, the vice president of the National Railways of Mexico, thinks the railway estimate should be cut down, as a great proportion of the stocks and bonds of Mexican railways are held in Europe. He says the impression as to their American ownership comes largely from the fact that they were placed there by New York bankers, and, therefore, credited as American investments. He also thinks that the estimate as to American ranches and farms is too low; it should be something like $10,000,000, rather than a little more than $1,000,000, and also that the item of mine ownership is probably a little too high. There is no doubt, however, but that our holdings in Mexico are enormous, and that they will continue to increase so rapidly as to make it imperative that the present state of brigandage and revolution must be done away with.

Foreigners in Mexico

As to just how many foreigners there are now living in the Mexican republic, the number has materially decreased since the revolution began, several years ago. It then numbered in the neighborhood of 100,000, of which it is estimated there were from 30,000 to 40,000 Americans, about 20,000 Spaniards and perhaps about 5,000 each of British and Germans. This might now be cut down to one-half the above figures. There are at present here something like

STRENGTH
Without Overloading the Stomach

The business man, especially, needs food in the morning that will not overload the stomach, but give mental vigor for the day.

Much depends on the start a man gets each day, as to how he may expect to accomplish the work on hand.

He can't be alert, with a heavy, fried-meat-and-potatoes breakfast, requiring a lot of vital energy in digesting it.

A California business man tried to find some food combination that would not overload the stomach in the morning, but that would produce energy. He writes:

"For years I was unable to find a breakfast food that had nutrition enough to sustain a business man without overloading his stomach, causing indigestion and kindred ailments.

"Being a very busy, and also a very nervous, man, I decided to give up breakfast altogether. But luckily I was induced to try Grape-Nuts.

"Since that morning I have been a new man: can work without tiring, my head is clear and my nerves strong and quiet.

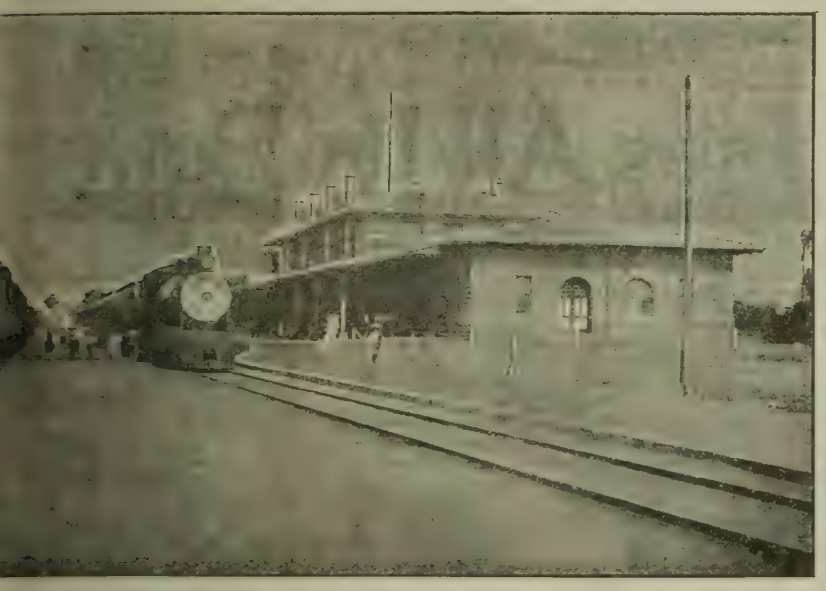
"I find four teaspoonfuls of Grape-Nuts, with one of sugar and a small quantity of cold milk, is delicious as the cereal part of the morning meal, and invigorates me for the day's business." Name given by Postum Co., Battle Creek, Mich. Read the little book, "The Road to Wellville," in pkgs.

"There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.—Advertisement.

,000 Guatemalans, 5,000 Italians,)00 French and perhaps an equal mber of Cubans.

The Spaniards, who rank second number to the Americans, control e grocery and grain trade of the ublic; they are also largely pro- ssional men, and they act as clerks, okkeepers and farmers. The ench have the wholesale and retail y goods stores, and they own most the cotton mills, having in that in- stry alone something like $20,- 0,000. They have put more than ,000,000 in tobacco factories. The



Americans Have Hundreds of Millions in Mexican Railroads. This Shows the Station at Queretaro

rmans control the hardware stores d they have many plantations. The glish have some large mines, big estments in timber and farms, a ge part of the oil business and ny tramways and electric light nts. There are many British es agents in Mexico, representing glish importing houses.

What Some Americans Do

Our mighty investments give some a of what our people are doing th of the Rio Grande river. A at number of those who have in- tments are on the ground to take e of them. There are hundreds American miners and scores of erican civil, electrical and mining gineers. There are American mers, with American foremen, d American coffee planters and ny fruit raisers. There are a ge number of Americans engaged the oil business, not only in the perties belonging to the citizens the United States, but as pros- cting the oil territory and caring the petroleum. Every large y has its American colony, and u can find an American boarding use, usually run by an American man, in every important town. ere are a number of such at the pital, and they are usually better an the hotels, with much lower ices.

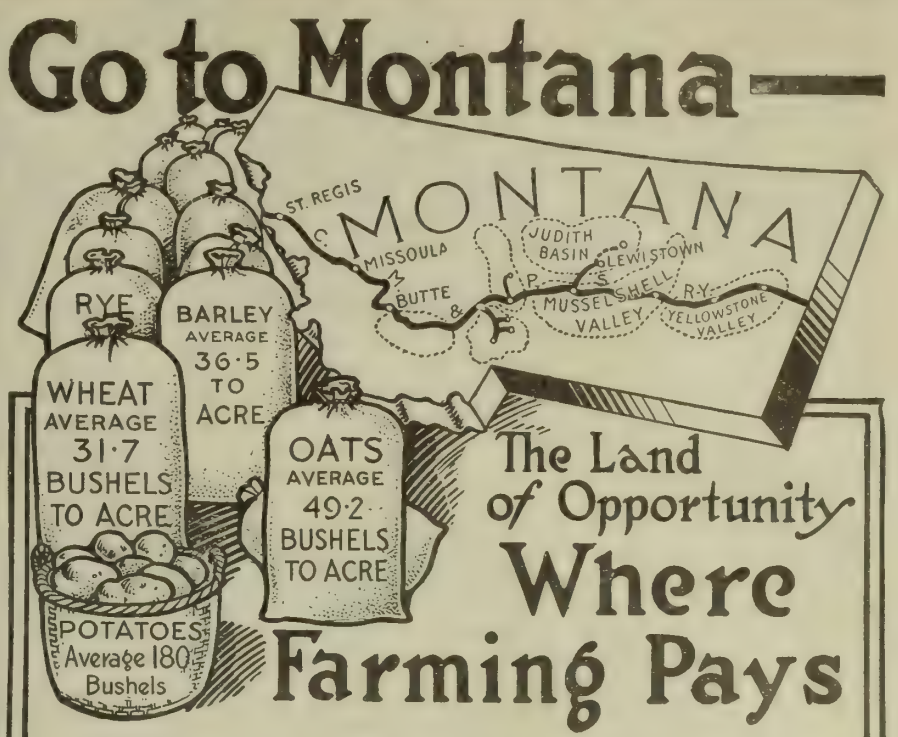
The big railroads are largely man- ed by Americans, although of late ars the engineers, conductors and akemen have been replaced by na- es. There are many American ofessional men, and especially doc- rs and dentists. I am told there e two American physicians at the pital who have practices worth 0,000 a year, and I know of nu- erous dentists from the United ates who are putting peas of silver amalgam into the mouths of Mexicans and taking pumpkins of gold out of their pockets.

As far back as ten years ago our consul general to Mexico City estimated that there were 1,000 American companies and capitalists who had investments in Mexico. There are somewhere between 3,000 and 5,000 Americans living at the capital and they have wholesale and retail stores here of various kinds. The city has three clubs which are American; one is the University club, in the Colonia section, to which belong many American civil and electrical engineers, as well as leading business men; another is the American club, in the heart of the city, which is always filled with Americans and others at the noon lunching hour, and a third is the Country club, outside the city, where the Americans go to loaf and play golf.

We have here a newspaper, the Mexican Herald, which is owned and edited by Americans, and there are several hotels managed by Americans, and at which most of the Americans stay.

(Copyright, 1913, by Frank G. Carpenter.)

Go to Montana—



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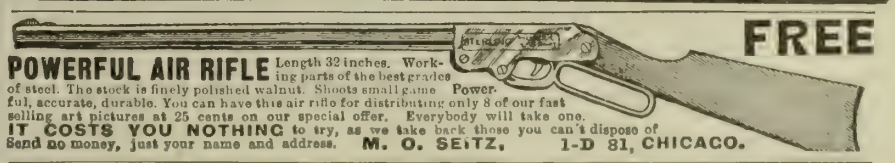

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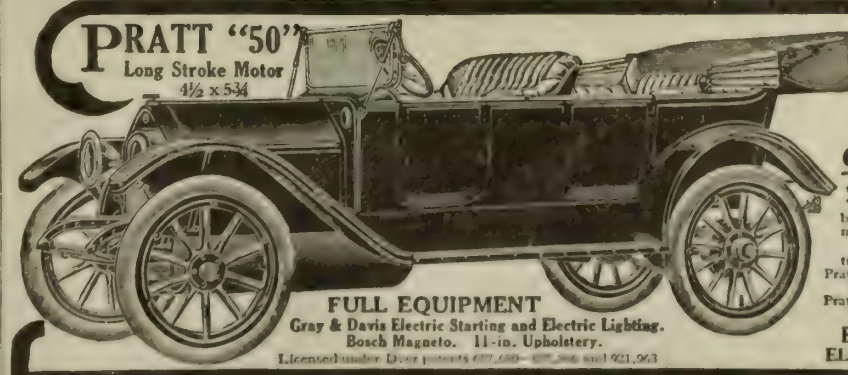

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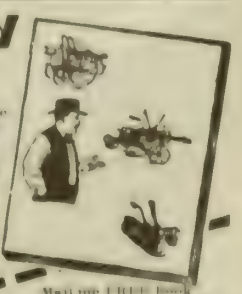

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Some Things Worth Knowing

Practical Hints Covering Variety of Subjects

MEAT used while fresh is more nutritious and palatable than salted or cured meats. It is, therefore, desirable to use as much of it uncured as possible. It is very difficult to keep meat fresh during the summer months without the use of ice, and even then but little can be handled at one time on the ordinary farm. Where a room or family refrigerator can be kept at a temperature of 40 degrees or less, with good ventilation and circulation of air, fresh meat can be kept for a week or ten days. It is very important that the circulation be free and the air dry. Moisture in a refrigerator tends to develop wet mold or slime, and a little decay soon contaminates the whole piece. Less difficulty will be experienced in keeping fresh meat if it is kept in a room where the temperature is high and the air dry than where the temperature is low and the air damp.

Insects should not be allowed to get at the meat. For this reason a dark, good cellar is the best place for keeping fresh meat on the farm. The cellar should be clean and free from odors or the meat will become tainted.

Asparagus the First Season

The very best asparagus plants are strong one-year-olds. About the only advantage in using older plants is to wait until they bloom, so as to distinguish the males from the females and select the females which are the strongest and best producers.

After being thoroughly worked up the ground should be laid off in furrows six to eight inches deep and from four to six feet apart. The best time for planting is early in the spring. The plants are set about two feet apart in the furrows, and where they are placed in the ground is often moulded slightly. The roots are spread out carefully and the earth is filled in two or three inches over the plants, or "crowns." As growth proceeds the ground is cultivated in until the furrows are finally filled. Thorough cultivation should be continued during the entire season, and in late fall the tops should be cut off and removed from the field and be burned to destroy disease germs and insects.

How to Prune Roses

The hybrid perpetual and everblooming roses are commonly not pruned hard enough. The best flowers are grown on young wood and the aim should be to cut them back enough to induce a strong growth which will bear a few fine flowers rather than a lot of common ones. Long, straggling growth can be cut back in the fall, but pruning should generally be delayed until spring, according to a Farm and Home expert.

Many successful rosarians cut back their bushes to within one foot of the ground and also remove all weak shoots. The aim should be to cut off from one-half to two-thirds of the previous season's growth and to remove all dead, frozen and weak canes. There is little danger of cutting off too much.

To Save Crop Be Ready to Spray

The up-to-date Ozark apple growers have learned not only the absolute necessity of spraying, but the fact that a few days' delay in spraying means disastrous loss.

It has been demonstrated that spraying is necessary to save the crop, and the situation now is for the apple grower to be ready to spray the instant it is needed.

Therefore, it behooves them to have the spraying machine, lime sulphur and arsenate of lead on hand for use at a moment's notice.

If this matter is postponed until a short time before the spraying is needed it will be found that, because of the large volume of business, the firms from whom this material is procured cannot fill the orders promptly, and the delay in securing it will mean a tremendous loss to the apple grower.

Making Barren Trees Bear

Nothing is more trying to the patience of a horticulturist than to have his trees grow a vegetable growth and no fruit. Experimenters have discovered a method for making such barren trees productive. In many cases the method has been so successful that it will be worth while for any owner of barren fruit trees to try it and note the result. The method consists in interrupting the flow of sap. There are two methods of doing this. One is by peeling strips of bark, two feet in length and an inch in width from the stems of the trees, leaving an inch between the strips so removed. The other method consists in cutting through the bark with a saw, a spiral girdle, that will completely surround the trunk. The width of this girdle should not be more than the cerf made by the saw. The time for doing this in the Missouri valley territory, is from the middle of May until the first of June.

The Farm Lawyer

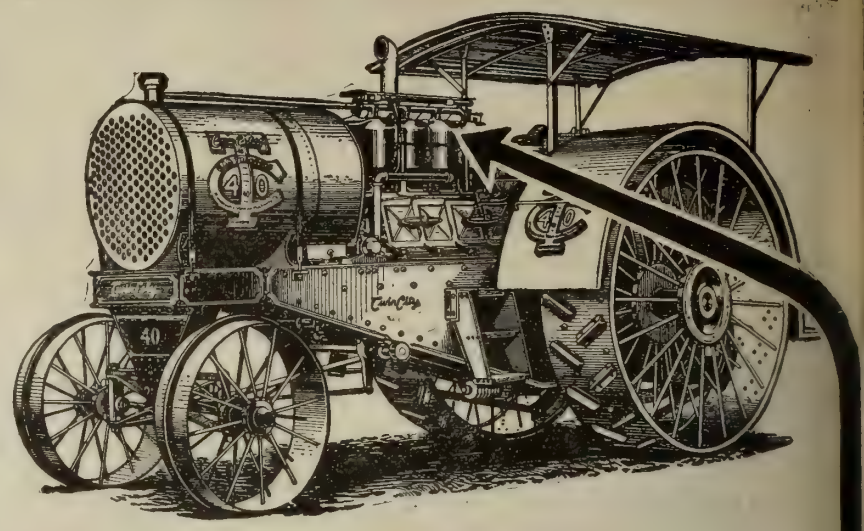
A contract made with a minor or a lunatic is void.

A note by a minor is void in some states and in others it is voidable on judicial decision.

A note made on Sunday is void; also one dated ahead of its issue. It may be dated back at pleasure.

In the absence of a specific agreement as to when a deed is to pass under a contract to convey it should pass at the last payment.

The agricultural extension department at the State farm in Lincoln will conduct another corn-growing contest during 1913. The Union Stock Yards company of South Omaha offers $700 in prizes. It is hoped that 1,000 boys will enroll in the contest. The rules governing the contest may be had on application to the Agricultural Extension Department, State Farm, Lincoln.



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That's one of the reasons why the Twin City Tractor **can pull a greater load than any other tractor of the same rated horse power.**

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The many points on which the Twin City Tractor excels all others takes a 40 page book to describe. Its records of service and achievements as told by farmers all through the western states, fills another book. Write for both of them—ask for booklets 7A and 9A. They're well worth reading.

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D. Landreth Seed Company
BRISTOL, PENNSYLVANIA.

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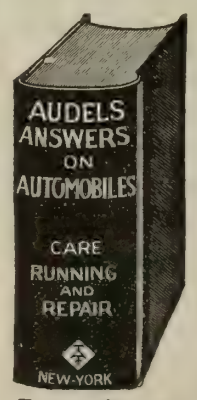

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The BIG FOUR "30"

Three Speeds—another new feature which further strengthens the BIG FOUR "30's" leadership in the farm tractor field. *Three speeds forward, one reverse.* Every bearing of the transmission equipped with "Hyatt" Roller Bearings, composed of nickel steel, case hardened and ground, working in nickel steel, cages on hardened steel shafts. All gears enclosed and running in oil bath. These are exclusive features of BIG FOUR Quality and Points of Superiority.

Saves Time, Saves Work, Saves Money

Haul and drill on "high"—increase your average speed 40 per cent. 20 to 40 more acres per day. Hit the hard spots, the hills and the gumbo on "low" and keep *all* your plows *in the ground!* Increases power at drawbar *over forty per cent!* Gives you practically a 40 h. p. Engine with the light weight and handiness of the "30."

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Make 3 to 4 miles per hour on "high" speed where the work is light, and save many days' time in a season, besides taking more complete advantage of weather and ground conditions to get your crops in and your grain cut at the *right time.*

Do your ordinary work on "direct" drive or second speed. Your "low" enables you to pull loads which 40 h. p. tractors of other makes would have trouble with, also to work in soft ground where heavier tractors would be helpless.

Big Four "30" Farm Tractor

with its three-speed transmission, *dual carburetor* for KEROSENE or GASOLINE, four cylinders, mammoth 96-inch drive wheels and self-steering device is the *most efficient* and *most economical* farm tractor ever built! Write us for the *proof!* Let *actual users* convince you!

Uses Kerosene or Gasoline

The BIG FOUR "30" Farm Tractor is not restricted to one fuel. Its dual carburetor enables it to use either KEROSENE or GASOLINE with unequalled efficiency and economy.

The BIG FOUR "30" is *guaranteed* to deliver *full rated power* with Kerosene or Gasoline. It will pull a greater load with kerosene than any other so-called kerosene tractor of equal rating.

One BIG FOUR user writes—"I can do *twice as much* with my BIG FOUR "30" and at *one-half* the operating expense, as my neighbor does with a two-cylinder oil burner."

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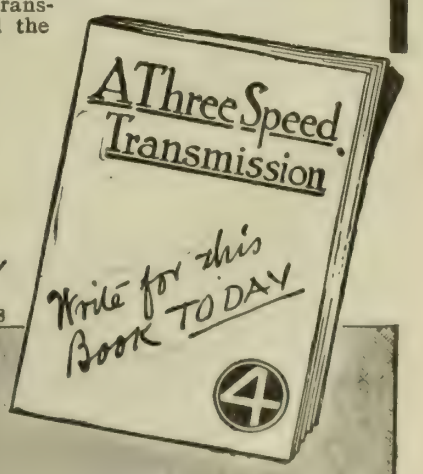
The BIG FOUR "30" has broken and plowed more acres per engine than any other. It is the first tractor to use the efficient, steady, economical power of the *four cylinder* principle. It is the first tractor

Sold On Approval

You can try it on your own farm—in your own field! It *must* satisfy you *before* you pay out a cent! *You* are to be the judge.

Write for Our Catalog TODAY

Don't wait until you get ready to order. Get the new BIG FOUR book telling all about the three speed transmission. Just drop us a postal, or mail the coupon below. Do it NOW!



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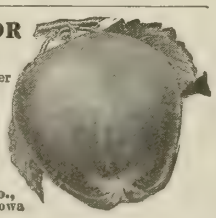
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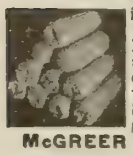
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Of Interest to Our Women Readers

Character Building

Beautiful thoughts make beautiful lives;
For every word and deed
Lies in the thought that prompted it,
As the flower lies in the seed.

Back of each action lay the thought
We nourished until it grew
Into a word or into a deed,
That marked our life work through.

Gracious words and kindly ways,
Deeds that are high and true;
Sland'rous words and hasty words,
And deeds we bitterly rue.

The Garden of Life it beareth well;
It will repay our care.
But the blossoms must always and ever be
Like the seed we're planting there.

"Keep thine heart," the Life Guide saith,
"With daily, diligent care,
For out of it are the issue of life,"
Be they foul or be they fair.

On things that are pure and of good report
Our hearts must daily dwell,
If we should see Life's garden full
Of blossoms that please us well.

For beautiful thoughts make beautiful lives;
And every word and deed
Lies in the thought that prompted it,
As the flower lies in the seed.
—Selected by Mrs. Sarah E. Royce, author unknown.

Our Home Chat

"What do you think is the most common fault of girls and women?" asked a young girl the other day, with that intense earnestness which so often characterizes youth. Repressing a smile, I met the seriousness of the girl, with my honest opinion, "Littleness." Women meet great difficulties, great troubles, with something approaching heroism or stoicism. But the small annoyances fret, and they are not able to rise above the little things which daily vex and mar our lives. The grave faults in others are forgiven, but the little defects get on the nerves.

Most women are deeply devoted to their homes and families, yet many do not look about to see the outside environment of their loved ones; they do not take an active or corrective interest in conditions which may need changing or a little supervision. Every community is better for the active interest of the mothers, and this activity enriches the women in return.

There is perhaps no better corrective for the nagging woman than good wholesome recreation, and the opportunity for pleasant social association with the right kind of people. This takes the mind off the smallness of her daily round of duties and gives a larger view of things.

Farm women are beginning to extend their influence from the home out into the community and into the state, and there seems to be no limit to her power. We all remember the answer to the query, "Who is the greatest woman?" and the prize answer, so familiar now:

"The wife of the farmer of moderate means, who does her own cooking, washing, ironing, sewing, bringing up a family of boys and girls to be useful members of society and finding time for intellectual improvement." THE EDITOR.

Spring Renovating

If broken chairs and other furniture have been stored away in the attic, now is the time to bring them out. Provide yourself with a hammer, small nails, tacks and a bottle of prepared glue and a box of paint of the color wanted. Many articles can be made to do good service, and look as well as new after they are repaired. If you want to completely transform an old set of furniture, paint it white. First sandpaper it smooth, then give each piece a coat of white lead paint, and when this is dry give it a second coat, and when this dries put on a coat of white enamel paint. The work is tiresome, but it does not take long to paint a set, and it is certainly worth one's while.

Scratches, ugly nicks or nail holes in walls can be filled with plaster paris, mixed with vinegar, and if paper refuses to stick to a plastered wall, painting the wall with a solution of good glue in strong vinegar will remedy the trouble. You can make wall paper look like new by first dusting it thoroughly and then cleaning with a stiff dough made of flour and water, with a half cupful of gasoline added to a quart of water. Take a small piece of this dough, rub the paper with it, and as it removes the dirt fold it inside, and continue in this way until this piece of dough is all soiled, then discard it, take a fresh ball of dough and proceed as before.

If you want to paint the floor of a room and use small rugs, give the floor a thorough cleaning, then give it a coat of light paint, and when this is dry putty up all the cracks and nail holes in the floor. Next give the floor a second coat of light straw color, or any color wanted, and after that is dry, put a dark border around the edge. When rugs have a tendency to curl up at the edges, sew strips of stiff buckram along the edges of the rugs. To mend a hole in a rag carpet, cut pieces of goods into fine strips, then thread a darning needle with a strip and darn the place as would a stocking. Use yarn for darning a yarn carpet. If a carpet is very soiled, rip it apart and run the breadths through a good washing machine.

Pictures Wanted

THE TWENTIETH CENTURY FARMER desires to secure photographs of farm scenes and life in rural communities. Knowing that among its readers are many amateur photographers of ability, and who have desirable pictures for sale, the following offer is made:

For every picture that is found suitable for use, $1 will be paid. Pictures accepted will not be returned, but those not suitable for reproduction will be returned to the sender.

The name and address of the person submitting it should be written plainly on the back of each picture.

Pictures must not only have the merit of news interest and value, but the photographic print must be clear and distinct, to insure a good reproduction in a half-tone cut.

We can use clever pictures of children and animals, handy devices and conveniences about the farm buildings and grounds.

In submitting pictures, parties sending them should give information and data about each one. This may determine the availability of the picture for publication.

To keep moths out of carpets, take a paint brush and paint all around the edges of the carpet on the wrong side with the brush dipped in turpentine. Fill all the cracks and corners of the floor with the turpentine and use a little turpentine in the water used for scrubbing floors of rooms and closets, as it helps to purify the air, and will kill all small insects.

To keep bugs off the beds, dissolve half an ounce of corrosive sublimate in a pint of wood alcohol and go over the beds with the solution. This is a poison and must be kept out of the way of children.

A. M. H.

Hot Lunches at School

The introduction of some appetizing dish, hot from the stove or "fireless cooker," is an improvement on the old-time cold lunch at noontide which is finding quick appreciation in the country schools of Minnesota. The suggestion of such a hot lunch has led to numerous experimental trials; and the results have been so satisfactory that the hot lunch bids fair to establish itself as a permanent feature of the noon hour in our schools. It recommends itself, not only as promoting the health and enjoyment of the boys and girls, but as affording daily a practical lesson in domestic science, the benefits of which accrue, not only to the pupils but to "the folks at home" as well.

Superintendent T. A. Erickson of the Douglas county schools is enthusiastic over this "new departure." He says: "We have never tried a new plan which has taken so well with children and parents alike. Where a teacher shows a little tact and common sense in working it out there is absolutely no objection on the part of parents. It is something that appeals to them at once." One teacher tells him "it is the greatest help to discipline that she has." The work of preparing the meal is attractive to boys and girls alike, and they are quick to apply their new culinary acquirements at home. "On cold days the noon hour becomes of unusual interest." Several teachers have introduced the home-made fireless cooker, wherein oatmeal, cream of wheat and soups are finished and kept hot. The menu is undoubtedly more wholesome than the ordinary cold lunch. Add to this the fact that the common human interest in "good things to eat" draws pupils, parents and teachers together; that good fellowship, democracy and refinement of behavior are promoted—and that all, after the noon hour are in the best possible frame for carrying on the ordinary work of the school—and the beneficence of the "hot lunch plan" is easily perceived. C. R. BARNS.

Household Helps

Bay rum and glycerine, equal parts, will remove calluses from the feet and also soften corns and often times removing them altogether, if constantly used.

For a bad cold in the head, try soaking the feet in as hot water as is possible, in which a tablespoonful of dry mustard has been added.

MRS. INA HEATH.

Practical Styles for the Home Dressmaker

All the Patterns on This Page Ten Cents Each

ILLUSTRATED here are a few practical designs, all of which can be very easily made up by the home dressmaker. These patterns allow for all seams and are perfect fitting. Full instructions and a chart accompany each pattern. All patterns 10 cents each; no extra charge for postage.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want, enclosing 10 cents for each pattern.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Description of Patterns

5160—Ladies' Apron. This apron is just the thing to use when dusting. It is made with a bib at the front, which protects the dress. Linen or gingham can be used to make this apron. The pattern 5160 is cut in one size and requires 2½ yards of 36-inch material. Price of pattern, 10 cents.

6021—Ladies' Shirtwaist. This shirtwaist is made with the front and collar in one, and may have long or short sleeves. The short sleeves are finished with pointed turn-back cuffs. Silk, linen, madras, poplin or serge may be used. The pattern 6021 is cut in sizes 34 to 42 inches bust measure. Medium size requires 3¼ yards of 36-inch material, ¾-yard of 24-inch contrasting goods. Price of pattern, 10 cents.

6007—Ladies' Dress. This dress is made with the stylish sailor collar and turn-back cuffs. It closes at the front and is made with a removable chemisette. It can also be made with long or short sleeves. The skirt is a five-gored design. The pattern 6007 is cut in sizes 32 to 42 inches bust measure. Medium size requires 6⅛ yards of 36-inch material, with ⅝-yard of 24-inch contrasting material. Price of pattern, 10 cents.

4625—Girls' Semi-Princess Dress. This is an excellent dress for the school girl. It can be made with high or low neck and with long or short sleeves. The skirt is a kilt-plaited model. The pattern 4625 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 3½ yards of 36-inch material. Price of pattern, 10 cents.

4784—Girls' Dress. An excellent model for a school girl is here presented. The garment closes at the front, buttoning all the way from the neck to the hem. The waist is in the popular Gibson type and the skirt is the favorite kilted model. Serge or cheviot can be used to make this dress. The pattern 4784 is cut in sizes 6 to 12 years. Medium size requires 3¼ yards of 36-inch material. Price of pattern, 10 cents.

To Remove Paint

If a garment becomes soiled with fresh paint, the paint may be easily removed by using spirits of ammonia applied while paint is damp.

Stamping Out Tuberculosis

SOME comparisons showing the progress of the anti-tuberculosis campaign in the last eight years and the present needs of this movement are made by The National Association for the Study and Prevention of Tuberculosis in a brief report of its work issued in connection with an appeal for further support.

During the eight years of its work, The National association has assisted in the organization of over 800 state and local anti-tuberculosis societies located in almost every state and territory of the union. Over 500 hospitals and sanatoria have been established with more than 30,000 beds for consumptives. About 400 dispensaries with more than 1,000 physicians in attendance and at least 150 open air schools for tuberculous and anaemic children have also been provided. Laws dealing with tuberculosis have been passed in forty-five states and ordinances on this subject have been adopted in over 200 cities and towns. An active field campaign of education against tuberculosis has been carried on in forty states and territories by means of lectures, exhibits, the press, and the distribution of over 100,000,000 pamphlets on this disease.

The present campaign contemplates the continuous education of practically the entire population of the United States amounting to 90,000,000 people, and the extension of the campaign of organization already in effect to take in every state, city and town of the country.

All He Has Left.

Hiram Has old man Simpson made his will?

Hank Gawsh, no! Hain't got nothin' ter leave 'cept the rheumatism.

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This music is the same, in every particular, as you purchase in Music Stores.
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Billy, "A Hit"	My Loving Honeyman, "A Hit"
Garden of Roses	You are Ideal of My Dreams
Red Wing	Will Roses Bloom in Heaven
Silver Bell	All Aboard for Blanket Bay
Oceana Roll	Put Y'r Arms Around Me Honey
I Want A Girl	Killarney My Home O'er Sea
Kiss Me My Honey	Come Josephine in Fly'g M'hine
Star of the East	Dreams of Long Ago by Caruso
Railroad Rag	There's Mother Old & Gray, etc.
Baby Rose	Silver Threads Among the Gold
Mysterious Rag	Alexander's Rag Time Band
Daisies Won't Tell	Put on Your Old Gray Bonnet
Steam Boat Bill	When Autumn Leaves are Fall-g
Some of These Days	Meet Me Tonight in Dreamland
You Beautiful Doll	Brass Band Ephraham Jones
Casey Jones	Where River Shannon Flows
College Rag	In All Dreams I Dream of You

INSTRUMENTAL---Music for Piano or Organ

Meditation, by Morrison	Star of Sea, Reverie
Kiss of Spring, Waltz	Loveland, Waltz
Silver Bell, Two-Step	Moon Winks, Three-Step
Napoleon's Last Charge	Maple Leaf, Rag
Red Wing, Two-Step	Beautiful Star of Heaven
Turkey in the Straw	Ben-Hur Chariot Race
Drifting Leaves, Reverie	Wedding of Winds, Waltz
Burning of Rome, March	College Life, Two-Step
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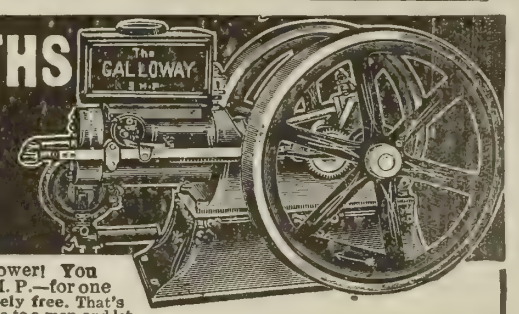

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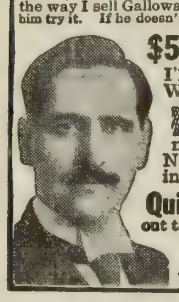

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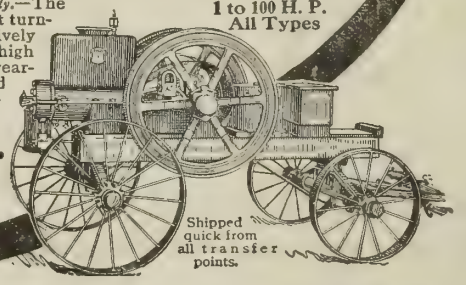

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Stories by Our Young People

Fingers and Toes

Such funny songs my grandma sings!
She plays such funny games.
And, oh! she calls a lot of things
Such awful funny names!
She raps my fingers, one by one,
And says, "Now hear me tell
Who picked the currants from the bun,
And pinched the cat, as well!
'Twas
Tom Thumper,
Ben Bumper,
Long Larum,
Billy Barnum,
And little Oker-bell!"

And when, at night, I've taken off
My shoes, and stockings, too,
She'll pat my feet, and frown, and cough,
And say, "It wasn't you
That kicked the pantry door, I s'pose,
And scarred and scratched it so?"
And then she'll laugh, and tweak my toes,
And say, "I guess I know!
'Twas
Toetipe,
Pennywipe,
Tommy Thistle,
Jimmie Whistle,
And Baby Trippingo!"

—Arthur Guiterman in St. Nicholas.

The Editor's Corner

It seems that the most objectionable things have each their particular use. We do not usually think of dust being necessary; we regard it rather as a nuisance and a menace to health, because we are told that in dust are microbes which cause sickness. But I will quote to you from an article I have been reading in the Chicago Examiner, which says:

"Dust is the only thing that will bear up the evaporated moisture in the form of clouds, and, therefore, if it were not for dust there would be no rain. Not a drop of all the water evaporated from the oceans could come to earth on anything but the bearer of its condensations, the dust.

"Were it not for the atmospheric dust there would be no clouds, no fog, no rain, no snow, no splendid sunsets, no azure skies. The surface of the ground, the trees, the houses, the men and animals would be the objects on which water vapor would condense and the clothing of man and the fur of animals would drip water a great share of the time.

"Light is produced by the vibrations of ether in the form of waves of variable extent, varying in extent according to the color of the light; and the waves are differently reflected, according to the dimensions of the grains of dust that they meet as they descend to earth. The fine dust reflects only the shortest waves, the blue. Dust of medium thickness reflects the yellow and the green waves, while the coarsest dust reflects nothing but the red."

THE EDITOR.

(Prize Story.)

The Bunny Family

By Dick Dunnington, Aged 14, Luton, Ia. Blue.

One day our neighbor went to town and brought a pair of red rabbits for my brother and me. We made a pen and put the rabbits out in the yard; they grew so fast and were as pretty as could be. We named them Bill and Beauty.

One day Beauty made a nest in one corner of the pen and lined it with fur. The next day we found eight little rabbits. My, but we were glad. In about two weeks we saw the bunnies stick their little heads through the nest. Soon they got so they would stay out all the time.

Now they are great, big fellows, and we sold our teacher a pair; she is going to take them up to Dakota to her little brother. The rabbits eat almost anything—crackers, apples, cabbage and most any kind of vegetables. I must go to feed them, for I fear they will be hungry.

(Honorable Mention.)

Boulder Canyon by Auto

By Vivian Belcher, Aged 12, Polk, Neb. Original. Red.

A year ago last August seventeen of us took a trip to Denver in four automobiles. We were gone two weeks, and surely had a fine trip. On reaching Boulder someone told us there was a camping place in Boulder canyon, so we started up the canyon. The road is so narrow that it is hard work for teams to pass, and in some places it is impossible. All but papa got out of our car, while he see-sawed back and forth to pass a team. Then papa ran on to a place to turn round, as we decided there was no camping place near. We started in the opposite direction, and I surely did run to get as nearly out of there as I could on foot. The mountains are straight up on one side of the road and the river on the other, and it looked pretty dangerous to me.

Papa caught up with us, so we got in, but, alas, the brakes wouldn't work, and the way we came down that canyon wasn't slow, whirling round the big boulders, expecting every minute to be dumped into the river, yelling to everyone to get out of the road. Fortunately, we came out O K, but no more Boulder canyon in an automobile for me.

Tom's Lesson

By Guy Catlett, Aged 13, Fairview, Ill. Original. Blue.

Tom Horton was a little English boy of 6 years, who came to America with his father. His father was a trapper by trade, and he hoped his little boy would also become a trapper. When Tom was 8 years old he could set traps very well. One day when he went to set his traps he saw a big rabbit running toward him. It stopped and said to him:

"Do not try to harm us, little friend. What if you were a rabbit, and when you are at play you would be caught in a cold iron trap, and when you pulled, it would hurt you so bad you thought your leg would break? When morning comes you hear the trapper come, and then your

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.
BLUE—Nellie Snyder, Provo, Utah.

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pleasant life is brought to an end. Now, do you not pity us?"

Tom awoke, to find that he had been dreaming. He rubbed his eyes, gathered up his traps and walked home. He had dreamed something which had taught him a lesson.

Picking Turkeys

By Jeannie Simmons, Aged 13, Fallon, Nev. Original. Blue.

One day last fall mamma kept my brother and me home to pick turkeys. It was so cold outside that we decided to pick them in the house. Bill went out to get a turkey, while mamma and I tacked sacks along the wall to keep the blood off the wallpaper when we hung the turkey up. Bill brought the turkey and mamma cut its throat. We hung it up and then placed a chair with a pail on it under its head to catch the blood. After it had bled about a pint I asked mamma if it was dead yet. She said she guessed it was, so I walked up to it and said:

"Gobble, gobble, gobble."

It raised its head, looked at me and said:

"Gobble, gobble, gobble," and then tore itself loose from the nails, knocked over the chair and pail and started across the room. Mamma caught it and took it outside.

We did not try to pick any more turkeys in the house that day.

Blue Bonnet

By Mary Sweeney, Aged 9, Broken Bow, Neb. Original. Blue.

I have a very pretty hen, whose name is Blue Bonnet. One day last winter my brother, Bernard, and I went up into the loft of the barn. We heard a hen singing. We did not know where she was, though. We commenced looking through the hay; then we saw my hen; we took some feed and put her into the hen house. She was very glad that we found her. Then she stole her nest up in the barn and laid thirteen eggs. When I would lift her off she would sit and sing instead of cluck.

Conundrums

Why is Ireland likely to become the richest country in the world?—Because its capital is always Dublin.

What is the difference between one and two yards?—A fence.

What relation is that child to its own father who is not its father's own son?—Daughter.

What is the difference between a dog's tail and a rich man?—One keeps a waggin', the other a motor car.

When is butter like Irish children?—When it is made into little Pats.

When you open the window in a railway train what is the first thing to catch your eye?—A cinder

Why is a pair of skates like an apple?—Because they have occasioned the fall of man.

Additional Stories

Blue Nettie Stichler, Ord, Neb.; Edith Campbell, Valley, Neb.; Velma Burgess, Osceola, Neb.; Ruth Hart, Baker, Wyo.; Ronald Anderson, Harvard, Neb.; Anita Wilson, Lexington, Neb.

Red Christine Byers, Cumro, Neb.; Stella Drum, Calloway, Neb.; Gladys Swift, Abilene, Kan.

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FIRST PRIZE—Carl Crozier, Sidney, Ia.: If they met in grandmother's old-fashioned garden, and the sage would say, "The thyme is four-o-clock," would Rosemary answer, "Touch-me-not, sweet william, but turn unto the pink tulips of Zenia?"

As the king of Sweden raises prize dogs on his estate, does he use them to drive the Stockholm?

SECOND PRIZE—James W. Mann, St. Croix Falls, Wis.: In a vegetable procession, would the cabbage head, and the tomato ketchup?

If the hired man played ball with the pump hand, would the water pitcher?

If the janitor were angry, would the coal scuttle?

Charles A. Minick, jr., Crawford, Neb.—If The Twentieth Century Farmer ate four dozen apples, how many would the Literary Digest?

M. W. Henry, Aldine, Tex.—While the battle raged, did the Bull Run to the Cowpens?

When the milk turns, does the butter-fly?

F. H. Parish, Honey Creek, Ia.—If writing makes the pens-il, what made the ink well?

Russell Denny, Elgin, Mont.: Without the midnight sun, how could Bering sea?

When the waves crash against the rocks, does Puget Sound?

If you wish to see a good lawn dress, you should Seattle, Wash

Hattie Atzbach, Ashton, Idaho—If the day was hot, would the pow-er puff?

If the clock stopped, would the Irish setter?

Clara M. Olson, Gray, Ia.—If a diamond is a jewel, is a-gate?

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Martha, Selections	My Old Kentucky Home, Variations
Edelweiss, Glide Waltz	Bohemian Girl Selections
Flower Song, *Lange*	Whispering of Love, Waltz
Salut A Pesth March	Spring Song, *Mendelssohn*
Irish Melodies	Beautiful Blue Danube, Waltz
Last Hope, *Gottschalk*	Dancing in Barn, *Turner*
Falling Waters, *Ernax*	Mocking Bird, Variations
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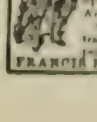

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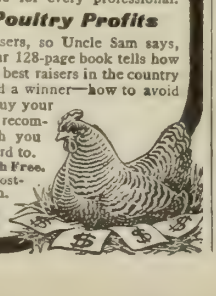

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Items of General Information for Those Engaged in Poultry Raising

WHY not coax the little boy on the farm to get interested in some standard-bred chicks that are to be all his own? How many farmer women ever think of this? Mighty few. And yet nearly all of the great poultrymen now making a success of this business began as boys. Get the chicken fever when young, and the lure of its study in his head, and a boy will stay with it. My experience with boys in this line of business is that, nine times in ten, he beats his sister all out in taking interest, and is proud that he does, instead of thinking it something to be ashamed of. O, I know country girls. I was one once upon a time.

***

This winter has for some reason—climatic, of course—brought colds and all that may follow—pneumonia, diphtheria and roup—to numberless flocks of fowls of every kind. In most cases it has been the young stock affected; in fact, it is the young of most flocks that take cold and diphtheria more readily than the older fowls. Of course, in our country every disease of the head and throat is called roup, and quite often it is not this at all. The tendency now is to collect all these head and throat troubles into two diseases—influenza and diphtheritic roup. The former the experienced poultryman isolates and doctors, the latter is distinguished by extreme weakness, short breathing, throat filling with membrane; finally, if spared long enough, bursting eyes, etc. Such cases he kills and burns, or buries deep, because the remedy he may help one with is nearly sure to have no effect upon another, and only loss awaits delay in the matter. Certain flocks and breeds are more susceptible to the real roup than others; a rattling, wheezing fowl that shows no discharge from nostrils and mouth, or membrane or canker in the throat, is not a dangerous fowl to let loose in the flock. But if there be a discharge, then other fowls, young, weak or susceptible, get it in the drinking water. And this is why, so often, well disinfected drinking water saves the flock from complete contagion.

***

We are often surprised to find even the big men in the poultry business seemingly ignorant of certain poultry troubles that mean great loss to poultry breeders in various parts of the land. Here is what one of the prominent men in poultry keeping for many a year explains about the gapes, that despoiler of flocks wherever the gapeworm lives, for, like other life, it has its certain climates and haunts. He says that what causes gapes has had more theories to carry than perhaps any one other poultry trouble. "Some people claim angleworms, some a certain disease germ, some just the climate, some that head lice crawl through the nostrils into the throat, and so on and on." His conclusion is that, as the gape disease is unknown in certain light, sandy soils, in which every rain carries down the filth, then as this disease is found in heavy soils, it must be that the accumulating filth is to a certain extent the cause of the trouble. He leaves the reason vague, when he, or anyone who knows chickens, should know that neither germ or filth has aught to do with the gape trouble. It is solely caused by two small worms, the smaller joined to the larger. The chick picks them up, and they crawl from the crop to the throat, where their eggs are often left, and hatch in the throat membrane. It is true they are not often found in light, warm soils; they flourish best in wet soils, but even certain wet, heavy lands show no trace of the gapeworm. The angle, or fishing worm, does pick them up, too, and as I have by feeding angleworms to confined chicks started the gape trouble, I now prefer to feed the confined chicks bits of good meat instead of fishing worms.

***

March Poultry Notes

March is the logical month for setting hen eggs. More chicks come out in April than in any other month in the year.

Before April it has been so cold that unless one has been specially fixed to keep the chicks warm as in summer, the death rate has been very high for the earlier hatched chick.

So many people get wild to set incubator or hens in January or first of February, then when they are out haven't the least idea where to put them to keep them alive.

Hens, especially young hens, will not hover chicks on cold days as they should. They want to get up and scratch, and the chicks get chilled long before the hen will consent to hover them.

Early chicks must have warmth to creep into all of the time. This is why the April and May-hatched chicks get the advantage over the earlier hatched not provided with heated brooders.

If the hens do refuse to hover them as they should be, the deathly chill of the earlier months is gone from ground and board floor.

A good idea is to get all the hatching done by the middle of May. If one have some extra bad luck, this cannot always be done, but the majority of the chicks should be on hand by this time.

The eggs you set in March will mean pullets hatched in April for the next winter layers, but set all eggs from the older hens. Don't eat all these eggs, and don't think of selling these older hens, no difference how the high price tempts you, until all the laying and brooding season is over.

Dust the setting hen with some good dusting powder when first set, then ten days after, but no more. The big lice are beginning to look out in March for the coming chick head.

Feed strong this month, and give the breeders animal food at regular times. Watch, too, that they do not get too much dried grass in their eagerness for green stuff. March is the time for crop bound.

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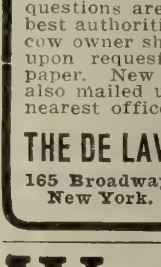

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ictures Tell Their Own Story

Right and Wrong Way to Care for Cows in Calf

VERY cow owner should understand certain general principles that underlie all stock production. A cow not make something out of noth-. If a cow is to make anything, ether milk, flesh, or a future calf, must be furnished materials out which to make it. She cannot ke it out of nothing. The owner a cow in calf expects her, asks , to make for him a thrifty, wthy, bony, muscular, healthy f. He must then furnish her maials, the proper materials, and in per amount, to enable her to aner to his demand. Unless he does s, his desires will not be fully met. me cows, when furnished materi- of improper quality, or in insufient amount, so strong is their rit of maternity, will rob their n bodies in order to supply the latest report of the director of the agricultural experiment station of the University of Wisconsin. They tell their own story.

The calf at birth ordinarily carries very little fat; it is composed mostly of muscle, bone and tissue necessary to functional activities. These are all made from the muscle and bone-building food; in other words, from the proteins furnished the cow. Whatever fat it has, and whatever heat it maintains, are derived from the heat-producing foods; or, in other words, from the carbohydrates furnished the cow. Evidently, then, for the production of a muscular, bony, vigorous calf plenty of protein is needed in the ration of the mother. The heat food for this purpose is alfalfa, clover, or other legumes.

Illustration I—Result of the Wrong Way

Since all heat and all mechanical energy in animals is derived from the carbohydrate element in their ration, there must be an adequate supply of this element in the feed given to the cow. Ordinarily, with animals in ordinary condition, the ratio between these two elements in a properly balanced ration should be about one to five—that is, one pound of protein to five pounds of carbohydrates. A cow fed on such a ration as this is best prepared, other things being equal, to deliver the kind of calf that the owner desires.

Illustration II—Result of a Better Way

fect. Cows in poor condition are able to do this, and no cow should asked to do it.

Herewith are two illustrations owing both the right and the ong way in caring for a cow about become a mother. The first fige shows a calf dead at birth, opped by a cow that had been fed clusively on wheat straw and rn; the second illustration is that a vigorous, thrifty calf, fed on rn stover and wheat grain. These ustrations are taken from the

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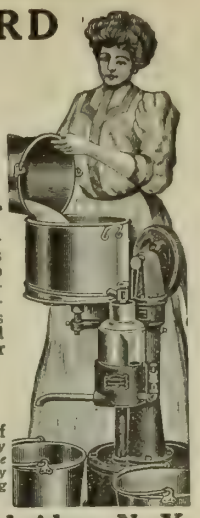

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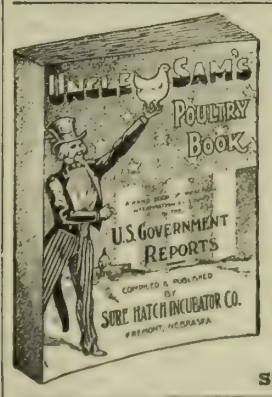

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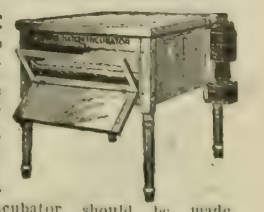

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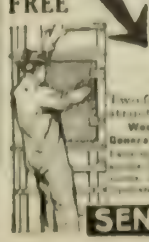

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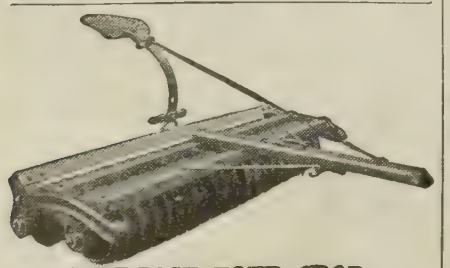

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Concerning the Readers' Exchange

THIS department is intended to be the people's forum, where they may discuss matters in which they are directly interested, and where they may furnish information that will be of value to different classes of readers.

This paper assumes no responsibility—does not presume to indorse or to condemn—for the statements set forth by correspondents.

This department has grown beyond all expectation. The result is that the paper is obliged to ask its correspondents to be as brief and pointed in what they have to say as possible. Let them hit every nail squarely on the head, without making any false motions. The way to write well is to have something to say, to say it, and then to quit. Such writing as this makes interesting reading. The more letters we get of this description, the better.

Lantern in the Barn

E. L. R., Healdsburg, Cal.: Your article in February 8 issue, "Around the Horse Stall," suggests an item to me. I also have been worried about the lantern proposition in the barn. To lessen the danger, I hit upon this plan: I stretch a heavy, galvanized wire, No. 9 is big enough, back of the horse stalls high enough to be out of the way; on this wire I slip a round-eyed rope snap, on which I can hang the lantern. This wire is high enough to be out of the way. And the lantern is affixed to the snap. It may be easily slid along the whole length of the wire, so that I have the light just where I want it at all times. This is not only handy; it is safe as well.

Editor's Note—A good suggestion. The lantern will not be tipped over; will always be where it is wanted; will always be out of harm's way, and practically removed from the danger of starting a fire.

Two Sides to the Question

C. B., David City, Neb.: As to farmers' produce, we buy our butter from local merchants. He has only one or two customers that bring in butter good enough for select family use. Everyone knows that a large part of the butter that a farmer has to "take out in trade" goes into the grease barrel, and that the merchant does not get as much as he pays for it. If the farmers were willing to sell their grain and stock on six months' or a year's time, perhaps they could set the price on their product. As to town people, merchants in particular, looking down on the farmer, Mr. Starkey is very much mistaken. That peculiar expression or look is one of envy for their independence. Ask merchants and you will find that 90 per cent would gladly exchange places with the farmer. The conditions spoken of by these correspondents may have existed in the past, but they do not exist, as a rule, today. One thing we want to say for the average farmer, and that is, that he is way ahead of the average merchant in progressiveness. We do not believe that the three articles in the February 22 issue of The Twentieth Century Farmer represent the majority. We believe that down in their hearts the majority of the farmers realize that the retail merchant has a place in the community, that his pursuit is a worthy one; that it requires honest, conscientious attention and application of energy and thought, and that warrants a fair compensation for his work.

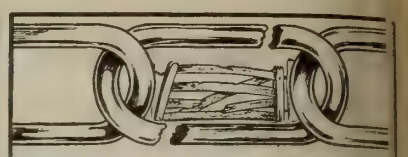
Editor's Note—This department is in receipt of a letter approving the use of the double treatment as a preventive for cholera. It has another recommending the use of dynamite in the burrow for destroying coyotes. It has a third letter indorsing a former communication from J. W. H., Valley, Neb., on the matter of the amount of production as related to the price of farm products. These communications have, unfortunately, been crowded out owing to a lack of space.

"A Question or Two" Again

I have been much interested in your article, "A Question or Two," in The Twentieth Century Farmer of February 1, and also in the answers to the same in The Farmer of February 22. Permit me to say a word or two in praise of the article, and also a few words in answer to those writing in the issue of February 22. The article, "A Question or Two," I believe is a timely suggestion and should set the farmers to thinking. There is nothing the average farmer needs so badly as system and business methods in his particular business. Every farmer should be a good business man and, like all good business men, should run his business, as near as possible, on a business basis. I do not believe it is possible to do away with credit altogether under the present system of business. But I do believe it can be placed where it belongs—that is, with the banker. If the farmer would get wise, and do his own banking, instead of expecting the merchant to do it for him, and then pay the merchant a good commission for doing the business, it would materially improve the financial condition of the farmer.

It is a well known fact that when the farmer goes to the merchant or to the dealer and buys goods on time, he not only pays from 5 per cent to 10 per cent more than if he paid the cash, but he also gives the dealer his note, with interest at 10 per cent for the time that he wishes credit. Thus he pays from 10 to 20 per cent more than he should pay for the goods. There are not many business merchants that are not willing to give from 5 to 10 per cent discount for cash, and this is well worth taking advantage of. The jobber usually allows the merchant from 2 to 5 per cent for paying cash, and the up-to-date merchants know that even this is worth taking advantage of.

I do not believe that all of the statements of one of the writers in the issue of February 22 are true. The extent of the man's ability to borrow money depends a good deal upon his ability to use the money to good advantage after he gets it, and



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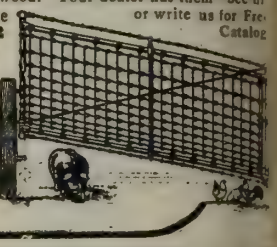

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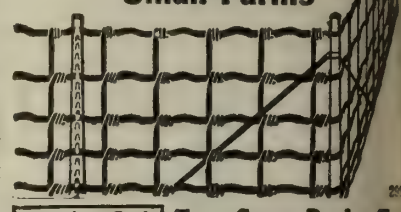

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A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.
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also upon the reputation he has for making good in any enterprise that he starts. Of course, in the borrowing of large sums, security is required, and the farmer must have the security in a larger amount than the sum he wishes to borrow. I should not like to be a regular customer of the merchant that persists in giving credit to a man whose credit is not good enough to enable him to borrow money at the bank.

I believe that the farmers would be much better off today if they would all do their business on a cash basis. If they paid the merchants the cash, the merchants would not be under the necessity of borrowing so heavily, and the bankers would have to look to the farmers for their business, and thereby make it possible for the farmers to get better accommodations at the banks.

Idaho. J. E. WHITEHEAD.

Hogs with Rheumatism

J. K., Kanawha, Ia.: I should be pleased to have your opinion and advice on a situation which I will endeavor to describe. I have a nice lot of hogs, which are about 10 months old, and weigh about 300 pounds apiece. They have been doing well and seem to be healthy, but lately some of them get lame, gradually getting worse, until they cannot get up to eat. At other times their limbs are first affected. It seems to be gradually increasing in the herd.

Answer—This has all the appearance of rheumatism. Hogs of such a weight on full feed of corn develop a great deal of body heat; they are lazy and pile up in bunches and perspire and become moist with the heated perspiration, and then the first exposure to a sharp wind gives them a shock and chills them. Separate them into smaller bunches, so that they cannot bunch up too much; lessen the corn ration; give them bran and shorts mash for a few days, and see if they do not improve. Hogs that pile up too much generally injure those that are at the bottom of the heap.

Answer to Cow Inquiry

Mrs. B. M. L., Glade Park, Colo.: I have a Jersey cow 10 years old which has lately been injured by a tree blowing down and striking her on the backbone, just above the rump. The tail bone seems to be knocked down, or the joint slipped down the thickness of the bone. She was bred in November. Will the injury hinder her at calving time? Of course, she has no use of her tail. I have been advised to fatten her for beef. I would like your opinion.

Answer—From the description we would think that there should be no trouble with this cow at time of calving. It is also likely that she will regain the use of her tail.

The Taxing of Mortgages

J. H., Mead, Neb.: In your issue of February 8 you state that mortgages should be taxed, yet how do you expect to get cheap money for the farmer if you tax mortgages? Why should it not be better to place all the taxes on the land, and cheapen it, and get rid of the speculator? Land should be taxed regardless of the improvements so as to encourage the man who is willing to improve his land. If you insist on taxing mortgages, you make it harder for the man that has to buy. If all the taxes were placed on the land, money could be had at cheaper rates of interest, as the land is good security.

Answer—This question may be looked at in two ways, as a matter of right, and a matter of expediency. As a matter of right and equity, a man should be taxed only for what property he actually owns. Every man should be so taxed. If all a man owns in a piece of land is an equity, as a matter of right he should be taxed for nothing but the equity. A mortgage is as much property as land is, and as a matter of expediency it might make loans at a lower rate if the entire land were taxed, and the mortgage released from taxation. To do this, however, would be a violation of the fundamental laws of taxation.

New Spirit in Farm Life

(CONTINUED FROM PAGE FIVE.)

to take advantage of them, and compel them to do his work for him. The telephone has put him in communication with the outside world and has helped to develop his social instincts, and to provide for his family the amenities of social life to which the earlier generations were strangers.

At the present time he is beginning to supplant horse power with mechanical power. This makes him, to a certain extent, the master of natural forces, which he compels to do his work for him. The exhilaration, the stimulus that results from becoming master of a situation instead of its slave, has reacted upon him and has helped him actually to become master, where formerly he was a subject. It has broadened, intensified, elevated, humanized farm life and made it better worth living.

It is because it will assist in this development of farm life, because it will place farm life upon a higher level, because it will make human effort more efficient and more enjoyable, because it will intensify and soften human relationships, that The Twentieth Century Farmer is glad to see the automobile coming into such general use upon the farms of the Missouri Valley. The man that has his own machine, and is proud of it, is on the way to become master of the conditions that confront him, rather than to remain subject to them. Such a man wants the best machine, wants to handle it in the best manner possible, and this develops within him the desire for the best in everything, the best in work, the best in production, the best in life. Granted this desire, he will never rest until the desire is satisfied. It lifts him, and it lifts his family to a new plane of human effort. The old days are gone, never to return. The old drudgery, the old helplessness, the old grind, the old submission to what was regarded as inevitable, have gone, never to return. A new social activity about new social centers is already evident. The old sordidness is disappearing. The art of living is being manifested on every hand. Because the automobile contributes to this state of affairs, The Twentieth Century Farmer welcomes it as one of the agencies that will promote a higher, better standard of living, more efficient in profit, a method for a higher grade of activity.

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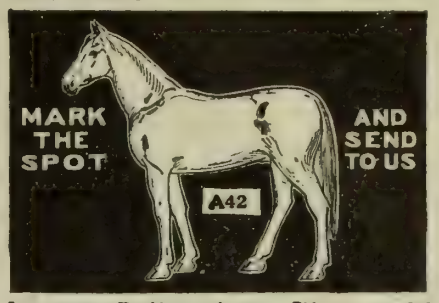
Makes Limping, Idle Horses Sound of Limb and Valuable Pullers.
We absolutely guarantee Mack's $1,000 Spavin Remedy to cure Bone or Bog Spavin, Ringbone, Thoroughpin, Curb, Capped Hock, Shoe Boil, Sprung Knee, Lacerated and Ruptured Tendons, Sweeny and all other forms of


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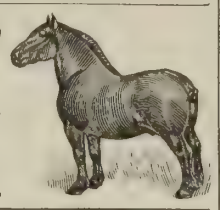

We have 40 Stallions on hand today that we are selling at very reasonable prices. If you are interested write us or come and see them.

Reference—Packers Nat'l Bank, So. Omaha; Arlington State Bank, and First Nat'l Bank of Arlington, Neb. On main line of C. & N. W. R. R., 34 miles N. W. of Omaha, 55 miles north of Lincoln and 8 miles east of Fremont, Neb.

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SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets —in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.

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I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. **W. L. DeCLOW, Cedar Rapids, Iowa.**

PERCHERONS

3 coming 4, 3 coming 3, 2 coming 2-year-old stallions; grays, blacks, blue roan; home bred; registered P. S. A.; heavy, well grown and showy. Just east of Omaha. Fred Chandler, R. 7, Chariton, Iowa.

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I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." **C. S. BENJAMIN** RFD79 **Portland, Mich.**

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They Keep It Up

There are some cattle that give more milk when they are fresh than a Jersey, but there isn't any breed that gives as rich milk as

The Jersey

at as small feeding cost, nor is there any breed of cattle that will *keep it up* like Jerseys will, *year in and year out.* That's why you ought to buy Jerseys to increase your herd's efficiency. Send for Jersey facts.

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WINELAND FARM JERSEYS The Wineland Farm herd of Jerseys contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

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SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers.....
50 1½-year-old heifers..... } Just being bred to a son of a 24-pound dam.
100 2 to 2½-year-old heifers.....
100 2½ to 3-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

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We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

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DUROC-JERSEYS

130 choice sows bred to Crimson Wonder Jr., Col. Lafollette, C. H. Col. and Count Medoc. Also 15 spring and all my herd boars must be sold before March 1st. Will sell 50 head of choice sows Feb. 10th at Friend, Neb. Write for catalogues and prices today. State agent for Black Diamond Stock Powders and Dip. Absolutely the best conditioner on the market. Try 100 lbs. and be convined. Agents wanted in every town in the state. I have a new 40-ft. diameter sale tent for rent. F. Alldritt, Lincoln Neb.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

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The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisememnt will confer a favor by sending us his claim for adjustment or collection.

Care of Bull Important Factor

Sire More than Half the Herd

DO NOT give the cows all your attention. The bull at the head of the herd should have some care given to him. He is half of the herd. Be sure he is the biggest and best half, and then care for him in such a way that he will stamp his good breeding on his calves. A bull should not be stood in a stall, only watered and fed, and allowed to suffer on account of filth on his flanks, lack of exercise and grooming. He is more than half the herd. He is the best part of the herd of young things he will produce for you.

He should have a roomy box stall in which he can walk about. It must be kept clean and dry and bedded deep with straw at all times; it should be a well lighted stall, where you can watch his growth, if he is a young fellow, and where the sun and air can get to him. If a good lot cannot be given him to exercise in, he had better be left to run on a wire after being ringed through the nose. Have the wire at least eight feet high. A stout chain with a strong snap in the end of it should hang from the wire, not being so long that it will get under the bull's feet and permit him to get tangled up.

The bull that stamps his breed characteristics on his get is not the one on whose flanks manure is accumulated, whose hoofs are rotting in filth, who is never brushed or exercised. If you expect a bull to do his best, treat him the best. Handle him daily; do not torment him. Ugliness is always the fault of the owner. If a bull is worried with taunts, if he is forced to fight flies during warm weather and given no chance to stretch himself, he never will amount to much as a sire. To bring his breeding quality to its highest value, give him every attention; make him comfortable, feed him well with a variety of grains and some succulent foods as well, and if you have some light chores to be done which he can handle in a treadmill for a quarter of an hour twice daily, give him the chance to do the work for you. He will be the better for it. He is the greatest part of the herd, remember, and must be treated as such. If he becomes hidebound his muscles will be sore and hard and it will not help his disposition. This condition only indicates poor care, lack of exercise and a variety of feeds. Brush him daily. In summer keep him lightly blanketed and in winter provide a heavier one. Be proud of him and show him off at every opportunity. If you are not proud of him, get one that you will be proud of and care for him right. He is the big half of the herd

The above is an exact reproduction of the home of Rhea Bros' Acclimated Percherons at Arlington, Neb. This well known firm has a splendid lot of Percheron Stallions on hand at this time, and they are pricing them well worth the money.

The Pure-Bred Sire

A sire is more than half the herd; he is half of the first generation, three-fourths of the next, seven-eighths of the third, and so on, until, if judicious breeding and selection be maintained for a few generations the character of the herd or flock will be fixed by the sire alone. The influence of the sire is felt over the entire herd, and if a poor animal is used the bad effect is felt throughout the entire herd. The sire must be the product of the right kind of good ancestry. It is not enough that the animal be not mixed in his blood; we ought to know, and our pedigrees ought to show, the special characters of the ancestry. If a pure-bred sire is crossed upon grade females in six generations, but 1½ per cent of the original unimproved blood will remain. If individuals of the second generations are one-fourth unimproved and are bred to a generation of their own kind, they will still remain one-fourth unimproved. The improvement and advancement of our stock ceases, or even retards, the moment we use grade blood for a sire because he "looks as good," for then by the law of ancestral heredity all improvement ceases except that which is accomplished by the slow process of selection. A. F. PATTERSON.

Sale Dates

Shorthorn Cattle

April 10—A. C. Shallenberger, Alma, Neb.
May 27—H. H. Kuper, Humboldt, Neb.

Draft Horses

March 20 and 21—North & Robinson, Grand Island, Neb.

Review of Live Stock Market

By A. C. Davenport

NO SELLER of live stock can find any fault with the market of the last week or more, as conditions have been entirely in his favor. Prices have continued strong with the tendency upward, while the trade during the greater part of the time has been brisk. The general remarks would apply equally well to practically all kinds of stock—cattle, hogs and sheep.

Receipts of cattle at most market points have been very moderate showing a shortage for the year to date of 51,000 head for the five markets, as compared with the corresponding period of last year. This is not a very large decrease, it must be admitted, being equivalent to about a week's receipts for one market. Still it must be borne in mind that the comparison is being made with last year when the receipts were by no means large. At the same time that receipts have been moderate the buying demand has been brisk. Business conditions in all sections of the country have been favorable and people have been buying beef very freely, showing a willingness to pay the high prices ruling. Conditions the country over have been such as to create a very good consuming demand and packers at all points have been forced to go into the market and buy supplies of killing cattle to the best advantage possible. Receipts being moderated, as noted above, it was not possible under such conditions to hold the market down and advances of 10c to 25c per hundred are noted at the different points.

Most operators are summing up the cattle trade as being in a good, healthy and very satisfactory condition with the outlook for the future most gratifying to those who have stock to sell. In spite of the fact that the weather throughout the winter season has been ideal for the fattening of cattle, prices have been so high that the country has let go of its fat stock while still light in weight and the belief is general that supplies between now and the time that grass cattle will be available will prove light. Thus, as has been pointed out before in these columns, the market is still occupying a very strong position. The market is already very high and it is impossible to say whether the future will bring forth further advances or not, but the trade generally will be pretty well satisfied if present prices hold good throughout the season. There is not at the present writing the slightest doubt but that they will. As a matter of fact, about the only influence strong enough to hold the market down even to its present level is the ability of the public to consume the beef at the high prices prevailing.

Light stocks of provisions, light receipts of hogs, and a splendid consuming demand is a combination of bull influences that is proving too strong even for the packers. In spite of the packers and their bear tactics, hogs have steadily advanced until the market at the present time is the highest that it has been since last October, which was the high month last year. More than that the market is now the highest that it ever was at this season of the year, with the single exception of 1910, when hogs during the early part of March went above $10.00 at the Missouri river.

March 1 saw the close of the winter packing season with a shortage in the number of hogs packed of 1,387,700 head as compared with the previous winter packing season. At the same time the receipts since the first of the year have shown a very rapid shrinkage, the total at the five points being 775,000 head short of the corresponding period last year. No greater bull argument for a higher market need be looked for than this. As noted before in these columns the men in the trade are almost without exception bulls and are already beginning to talk about the $10.00 hogs being a possibility of the not very distant future. As a matter of course many things might happen to prevent the realization of their expectations and it may be sufficient for the time being to keep on the safe side and simply state that present conditions are very bullish with no sign or indication whatever for a lower range of prices of anything more than a temporary character.

Sheep and lambs have been splendid sellers throughout the last week or ten days. Sheep especially, owing to the light supply, have been in active demand with the tendency stronger. Lambs, which have constituted the big end of the supplies at all market points, have help up very much better than anyone expected. The reason for this has been that the country has not let go of its lambs as freely as expected. It would appear that the sheep and lambs on feed in the country are in strong hands and that there is no disposition on the part of their owners to let them go except as prices are satisfactory. Thus, there has been no tendency of late towards flooding the market. Receipts at the five big markets show a shortage for the year to date of 100,000 heads in the receipts, as compared with the same period last year. The consuming demand is also surprisingly good so that prices, as noted above, have held up remarkably well. While the trade has anticipated a weaker lamb market for the future, it is possible that the expected weakness may not be realized if the country continues the conservative plan of marketing that has been adhered to of late. Current prices will prove very satisfactory and if the country can dispose of the remainder of its winter feeding at current prices, it will be satisfied.

Live Stock Notes

Rhea Bros.' Percherons

Rhea Bros., breeders of Percheron horses at Arlington, Neb., have some splendid values to offer in the line of Percheron stallions at this time. This firm has been breeding Percherons for years and has an established reputation for producing a mighty high-classed lot of horses and selling them for prices within the reach of anyone wanting a good horse. Their breeding establishment is such that it enables them to give every animal the care and attention that they should have, and consequently they are grown out and developed in the best manner possible to insure their future usefulness as breeders. The stallions they are offering at this time are a clean, heavy-boned lot, with plenty of scale and action, and are just the kind that will go out and make good. We heartily recommend this firm to anyone wanting a stallion, as we feel that they are pricing them worth the money. Write them for further particulars, mentioning this paper.

Red Polled Bulls and Females

W. F. Schwab of Clay Center, Neb., has some very choicely bred Red Polled bulls of serviceable age for sale; also some splendid females of all ages. Mr. Schwab has one of the largest and oldest herds of Red Polls in the country and is able to supply the purchaser with anything desired. His prices are reasonable and he will treat you right. Kindly mention The Twentieth Century Farmer when writing.

Stallions, Jacks and Jennetts

Henry Beck of Litchfield, Neb., is offering Percheron, Belgian and Shire stallions and Mammoth jacks and jennetts for sale. They are of the very best of breeding and individually they are a clean, desirable lot all the way through, and Mr. Beck is pricing them worth their money. Parties interested will make no mistake in writing him for further information. Kindly mention The Twentieth Century Farmer when writing.

DeClow's Stallions and Mares

Look up the advertisement of W. L. DeClow of Cedar Rapids, Ia., on another page of this paper and write him if you are in the market for a stallion or a registered mare or two. He has them; they are the right kind and he is making extra low prices for the next few weeks. Write him for particulars, mentioning this paper.

Favorite Excuses

"Charge it, please; the smallest I have is a twenty, and I don't want to break it."

"I'd lend you the money in a second, Bill, but I need every cent I've got just now to pay by taxes."

"Maria, how do you suppose (puff) I can afford to buy you a new set of (puff, puff) furs, when it costs twice as much to live as it used to, and my income (puff) hasn't increased a bit?"

"Something for charity? Great Scott! I ned a lift myself—I'm behind on the last installment for than new auto."—Chicago Tribune.

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Whether your engine lasts ten years or two is a point that affects **your** pocket book.

INGECO ENGINES are built to last. The main reasons for their unusual wearing qualities are perfect fitting parts, large bearings, best material and construction.

The simplicity of INGECO ENGINES makes them easy to handle—economical from the standpoint of fuel—better when compared with other engines.

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"INGECO" ENGINES

Put this Cutter to the Hardest Test

then *you'll* know why Experiment Station Officials—and thousands of farmers, as well — unanimously agree that for power, speed and capacity, the

Light Running
"SILBERZAHN"
ENSILAGE CUTTER

is the most uniformly satisfactory. It's the cutter that is honestly built from truck to stacker. In simplicity, durability, enormous capacity, economical power, absolute safety, the "Silberzahn" has no equal. Send now for new catalog, prices and details of Free Trial Offer.

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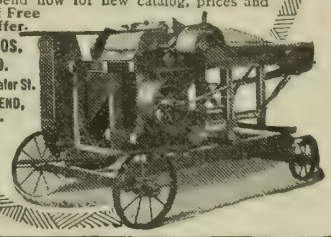

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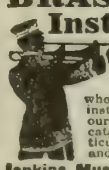

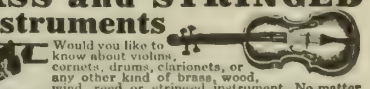

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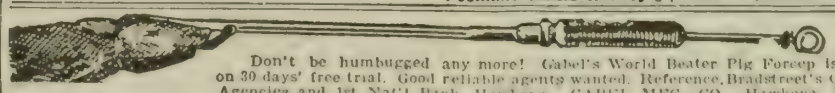

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Fence Your Fields With Famous Square Deals

Strongest - Last Longest - Best Looking - Easiest Put Up - Most Economical

Square Deal
Number 9

Our heaviest fence—all wires are No. 9, heavily galvanized, tough and springy. Especially adapted for hog, horse and bull lots, where fencing gets excessive strains. The SQUARE DEAL LOCK and Wavy Strand Wires, braced by the one-piece Stay Wires, insure a permanent, always tight, trim looking fence that will turn any kind of stock, from sucking pigs to breachy bulls, and give the longest, most satisfactory service.

Square Deal
Number 11

A medium heavy, strong, durable and good-looking fence that will turn stock effectually. The top and bottom wires are No. 9, all others are No. 11. Spacing same as No. 9. This fence is unusually strong and rigid in construction, also elastic enough to stand heavy strains, heat and cold without becoming baggy, saggy and unsightly.

The SQUARE DEAL LOCK, Wavy strand Wires and one piece Stay Wires are of equally high grade material as in our heavier weight fencing.

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Square Deal
Number 12

This is our biggest seller. It seems to meet the wider demand for a light, yet strong, durable field fence. More of it is sold because used on larger interior fields than the heavier grades. The top and bottom wires are No. 10, all other wires are No. 12. Being lighter, it costs much less. Spacing same as Nos. 9 and 11. Only difference in in size of wires. Easy to handle and put up. Knots being smooth, it unrolls easily and evenly.

Folding Rule FREE

Before you buy any fence write for latest Price List and Catalog.

We want you to know how Square Deal Fence is made—why it is the best and cheapest—why it is so popular—why it lasts longer, stands up better and gives you more for your money than any other fence made. Our catalog gives all these reasons and many more besides. We have a special fair to fence, and we will send you a free 2-ft. Folding Rule FREE, postpaid, if you will mention this paper.

(13)

Keystone Steel & Wire Co., 1618 Industrial St., Peoria, Ill.

YOU NEED THIS **Stewart Ball Bearing Machine** $7.50

It's a valuable outfit that should be in every stable. Those who know the horse best have agreed that to clip him at the proper time improves him in every way. He looks and feels better, does more work, rests better and gets more good from his feed. Insist on having the "Stewart." It's the easiest to turn, does the fastest work, stays sharp longer and is more durable than any other clipping machine ever made. **Get one from your dealer,** or send $2.00 and we will ship C. O. D. for the balance. Your money and transportation charges back if not pleased.

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Stewart No. 9 Ball Bearing Shearing Machine

It turns so easy that a boy can run it all day without tiring. It is ball bearing throughout, including a ball bearing shearing head, shears quick and evenly all over. The price including four sets of knives is only $11.50

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CHICAGO FLEXIBLE SHAFT CO., 112 La Salle Ave., Chicago, Ill.

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Guaranteed absolutely no side draft, specially selected stock, nicely finished, made to work four horses abreast on sulky and gang plows.
Four Horse, price.....$4.40
Five Horse Evener, same style as above.
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If your plow has not got a Cross Clevis, get our Frame Hitch Attachment.....$0.65

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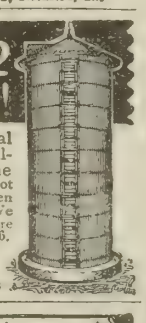

Construction is **right,** material is **right.** Only silo made with full-length, structural steel door frame heavily galvanized **after the riveting.** Not a crevice exposed to rust. Choice of seven kinds of wood. Inflexible guarantee. We prepay freight. Catalog shows many more fine points, write for it today. Address Dept. 16.

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Orchardists are making **Fortunes in Fruit**

in the famous Santa Clara Valley. Farms, dairies, vineyards, orchards, stock and chicken ranches, large and small. *Write today for literature and list of places*

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Will make a very attractive proposition to agents. I have a splendid assortment of land in Minnesota, North Dakota and Montana. Write me. My proposition includes a liberal commission for selling. D. J. McMahon, 818 Commerce Bldg., St. Paul, Minn.

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento. **CALIFORNIA**

CALVES Raise Them Without Milk Booklet Free. The Nebraska Seed Co., Omaha, Neb.

Spraying Machinery: Its Use and Abuse

SPRAYING is conceded to be one of the most important operations of orchard practice. The manner in which it is done very often determines the quality of the crop of fruit that is produced. The very best results in spraying are hard to attain with the use of poor machinery.

In those sections which are best adapted to the growing of fruit, and where the industry has assumed a stage of great commercial importance, the gasoline power sprayer is much more generally used than any other type of spraying machine. To say that this machine has revolutionized the spraying business is literarally true. Had the orchardists in our fruit sections to depend today on the old-fashioned barrel and tank pumps, manipulated by hand, the high degree of efficiency possible with a modern gasoline power outfit could not be attained.

Wherein does the gasoline power spray differ from the old type of hand pump, so that its use results in greater efficiency?

In the first place, and probably of more importance than anything else, it is capable of giving a pressure impossible with a hand machine. Anyone who has worked the handle of an old barrel pump hour after hour knows that with its use a pressure of more than 100 pounds is almost out of the question. Our modern gasoline outfits, with from two to four leads of hose, will easily maintain a pressure of from 160 to 200 pounds.

It is probably true that such a high pressure is not necessary in all cases, but it is true that by means of it more thorough and, consequently, more effective work can be done in a much shorter time and with much less effort.

Often the small orchard holder cannot afford to pay $400 for a good power machine when he can buy a barrel outfit for $20. The latter can be made to do the work well with a greater amount of time and labor expended.

There is a tendency in the fruit sections to try to get along with too few machines. There are certain times when spraying must be done immediately if good results are to follow. For example, the period when the first spray for codling-moth must be applied to be effective is never much more than ten days, or from the time when the petals drop until the calyces close. Often one machine will be expected to spray a hundred or more acres during that time. Can it be made to do it, and do it well? Let us see.

In Colorado the average number of apple trees per acre is not less than sixty. Trees that are from fifteen to twenty-five years of age will require at least from ten to twenty gallows of spray per tree if thorough spraying is done. For one acre of trees, putting the average at fifteen gallons per tree, it would take 900 gallons of spray, or four and one-half tanks of the ordinary (200-gallon) size.

Unless water is very handy and other conveniences proportionately so, it is seldom that more than nine tanks can be applied in a day with two leads of hose, and medium coarse nozzles. In other words, only two acres of such orchard can be well sprayed in one day with one power sprayer. Allowing the maximum time of ten days for the calyces to remain open, only twenty acres of orchard can be treated with one machine. Yet I know dozens of machines that are expected to spray two and three times as much in a season, and owners of orchards so sprayed condemn the arsenate of lead used, the methods of spraying advocated by those "scientific men," and possible everything else, except the real reason for failure, a desire to make one machine do more than it can possibly accomplish.

Besides the provision for maintenance of a high pressure, there are other things that the power sprayer should possess in order that the highest degree of efficiency in spraying may result.

The agitation of the liquid in the tank is an important matter. In the case of most of our sprays, the individual particles that make up the insecticide are suspended in the water. Unless a sprayer is equipped with a good agitator, these particles will settle to the bottom, thus rendering the mixture in the top of the tank weaker than it should be, and that in the bottom stronger, possibly in some cases too strong for safe application. Most of the power sprayers are equipped with suitable agitators, and none should be purchased unless it is known that it is efficient in this respect.

It is needless to say that the care of spraying machinery should never be neglected. The man who pays $400 for an outfit cannot well afford to let it stand out over winter where metal parts will rust, where the tank will dry out and deteriorate, if it is a wooden one. Too often gasoline engines are ruined because water is left in the cooling jacket until cold weather comes on. It freezes there and the engine is useless until another cylinder is purchased.

Much of the trouble with a gasoline power sprayer could be prevented if care were exercised in the fall to clean the outfit thoroughly, to drain the engine, to care for the nozzles, leads of hose, etc. Then, in the spring another careful overhauling ought to put it in such shape that there should be little trouble during the spraying season.

Not only should all this be done, but always after a lime and sulphur or other caustic sprayer is used the machine should be thoroughly cleaned by running clear water through it, including hose, rod and nozzles. The spray will not only injure different parts of the machine, but will also harden and small pieces will clog nozzles when again used.

The power sprayer is a high-priced piece of machinery, but it is an effective piece of machinery, when properly handled. Its usefulness can be greatly decreased by improper care.

GEORGE P. WELDON,
Colorado Experiment Station.

Potato Drying for Stock Food

(CONTINUED FROM PAGE SEVEN.)

The last column, the starch worth, is the Kellner method of expressing the relative values of feeds in the terms of the amount of digestible starch meal that would be required to be of equal value to the feed concerned. For example, 70.9 pounds of digestible starch meal would be required to be of equal value to 100 pounds of dried potatoes, or 42.6 pounds to be equal to 100 pounds of wheat bran.

Cost of Drying Potatoes

The cost of drying potatoes depends upon the method that is used. The Germans count that to dry them in the form of the schnitzel—that is, where they are shredded raw and dried—it costs from $1 to $1.50 per ton of fresh potatoes, and that when they are dried in the form of flocken, in which case they are first cooked, it costs from $2 to $2.50 per ton. The amount of fresh potatoes required to produce one ton of dried potatoes varies considerably, depending upon the starch content, but on an average it can be said that it takes about three and one-half tons of fresh potatoes to make one ton of dried.

The great value of the system is in utilizing the surplus in years of overproduction and the culls of every year that are not suitable for market purposes. By utilizing the surplus in this way extremely low prices are prevented at any time, since the market can always be found at the drying factories. The dried potatoes are not only in a form that can be kept for any length of time, but the weight is reduced about three-fourths, so that the cost of transportation is reduced in like proportion. This enables the surplus to be shipped from one section of the country to another without great expense. This is of special importance where they are used for stock food, because sections in which potatoes are extensively grown are not likely to have large quantities of live stock.

The system has passed the experimental stage in Germany and has taken a permanent place in the agricultural manufacturing industries. In America it might well be utilized in sections which frequently have an overproduction and no market on account of excessive cost of transportation.

The Market Place

SEEDS

I HAVE 100 BUSHELS RECLEANED alfalfa seed, raised by myself, guaranteed free from dodder, foxtail and sweet clover—13½c per lb. while it lasts, cash with order. George Pointon, Route 2, Las Animas, Colo.

CHOICE MILLET SEEDS, FIVE VARIETIES; samples and price on application. Pure Early Ohio potatoes, 50c bu. Write for price on carlots. Q. A. Krieger, Brittan, S. D.

EARLY GATHERED REID'S SEED corn; germination test 97 per cent; pure German millet seed, no foxtail. This advertisement will not appear again. Chas. Grau, Bennington, Neb.

FOR SALE—PURE-BRED SEED grain; Burt oats, earliest ripening variety; also Kherson, free from barley. Write for prices. George Coupland, Elgin, Neb.

SEEDS—ALFALFA, $6; TIMOTHY, blue grass and cane, $2; sweet clover, $3. Farms for sale and rent on crop payments J. Mulhall, Soo City, Ia.

DUNLAP STRAWBERRY PLANTS, $1 per 1,000, 50c per 100, prepaid anywhere. W. C. Hebdon, Blair, Neb.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Hagglund, Essex, Ia.

ALFALFA SEED, BEST NORTHwestern Nebraska Seed, graded. Prices and samples free. Schwabe Bros., Chadron, Neb.

SEED CORN, MILLET AND TIMothy seed that will grow. E. Dooley, Selma, Ia.

ALFALFA SEED—WRITE FOR PRICE and sample. J. L. Maxson, Buffalo Gap, S. D.

TREES

$3 PER THOUSAND FOR COTTONwood trees. James Cassell, Route 3, Fremont, Neb.

DOGS

AIREDALE PUPS, PEDIGREED. Greatest sheep, cattle, wolf watch and companion dogs; reasonable. W. S. Fulton, breeder, 1417 Farnam St., Omaha, Neb.

FARMS

160 ACRES OF GOOD HAY LAND clear of all incumbrance, in Holt county, Nebraska, to trade on quarter or half section of eastern Nebraska land. Merrick county preferred. J. R. Collins, 1029 Omaha Nat'l Bank Bldg., Omaha, Neb.

FARM LOANS

MONEY TO LOAN AT CURRENT rates on improved farms in Douglas, Washington and Sarpy counties. Merchants Mortgage Loan Co., 324 Omaha National Bank Bldg., Omaha.

CANADA'S OFFERING To The Settler

The American Rush to Western Canada is Increasing

Free Homesteads In the new Districts of Manitoba, Saskatchewan and Alberta, there are thousands of Free Homesteads left, which to the man making entry in 3 years' time will be worth from $20 to $25 per acre. These lands are well adapted to grain growing and cattle raising.

Excellent Railway Facilities In many cases the railways in Canada have been built in advance of settlement, and in a short time there will not be a settler who need be more than ten or twelve miles from a line of railway. Railway Rates are regulated by Government Commission.

SOCIAL CONDITIONS. The American Settler is at home in Western Canada. He is not a stranger in a strange land, having nearly a million of his own people already settled there. If you desire to know why the condition of the Canadian Settler is so prosperous write to any of the Canadian Government Agents and send for literature, rates, &c., to

W. V. Bennett
Room 4, Bee Building
Omaha, Neb.

or address Supt. of Immigration, Ottawa, Canada.

YOU CAN BUY ANY CUT IN THE

Twentieth Century Farmer

for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

TWENTIETH CENTURY FARMER

·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, March 22, 1913 | Number 641

Drawn Expressly for Montgomery Ward & Co. By George Brehm

Pick What You Want From These Pages

In word and pictures the hundred thousand items in the great new Catalogue of Montgomery Ward & Co., are so realistically and truthfully described that you can almost pick what you want from its thousand pages.

Photography and color engravings, pen pictures and word pictures are so skillfully and truthfully employed that your visit to "Bargain town" will be like viewing the world's greatest shopping centers thrown into one great mammoth establishment.

And the rare beauty of it all is that you can go through this enormous collection of bargains without the hustle or bustle and burly that accompanies even a visit to the village store.

In the quiet of your own home—under the evening lamp—with the members of your family to accompany and guide you—it is possible *now* to shop in the Ward way—and save many dollars in doing so.

All you need is our Catalogue of 1000 pages. In it are shown a hundred thousand opportunities of saving in foods, furniture, farm implements or field necessities, dress goods or men's wear—any and every necessity or luxury for man, woman or child.

And it won't cost you a cent to get this great text book in the art of reducing the high cost of living, except the stamp spent in sending for it. Cut out the Coupon on this page, sign your name today, and the greatest Catalogue of modern times will be sent at once without one cent of expense and without any obligation.

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MONTGOMERY WARD & COMPANY

Chicago Kansas City Fort Worth, Texas

Prattle of the Youngsters

Mamie Knew

Johnnie—If I call pa "pop," why n't I call ma "mop?"

Mamie—If you do, she'll wipe the oor with you.

Amicable Alice

Alice—Papa, it's going to snow.

Papa (who is busy)—Well, let it ow.

Alice—I was going to, papa.—Lippncott's.

Higher Arithmetic

"See how I can count, mamma," id Kitty. "There's my right foot, at's one; there's my left foot, at's two. Two and one make ree. Three feet make a yard, and want to go out and play it in!"

Ingenious

Marion came to the breakfast ta- e late, and was scanned by the proachful eyes of her mother.

"Did that young man kiss you last ght, Marion?"

"Now, mother," said the very etty girl, with a reminiscent smile, o you suppose that he came all the ay from Blue Rock to hear me ng?"—Lippincott's.

Important Feature

The minister was visiting at the me of little Alice.

"Did you go to church with mma and papa today, my dear?" asked.

"Yes, sir," said Alice; "an' we got ere at the most important part."

"Indeed!" said the minister, aglow th anticipation. "And what was at—my sermon?"

"No, sir; the collection."

Her Choice

"Which animal would you rather ?" engaged the attention of the le ones at a birthday party, and ere had been votes in favor of cats, gs, cows, horses and birds. elma, the youngest child present, nd the game none too easy. It k her some time to decide. nally, being urged to choose some- ng so that matters might progress, e said, with resignation:

"Well, if I've just gotter be some d of an animal, I b'lieve I'd her be an angel!"

A Matter of Choice

A volunteer Sunday school teacher d a lot of trouble in explaining e joys of the future life to his ng charges. To a little girl he d:

"Don't you want to go to heaven?"

"Of course, I do," answered the ld.

"But why do you want to go to aven?"

"Well," she answered, "I got to somewheres, ain't I?"

Dr. Holmes and the Fork

"Are you hungry, little girl?" said . Wendell Holmes to one whom he w looking with longing eyes at the od things before her, according to Strand.

"Yes, sir," was the reply.

"Then why don't you take a sand- ch?"

"Because I haven't any fork."

"Fingers were made before forks," id the doctor, smiling.

The little girl looked, then said: "Not my fingers."

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Where Co-operation Succeeds

THE sixth of the series of articles on "Fruit Growing in the Missouri Valley" will be printed next week. The topic to be discussed is "Marketing of the Missouri Valley Apple." Fruit associations are now being organized for the purpose of providing system and method in handling the fruit from the orchard and hands of the producer to the consumer.

C. S. Bassett, president of the Farmers' Educational and Co-Operative Union, says: "Scientific marketing is the greatest problem before the American farmer. Unless our farmers sell more than they buy, they will never be truly independent."

Next week we will print an article by R. L. Honeymoon entitled, "Where Co-Operation Succeeds." It tells what the fruit growers in the Grand Valley, Colorado, have done. Nowhere in the United States can the results of co-operation be studied to better advantage than in this valley.

Bright and Breezy

Wanted to Know

He—My father weighed only four pounds at his birth.

She—Good gracious! Did he live?

A Figure of Speech

"Ah, darling, may I be your captain and guide your bark down the sea of life?"

The Widow—No; but you can be my second mate.—Life.

A Question of Milk

A month-old Jersey calf was nibbling at the grass in the yard, and the summer girl eyed it doubtfully.

"Tell me," she said, turning impulsively to her hostess, "does it really pay to keep as small a cow as that?"—Lippincott's.

Child Labor

Knicker—It is terrible the way parents make their babies work at night

Youngpop—And it is terrible the way babies make their parents work at night.

What He Needed

An Emporia girl was complaining to her chum the other day of the way her steady was treating her.

"Why don't you give him the mitten?" the friend asked.

"It isn't a mitten he needs, it's a pair of socks; he's got cold feet," was the answer.

A Clever Baby

"I have met many proud mothers," says a Rochester physician, "but no maternal pride eclipses that of a young woman to whose baby I have given some attention.

"One day she was pointing out to me the superlative excellences of her offspring, its intelligence, cleverness, etc., when she wound up with this:

"See, Doctor, watch now, as I take him in my arms. Do observe how intelligently he breathes!"—Lippincott's.

He Toiled Not

A small applicant for assistance being interviewed by the charity worker.

"What is your father?" asked the latter.

"'E's me father."

"Yes, but what is he?"

"Oh! 'E's me stepfather."

"Yes, yes; but what does eh do? Does he sweep chimneys, or drive 'buses, or what?"

"O-o-w!" exclaimed the small applicant, with dawning light of comprehension. No, he ain't done nuthin' since we've 'ad 'im!'"—Pearson's Weekly.

Graded Eggs

"How much are these eggs?" asked Mrs. Younglove.

"Them are 25 cents a dozen, madam," the grocer replied. "They're fresh."

"And those in the next crate?"

"Them are 10 cents a dozen. They are strictly fresh."

"How much are those at the end of the counter?"

"Them are 50 cents."

"But they are not marked fresh or strictly fresh."

"I know, ma'am. Them is some I picked out to take home."

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

What is Best Method for Planting Corn?

Method Explained Which Combines Advantages of Other Methods

THERE are two methods of planting corn that are now in general use. One consists in plowing and thoroughly preparing the ground, and then surface-planting the corn by the use of a check rower. The other method is by using a lister either single or double-listing and planting e corn in the bottom of the listed furrow her with a drill or with a drill attachment to e lister.

The first method is nearly in universal use the hill country of Iowa. It is the custom ere, as soon as the corn is planted, to go over e ground with a harrow so as to level the ound and fill the depressions made by the nter, so as to prevent wash in a heavy rain. e Iowans think that there is too much dan- from wash when the lister is used to make use profitable in Iowa's rolling country. is method is also used to greater less extent throughout the entire ssouri valley territory. Many mers use both methods on their ms on the theory that if one thod fails to produce a crop, the er will succeed.

The advantages of checking corn nsist in the thorough cultivation at is given to the soil before the rn is planted, and in the quicker d more rapid early growth that e corn has, due to the capacity of lowed and cultivated land to take and hold the heat of the sun. In ch a warm soil the corn starts ch more quickly. The production m this method of planting de- nds largely on seasonal conditions that is, whether there comes an equate fall of rain at the time that is most needed by the corn.

The disadvantages of this method nsist in the greater difficulty ex- rienced in keeping the field free m weeds, especially the weeds t grow up in the center of the hill. A second advantage depends upon the seasonal condi- n. Surface-planted corn, unless there is ade- ate rainfall, the roots being near the surface, exposed to the greater action of wind and sun, d the soil in which it lies is more easily bbed of its moisture. Up to as late as the ddle of July, as a general rule, planted corn ems to be far superior to listed corn, not only luxuriance of growth, but also in prospects r an abundant harvest. If the season hap- ns to be a dry season, it frequently happens at the listed corn at shucking time proves to much more productive.

The advantages of using the second method nsist in planting the corn in the bottom of e furrow, so that when the furrow is filled in e process of cultivation it leaves the roots at much greater depth from the surface, and nsequently much more able to endure the ex- igencies of drouth and heat. It is also claimed that it is much easier to keep listed corn free from weeds than is the case with planted corn. It will also stand up better under heavy wind.

Disadvantages of Second Method

The disadvantages of this second method consist mainly in the fact that the seed is dropped upon the surface of the hard, cold subsoil. This produces first the effect of making the corn slow to germinate and somewhat tardy and weak in growth, unless climatic conditions are especially favorable. The second disadvantage consists in the fact that because the seed is placed immediately upon the surface of a hard subsoil, the young, tender roots, when they start, distribute themselves horizontally throughout the soil between the subsoil and the loosened soil above it, and consequently do not get as full protection as they should have from the effects of a hard season. Of course, where the ground is rolling there is great liability to wash, especially if the furrows are not up and down the hills. This tendency to wash, however, may be to a large extent avoided by using a lister, with two following caster wheels set at an angle, which press the ground firmly at the sides of the furrow, thus affording a channel by which the water can run off without digging out the corn that is planted in the middle.

Combination of Both Methods

A young farmer in eastern Nebraska has devised a method which he thinks combines the advantages of both these methods and at the same time avoids their disadvantages. He plows deeply in the fall, plows from twelve to fourteen inches deep. He plows thus in the fall all that he has time to plow. The remainder he plows in the spring just as early as possible, and just as deeply, because he thinks that deep plowing, even if done in the spring, is better than not to plow deeply at all. He gives this plowed ground thorough cultivation up to planting time for the purpose of keeping down the weeds and also for cultivating the soil. He thinks that all the cultivation given to the soil before the seed is planted is profitable. He then plants his corn with a lister in this deep plowing, using the lister merely as a planter.

At first he used the common moldboard lister. But he had trouble with it because it was difficult in his section to make such a lister scour in plowed ground. He then took the moldboards off from his lister and mounted in the place of them two twenty-inch disks on the old lister beam, controlled by the lever the same as it was before the change was made. He did this work himself, in his own shop on the farm. He is so satisfied with the results of this method that it would be a difficult thing to persuade him to try any other method. Because he thinks so well of it, this paper gives it publicity in the hope that other planters of corn will find it equally to their advantage.

The advantages of this method are evident at a glance. The plowed ground warms up quickly, so that this method, in this respect, has the advantage possessed by ordinary planted corn. The ground, having been plowed to a depth of fourteen inches, is enabled to take and hold a much greater quantity of water and allow it to percolate down in the subsoil so as to furnish a supply of moisture for the plant at the time that it is most needful.

After the corn is planted there are five inches of loosened soil beneath the kernel, before the hard, unstirred subsoil is reached. The result is that the young roots, as soon as they start, strike straight downward, instead of leading out horizontally, and so come into relation with an adequate supply of moisture in the subsoil, and at the same time are protected from the effects of wind and sun. Corn planted in this way has proved to be productive in seasons so severe that there was practical failure in neighboring cornfields, planted by either of the other methods.

One thing is necessary in using this method which should be carefully observed, and in no case overlooked. The corn should not be deeply covered. In ground so treated there will always be moisture enough to germinate the seed. The object of the planter is to get his corn sprouted and up out of the ground as soon as possible, so that in growth it may get ahead of the weeds. If corn, under these circumstances, is covered too deeply the weeds will get the start of them. If covered to only a shallow depth, it will get under good head-

(CONTINUED ON PAGE THIRTY-THREE)

Necessities for Corn Growing

AN EARLY, vigorous growth is the first requisite. For this, adequate heat and moisture in the soil are necessary.

The vigorous, early growth gives assurance of vigorous growth throughout the season.

An adequate supply of moisture in the soil is necessary when the corn shoots its ears and matures them.

The elimination of weeds is indispensable if full production is to be secured.

The method here advocated assures each of these three requisites.

The fall-plowed land warms earlier in the spring.

The deep-plowed land stores all available moisture.

Land so treated may be handled with a harrow in such a way as to destroy weeds if work is undertaken in season.

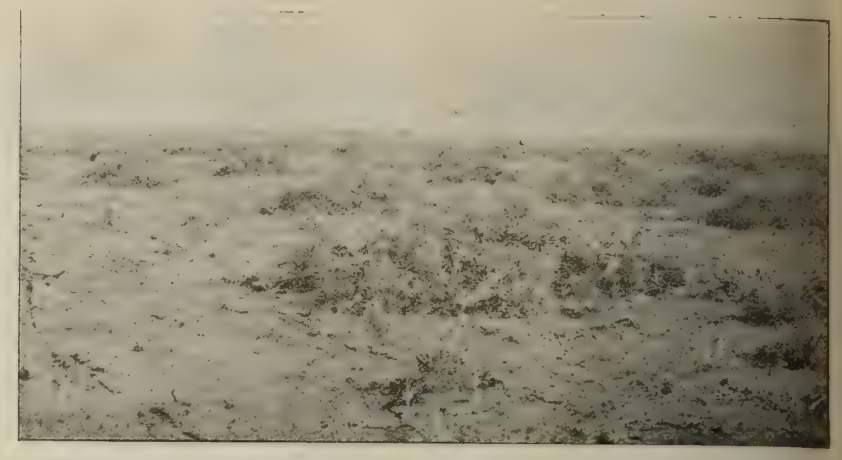
Try this plan.

Unique and Useful Western Woman's Club

How Women of One Rural Neighborhood Out West Work for Improvement of Community

By F. F. Nalder

The Glory of the Land—An Orchard in Full Bearing



The First Step in Reclaiming the Land. "The Rank, Gnarled Sagebrush Has to Be Cleared Away."

SOME thirty farmers' wives, living in a rural district in the state of Washington, have for over eight years maintained an organization that is doing some most effective and interesting work. The club presents a splendid example of spontaneous social betterment. During the entire period of its existence, without blare of trumpets or glamor of publicity, this little circle has been doing a noble work of self-help. The history and work of this club demonstrate better than all books and writings on the subject with which the present writer is familiar—and their number is almost legion—how the life of many farm women has been much more tractive.

The lot of the average farmer's wife is hard, traditionally and actually. Every investigator of rural sociology soon reaches the conclusion that in this fact we have one of the most effective of all forces that have been driving the rural population cityward. The unattractive life of many farm women has been much more easy to point out than the relieve, for the reason that the process of improvement must be one from within outward. From the writing of the well known old poem, "Saving Mother," to the report of ex-President Roosevelt's notable Country Life Commission, the unending toil, the meager personal rewards—food, clothing and a roof over her head—the social isolation of the wife of the farmer have been recognized, deplored—and that's about all.

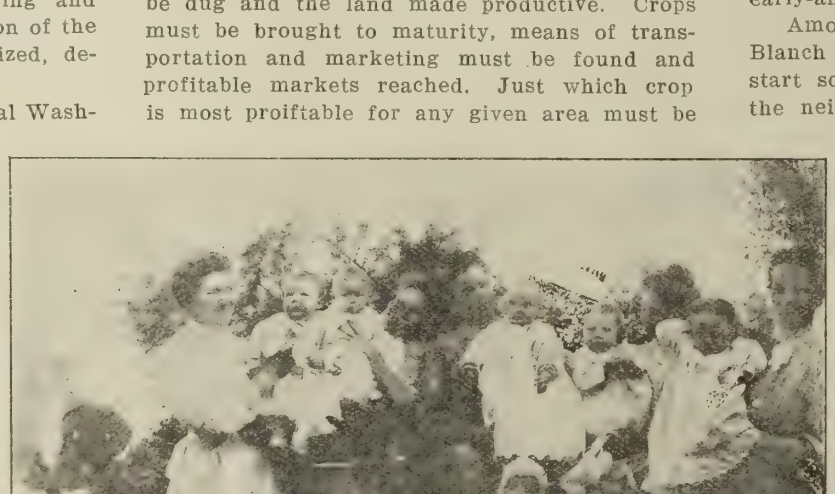
In the Yakima valley, in south central Washington a "women's organization" has developed, and has proved some of the possibilities of such a club In the spontaneity of its origin and growth, in effectiveness of its work and in value as an example of what can be done in the face of most dis couraging conditions when a little of woman's native determination to succeed is applied in the right di rection, this club is unique. Its members have lacked prosperity, but not ideals. By fostering these ideals through co-operative effort they have accomplished the very ends which the national commission pointed out as most desirable—bet ter home life on the farm, greater intelligence in rural economy, better neighborhood spirit. Best of all, they have done these things for themselves, without any advice or assistance from outside experts.

The district in which the club exists is typical of thousands of rural communities, particularly throughout those sections of the western part of the United States that are being reclaimed by the magic of irrigation. It was formerly a baked, barren, sagebrush-covered level area between ranges of treeless foothills on the eastern slope of the Cascade mountains. The accompanying illustrations suggest the transformation that has been wrought.

Not an Easy Task

The struggle to redeem the land has not been easy. The rank, gnarled sagebrush had to be cleared away, the lateral ditches had to be dug and the land made productive. Crops must be brought to maturity, means of transportation and marketing must be found and profitable markets reached. Just which crop is most proiftable for any given area must be determined by a slow, sometimes disheartening process of experimentation and temporary failure. There are lean first years.

Cutting a Melon



A Club Baby Show

How to bring a baby safely through its first two years, amid pioneer surroundings in an irrigated section, without ice and modern conveniences, and with the nearest doctor several miles away, has been one of the club members' problems.

It is just during these lean years of develop ment that the life of the pioneer farmer's wife is hardest. In many instances she is young with little babies to attest her wealth of motherhood and to draw on her vitality. She mus keep house under many difficulties, and without any but the simplest of modern conveniences. At times, particularly, her round of daily duties is a hard one. There are hired hands to be cooked for, chickens and a cow to be looked after. Often the ends are made to meet only by dint of the most constant, hard labor, the strictest economy and self-denial.

How the Club Started

The Riverside Women's Club has been in existence for a little over nine years. At the time of its origin the ditch which made settlement of the land possible had recently been opened. The settlers had lately moved into the valley; many of them had spent about all of their ready capital in making first payments on their land, and in building rude, temporary homes. The railroad which today links the valley closely with the outside world was not even projected. Everywhere there was self-denial, social isolation and a great deal of hard early-and-late work for the farmer's wife.

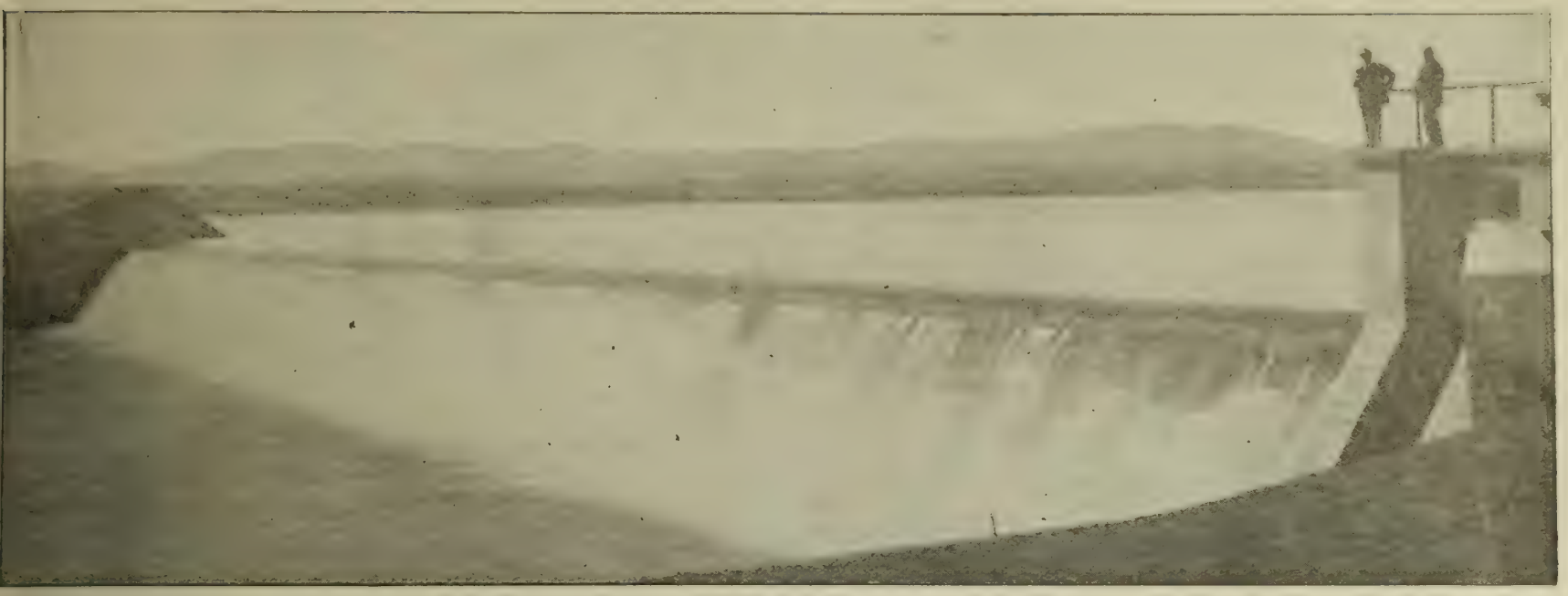
Among them all was one little woman, Mrs Blanch Hubbard, who made up her mind to start some agency of self-improvement among the neighbors. When I asked her how the unique club came to get started, she replied:

"I went to work to organize the club, out of sheer pity for the wives and mothers in a pioneer country where nearly all were newcomers and strangers one to the other, without anything to promote sociability and intellectual growth. A splendid good prospect for all of them was work, and nothing else in sight."

Mrs. Hubbard had never read long papers before assemblages of well-gowned, childless women anent the emancipation of her sex from the shackles of tradition. She had not taken part in any campaigns for equal suffrage. She is just a plain unobtrusive, gentlewoman of the farm, with a large family of children and burdens of common toil fully as heavy as those of any of her neighbors. She simply saw a need and an opoprtunity to fill it, and quietly proceeded to do what she could to bring the two together. S

(CONTINUED ON PAGE TWENTY-NINE)

Irrigation Project in Belle Fourche Valley



Belle Fourche Project, South Dakota. Diversion Dam

THE Belle Fourche valley, in South Dakota, until a short time ago was remembered as the cowman's paradise," said Beyer Aune, the expert in charge of the Department of Agriculture demonstration farm in the valley.

"The advent of the big national irrigation roject marked the passing of the large herds nd the festive cowboy, the picturesque round-p, and the high-jinks which usually accom-anied the latter. Irrigation of the prairie shered in the small farmer who is not afraid hard work, and who believes in the fertility South Dakota soil. Farm homes now dot a ndscape long devoid of habitation, and wide stas of alfalfa and grain have replaced the olling stretches of grass-covered prairie.

"The Belle Fourche Reclamation Project is djacent to and north of the Black Hills, in outh Dakota. The country is gently rolling, ith considerable level areas traversed by sev-ral streams tributary to the Belle Fourche ver. The country surrounding the project an open cattle range. The water for irri-ating the land is supplied by the Belle Fourche nd Red Water rivers. This water has been iverted into an immense reservoir formed by e construction of an earthen dam more than mile long and 115 feet high at the highest oint, it being one of the largest earth embank-ents of its kind in the country.

Canals Carry Water to Lands

"From this reservoir canals carry the water orth and south of the Belle Fourche river to e lands to be irrigated. Compared to the rea to be irrigated, the water supply is ample, hile the certainty of supply and simplicity of rrangements offer unusual advantages in the ork of reclaiming the valley. The cost of the ater right is low as compared with that of ther projects. On public lands that were led upon prior to 1910 and private lands that ere signed up previous to that date the water ght is $30 an acre. On all public and private nds signed up since 1910 the water right is 40 an acre. The maintenance for all lands is bout 60 cents an acre a year. The project es on both sides of the Belle Fourche river, eginning two miles east of the town of Belle ourche and extending eastward for forty miles. wing to the rolling character of the region, nly 100,000 acres of this land is irrigable, of hich 50,000 acres were public land, 45,000 cres private and 5,000 acres owned by the tate of South Dakota. Wherever possible, the and has been so divided as to include some dry and, but this cannot always be done, owing to the irregularity of the land surface. The irrigated portion of the farm unit usually varies from twenty to eighty acres. Farms adjacent to the government townsite are limited to forty acres of irrigated land.

Climate Delightfully Temperate

"The average elevation is 3,000 feet above sea level. The climate is delightfully temperate as to extremes, with sunshine practically every day of the year. The dry, invigorating atmosphere is one of the most healthful features of the district and one of the greatest inducements offered to homeseekers. The precipitation averages about fifteen inches a year and occurs largely during the spring and summer. The nights are always cool, and pleasant weather lasts until late in the fall.

"All the soil is very fertile and free from alkali and stone. There are two distinct kinds of soil in the valley. That on the south of the river is sandy loam, and on the north it gradually shades into a heavy clay. Little or no leveling is necessary in order to irrigate the land.

"Alfalfa and grains have been the principal crops of the valley, and these crops, with proper care, make good returns. Three cuttings of alfalfa a year can be obtained and a total yield of six tons to the acre has been reported. The growing of alfalfa seed receives considerable attention. Yields of from three to five bushels per acre are very common, and some yields as high as nine bushels have been reported.

"The yields of small grains are as good as on any irrigated project. Wheat yields from thirty to forty-five bushels, oats from 60 to 120, flax from fifteen to twenty-five, and corn from thirty to fifty bushels. While these yields are not average, they have been obtained by the more careful farmers on the project, and some have been obtained on new land. After the land has been in alfalfa for a few years and a system of rotation of crops put into practice, varieties better suited to the locality introduced and careful irrigaion, there is no doubt that these yields can still be increased.

"The lighter soil on the river and south is especially adapted to potatoes, and sugar beets promise to be a good crop on any of the soil in the valley.

"While this section cannot be compared to the fruit-growing sections of the west, excellent small orchards of apples, plums and cherries are grown. All small fruits and garden vegetables of the northern latitudes can be grown successfully.

Dairying Principal Industry

"Dairying should be one of the principal industries of the valley, and last year several carloads of grade Holsteins and one of pure-bred Holsteins were shipped in. The winter feeding and fattening of stock receives considerable attention, and while the raising of hogs has not yet been developed to any great extent, all conditions are in its favor. With the abundant production of alfalfa, grains and root crops, live stock in some form should be the principal industry of the valley.

"The character of the settlers is well shown in the high educational standard maintained throughout the valley. The schools are well housed and instruction is given by competent teachers. High school certificates from any of the schools in the Black Hills district are accepted by any of the leading colleges. The State Normal school at Spearfish is within reach, and is not only an excellent training school for teachers, but is also one of the best preparatory schools for college and business in the district. The School of Mines at Rapid City, located in the center of a great mining region, offers unusual advantages to those who desire a technical training.

"With the nearing completion of the irrigation project, this valley will rank with the best agricultural regions of the country."

Be a Booster

Do you know there's lots o' people
Settin' 'round in every town,
Growlin' like a broody chicken,
Knockin' every good thing down?
Don't you be that kind o' cattle,
'Cause they ain't no use on earth,
You just be a booster rooster,
Crow and boost for all you're worth.
If your town needs boostin', boost 'er;
Don't hold back and wait to see
If some other fellow's willin'—
Sail right in, this country's free.
No one's got a mortgage on it,
It's just yours as much as his,
If your town is sky on boosters,
You get in the boostin' biz.
If things just don't seem to suit you,
And the world seems kinder wrong,
Whays the matter with a boostin'
Just to help the thing along?
'Cause if things should slop a-goin'
We'd be in a sorry plight;
You just keep that horn a-blowin'—
Boost 'er up with all your might.
If you know some feller's fallin's,
Just forget 'em 'cause you know
That safe feller's got some good points
Them's the one's you want to show.
"Cast your loaves out on the waters,
They'll come back" 's a savin' true.
Mebbe too, they'll come back "buttered,"
When some feller boosts for you.

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Have the fruit buds been injured by the early warm weather? Let the readers of this paper make an examination and report what they find.

Indiana has copied the Wisconsin stallion law. The Missouri valley states have generally found some modification of that law necessary to promote the best interests of the horse industry.

The loss from smut in oats, when taken into the aggregate, is appalling. It may be prevented by proper treatment of the seed so as to prevent the spread of virile smut spores. The wise farmer will protect his crop, as far as possible, against loss from this source.

A competent and reliable observer says, speaking of the conditions of winter wheat throughout the Missouri valley territory, "I have never seen at this season of the year winter wheat look better or more promising than it does at present." There are occasional exceptions, but as a general rule what this observer has to say is true.

A Beatrice creamery company offers to test free of charge, at any of its receiving stations, the milk of farmers who are testing their cows with a view to finding out which ones are not paying for their board. The Independent creamery at O'Neill, Neb., has been doing this for some time. It would be well if all creameries would undertake this work free of charge. This would result in improving the quality of dairy cows throughout this territory.

Seed Testing Pays

The best farmers in the country test their seed corn, no matter whether there is a seed corn scare in the country or not. They know the value of a perfect stand, or as nearly perfect as can be had. If the stalks are not on the ground there will not be a full crop, no matter how favorable the season.

The matter of seed testing has ceased to be a trouble, a hardship or a task on many farms. The boys and girls conduct this work as a matter of amusement and interest; they have become interested in the growth of plants until there is no feature of labor about it, merely pleasant study.

This is one of the years that seed taken from the crib will probably give pretty good results, but this careless plan of selection should be done away with on all farms, and is, unless by the very careless farmer. The breeding up of seed should not be neglected on any farm. There is no farm so rich in soil, so productive, as to be able to practice careless methods of procuring the seed that is to produce the next crop. The farmer who is always interested in the kind and quality of grain or crop he is to provide the seed to sow or plant will be respected among his neighbors for his progressive ideas and tendencies.

It is worth something to be respected, well thought of as a crop grower, if nothing more. The farmer who gets started in the production of improved stock, or improved grains, soon becomes interested in the other lines of farm industry and takes a pride in having the best in his community.

Save the Young Things Now

It must be remembered that this is the harvest season among the farm animals. If the young pigs, lambs, calves and colts are not carefuly looked after and provided for at birth there will result irreparable loss. It does not pay to keep breeding animals on high-priced land and consuming high-priced feed, and suffer even a little loss when it can be averted by a little attention and time. Almost all of these losses can be reviewed after the loss has occurred, and the fault plainly traced to neglect or carelessness, just at a particular time that might have as easily as not been avoided.

The handling of breeding stock means success or failure. The season at which these young things generally appear is the most uncertain as to cold, wet and generally inclement weather of the entire year, and at a period that the farmer has his hands full in getting ready for the spring work. It is the throng season, everything crowding, and on some farms not prepared to meet the demands as fast as they come.

There is but one safe method of controlling the situation, and that is, be ready far in advance. Have pens, stalls, stabies, sheds and fixtures all ready in advance, so that the mother animals may be properly housed, bedded and provided for. Comfort and plenty is the demand on such occasions. A very little attention is required when you are prepared, but unprepared and no amount of fuss and loss of sleep, will secure immunity from loss.

Breeding stock of all kinds are now worth looking after. "Pigs is pigs;" not only this, but they are money, and likewise all other farm stock. It behooves the owner of these animals to be alive now for a few weeks, until spring time and sunshine are here to stay.

Gray Hairs and Bald Heads

A man is no older than he thinks he is. The hardest work that one can do is to do absolutely nothing. A man that has led an active life must keep up his activity until the end, if he is to keep his health and enjoy himself.

A good many of our farmers, after they have amassed what seems to them to be a competence, retire from the farm to the town, on the theory that they are old, that their period of activity is past and that there is nothing left in life for them but to enjoy themselves what little they can while waiting for the undertaker.

This forecast that they make generally breaks down. They do not find the enjoyment in town that they expected, and the undertaker and the hearse are slow in getting around. There was one mistake in their reasoning—one premise was false. Their period of usefulness on the farm has not passed. In a certain sense, it has only just arrived.

Improved agriculture has its various problems, the solution of which requires study, deliberation and the aid of mature experience. The young men are too busy with the actual doing of things to give these problems the necessary study and deliberation, and they have not yet accumulated sufficient experience to aid in the solution. Here is where the older men may do their most efficient work.

Instead of retiring from the farm, let them retire on the farm from actual farm operations, and devote their knowledge and their experience to the solution of pressing farm problems. The improvement in seed selection is something to which they can give their special attention. The study of soil conditions and of the most economic and practical ways of keeping up the fertility of the soil; the various questions involved in the breeding of a better kind of live stock; the reduction of labor through the contrivance of simple appliances for that purpose; the beautifying of the farm home; the development of social life upon the farm; the use of the school house as the social center; the welding of the various community elements into a homogeneous, co-operative whole—these are matters to which the older men and women of the farm may devote themselves, and, in some cases, such devotion will prove to be more profitable to the farm than the actual administration of farm affairs.

"Even the oldest tree some fruit may bear." "Age is opportunity no less than youth itself, though in another dress." Here is the opportunity for gray hairs and bald heads to make themselves useful, not only to the farm, but to the community, to the state and to the nation. We cannot spare the old men from the farm. They have their work to do there. Let them stay there and do it.

Boys' Corn Clubs

The various forms and plans of organization of boys' corn clubs is having a salutary effect in more ways than the improvement of corn, or the contest in growing the best ear or largest yield on an acre of land. It is revealing to the boy that there is a principle in work, in labor that means something more than mere drudgery and backaches. The spirit of contest being aroused in the boy is the turning point with many a lad.

There must be some incentive some encouraging principle that appeals to the boy in some way to get him started, and then if his pride is aroused by his success the spirit of contest becomes a part of his being and work becomes play, so to speak. The boy that for some reason or other becomes a good ball player, or excels in some other form of athletic exercise, will work and exercise himself ten times harder than in any kind of labor and never think of complaining, because his whole being is absorbed in the spirit of contest.

It has been quite fully demonstrated that the boys' corn clubs, as they are variously handled over the country, are the means of doing a great good in training the boy to do things. It has placed many a boy on a basis of self-reliance; it has taught him that he is capable of doing many things himself without someone going in front of him and directing every little detail. It is the substitution of the boy for the man that has elevated him in his own estimation, and this is just what the boy must come to some day, and the sooner the boy is taught how to do things the better it is for the boy.

These corn clubs that are organizing and been organized are among the most valuable agencies for making men out of boys of any institution we know of. There should be at least one boys' corn club organization in each county, supported by the county farmers' institute or other local organization that could become responsible for sufficient funds to offer a large list of cash prizes. These prizes should run up into some very valuable inducements for contest. A multitude of premiums is not always best, yet this is a matter that the premium committee must consider and plan to encourage many, rather than a few.

The boys' corn club contests should be handled so that its members can have a chance not only at their own local organization, but all state and national contests that are available. It is the big things in contest that the boys should be encouraged to engage in. This is the practical system of getting better results on more farms. When the boys on the farms all get to growing prize-contesting acres, the yield of the farms in these communities will commence to increase, and many will double up in yield. Give the boys a chance and they will soon be showing the possibilities of corn growing, and have at the same time acquired a disposition to stay with the farm.

The time for pig farrowing is here. Let the readers of this paper report their success with the farrow, whether the pig crop will be poorer or better than in ordinary years.

Helping Extension Work

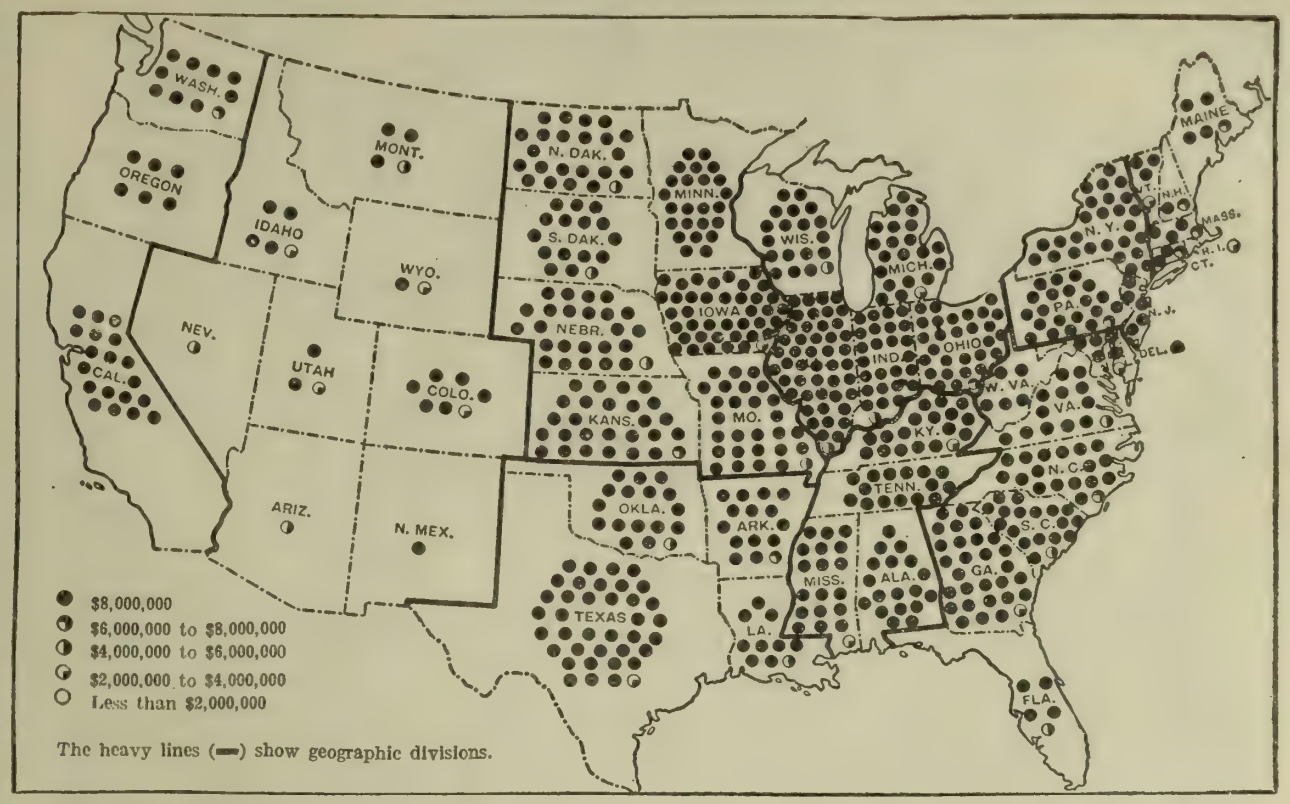
The Burlington railroad in Iowa and Nebraska is authoritively noted as announcing that for each county in the state through which the line of road is operated it will give $1 per mile of trackage, or not less than $150 a year, for at least five years, to assist in the employment of an agricultural expert to instruct the farmers in how to grow better crops. This donation is to be limited to the amount contributed by the farmers and business men, and other means that may be devised to carry on this feature of extension work.

This proposition will affect thirty counties in the southern half of Iowa and about forty in Nebraska, and will mean a donation of practically $12,000 by the Burlington road each year in case the counties organize. Several counties are now organizing in view of taking up the plan of demonstration work. Funds will be added to the government and other contributions for the purpose. It looks very much now as though this system of organization will be able to secure definitely county, state and government aid before many years, which will take the place of individual contributions. Where any portion of public funds are used the individual contributions may encourage prejudical sentiment among those to be relieved. A provision for maintence by county appropriation no doubt will develop if this method of instruction becomes a demand by the land owners.

Marketing and Farm Credits

The First National Conference on Marketing and Farm Credits is called to meet in Chicago at the Sherman hotel April 8, 9 and 10. The purpose of this meeting is to endeavor to crystalize public sentiment and start a national movement to secure profit-making prices for the producers of farm products. People from various parts of the nation will there be brought together to take counsel and devise some acceptable plan of action. Those attending the conference will have the benefit of the best thought that can be brought to bear upon the related problems. Leading economists, railroad men, unskilled sellers of farm produce, leaders of rural life movements will devote themselves to discussion of present handicaps and to plans for constructive action. This nation-wide movement has great significance. If the nation, as a whole, responds to the call it will have a very important bearing upon future economic conditions. It is evident that a revolution in commercial methods is already under way. This reform movement needs safe and sane direction. It is to be hoped that the conference will result in furnishing material assistance in the solution of present-day economic problems. In order to accomplish the greatest good, the conference should have full attendance, and each producing district of the nation should have adequate representation.

Total Value of All Farm Crops



This map shows what will occasion surprise to many people. It is reliable, for it is from the last census report. According to this map, Illinois leads all the other states in total value of farm crops. The total value of its farm crops for 1909 was $372,000,000. Iowa comes next, with $316,000,000; Texas is third, with $300,000,000, and Ohio fourth, with $230,000,000.

Parcel Post a Stimulator

Parcel post is a business stimulator, as shown in postoffice reports. New York had an increase of more than 500,000 pieces of parcel post matter in February over January. The Chicago office increased its postal clerk force fifty on March 1 and another fifty on March 4, and still the service is said to be so badly clogged because of the parcel post that at least 100 more clerks must be engaged. These conditions in the two largest cities are comparatively general over the country. The effect upon all lines of mercantile business is, therefore, apparent.

Yet the government is proceeding to greater utilization of its postal system. On July 1 it will install its new C. O. D. service, certain to stimulate trade. On payment of a fee of 10 cents by the sender Uncle Sam will undertake to collect from the addressee the price of the article sent by parcel post, together with the postage due. For instance, if Mrs. Jones happens to see something in a store she likes, but has no money to buy, she may make the purchase and the postman will deliver and collect for the merchant. Incidentally, while offering great accommodation and facility for trade, such a system will tend to complicate the problem of the high cost of living, perhaps, as, indeed, most of our advanced methods do, but we insist on the advancement, so must expect to pay the price.

It is publicly stated that the new food and drug commissioner of Nebraska is going to enforce the provisions of the Hardin-Sanborn pure seed law which was passed by the legislature in that state two years ago, but has since remained a dead letter through lack of funds for enforcement. If this action shall really be taken, and the provisions of the pure seed law enforced, while it may cause some annoyance to seed merchants, it will be a great help to the agriculture of the state. Nebraska, in the past, has been the dumping ground for seed unsaleable in other states, and Nebraska agriculture and Nebraska farmers have suffered for it.

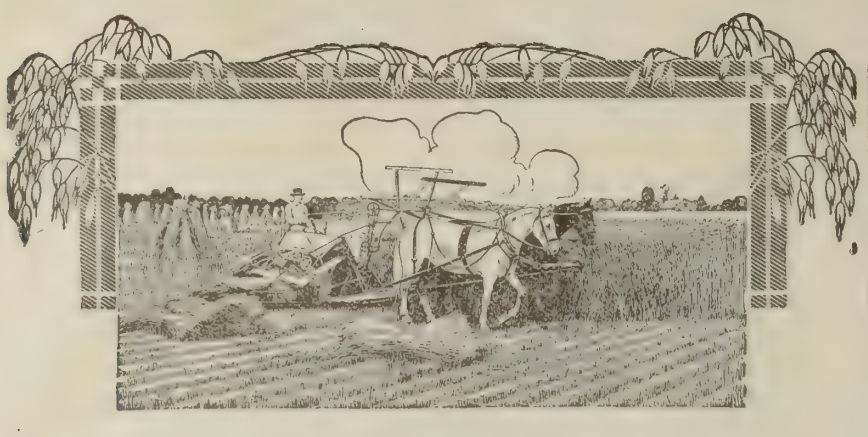
Self Help

Self-help is the most efficient, the most permanently helpful help. The best service that any man can render to another is to help him to help himself. Self-help develops courage, independence, self-reliance and ambition. Every real man wishes to bear his own burden. He does not ask other men to bear it for him. But when the burden grows too heavy, any assistance that will help him to bear it will be most helpful.

Of late there has been a great deal of loose, indefinite talk about "helping the farmer." Many plans have been laid for the betterment of the condition of the farmer. Many of these have been more or less ill-advised because they have started out on a wrong basis. They proposed, in some measure at least, to offer help in such a way that a self-respecting and independent farmer could not, with self-respect, avail himself of the offers made. The farmer is not a candidate for philanthropic attention. All he asks is the chance and the means to help himself. The average farmer has come to look upon many of these efforts in his behalf with distrust for the reason that they are not based on a right apprehension of the true condition of affairs. It used to be a maxim of ancient times, "Beware of the Greeks when they come bearing gifts." There has been too much "gift-bearing" in many of the plans that have been adopted for improving the condition of the farmer. Hence his distrust.

The only way in which the farmers of the country may be efficiently and permanently helped is to put them in the way of helping themselves. Such work must begin with the farmer himself, and he himself must be the first beneficiary of it. The more recent schemes for farm demonstration, rather than demonstration farms, the employment of a county adviser, who is not a "know-it-all," but an adviser whose advice the farmer is free to accept or reject, as his own intelligence may direct, are proceeding along better lines than former efforts, and will produce better results because they are leading the farmer in the direction of self-reliance, of independence, of confidence in his own efforts, and are providing the stimulus that will result in greater achievements in the future. In other words, they are contributing to the farmer's conception of the dignity and glory of his calling. When the farmer is led to believe that his calling is one of the noblest on earth, that there attaches to it a dignity that is based upon the necessity of his calling to the world at large, he is on the road to greater achievement, to greater usefulness and to a higher form of living.

Some kind of regulation in the matter of cold storage is necessary. It is an abuse of cold storage to keep perishable articles in storage indefinitely. Scientific men say that certain kinds of fermentation and deterioration go on continuously, in spite of cold storage. But the time during which goods may be kept in cold storage should not be limited too much by ill-advised legislation. The Missouri valley is a region of production. Cold storage helps producers to secure a more equable market from year to year.



Yours Is the Work That Counts

YOUR season's work means a great deal to you. After you have fertilized your soil, plowed, harrowed and perhaps rolled it, planted your seed in the carefully prepared seed bed, tended the growing crops and watched the grain ripen, you have a right to a full harvest. You can be sure of a 100 per cent return from your fields when you use efficient modern machines for your farm work. You would certainly be taking an unwise and unnecessary chance if you bought a machine that might not do your work as it should be done. To be on the safe side, buy I H C harvesting and haying machines and tools, all of which have proved their reliability through years of experience with harvesting and haying conditions on farms in every part of this country. These dependable machines may be identified by the following well-known names:

Champion Deering
McCormick Milwaukee
Osborne Plano

There is no better time than the present to investigate and decide which machine is the best for you to buy. The opinion of your neighbors is valuable, and should help you to come to the right decision. All of the machines are so simple that they may be handled by ordinary farm help. They are so efficient that there is no question of their capacity for cutting, binding, and saving all the grain in any field, whether it be heavy or light, tall or short, standing, down, or tangled. The haying machines are as efficient as the harvesting machines. When you buy an I H C machine you do away with any chance for unreasonable delay at harvest time. Should anything happen to your machine, it is possible, no matter where you may be, for you to obtain repairs in a few hours' time. Our efficient organization, which includes nearly a hundred general agencies carrying complete stocks of repairs, and over thirty thousand local dealers who carry repairs for the machines they handle, is the most practical guarantee you can have that your grain will be cut and bound at the proper time, and without delay and annoyance.

To secure the best results from these good machines, it is necessary to use a strong, smooth binder twine of reliable quality. I H C binder twine is made under seven brand names—Champion, Deering, McCormick, Milwaukee, Osborne, Plano, International, each in four grades—pure manila, manila, sisal, and standard. Each ball of twine marked with any of these names is guaranteed for length, strength and uniformity of size and quality.

Yours is the work that counts. Make sure that it is done as it should be done by seeing the I H C local dealer and buying from him the I H C harvesting and haying machines, tools, and binder twine that you will need for this harvest. He will supply you with catalogues and full information, or, write

International Harvester Company of America
(Incorporated)
Chicago U S A

Barn Air Always Pure Means Healthy Stock

Don't make stock breathe foul air. The air in your barn can be kept fresh, pure and healthful. Stock will *thrive* instead of being diseased. Cows will give *more milk*, steers *fatten quick*, horses take on *more muscle*—with *less feed*. Send your name in now for our fine, interesting free book that tells all the facts. Read about the

KING AERATOR

LEARN HOW IT draws out the damp, foul air quick. Keeps the rain and snow *out*. Doesn't allow frost or moisture to form on inside of roof. Keeps everything dry, clean and fresh. Keeps air *in* to breathe—promotes health of stock—adds to your profits in many ways. Made of galvanized steel, aluminum coated, does not rust—can't be blown off by a gale. Lasts a lifetime, costs less than wood or brick. Handsome weathervane free with each King. Write postal today for interesting booklet of facts and prices. Send name *now*.

Galvanized Steel Cupola Co.
1179 Vine Street, Owatonna, Minn.

Handling Soil for Production

X---Precise Ends Gained by Surface Cultivation

IN ORDER to accomplish certain definite results, it is necessary to know precisely what results are sought. One must know what ends are to be gained by surface cultivation in order so to cultivate as to accomplish the ends desired. He must have a certain definite aim, or several definite aims, in mind, and then do his work in such a way as will best attain the ends sought. It is not enough merely to stir the surface of the ground and call it cultivation; the ground must be stirred in such a way as to accomplish certain definite results; any other method of cultivation is a waste of both time and effort. The question, then, naturally arises, precisely what does the tiller of the soil hope to accomplish by surface cultivation? Let him keep the answer to this question constantly and clearly in mind, and so direct his work as to accomplish the purpose desired.

Must Abandon an Old Error

It is a very difficult matter to dislodge an error that has become firmly planted in the mind and supplant it with the truth. But it is necessary to do this in order that the farmer, in cultivating the soil, may not work on a false hypothesis. It has been urged from time immemorial that surface cultivation is necessary in order to bring water up from below by capillary action for the use of growing plants. It is asserted that the water rises from below, from undisturbed earth, until it reaches the plane where the solidity of the earth has been broken up by cultivation, and as a result capillary action has been arrested by means of the looseness of the soil. It is said that the water rises until it comes in contact with the loosened soil—soil that has been loosened by cultivation—and is there arrested and held in the immediate presence of plant roots to supply the necessities of growing plants. Now this is a very beautiful theory, but it is theory only; it is not fact. Water does not rise in the soil by capillary attraction, except when in immediate connection with free water in the soil. Water will rise in the soil through capillary attraction from seven to nine feet from the surface of free water, the distance of the rise being determined by the quality of the soil. When free water in the soil is at a greater depth than this, and it always is, except in the case of subirrigated lands, the movement of the capillary water in the soil below the upper twelve inches of soil, and probably below the upper six inches of soil, is always downward. It cannot be drawn up by surface cultivation, or by any other means. Hence the absurdity of all talk of bringing water up by capillary attraction until the earth mulch is reached. Water does not come up in this way; it always goes down. The sooner this error is definitely abandoned, the sooner will farmers learn to handle their soil in such a way as to store water in the subsoil. It is necessary to send plant roots down for their water, because it impossible to bring water up them.

Chief Purpose of Surface Cultivatio

Weeds are the savages of the soi they have the vitality and vigor an persistence which enables them t thrive by drawing moisture an plant food from the soil, where cu tivated plants cannot make profit ble growth. All cultivated cereal in their original wild state, had a the vigor, vitality and persistenc exhibited by the persistent weeds.

But in proportion as they hav been developed and improved an made productive through breedin and change of environment, thei original vitality and fighting powe their capacity to reach out and tak whatever they need, has bee partly destroyed. The more produ tive they have become, the more im proved in their adaptability to hu man use, the less their power of re sistance. In their highly develope state it is impossible for them t hold their own in a contest with th unimproved weed savages of the soi They must be assisted in the strug gle; they must have help in thei combat with the weeds.

Here is the first and most impor tant use of surface cultivation. I must be conducted in such a way a to destroy weeds so that the culti vated plants may have no oppositio from that source. No man can rais a good crop of improved grain an a good crop of weeds on the sam soil at the same time. If we are t increase our grain production, it i absolutely necessary to decrease ou weed production. Weeds are mos easily destroyed when they ar young and tender. Surface cultiva tion, undertaken in the right wa and at the right time, will accom plish this result. The tiller of th soil must see to it that he cultivate in such a way as to destroy th weeds; then his first great object i cultivation, the increase of produc tion by the removal of weed hin drance, will be accomplished.

This battle to the death with th weeds has been too long delayed Hitherto, the weeds have bee fought in a half-hearted, shiftless manner. The time has come whe it must be undertaken in seriou earnestness. On some farms thi may necessitate a change in the kin of implement employed. The pur pose being to destroy weeds, th farmer will select and use the imple ment best adapted to this purpose.

Soil Mulch to Prevent Evaporatio

If soil is left without proper sur face cultivation, as the moisture i evaporated, cracks appear in the sur face. The size and depth of thes cracks will depend upon the natur of the soil, the length of the perio during which it has been undis turbed, and the rate at which evapo ration takes place. Sometimes thes cracks extend several feet into th earth and vary in width, accordin to the nature of the soil, from ha an inch to six inches or more. It from thence that the moisture in th subsoil is evaporated. In order t

serve the moisture in the subsoil
the use of plants, it is necessary
prevent this useless waste of mois-
e through evaporation. Surface
tivation covers the cracks over
h an earth mulch, which prevents
poration, and thereby causes the
cks below the earth mulch to
se. It is useless to store water
the subsoil, if this water is to be
mitted to be lost through evapo-
ion from cracks in the soil, due to
k of surface cultivation.

Here is the second necessity for
face cultivation. It prevents the
mation of such cracks in the soil,
d as a result prevents the un-
cessary loss of soil moisture
rough evaporation. The depth of
l mulch necessary to accomplish
is result, or, in other words, the
pth of this surface cultivation,
ll depend upon the nature of the
l and upon the rate of evapora-
n. As a general rule, the less the
infall and the higher the elevation
ove sea level, the greater the rate
evaporation. At low altitudes, in
e semi-humid belts, cultivation to
e depth of three inches will accom-
sh this result. At higher eleva-
ns, in the semi-arid belt, with a
nt rainfall, it will sometimes be
nd that a soil mulch to the depth
six inches is necessary to accom-
sh the same purpose. The farmer
ll be guided by natural conditions
soil and climate in determining
w deep it will be necessary for
n to cultivate, in order to prevent
necessary loss of moisture
rough evaporation.

ultivation Promotes Ventilation

It is best for the root systems of
nts to be supplied with the neces-
y amount of pure air. Soil venti-
ion is as necessary for plants as
ise ventilation is for humans. The
in the soil needs changing, not
y for the effect that fresh air di-
tly produces upon the plants
mselves, but also to assist in the
dization of crude plant food in
soil, to make it available for the
of plants. Stirring the soil by
face cultivation accomplishes this
ult. It must be stirred in such a
y as to produce this result. Big
vels upon the cultivator, throw-
great clods of earth, are not as
ective for this purpose as smaller
vels, throwing fine dirt. The end
be sought is soil ventilation. Let
work be done in such a way as
accomplish this result.

ere are three purposes to be
ed by surface cultivation. It is
sible that other minor results
be obtained by this means, but
se are the principal ends to be
ed by such work. It is not
ugh to go over the ground with a
rvating implement; it must be
e in such a way; it must be con-
ted intelligently in such a man-
as to subserve these three prin-
l purposes of surface cultivation.

he Ohio State university has pub-
ed a bulletin on "Rural Credit in
many," by Dr. H. C. Price, dean of
College of Agriculture. The au-
spent last year in Europe study-
rural economic problems and ex-
ns in detail the organization and
rations of various rural credit sys-
s of Germany. He is an authority
any subject that he writes about.
bulletin may be had free by writ-
the University, at Columbus, O.

Imperial

Test the Value of This Car
by Close Comparison
Imperial "44"—50 H. P.—$1875

Experienced automobile buyers have learned that a car that measures up to the highest possible standard of quality is invariably the most economical and satisfactory purchase in the long run.

The real problem which any intending buyer has to solve is to obtain this quality at the lowest possible price.

The car which perfectly meets both these demands, unquestionably offers the absolute maximum of value.

It is a significant fact that the majority of Imperial owners have learned to appreciate the unparalleled value which the car offers, through critical and thorough comparison with other cars.

A careful comparison of Imperial cars, feature by feature, with other leading makes priced at $1500 to $2000 *more*, will furnish a welcome revelation to you. The time spent in making such a test will repay you a hundred fold. Through this means, men who previously believed that their requirements could not be satisfied in a car costing less than $3000, have found that the Imperial more than fulfils their highest expectations besides saving them from $1000 to $2000 on first cost alone.

For instance, the Imperial "44" at $1875 offers an opportunity to purchase a five passenger, fifty horse power touring car, whose superb beauty and comfort render it distinctive at first glance among the highest priced cars on the market. Motor 4¾-inch bore, 5½-inch stroke, 122-inch wheel base, 36x4-inch tires: Every modern refinement of proven value including a positive Electric Starting and Lighting system and center control levers. Equipment—Genuine silk mohair top, dust hood, windshield, speedometer, tool kit, repair kit, demountable rim jack, pump, hub cap wrench, tire irons, spare rims, mountings black and nickel.

Complete..... $1875

Electrically Started and Lighted
FOUR OTHER TYPES

Imperial "54"—7-pass'r Touring Car, 6-cyl.; 60 H P; 4-inch bore, 5½-inch stroke; 137-inch wheel base; 36 x 4½-inch tires. *Electric Starting and Lighting System.* Complete equipment **$2500**

Imperial "34" — 5-Passenger Touring Car. 45 H. P.; 4½-inch bore; 5½-inch stroke; 118-inch wheel base; 36 x 4-inch tires *Electric Starting and Lighting System.* Complete equipment..... **$1650**

Imperial "32" — 5-Pass'r Touring Car. Motor, 4-cyl.; 4½-in. bore; 5½-in. stroke, 114-in. wheel base; 34x4-in. tires; demountable rims. Complete equipment..... **$1285**

Imperial "33"—2-Passenger Roadster. Motor, 4-cyl.; 4½-inch bore; 5½-in stroke; 114-in. wheel base: 34x4-inch tires; demountable rims. Complete equipment..... **$1285**

Types "54," "44" and "34" are Started and Lighted by Electricity

Write Today for catalog and full information; also for name of nearest dealer where any desired demonstration may be arranged for.

IMPERIAL AUTOMOBILE CO.
Factories, Jackson, Michigan

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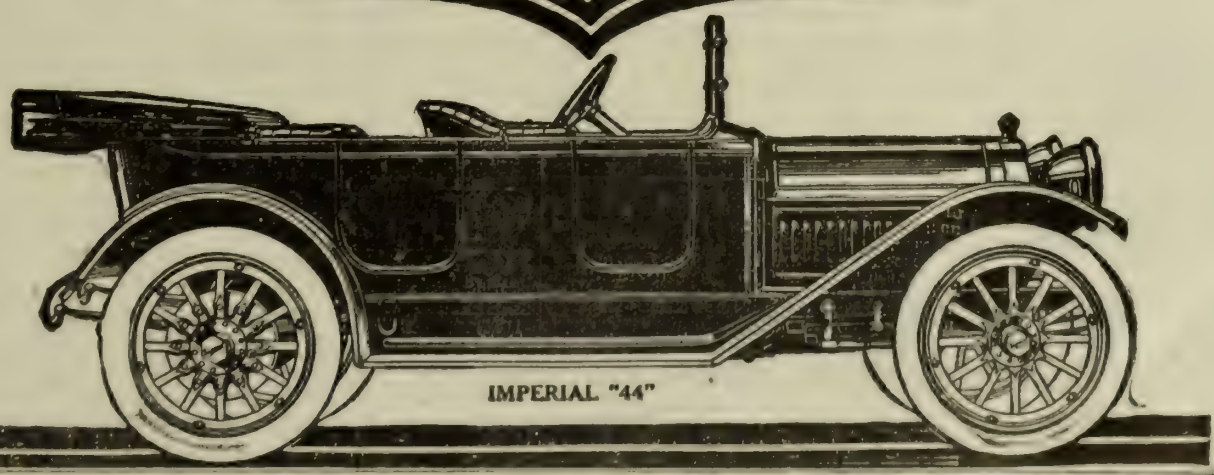


IMPERIAL "44"

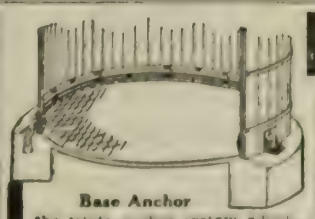
Pull Stumps

Double your profits! Farm *all* your land! Don't let stumps stand in your way. *Pull them out.* Clear an acre a day with the

Hercules All Steel Triple Power **Stump Puller**

30 days trial, 2 year guarantee, special price offer now. Write postal for book and money saving offer.

Hercules Mfg. Co. 9662 1st St., Centerville, Ia.



Base Anchor

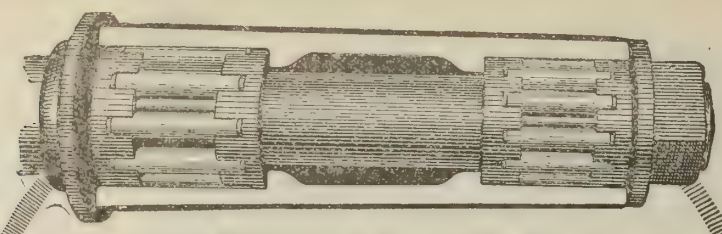
DES MOINES SILO

The Des Moines Silo is always a year ahead of any other silo on the market. Our last year's catalog told of all the features that are being offered as new this season, while our this year's catalog tells of new features that have been developed in our factory and on our farms during the past season. These new features can be had only on the Des Moines. This year the development is the base anchor which completes the triple anchor system which, with the inside hoops, holds the Des Moines as solid as a rock under all conditions.

Hundreds of these Des Moines Silos were shipped to all parts of the United States last year. More orders were received than could be filled in time for early fall filling, so it is to your advantage to place your order early. We have on hand more than three million and a half feet of silo lumber which is thoroughly seasoned and already fermented.

Write for the story of the Des Moines Silo. **Book sent free.**

DES MOINES SILO & MANUFACTURING COMPANY
517 New York Avenue Des Moines, Iowa.



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That Will Save Millions to Farmers

How much would it save if every farm wagon in the United States could do one-third to one-half more work? How much would **you** save if your wagon did that?

The latest improvement in farm wagons—the greatest in 50 years—is the improved and perfected Peter Schuttler Roller Bearing.

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Roller Bearing Wagons

Do One-Third More Work and Do it Easier

because they run lighter—go more miles—and require less power to pull the load. Schuttler Roller Bearings save time—money—horses—harness—feed—repair bills—axle greasing—trouble, and wear on the wagon. Official tests by U. S. Government Road Experts show remarkable results. The Schuttler Roller Bearing Wagon soon pays for itself by economy of operation.

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that describes the Schuttler Roller Bearing Construction and gives record of official tests by United States Government.

Peter Schuttler Co.
2523 W. 22nd St. Chicago

The World's Greatest Wagon Factory
Established 1843

The Right Culvert

For use on your farm, as well as for highways and railroads, is made from

APOLLO

BEST BLOOM Galvanized Sheets

"A product without a peer"

Culverts made from Apollo are strong, rigid, lasting. Every farmer, supervisor, commissioner and engineer who is interested in securing Culverts that will give service and satisfaction, should demand that they be made only of Apollo. Unexcelled for culverts, tanks, flumes, roofing, siding, and every form of sheet metal work. Over twenty-five years of satisfactory use proves the superiority of Apollo. Upwards of 450,000 tons of Apollo Sheets used during 1912. Send for booklet "Facts for the Culvert Manufacturer and User." It is free.

AMERICAN SHEET AND TIN PLATE COMPANY,
General Offices: Pittsburgh, Pa.

Spreader Users! Notice!

Send for the book that tells *all the facts* about *every* part of the Spreader that stands on its record of twelve years' use; that is used and endorsed by over 100,000 progressive farmers; a spreader that has more *good advantages, simpler design* and *better construction than any other.*

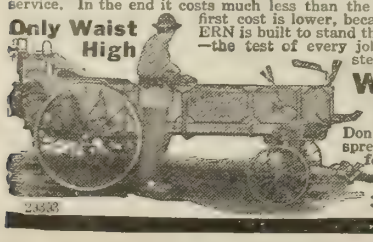
Great Western
Now Made "Low Down" For Easy Loading

This is the *old reliable*—retaining all the features that have made it famous and successful—but built *low down—waist high*—with *safe clearance* from the ground. Wheels *under* the load. Buy the *best* spreader while you're buying. Avoid trouble, delays and expense.

Buy Your Last Spreader Now

It will be a GREAT WESTERN, because this is the machine for longest service. In the end it costs much less than the shoddy spreader whose first cost is lower, because the GREAT WESTERN is built to stand the strain of all conditions—the test of every job—and to give years of steady, continuous service.

Only Waist High



Special Features of Real Merit

Wheels *under* the load. Short wheel base and roller bearings making lightest draft. Simplest possible drive. Fewest parts. No enclosed gears or transmissions. Nothing complicated. Endless roller apron running on *three* sets of large rollers. Indestructible front. Double bolster. 16-inch malleable fifth wheel.

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ROCK ISLAND PLOW CO.,
383B 2nd Avenue, Rock Island, Illinois

2333

Missouri Valley Fruit Growing

V—Commercial Orcharding

THE Missouri valley country is a very large territory of rich agricultural lands, centrally located in the United States, east and west, and possesses market advantages that make it one of the most accessible distributing centers for the crops produced of any district on the continent. In the matter of fruit growing, this section of country has developed great possibilities in almost every line produced in the United States, except the citrus fruits.

The development of the commercial orcharding industry here has been slow, as a general proposition, due largely to the general productivity of the soil in all lines of agricultural and farm crop operations. The commercial orchard is just beginning to attract the attention of the horticulturist, the tree grower, the man who has the disposition and inclination to care for the orchard. Old orchards that have been in the hands of grain and live stock farmers, and were permitted to drift into decline, are now being revived, rejuvenated by the processes of pruning, spraying, cultivation and fertilizing, until the orchard acreage of the greater portion of this district is attaining a condition of health and vigor that means a profitable industry in fruit production.

There are now thousands of acres of producing apple orchard scattered throughout each of the various states embraced in this district that are yielding immense crops of as fine apples as are put onto the market, and are selling at top prices. The quality of the apple grown in this section cannot be excelled, and the selling ability of the apple depends to a great extent upon the skill of the orchardist in handling the crop from the orchard to the market. Here is where the western fruit grower excels the eastern producer.

The western grower confines himself to fruit growing alone. He depends upon his orchard for his living and for his profit; he studies conditions and methods and aims do everything that the best skill an intelligence of the country can su gest to give the soil and the tree th best possible care; he prunes an sprays with intelligence and skil and he cultivates through the enti season with such fidelity as will giv his trees the very best chance t grow the largest crops of fruit, an of the very best quality.

Before the harvest season ap proaches, the western apple grow is ready waiting for the time to com mence picking; every detail preparation is arranged in advanc The picking is performed in view avoiding any bruise or injury th will in the least injure the apple appearance or keeping quali Everything is sorted and graded u according to size and appearanc wrapped and boxed, and during a this process carefully handled. Wh does the western apple grower us so much precaution and care i handling his fruit? Because he ha to compete with the eastern-grow apple, plus the freight rate, and th is so high that he is handicapped i reaching a market and must sell o a basis of superior quality, an thereby get a higher price in orde to compete with the trade.

The eastern apple is usually cheaper handled apple than th western apple, often barreled or sol in bulk. The farm orchard re resents a cheap, low grade fruit, owing to careless handling an inattention to the demands of th market. While the demand here the commercial orcharding industr does not necessarily require an e pert horticulturist to succeed, it doe demand business sense and an o servance of the customary treatmen of the orchard, in season, in orde that a crop be procured. The app crop of the farm orchard is fr quently sold on the trees for a lum sum, and the purchaser handles th harvesting. With the horticulturi as owner, it is not so; there is a effort to get all the crop is wort following it up even to the co

Twelve-Year-Old Grimes Golden Tree in Orchard of A. M. Shubert, Shubert, Neb.

ge and the carrying of the bar-
or boxed apples into the win-
r spring season, in order to
the highest point in the de-
of the apple trade.

e Missouri valley apple-growing
ct has the market advantage
the western apple country,
e extent of the freight charges
e Missouri river, which is in it-
a big factor in profit, approx-
ely 50 cents per box. In the
er of original outlay in the es-
shing of the commercial or-
l, the Missouri valley country
s the best, cheapest and most
antial basis of any country in
United States. It has a quality
nd that cannot be surpassed in
ral productivity, in all the vari-
lines of farm crops. There is
ough or stone land to be taken
this proposition; it lays well for
vation and drainage; it has a
and inexhaustible soil. There
waste land, and every foot of
and can be used for crop grow-
until the trees become of bear-
ge. It is a corn, wheat, oats,
o, alfalfa and general crop land,
at any time can be converted
y of the uses usual to the high-
levelopment in general agricul-
work. It is not a soil adapted
uit and nothing else; no better
able and garden soil can be
d, and for general forestry pur-
there is no district or country
will exceed the farm lands of
Missouri valley.

e commercial orcharding indus-
f the Missouri valley country
been lost sight of owing to the
large grain-growing and live
industries being carried on by
farming interests; in fact, the
e who are living in the Mis-
valley do not appreciate its
advantages, its fruit capabilities
ts present fruit attainments.
are so used to eating western
s, and to seeing western apples
y boxed and offered in their
ets for sale, that they have ac-
d a magnified idea of the
ern apple industry, and an
lly reverse and erroneous im-
ion of the standing of the Mis-
valley country in fruit produc-

few examples of Nebraska apple
rds will serve to illustrate that
commercial orcharding industry
eing maintained and that the
ouri valley is capable of great
opment in apple growing.
e of the very good illustrations
e profitable commercial orchard
ported by F. P. Spencer of Ran-
n, Ia. Mr. Spencer has forty
s of Winsap and Grimes Golden
ties. The 1912 crop was 1,100
ls of Winesap, 600 barrels of
es Golden and 1,000 barrels of
ther varieties—3,000 barrels in
of good merchantable quality.
total value of the crop was
00. This orchard had good
and treatment in spraying,
ing, etc., and is in healthy con-
n and free from insect pests. It
to own such an orchard. Com-
ial orcharding under such a
osition is a grand success.

T. Swan of Auburn, Neb., has
acres of orchard seventeen and
teen years old, strictly of com-
ial character and devoted prac-
ly to three standard market va-
rieties—Winesap, Gano and Black Twig. His crop of 1912 was 16,000 bushels of Winesaps and 10,000 bushels of other varieties. He has maintained an average of 12,000 bushels for the last five years. He ships from this young orchard each fall to Chicago for storage a large portion of his crop; has excellent storage on his farm for 3,000 bushels or more, a specially constructed cave that gives satisfactory results.

The Department of Agriculture, in its report of 1909, in listing the states of the union in apple production, gives the Pacific states—Washington, Oregon and California—credit with a combined production of apples of 10,938,00 bushels, and the mountain states—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah and Nevada—a combined apple crop for the same year of 5,718,000 bushels, and the Missouri valley states—Iowa, Nebraska, Kansas and Missouri—a combined crop of 21,393,000 bushels, an excess over the combined production of the eleven western states of 4,737,000 bushels, thus showing that while the Missouri valley has not made any distinct effort at apple production, it has the opportunity and possesses the advantage of great development in this line of production.

Expert Farm Teachers

Johnson county, Missouri, recently appropriated $1,000 as the annual amount required for the purpose of employing a farm adviser, thus taking advantage of the offer of the Department of Agriculture and the state of Missouri to duplicate the sum appropriated by the counties to hire expert farm teachers.

The states that are holding back on county organization of some form or other in securing expert instruction on farm and crop instruction will waken up to the fact, before very long, that they are not in sight of the more energetic, progressive states. The country is moving rapidly, just at this time, in the matter of agricultural education, and it behooves the citizens of progressive ideas and progressive ambitions to be on the move in organization and establishment of means for making available every advantage within their reach.

No-Rim-Cut Tires
10% Oversize

Nearly Half the New Cars Use Goodyears

Nearly half the cars which are built this year will be equipped with Goodyear tires.

At the New York Show, nearly half the show cars had Goodyear equipment.

Think of that—almost as many Goodyears as all other tires together.

And far more cars are now running on Goodyears than on any other tire in the world.

What Led to This Condition?

It is well to ask what led to this condition.

There must lie, somewhere, some immense economy. For men in these days keep good track of tire mileage.

And the result is this:

In the past year alone, more Goodyear tires have been sold than in the previous 12 years put together.

Two Savings

Two features in No-Rim-Cut tires mean an enormous saving.

One is the device which makes rim-cutting impossible. Without that device—with the old-type tire—23% of all tires become rim-cut.

The other is the fact that these patent tires are 10% oversize.

That 10% oversize, under average conditions, adds 25% to the tire mileage.

Non-Skid Treads

Then we invented a Non-Skid tread which excels every other non-skid.

It's a double-thick tread, made of very tough rubber, filled with deep-cut blocks. It grasps the road-surface with a bull-dog grip.

This thick, tough tread is immensely enduring. And the blocks spread out so the strains are distributed just as with smooth-tread tires.

This long-lived Non-Skid became at once the favorite Winter Tire.

Any Man Can See

Any man at one glance can see these advantages.

You can see why these tires can't rim-cut. You can see the oversize. And you know without telling that these things save money.

Then this tire, remember, is the final result of 14 years spent in tire building. For 14 years the ablest of experts have here worked to solve your tire problems.

About 2,000,000 Goodyear tires have now been tested out. As a result, these tires far outsell any other tire in the world.

You who pay tire bills should find out the reason. Make a test of No-Rim-Cut tires

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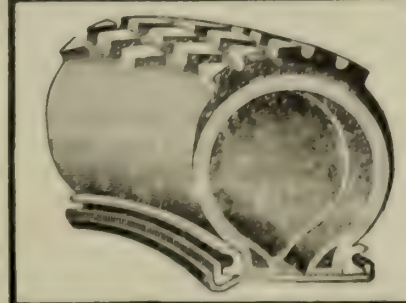
Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.



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AKRON, OHIO

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With or Without Non-Skid Treads

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Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

30 DAYS' FREE TRIAL SAVE ½ YOUR LABOR

National Rotary Harrows for Plows

It will surprise you to know the low price that we are quoting the first ten farmers in each township on our famous Rotary Harrows for Plows, to quickly introduce them. We refund the purchase price and pay freight charges if not satisfactory.

75,000 in use and sales doubling each season.

Pays for itself on first five acres plowed.

Guaranteed to increase yield twenty per cent.

The new way of harrowing as you plow proved to the farmers last season that it saves time, labor and money in preparing the seed-bed. Write us today for special introductory prices and circulars

National Harrow Co., Le Roy, Illinois

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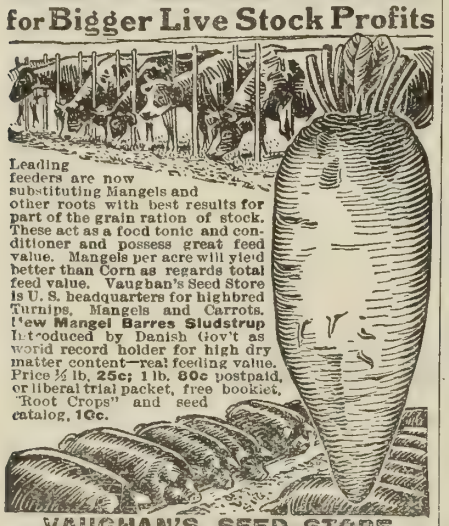

Leading feeders are now substituting Mangels and other roots with best results for part of the grain ration of stock. These act as a food tonic and conditioner and possess great feed value. Mangels per acre will yield better than Corn as regards total feed value. Vaughan's Seed Store is U. S. headquarters for highbred Turnips, Mangels and Carrots. New Mangel Barres Sludstrup introduced by Danish Gov't as world record holder for high dry matter content—real feeding value. Price ½ lb. 25c; 1 lb. 80c postpaid, or liberal trial packet, free booklet, "Root Crops" and seed catalog, 10c.

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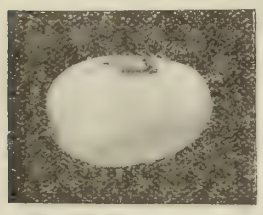
Also our New BEAUTIFULLY ILLUSTRATED GARDEN and FARM GUIDE that tells you how to Increase Your Profits. Farm G.

CONDON BROS. Seedsmen, Rockford, Ill.



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from seed found in jar buried with mummies of a former age, in prehistoric cliff dwellings in Verde Valley. Largest edible bean known; world's greatest drought resister; average yield 80 per seed; a table luxury. We control total 1913 supply; 9 for 25c, silver, while they last.
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GEORGE COUPLAND, Elgin, Neb.

SEED CORN Golden Row, Reid's Yellow Dent, Nebraska White Prize and Silver Mine, Garnered early and dried on racks in our farmers heated seed house. Write for 27th annual price list.
LEE SMITH & SONS, De Soto, Nebraska.

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The International Egg-Laying Contest

Barron's English White Leghorns Still in the Lead

THE completion of sixteen weeks of the second international egg-laying competition at Connecticut Agricultural college finds Thomas Barron's English White Leghorns still holding the lead into which they jumped at the outset of the second year, and the five White Leghorns entered by Barron's neighbor, Ed Cam of Houghton, England, which occupy the other half of the double colony house, are gradually falling behind the Catforth pullets. At the end of the ninth week they were but nine eggs behind Barron's and were laying more heavily and seemed likely to crawl ahead, but the pen of the man whose pullets led the first year for the first two-thirds of the time braced up and now are thirty eggs ahead of their nearest rivals. Their total for the sixteen weeks is 334 eggs of marketable size and quality, and Cam's birds have laid 304.

This second contest is a Leghorn affair and the birds of that breed have surprised everybody with their winter laying, though the weather has not been as severe this year as during the winter weeks of the first competition. The pen in third place in total production is that of George H. Schmitz of Chicago, Buff Leghorns which have done some remarkable laying. Their total score for the sixteen weeks is 271, which is six eggs ahead of the 265 which have been laid by another pen entered by Ed Cam, White Wyandottes.

The leading individual layer is not a Leghorn, however, but one of the birds in this pen of White Wyandottes from Ed Cam's poultry yards. Mr. Cam seems to excel not only in the Mediterranean breed, but in one which is distinctively American. In sixteen weeks his Wyandotte which leads the single layers deposited in the trap nests seventy-eight eggs, an average of 4.875 eggs per week—which was just about the average of the winning individual in the first contest. A Barred Plymouth Rock in the pen of J. W. Miller, Shiremanstown, Pa., started out in the lead and laid twenty-two eggs in November, led for each week in December and finished that month with a score of forty-two; but she fell off for a week or two and in the ninth week the Cam bird took the lead, and has held it since.

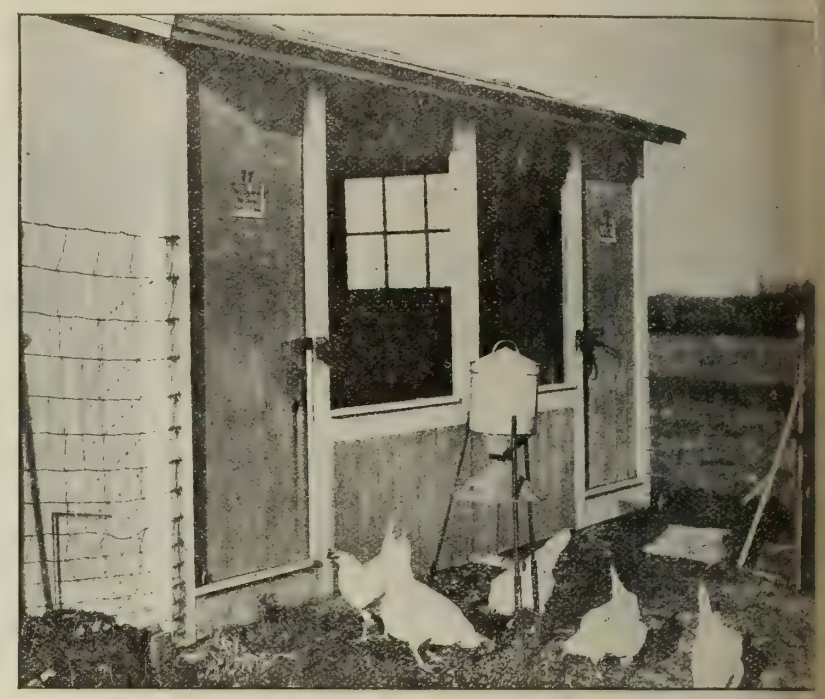
At the end of the fourteenth week one of the Barron White Leghorns tied Cam's Wyandotte at sixty-eight eggs, but the next week dropped back to second place, one egg behind the seventy-three recorded for the leader. Another in the same pen is in third place, with seventy-four eggs for sixteen weeks, and there are numerous others ready to take advantage of even a slight slump in the work of the English Wyandotte.

The monthly prize medal scores bring the Leghorns in again. The Barron pen won for November, with ninety-three eggs, with the White Leghorns of Ed Cam and Smith Bros., Addingham, Pa., tied for second place, at seventy-five, and White Orpingtons from White Acres Poultry Ranch, Three Tuns, Pa., third, sixty-seven being the record.

The month of December ended with an entirely new set of winners, with the exception of the Cam Leghorns, which took first honors, with ninety-six eggs, the highest monthly score thus far. Schmitz's Buff Leghorns were second, at ninety, and White Leghorns from the Braeside Poultry Farm, Stroudsburg, Pa., ranked third for the month, laying eighty-nine eggs.

January showed what the Buff Leghorns of Mr. Schmitz were capable of in cold weather, his pen taking first place for the month, with ninety-one eggs laid. Second place for the first month in 1913 brought in another new record-holder and another breed, the Single-Comb Rhode Island Reds of Dr. J. A. Fritchey, Harrisburg, Pa., laying but one egg less than Schmitz's Leghorns. Barron's pen took third honors, with eighty-nine eggs.

Barron's quintette also has the honor of setting the high weekly score for the first sixteen weeks, twenty-six eggs, in the sixth week. The pen has equaled this since and numerous other pens have lately, but it was not exceeded. In first contest it was before the teenth week, by the pen Dr. Fritc had entered then, which laid twe nine eggs in the fourteenth we In the first contest it did not rem for the sixteenth week to come fore a single bird laid an egg a for a week, but this was not d until the sixteenth week this ti



Leading Pen of English Leghorns and One of the Feeding Devices

Barred Plymouth Rock Pullet Which Has Done Notable Layin

when a White Orpington in the of hens left in from the first y by Gilbert & Moore, Lansdowne, laid seven eggs.

Not until the sixteenth week, a did a single bird lay two eggs in day this time; in the first year eral individuals had done that lier. This time the first bird to two marketable eggs in one day, at 9 a. m. and the other at 1:45

m., was a Black Orpington in pen of Luis B. Switzer, Southp Conn. Neither this nor the Wh Orpington pen mentioned just viously is a high stand pen.

The total production of eggs the second contest considerably runs that for the early weeks of first affair, however. Out of first sixteen weeks only five h shown a weekly total below that the corresponding week in the f contest, and from the first w

hen the number of eggs laid was ore than twice the total for the st week of the first year, the ex- ss has been considerable. At the d of the sixteenth week the total gs of marketable size and quality d by the ninety-nine pens laying s 12,564, which is about a thou- nd more than the figure for the me period in the first competition, ,701.

It was some time before some of e single pens of fancy varieties, ch as Blue Andalusians, Black Or- ngtons, White-Laced Red Cornish d Silver Wyandottes, took to lay- g, but every pen but one of the ndred entries is now hard at ork. That one is the pen of But- cups from the yards of Dr. E. W. ndes, Stillwater, N. J.

Until the averages of the pens of e different breeds are reached the hode Island Reds have not shown strongly in this second year's lay- g, as will be noticed, but when the gures which show the steady lay- g abilities of the different breeds me to our attention the Reds go r in advance of all the others. ere are eight pens of Single Comb ds entered, and they have laid an erage of 170.875 eggs in the first teen weeks; the five pens of Rose mb Reds have averaged 138 eggs r pen, and this makes the com- ed average pen total of all the hode Island Reds 158 eggs.

This is far above the average pro- ction per pen in any other breed. xt to it come the Wyandottes, hich have laid an average total of 3.87 for fifteen pens in sixteen eks. The fact that there are re Leghorns than any other ed, and a considerable number re than in the first competition, s, doubtless, something to do with e fact that they rank lower. The ty-seven pens of all varieties of ghorns have laid an average of 7 eggs each for the first four ar months of the competition ar. Below them are the seven ns of Orpingtons, at 119.57, and e thirteen Plymouth Rock fives, th an average per pen of 107.

The averages per pen for the six- enth week throw additional light the breed standings, however. e Single Comb Reds are well in e lead, with eighteen and three- arter eggs per pen for that week, t the Rose Comb Reds are behind others but the Leghorns, at only teen eggs per pen for that week. e forty-seven pens of all varieties Leghorns averaged 14.96 eggs [illegible] e sixteenth week. The general erage for Rhode Island Reds is venteen, and the same for the Or- ngtons, while the Plymouth Rocks d 17.3 eggs per pen that week, d the Wyandottes 17.2.

It will be noted that conditions in e international competition vary nsiderably from those in the Mis- uri contest, where a pen of ten llets from Barron's remarkable hite Leghorn strain is still ahead all other pens, but the pens which me after are from varying breeds d varieties, with the Orpingtons owing up far better than they are Connecticut.

Some people are almost as su- rfluous as a musical conductor is a rubber band.

It Pays to Hog Fence the Farm

At the price at which woven wire fencing may now be bought by every farmer, it will pay him in the end to make all his fences hog tight. In doing this it will not pay him to fool around with a narrow fence. The woven fence should not be less than three feet high and then barbed wire may be stretched above this to make the fence as high as desirable for holding other live stock. When this is done the farmer can turn his hogs loose upon the farm at certain seasons of the year, and they will be able to gather feed enough in addition to what they would otherwise get, to produce growth enough in a short time to pay for the extra cost of fencing.

The farmer then would be able to keep his stock at home so that they would not be trespassing on his neighbors. In these days of cholera infection, it is almost necessary, and it certainly is wisdom on the part of the farmer to keep his hogs on his own land.

When the grain has been taken from the harvest field, the hogs can then be turned into the stubble and will gather up and make economic use of all the scatterings. On some farms, the hogs would gather enough from this one source to make up the balance of extra expense in building such fences.

With such a fence, the ordinary farmer can then keep a few sheep and gradually grow into the sheep business, as his knowledge of the sheep industry develops. There is no live stock on the farm that pays as well as sheep when they are properly handled. They clean up the weeds, being natural browsers rather than grazers, and in the field utilize feed that would otherwise not be made profitable or productive.

It is stated that the ordinary farmer is a poor investor. Here is a chance for a small investment that will return a large profit.

Looking for Business

A temperance lecturer was enthusiastically denouncing the use of all intoxicants.

"I wish all the beer, all the wine, and a'l the whisky in the world, was at the bottom of the ocean," he said.

Hastily Pat arose to his feet.

"Sure, and so do I, sor," he shouted. "I wish every bit of it was at the bottom of the sea."

As they were leaving the hall the lecturer encountered Pat.

"I certainly am proud of you," he said. 'It was a brave thing for you to rise and say what you did. Are you a teetotaler?"

"No, indade, sor," answered Pat. I'm a diver."

Sensible Advice

Bill—What are you carrying a cane for?

Jim—I'm having a deuce of a time with water on the knee.

Bill—Why don't you try wearing pumps?—Lippincott's.

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Put the gauge to our wire—it is full size. Our rolls are full length. The weight of our fence is full and heavy. Test, *compare* and judge.

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"Making the Farm Pay"—a simple and short treatise on farming, covering the things every farmer and his boy should know. Sent free on request.

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Electrify Your Farm!

Electrify your farm and save hours of time, miles of steps and a big pile of dollars. The power, convenience and luxury of electricity can be at hand *all the time*—summer or winter, rain or shine—if you use a few French Dry Batteries.

They Help All

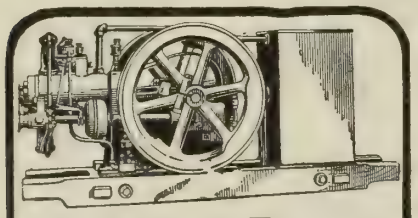
Just the pressure of a button or a twist of the wrist and *presto!* the gasoline and automobile engine is started; both party and exchange lines of the telephone are working; gates and doors are opened; call bells are rung and scores of other duties are performed. Everyone in the family will benefit by the use of a few

Think of having electricity "on tap" all the time! Father, instead of fussing with a dangerous kerosene lantern in the dark barn, now simply pushes the button of an electric flasher. Mother doesn't stumble down the dark cellar stairs risking life and limb any longer. She "switches on" a light at the head of the stairs and goes her way in safety. A telephone between the house and the barn is a great convenience.

The mail-carrier can press a button on the mail-box 'way out on the road, which rings a bell in the house telling the folks that there's some mail in the box. These and dozens of other helps are yours with French Dry Batteries.

Get the Genuine

If you want a battery that will deliver a strong current for a *long time*, insist on the genuine French Battery—the dry-cell battery with an army of satisfied users. Poor-quality batteries give weak current for a short time and then "peter out" entirely. Don't take chances! Your dealer will tell you the particular French Battery you need. If you want to know more about French Dry Batteries and how they can help you do your farm work, send your name and address on a postal. Write today. (3)



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Rumely-Falk Kerosene Engine
3 h.p.

Your wife needs one around the house as badly as you do on the farm. This 3 h. p. Engine will help wash the clothes, split the wood, pump the water, and run the cream separator.

It's simple—a child can tend it. Feed it, start it, leave it—it runs itself. Instantly adjusts itself to any load without jarring. Safe—burns *kerosene*.

A steady running machine, without a bad habit. Better than a hired man—never leaves, never gets sick.

Send for Data-Book, No. 118a, on Rumely-Falk Kerosene Engines, and ask the name of our nearest dealer.

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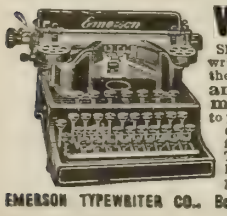

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EMERSON TYPEWRITER CO., Box 1132 Woodstock, Illinois.

Mexico's New Oil Fields Yield Vast Amount

By Frank G. Carpenter

TAMPICO—This will soon be the chief oil port of the world. It lies in the heart of oil lands which are now producing 200,000 barrels of petroleum a day, and great oil tanks are going up which will hold a supply of millions of barrels. Tampico is situated a little back from the coast, half way between Vera Cruz and the Rio Grande river; it lies near the mouths of the Panuco and Tamesi rivers, and it has a harbor so deep that the biggest ocean steamers can land. The wharves and jetties and other harbor improvements were designed and built for the Mexican government by American engineers, and they have cost millions. The port is 3,000 miles from New York, 4,800 miles from Liverpool, and a little more than 5,000 miles from Hamburg, and tank steamers will soon be carrying oil from here to all parts of the world.

Who Own the Wells

The rivers, which join just above Tampico, flow through the oil fields, and during the last year eighty steel tanks have been built on their banks, all being on deep water. About thirty of these tanks belong to the Pearson syndicate, or Mexican Eagle Oil company, and the same company is putting up refineries here. It is a British syndicate, backed by the Pearsons, which has also large interests in Mexican railways, electric plants and mines. Its oil branch has a paid up capitalization of $25,000,000, and the market value of the stock is twice that amount. It has altogether more than a half-million acres of oil land.

The Waters-Pierce company was until lately a branch of the Standard Oil company; it has large interests, including storage tanks on the rivers. And then we have the Mexican Petroleum company, which is largely controlled by California oil men; it has an authorized capital of $50,000,000, and it owns something like 700,000 acres of land, much of which is still unexplored. One of the Mexican Petroleum company's wells has been producing for more than two years, and although only partially opened, it turns out 25,000 barrels of oil a day. This company is now erecting storage tanks near Tampico, while the Texas company is doing likewise on a tract of land of about 1,000 acres opposite this port. The latter company has already constructed a temporary wharf and is shipping oil to the United States ports.

The New Oil Territory

These new oil fields extend for hundreds of miles along the Mexican gulf. The profitable wells are scattered all the way from here to Vera Cruz, and oil has been found in paying quantities farther south and on the Isthmus of Tehuantepec. The exact width of the territory is not defined, but they are striking oil sixty miles back from the sea, and the region in which the prospecting is going on is said to be about as large as the state of Illinois and over a distance twice as large as the state of Massachusetts wells have already been sunk. In many places oil has been struck at 400 or 500 feet, but the best wells are much deeper, and the great gushers have come from a depth of 1,800 or 2,000 feet.

Big Mexican Gushers

Take, for instance, gusher No. 4, or the Potrero del Liano No. 4, which has a capacity of 110,000 barrels a day; that well belongs to the Pearson syndicate, and I have just had a talk with one of the engineers who has to do with its working. The hole was bored three years ago. When the oil was struck it burst forth in a great stream, which rose to a height of 400 feet, and it continued to spout for more than three months before it could be controlled. During that time it was pouring forth petroleum at the rate of 5,000 barrels an hour, and it covered the whole country with oil; it filled the rivers and lakes and contaminated the streams. Thousands of cattle were lost from the fact that the oil covered their grazing places and they could not get fresh water. Acres of oil flowed out to the sea, and the Mexican gulf had a coating of oil for 300 miles along this part of its coast.

Lake of Oil

In their efforts to save the oil the Pearsons dug a lake, or reservoir, covering several acres, and ran the petroleum into it. The lake had a capacity of over 3,000,000 barrels, and it took just twenty-eight days to fill it. That lake is still full of oil, and there are guards who watch it day and night for fear of fire. The vegetation about the shores has been cut back to a distance of 300 feet, and electric lights are kept burning every night to aid in guarding the oil. I am told that the oil is fast deteriorating; some of it is caking, and it is questionable whether it will be worth a great deal when the time comes for it to be exported or sent to the refineries.

The great gusher is now under control. The engineers succeeded in putting on caps after this flow of three months, and it is now connected with a pipe line which carries it off to the tanks and the coast.

Oil Flame Two Thousand Feet High

Another enormous gusher was the Dos Bocas, near the mouth of the San Geronimo river, sixty-seven miles south of here. This was struck at 1,800 feet on July 4, 1910, and it produced the greatest fireworks that have ever been seen on Independence day. The oil came forth at the rate of about 4,000 barrels an hour almost immediately, and caught fire from the boiler of one of the engines. It then sent up an enormous column of smoke and flame, which reached, it is said, a height of 2,000 feet, the flame measuring from forty to seventy-five feet in width; that flame lasted for over two months, and at night it could be seen for more than 200 miles away on the Mexican gulf; it illuminated the whole country, and newspapers could easily be read at midnight at a distance of seventeen miles away. It has been estimated that something like 100,000 barrels of oil were daily consumed before the fire was put out.

An enormous amount of money was spent in the efforts to shut off this Dos Bocas well. The owners tried everything to extinguish the flames, but it was only when the salt water of some subterranean channel broke through that they were choked. This water became mixed with the oil and ruined the well. I am told the oil still flows and that there is a lake of oil and water there which is hot now, although the fire itself has disappeared.

Another well is the Casiana well, which produces 24,000 barrels a day, and scattered over the field are other wells which are running from 500 to 3,500 barrels a day.

These are not fairy stories. I have before me a report of the United States geological survey as to the big gusher of 110,000 barrels daily

IN A SHADOW
Inveterate Tea Drinker Feared Paralysis

Steady use of either tea or coffee often produces alarming symptoms, as the poison (caffeine) contained in these beverages acts with more potency in some persons than in others.

"I was never a coffee drinker," writes an Illinois woman, "but a tea drinker. I was very nervous, had frequent spells of sick headache and heart trouble and was subject at times to severe attacks of bilious colic.

"No end of sleepless nights—would have spells at night, when my right side would get numb and tingle like a thousand needles were pricking my flesh. At times I could hardly put my tongue out of my mouth and my right eye and ear were affected.

"The doctors told me I was liable to become paralyzed at any time, so I was in constant dread. I took no end of medicine—all to no good.

"The doctors told me to quit using tea, but I thought I could not live without it—that it was my only stay. I had been a tea drinker for twenty-five years; was under the doctor's care for fifteen.

"About six months ago I finally quit tea and commenced to drink Postum.

"I have never had one spell of sick headache since and only one light attack of bilious colic. Have quit having those numb spells at night, sleep well and my heart is getting stronger all the time." Name given upon request.

Postum now comes in concentrated, powder form, called Instant Postum. It is prepared by stirring a level teaspoonful in a cup of hot water, adding sugar to taste, and enough cream to bring the color to golden brown.

Instant Postum is convenient; there's no waste, and the flavor is always uniform. Sold by grocers everywhere.

A 5-cup trial tin mailed for grocer's name and 2-cent stamp for postage. Postum Cereal Co., Ltd., Battle Creek, Mich.

acity; it was drilled under the ervision of Dr. C. W. Hayes, who merly belonged to the survey, and had left the discouraged drillers, days before it was struck, for a into the country. As he went ay on his mule he told them that y would probably reach oil within lve feet or more. He had only e fifty miles and the drill had e down seven feet, when the oil gas threw the tools out of the l and it began to flow at a 10,-

The Great Oil Lake Near Tampico Which Contains 3,500,000 Barrels of Oil. This Lake is Guarded Day and Night for Fear of Fire. It is Still Full of Oil

-barrel rate; it steadily increased. hin twenty-four hours the flow 20,000 barrels. The next day it 30,000 barrels, and the gain con- ued until it reached 160,000 bar- , after which it subsided to its sent flow, which it has kept up three years. The well has a ssure of over 800 pounds to the are inch and is now controlled by nt-inch pipes, which carry it off the tanks.

This is said to be the largest oil l of history. The Lucas gusher Spindletop, Tex., flowed 75,000 rels a day for a day or two, and production of some of the Rus- n wells is reported at slightly over ,000 barrels, but none has ap- ached the yield of big gusher 4.

The Portrero del Liano, or big her, is supposed to have tapped nighty subterranean lake of oil ich lies something like 2,000 feet ow the surface of the earth and is ped by a solid shell of stone 300 t thick. The stone shell does not uire iron casing, and it so pro- ts the reservoir that the top can er cave in.

This is said to be the first well of kind which has ever tapped a e of petroleum beneath a solid k capping. All the great wells of ssia and California have been in t formation, and they have had uble with cave-ins, fires and other ndicaps before they could be con- lled and their flow cared for. This s the case with the Dos Bocas ll, which, as I have written, ght fire and was destroyed also the salt water rushing in. Even uld the big gusher take fire, it uld form only a thin column of me, which could be extinguished ove the surface and the flow of preserved.

The big gusher is supposed to come from an entirely different field than the Dos Bocas, and there appears to be no connection between the giant reservoir which feeds it and that which supplies the Dos Bocas. The pressure of the lake must be enormous, as may be seen when it is remembered that it threw a column of heavy crude oil as big around as a nail keg more than 300 feet into the air.

Oil wells like these are very streams of gold. I am told that the oil as it comes forth is worth here in the storage tanks about 58 cents a barrel. At 50 cents a barrel the big gusher, if it could be allowed to blow at its full capacity, would realize $55,000 a day, or more than $2,700 every hour, or between $40 and $50 every minute, day and night all the year through. That is one kind of gold that old Mother Earth is now spitting out in this part of the world. It is a pity that the big gusher belongs to the British.

The same Pearson company has large interests all over Mexico; it has oil wells on the Isthmus of Tehuantepec, and it pumps that oil to its refinery at Minatitlan, where there is a branch of the Tehuantepec National railway. That oil is indeed intended for the export trade, its situation giving it easy access to the Pacific ports through Salina Cruz, while tank steamers on the Atlantic side can be loaded at its own wharves.

I am told that they are now loading steamers which cannot cross the bar at Tuxpan, near here, by running six-inch pipes out into the sea to where the water has a depth of sixty feet. Here the tank steamers can catch up the flexible pipes and thus take on the oil. The pipes are about one mile long, and they are connected with ten great tanks on the shore, each of which holds 55,000 barrels; these tanks are filled from the big gusher I have already referred to, which is thirty-three miles away.

A New Oil Fleet

I hear also a report that the Hamburg-American line will put on a fleet of oil steamers to run to Tampico, and that it only awaits the building of enough tanks to warrant it a constant supply of freight of this character.

(Copyright, 1913, by Frank G. Carpenter.)

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Ever see a man who wasn't glad to get a pipeful of

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THE SMOOTHEST TOBACCO

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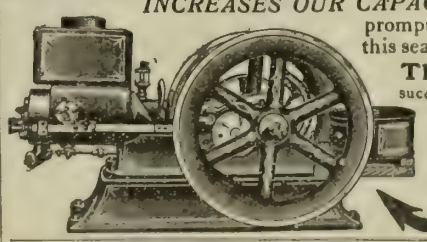

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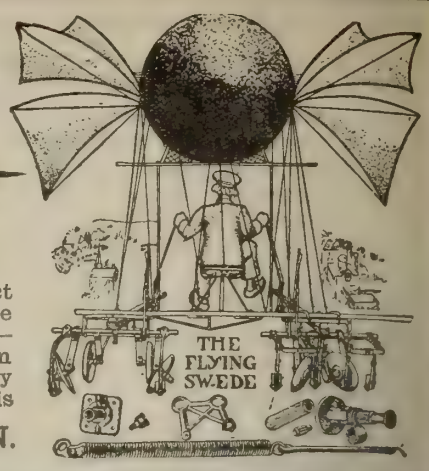

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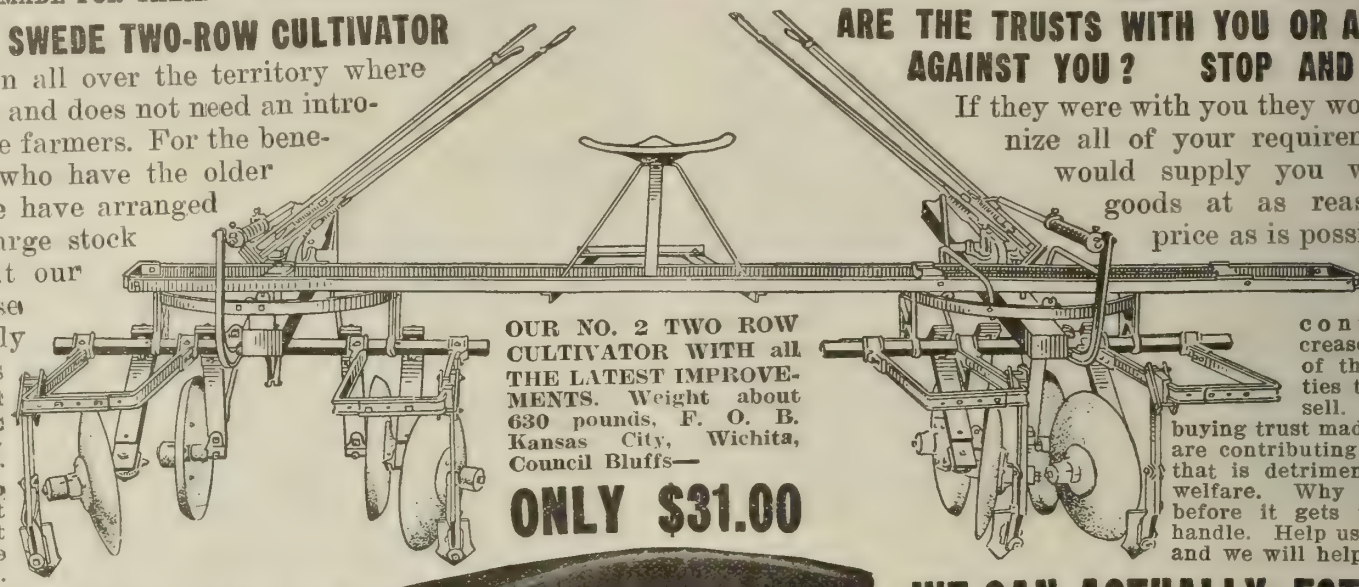

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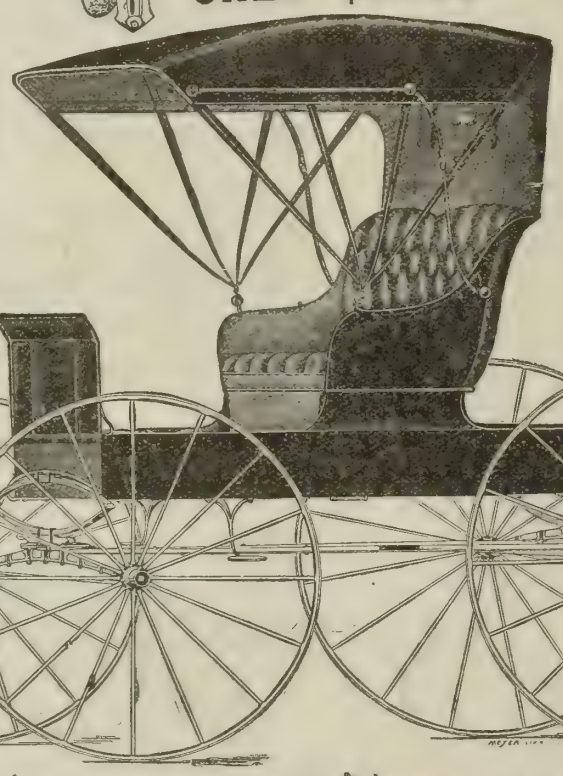

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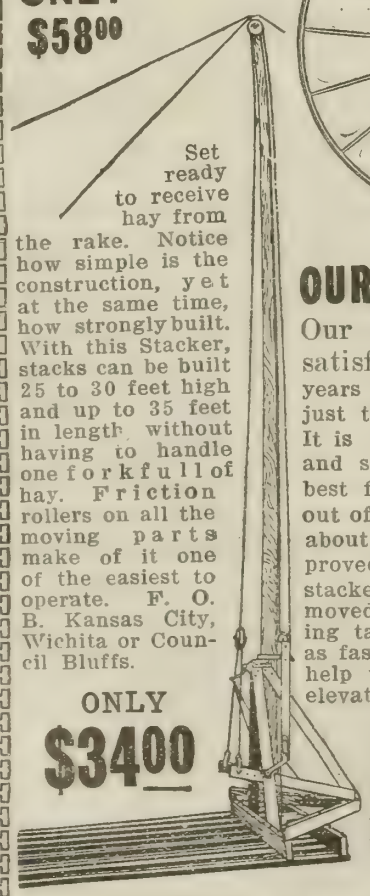

Set ready to receive hay from the rake. Notice how simple is the construction, yet at the same time, how strongly built. With this Stacker, stacks can be built 25 to 30 feet high and up to 35 feet in length without having to handle one forkfull of hay. Friction rollers on all the moving parts make of it one of the easiest to operate. F. O. B. Kansas City, Wichita or Council Bluffs.

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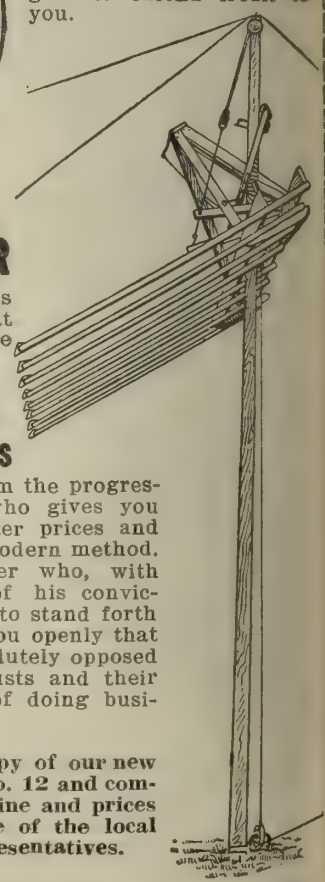
The cut on the right shows the Stacker with the head at the top ready to dump on the stack.



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Calculating the Date of Easter

By Garrett P. Serviss

THE great Christian festival of Easter, marking the anniversary of the resurrection of Christ, falls this year within one day of its earliest possible date. It comes on Sunday, March 23. Last year it fell on Sunday, April 7. Some years it occurs several weeks later still.

All other anniversaries except Easter, and the holy days associated with it, fall on a fixed day of each year, and people who are not familiar with what is called the ecclesiastical calendar are often greatly puzzled to account for the wandering of this great festival, whose extreme dates may be as much as five weeks apart. A late Easter has more flowers and more sunshine; an early one, like that of the present year, sometimes feels the last chill of the departed winter.

The primary reason for the variable date of Easter is the fact that it is the only great festival in Christian countries that depends directly upon the monthly motion of the moon. At the same time it is affected by the yearly motion of the sun, since its date is governed by the vernal equinox, which is the point in the year when the sun crosses the equator from the southern into the northern hemisphere.

But the year and the month are not commensurable lengths of time—that is to say, there is not an even number of lunar months in a year. A lunar month is not the same as a calendar month, but it represents the time from one full month to the next, which is, on the average, about twenty-nine days, ten hour and forty-one minutes. A year, which is measured by the apparent motion of the sun, is on the average 365¼ days. Now this cannot be divided by the period of a lunar month without a remainder. In consequence, a full moon may occur at any time in the course of an ordinary month.

But the rule for finding the date of Easter is that it must fall upon the Sunday immediately following the first full moon, which occurs on or after March 21, which is the regular date of the equinox.

Last year the first full moon following the equinox happened on April 1, which was a Monday. The next following Sunday, April 7, was then according to the rule, Easter day. This year the full moon of the equinox, or the paschal moon, as it is called in the church calendar, falls on March 22, which is a Saturday, and the next day, the 23d, being Sunday, becomes Easter day.

Inasmuch as Christmas day, which is celebrated as the anniversary of the birth of Christ, comes at a fixed date every year, December 25, it would appear much simpler to keep Easter also as near a fixed date as possible. It could not be absolutely fixed because of the settled custom of celebrating it on a Sunday, but, as the astronomer Clavius pointed out centuries ago, a reasonable degree of regularity could be introduced by making Easter the first Sunday after the equinox without regard to the phase of the moon. If that rule were adopted the date of Easter would still be a movable one, but its wanderings would be kept within a week of a fixed date.

The existing system of determining the date of Easter is based upon a discovery made more than 400 years before Christ by the Greek astronomer Meton. He found that 235 lunar months are almost exactly equal in total length to nineteen years of 365¼ days each. There is a difference of only about two hours in the course of the nineteen years. This period is called the metonic cycle, and its division into years gives rise to the "golden numbers," which indicate the place of any year in the cycle. At the beginning of the cycle, which, as used in the ecclesiastical calendar is reckoned from January 1, of the year 1, B. C., a new moon happened to fall on January 1. Every nineteen years since then there has been a new moon at the beginning of January, but during the intermediate years of the cycle the first new moon of the year occurs at different dates in January, which are always for same for years occupying the same place in the cycle. This place is called the golden number, and by its aid, through a somewhat complicated system of computation, the date of the paschal moon can be calculated any number of years in advance.

The golden number of any year can be found by adding 1 to the number representing the year in ordinary notation, and then dividing the sum by 19, the remainder being the golden number for that year. For instance, add 1 to 1913, divide by 19, and the quotient is 100, with 14 remainder, and this remainder is the golden number of the year 1913. It shows that 1913 is the fourteenth year in a metonic cycle, and that five years later there will be a new moon on January 1. The date of the first full moon of the year being known, it is easy to calculate the dates of all the other new and full moons that follow. The first new moon of this year occurred on January 7.

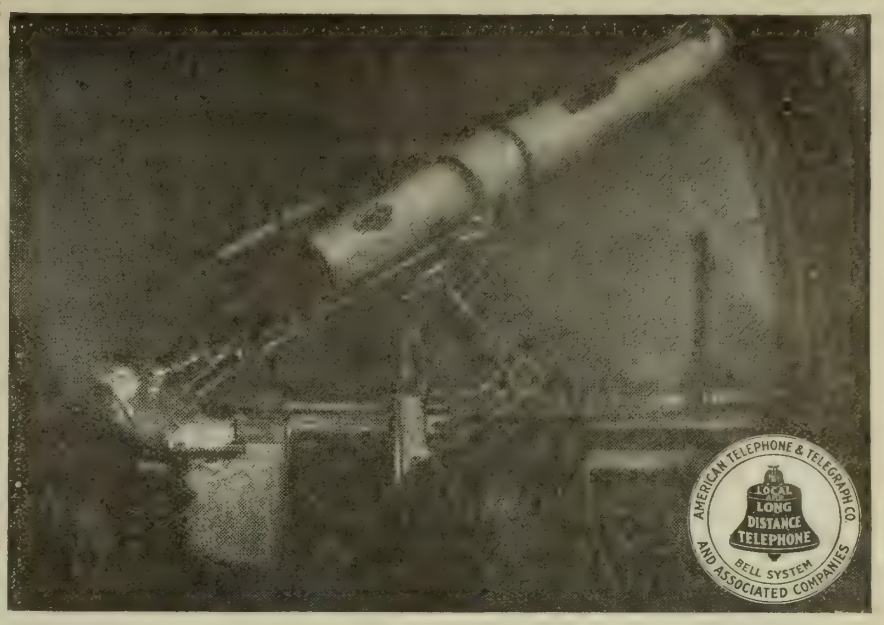
If it were not for the almanacs everybody would have to make all these calculations, and many others that we have not mentioned, for himself in order to find out the date of Easter, and it is safe to say that, in that case, it would be still more "movable" than it actually is.

Chinese Logic

Another instance of what seems to us the topsyturvy way of doing things in China is told, according to the Washington Star, by Bishop Lewis of Foochow.

A gentleman entered a Chinese shop to purchase tea. He found, to his amazement, that five pounds of a certain tea cost $2.50, whereas ten pounds of the same brand cost $7.50. The gentleman protested at these prices, but the shopkeeper insisted that they were perfectly logical. As he put it:

"More buy, more rich—more rich, more can pay."—Youth's Companion.



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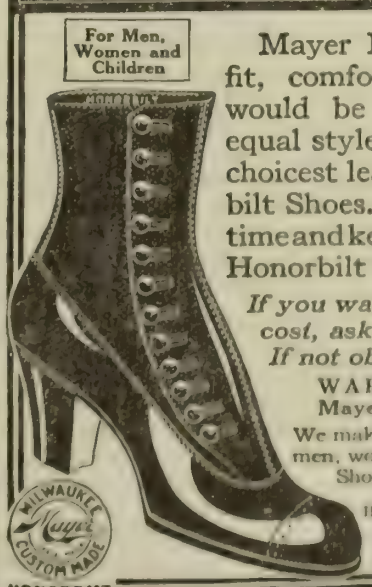

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Of Interest to Our Women Readers

An Easter Message

When spring unlocks the storehouse
Whence Easter blessings flow,
Athrob with joy expectant
All nature seems aglow.
E'en where the snow lies thickly
In many a woodland spot,
Out from its hood of purple
Peeps the forget-me-not.

Bravely the bloodroot pushes
Its way through leaves of brown;
Arbutus, subtly fragrant,
Displays her Easter gown.
From tree to tree the squirrel
Pursues his frisky mate,
While rabbits from their burrows
Seek to investigate.

From winter stalls the cattle
With restive feet declare
A vague unrest and longing
That permeate the air;
And, as the barn doors slowly
On hinges open swing,
They view in silent wonder
The miracle of Spring.

There is an Easter message
For you as well as me,
When through the fields and woodlands
Once more the dumb roam free.
Would we with hearts unsullied
Partake this Easter joy,
What God's hand hath created
Let not man's hand destroy!
—Helen M. Richardson in Our Dumb Animals.

Our Home Chat

Next to Christmas, the Easter tide is the most hallowed religious anniversary of the year; indeed, it really supersedes the former holiday, commemorating, as it does, the great sacrifice, suffering and final triumph of our Savior. It is the time of new hope, renewed life, coming with the first indication of the return of spring, the swelling of buds on bush and tree. We, who throughout the year live our busy, burdened and often wearied lives, need such a season for meditation and renewing a right spirit within us. We need to look inward, to discover our own personal need, and to look upward for help and inspiration. There is need to "Rake yer fogy notions down, an' sweep yer dusty soul of gloom."

The Easter season may mean much or little to our personal lives, according to what we bring to it, and our own mental and spiritual attitude. Let us take time on this Easter Sabbath for meditation within our hearts.

The Easter praises may falter,
And die with the Easter day;
The blossoms that brightened the altar
In sweetness may fade away;
But after the silence and fading
There lingers untold and unpriced,
Above all changing and shading,
The love of the living Christ.

THE EDITOR.

Easter Eggs

Easter egg dyes are inexpensive and easy to apply, and are the best to use if one wishes to color a great many eggs. In using the prepared dyes, always remember to strain the liquid before using and oil each egg afterward lightly with butter; it gives a gloss not gotten in any other way. To transfer designs to eggs, cut simple figures from paper or pictures, such as chickens, flowers or initials, and tie securely to the side of the egg before dipping in the dye. All the older people, I am sure, remember wrapping eggs in a bit of calico that would fade easily and then boiling them. Onion skins boiled give a good and odd color. Saffron gives beautiful shades of yellow. To write the children's names, use a toothpick and hot tallow. Let it dry thoroughly before dipping in the dye. The shells take the color, but the name is left white.

Eggs in Potato Nests—Season mashed potatoes with salt, butter and pepper; then press through a sieve. Reheat and spoon mold the nests on a hot platter. Place a hard boiled egg, from which the shell has been removed, in each nest. Pour over each egg some cream sauce made as follows: Place in a double boiler one tablespoonful of butter; when melted add one tablespoonful of flour, and when it foams up add one cupful of good milk or thin cream; stir till smooth, and season to taste. Garnish around the potato nests with parsley or lettuce.

MRS. GILBERT.

Gardening

Each recurring spring, with the first warm days and the chirp of the early birds, a peculiar stirring is felt in the breast of all mankind and womankind as well, a desire to get out of doors and dig and work in Mother Earth. It is an inspiration or instinct strong within us, an inheritance handed down to us from the times when the human race drew their subsistence more directly from the soil. The writer can only give a little commonplace experience in raising commonplace vegetables, but has usually been successful.

In the first place, you must have good seeds, not merely seeds that will grow, but seeds that will produce something. Any good gardener will tell you he can raise a good garden if he can get good seeds. However, in this day and age, that difficulty is largely overcome, and there are many reliable seedsmen who have spent a lifetime in improving and devolping our common garden seeds. The soil should be rich and made fine with hoe and rake. With good seeds and well prepared soil, we have the solid foundation for a garden.

Plant everything in rows, using a line to get them straight. The old-fashioned way of planting in beds is past. Peas, radishes and lettuce can be planted very early if the soil is mellow. If it snows and freezes afterward, don't be alarmed; it will not hurt them a bit, and when the warm days come they will be ready to commence growth. Everyone has noticed that self-sown lettuce and radishes will come up and be ready for use sooner than those which have been planted. Where the garden has to be cultivated by hand, the rows can be planted quite close. Use your own judgment as to the space the plant will require for a medium growth. Where space does not have to be considered, the rows of all the larger plants should be far enough apart to admit of cultivation with a horse.

Peas are hardy and can be planted early. But it is best not to plant the main part of the garden until the ground is warm. There are many varieties of peas; the green wrinkled ones are far superior to the old white kind. To have a succession, plant at intervals about two weeks apart, and have at least two varieties.

For onions in the small garden, plant the sets; they are so much less trouble than those raised from seed, and come up early. Make a row about a foot wide, parallel with your other rows; fill it with sets, placed quite close. Thin out as you need them for the table. Two quarts of sets are enough for a small family. Beans are easily nipped by frost; but as a nickel's worth of seeds will replant, it is not much risk to put them in early. Tomatoes and cabbage should not be set out until all danger of frost is over; usually May 10 is early enough in Nebraska. It is a good plan to raise your own plants, so if frost or hail or cutworms destroy the first lot, there is plenty to replace them. The root crops, such as beets, carrots, turnips and parsnips, require about the same treatment—deep, mellow soil and good cultivation. We have used the sugar beet for pickles and thought them better than the red table varieties, and were rather surprised, upon looking over a catalogue of a well known house, too see that they advocated the same thing.

All vines, such as cucumber, melon, squash and pumpkin, are susceptible to frost and must not be planted until the weather is warm. The writer has had great trouble with the cucumber bug, which comes in such swarms the first hot days. I have tried everything commonly used, and nothing has seemed to help very much. But it has proved a good plan to plant the cucumbers early, and while they do not make much growth while the weather remains cold, the plants get old and tough and the bugs do not eat them as they do the young, tender plants.

ELLEN C. FOUNTAIN.

Nebraska.

Little Helps

Black underdrawers for small children may be made of old stocking legs. Split the legs from the top about one-third of the way down. Join and insert a long oval of black sateen in the crotch. Split the sides and face and work the usual number of buttonholes. There you have a serviceable pair of drawers for only a few minutes' work. Such garments cost 50 cents each in the stores. Sleeves of adults' wornout undergarments may be utilized in the same way.

I keep a small cretonne bag hanging near my kitchen sink. Into this bag go odds and ends of clean, soft rags, old socks, etc., that would be burned up anyway. Thus I always have at hand a stove rag with which I clean sink or stove and then burn. A rag kept for this purpose from time to time collects germs. This way is much more sanitary.

MRS. B. F. CATLETT.

Useful Hints

For scouring purposes, I find hard coal ashes very valuable, and always easy to obtain.

To keep bread from moulding, try keeping a few sheets of waxed paper on hand, and first wrap the new bread in a thin cloth, then in the waxed paper, with the best of results.

MRS. INA HEATH.

Practical Styles for the Home Dressmaker

All the Patterns on This Page Ten Cents Each

ILLUSTRATED below are a few practical designs, all of which can be very easily made up by the home dressmaker. These patterns allow for all seams and are perfect fitting. Full instructions and a chart accompany each pattern. All patterns 10 cents each; no extra charge for postage.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want, enclosing 10 cents for each pattern.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Description of Patterns

5435—Ladies' Dress. This dress, developed of blue chambray, with collar and cuffs of white linen, would be just the thing for morning wear. The panel front is a pleasing feature. The dress can be made with long or short sleeves and with high or low neck. The pattern 5435 is cut in sizes 32 to 42 inches bust measure. Medium size requires 6⅜ yards of material 36 inches wide, and ⅝-yard of 24-inch contrasting material. Price of pattern, 10 cents.

5822—Girls' Dress. Simple little frocks that button at the front are always nice for a small girl, and we show in this model one of the cleverest of these designs. The dress can be made with long or short sleeves and the chemisette is removable. The pattern 5822 is cut in sizes 6 to 12 years. Medium size requires 3¼ yards of 36-inch material, and ½-yard of 27-inch contrasting material. Price of pattern, 10 cents.

5932—Ladies' Dress. What could be smarter for general wear than this stylish frock carried out in any of the woolen materials? The dress has the fashionable shoulder tucks and closes at the front. The skirt is cut in three pieces and is made with the popular Empire waistline. The collar and yoke are of all-over. The pattern 5932 is cut in sizes 32 to 42 inches bust measure. Medium size requires 5⅞ yards of 36-inch material, and ⅝-yard of 22-inch all-over. Price of pattern, 10 cents.

5501—Ladies' Six-Gored Skirt. This is cut in six gores and has the closing at the left side of the back. There is a double under box plait at the lower part of each side seam and a forward turning plait at each side of the back gore. The pattern 5501 is cut in sizes 22 to 30 inches waist measure. Medium size requires 4⅞ yards of 36-inch material. Price of pattern, 10 cents.

5904—Ladies' Seven-Gored Skirt. This skirt represents a charming skirt cut in seven gores, and a design very simple to carry out. It can be made with high or regulation waistline and with inverted plait or habit back. Serge, cheviot or broadcloth can be used to make this skirt. The pattern 5904 is cut in sizes 22 to 30 inches waist measure. Medium size requires 3⅞ yards of 44-inch material. Price of pattern, 10 cents.

Suggestions Regarding Spring Sewing

BEFORE buying materials for new garments, look over what is on hand from previous years and see what can be done to make them presentable, or "in the mode." Some garments only need to have a few needed repairs, to do for ever day, or second best, while others with more extensive alterations may be made into stylish apparel. The skirt made a few years ago and laid away when half worn because hopelessly old-fashioned, will make a whole new dress of the present day.

We have made over several old things, one a black cloth skirt that had four gores; two were eliminated and made the waist and sleeves of a one-piece dress that has been much admired. It has collar and cuffs and a little vest of black velvet that did duty as hat trimming for two seasons, and all free edges of these accessories are outlined with a trimming from another black dress, so the gown cost nothing except the work of ripping and making and the thread.

We wash all cotton, linen or wool goods that we make over, using a suds made with white soap and changing till the water looks clear; then we rinse and partly dry, when the pieces are ironed by way of the thread, so as not to stretch the material out of shape. For black or blue goods the rinsing water is heavily blued. If the weave is the same on both sides, and if the stuff is faded, we turn it when making over. If it is not alike on wrong and right sides, we dye so as to cover spots, using either the original color or one that the goods will take.

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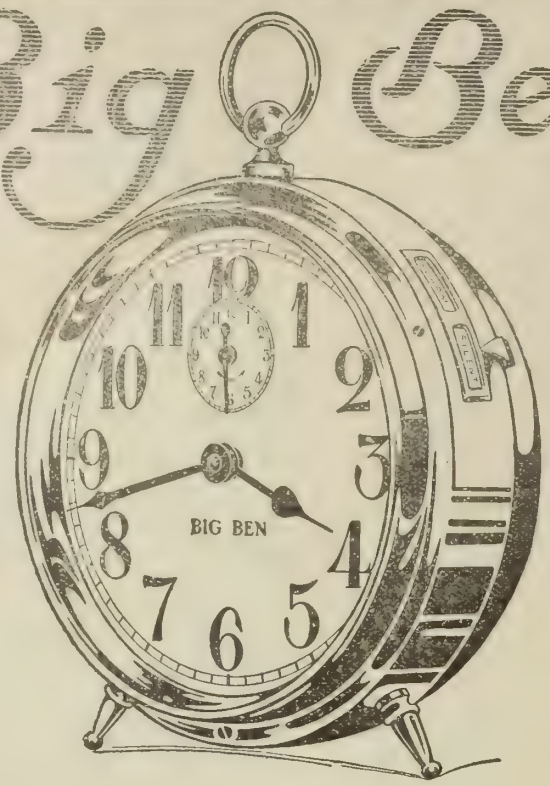
Big Ben



Big Ben—Two Good Alarms in One

Take your choice in Big Ben. He rings either way you wish — five straight minutes or every other half minute for all of ten minutes unless you switch him off. He's two alarms in one.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five minute call. You can slumber then without the get-up worry on your mind.

When morning comes, and it's announced by Big Ben's jolly bell, you can't help getting up at once, for Big Ben never fails to get you wide awake.

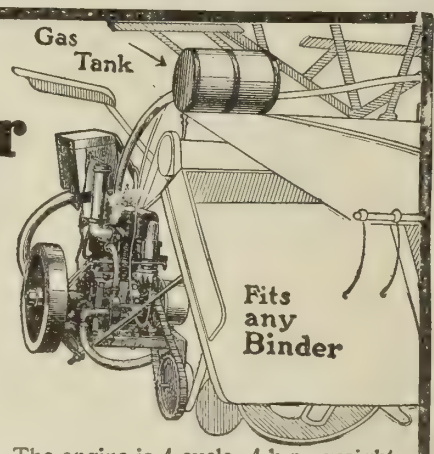
Big Ben is really three good clocks in one, two excellent alarms and a fine time-keeper to keep in any room and tell time all day by

If you have got to get up bright and early, if you have to get your help in the field on time, ask for Big Ben at your jeweler's and try him for a week. You'll never want to be without him afterwards.

Big Ben stands seven inches tall. He is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is $2.50 anywhere in the States, $3 anywhere in Canada If you can't find him at your jeweler's, a money order mailed to *Westclox, La Salle, Illinois,* will send him anywhere you say express prepaid.

Operate Your Binder with a Cushman Engine



THE Farm Cushman Engine saves a team and makes grain cutting easy. All the horses do is draw the machine. The engine does all the work of operating.

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It is a great advantage in low, wet ground. More work and more satisfactory work can be done in all conditions of weather and grain.

Hundreds of these engines are now in use—on grain binders everywhere—on rice binders in the South and on corn binders.

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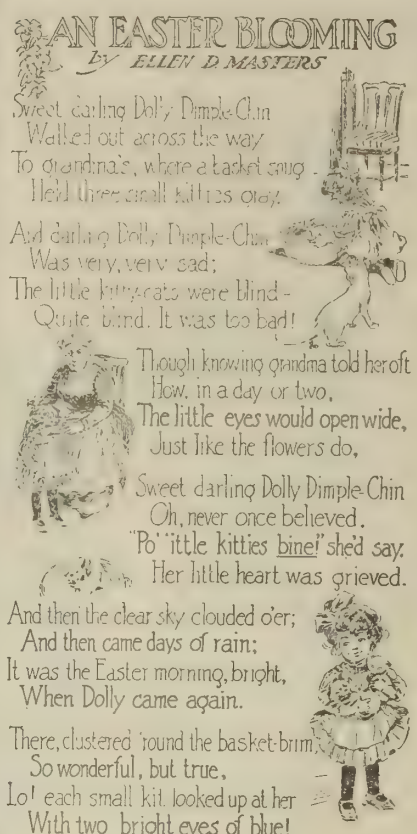
Stories by Our Young People



From Our Dumb Animals

The Editor's Corner

This issue closes the prize story contest, which has been running for three months. You will be interested in knowing which side has had the larger number of prize stories. The Blue side has had nine prize stories and the Red side four. Next week will be announced the new captains for each side.

Some have asked what the Red and Blue sides signify. These terms have been used to designate the two sides in the contest. The boys are supposed to write for the Red side, and the girls for the Blue. The word "original" means that the stories are not copied or reproduced. We ask that everyone sending in a story make this statement, putting you on your honor in this matter, because it is not possible for the judges to have read all stories. I am glad to say that it very rarely happens that anyone is dishonest in sending in a story that is not their own. When they do it is always found out, because someone else is sure to know the story and to tell about it. The prize each week is a beautiful book

THE EDITOR.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.

BLUE—Nellie Snyder, Provo, Utah.

(First Prize.)

Hoppy's First Egg

By Minnie Stoltenberg, Aged 12, Holstein, Ia. Red.

Little Emma came running home from school one day.

"Oh, do look, mamma!" she cried, holding out her hands.

"What have you there?" asked her mother.

Just then a speckled, feathery head peeped out between Emma's fingers.

"Oh, what a pretty chicken!" cried Mrs. Long. "Where did you get it?"

"Some boys gave it to me. They were going to kill the poor thing. It is lame, and I want to keep it for my own. May I, mamma?"

Papa looked in at the door at that moment and asked, "Keep what?"

When he saw the chicken he laughed and said he had never been in the hen business, but he would begin with Hoppy. Hoppy was the name that Emma had given the chicken. A fine house was made out of a soap box and Hoppy was put to bed. Papa Long showed the little girl how to feed and care for her pet. Hoppy grew to be a large hen. She was very handsome, but she always limped. Emma was very fond of her and never neglected her. One day Hoppy was heard singing very loudly in the garden, and Mr. Long said:

"Emma, I guess you had better look in the nest."

Emma ran out and soon returned in great glee, bringing in a fine, large egg.

"Oh, do see Hoppy's beautiful egg!" she cried. "May I have it to eat all my self?"

Mamma thought this quite right, and the little girl put it carefully away for dinner. When she returned from the pantry Emma found her mother talking with a poor old woman. She was spreading some bread and butter for her.

"What do you think, Emma?" she asked, "this poor woman has nothing at home to eat."

Emma stood a few moments while the old woman was telling her story, then she ran suddenly out of the room. When she came back she went timidly up to the stranger.

"Do you like eggs?" she asked, "because here is one; it is all my own, and you may have it."

"You precious dear!" cried the woman. "You have a good heart, like your mamma. I am very thankful, indeed, for the egg."

(Honorable Mention.)

Crackers

Py Mattie Kelly, Aged 31, Frederick, Okl. Original. Blue.

Crackers is about 10 months old, and has been in our family since he was a baby; therefore, we all like him, but when he is angry we are afraid of him. He is very cute when he climbs up in chairs, rides on sleds and plays with the children. He is very fond of candy and will take it away from you. Sometimes he tears holes in my clothes, but I like him, just the same, for I know he is only in fun. He doesn't like to be left at home alone and always runs after

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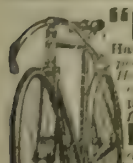

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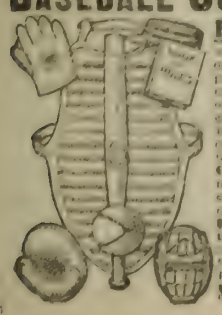

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WRITE TODAY

M. O. Seitz, M81 Chicago

Eggs for Easter Breakfast

us when we are going away from home. I hope we will never have to part with Crackers, and I don't think he ever will leave us. On cold winter nights he sleeps by the fire, and one morning he was found under the covers with the children. He is our very affectionate bull pup.

Additional Stories

Red—Inez Van Etten, Easton, Ill.; Frosty L. Lehman, Fayetteville, Ark.; Carrie Perkins, Treyno, Ia.; G. A. Carlin, Kandiyohi, Minn.; Paul Juencke, Farmington, Kan.; Orvie Campbell, Hubbard, Neb.

Blue—Willie A. Vereschagin, Wasco, Cal.; Myrtle Davis, Overton, Neb.; Leila Willard, Laura, Ill.; Lizzie Abel, St. Libory, Neb.; Orvie Campbell, Hubbard, Neb.

Home Grown Daffydils

Prize book worth a dollar to two best each week. Mail yours to Daffydil Editor, Twentieth Century Farmer.

FIRST PRIZE—Ella M. Eiffert, West Side, Ia.: Why was Bob White Raven? Because he saw the Blackbird Robin the Blue Bird.

What made Johnny Jump-up? So he could see Dandelion drinking out of a Buttercup with a Fox-glove on.

What made La Crosse? Because Ada-laide in Penobs-cot. Where is Penobs-cot? Paw-tucket.

Where did Chica-go?
Who Rhode Island?
Where has Ore-gon?
What does Cape Fear?
Which way does Crown Point?

SECOND PRIZE—Mrs. Emma S. Blackman, Fremont, Neb.—If a Scotch laddie loves one lassie, why does a colored boy love mo-lasses?

Mrs. Henry Heyung, Secor, Ill. If nicotine would kill a dog, would its tail stop a wagon?

If the 12:50 train was the hardest to catch, would it be ten to one if you did?

Glenn Putnam, Conneaut, Pa. If a moskee wrench his arm and a nail-set it, would the lemonade it if the dog-wood not?

When he caught the American robin Lady did the Lamb kill him?

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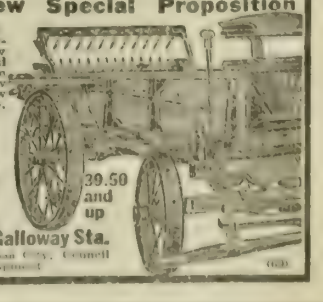

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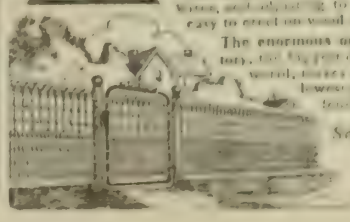

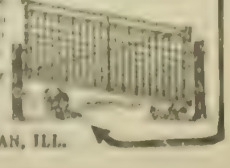

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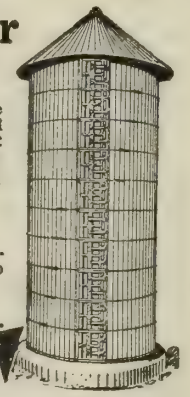

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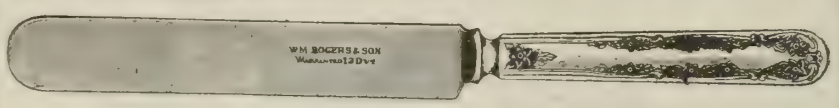

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That you may obtain a complete set of Wm. Rogers & Sons' Silverware, The Twentieth Century Farmer has added knives to its great offer. Spoons and forks of this pattern have been offered before. (You can still get them.) Start now with the knives. Send 20 cents for each fork and knife and 10 cents for each spoon.

COUPON.
Please send my knife to

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Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

Silverware Department

Twentieth Century Farmer

OMAHA.

Goose Culture Profitable Adjunct to Poultry Raising on the Farm

THE goose is certainly a profitable farm fowl. Why the raising of geese has so largely gone out of date on the farms one can scarcely give a good reason for—perhaps because feather beds are not deemed the necessary adjunct to the home that once they were thought to be.

The other day I accosted a huxster with a load of chickens and geese—great, big, spotted white and black geese called Dryland; really, though, merely a cross between the African and Embden. "How much did you give apiece for those geese?" I asked. "Nine cents a pound," was the answer, "and the smallest one brought its mistress $1.08, and the largest more, of course." "And once," I thought, "if we could get 50 cents apiece for our geese we thought we were making money, and then we paid more for our shoes, our dresses by the yard," etc., etc.

The woman who raised these geese scarcely knew she was raising them after she got them started in sensible manner. A goose has so few hindrances in the way of disease, and so largely finds its own rations.

Low, swampy land is, of course, the ideal place to raise geese, but the geese in the huxster's wagon were not raised in an ideal spot, for not even a creek ran through this land. They were raised high and dry, with plenty of grass at hand. In fact, I saw a flock of geese once that were being raised in a back city lot. Corn was growing high all about their inclosure, fenced off with chicken wire until it got too large for them to trample under or pull up. They paid on the investment, I was told.

Geese, given plenty of water to drink, can dispense with swimming water, though I have a strong opinion that the eggs from geese given running water deep enough to allow paddling in and swimming, are, as a rule, more fertile than from flocks on the uplands. However, women who raise the latter often dispute my opinion here.

Geese are easily kept in bounds; their feathers and eggs are always saleable at good prices, especially in the breeding season for the latter. If well advertised, it is always possible to sell pairs, or pens, of geese at good prices. Geese are always in demand in the cities for the Hebrew table, and, again, they are coming in for the holiday dinners.

Think, should your precious, tender little turkeys all die, at least your big flock of lusty goslings should comfort you, that not all your spring investments are gone. If the turkeys live, then you are so much ahead, because of the more-than-a-dollar-apiece geese.

In Europe geese are kept on land that is of highest price, because no other stock bring the value to the acre brought by geese.

The Toulouse is a large, gray goose, the Embden a pure white and the African a large, brown goose. Adult ganders of the three breeds must weigh twenty-five pounds for the Toulouse, twenty for the Embden and African, standard weight; twenty and eighteen pounds for the goose. Each breed has its faults, each its good points. These breeds, mixed or pure, but often inbred until made smaller, are the geese now commonly seen on the farms.

The big, gray goose lays earlier and more eggs than the others, but it is slower to get fat on its big frame. The weight comes late in the season. The eggs of the Toulouse are, as a rule, strongly fertile.

The Embden, or white goose, is in many points the most desirable for speedy growth and weight, for flavor of flesh and for pure white, choice feathers on the market. Its drawback is that it lays later in the season than the Toulouse. The Embden ganders are often slow in mating, and this produces more infertile eggs than the Toulouse give us.

The African is a dark goose, the most pugnacious of the three, but produces a greater number of fertile eggs than the others, three to one in certain flocks. This is why it is used as a cross to produce the so-called Dryland, or "farmers's goose."

What is called a "Mongrel goose" is a first cross with a wild goose and some one of the other pure breeds. This mongrel is sterile, as a rule, and is used only in the green goose trade, as these mongrel goslings grow large and fat on short order. Rhode Island has been the state best known in this mongrel green goose trade.

IDA M. SHEPLER.

Mrs. A. J. Currie's Woolly Chickens

For those who desire oddity in chickens allied to extra good laying, there are at least a few breeds odd enough to please the heart of those desiring them. The Silkie, its face purple and bones black, and its coat a webless silky mass of white feathers; the Frizzle, with its feathers turning the wrong way; the Sultan, its comb taking the shape of aggressive horns; the Buttercup, with its cup-shaped comb, and last and latest, the woolly black chickens shown by Mrs. A. J. Currie of Blair, Neb., at the County Annual Poultry Show, held the last of December, 1921. Claim is made by the Blair Pilot that the show was continued three days longer to give the crowds of people a chance to see these chicks that grow wool instead of feathers.

Mrs. Currie, a poultry breeder of many years' experience, has been working for over seven years to produce this breed. As yet she has neither eggs or breeders to sell of this peculiar variety she has evolved, but hopes soon to be able to supply any demand in that line. These chickens are large, heavy-legged and long-bodied; their coat is dainty, and grows close to the body, protecting the fowl from cold and rain. Mrs. Currie assures the public that these black, woolly chickens beat any chickens she has ever raised when it comes to producing winter eggs.

Bird and Rain Proof Ventilator

Gives fresh air circulation and keeps out sleet, snow and rain. Birds can't nest in it. Keeps your stock healthy and brings you bigger stock profits. A real necessity for every barn, whether old or new. Improves appearance 100 per cent.

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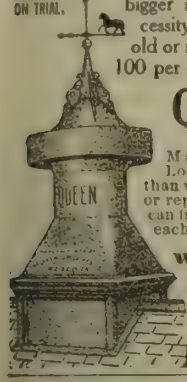

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—and Now, the Angle Steel Rib!

First, we made famous the All-Steel Door Frame. Then we startled the Silo World with our patented Inner Anchor. Closely following these, came the indispensable Saginaw Base Anchor. And with this 1913 season, comes the greatest sensation of all—the patented Angle Steel Rib.

The Result

What happened as the result of these inventions? Why, the Saginaw became King. In a single day, orders recently came in for 587 Saginaws.

So many men now want Saginaws that another large factory has just been built. That's number 5. Now, if the Saginaw were not as strong and immovable as a big city skyscraper, would men so overwhelmingly demand it? Would all these level-headed farmers pay out their good money for Saginaw Silos if the price wasn't right? Would America's leading Silo Authorities recommend the Saginaw if it ever produced anything but clean, bright silage? Just because most any Silo is a good investment, don't get the idea that it makes little difference which you buy. Men have doubled their Silo profits simply by choosing the right Silo.

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Our latest book fully describes the 1913 Saginaw. Don't miss getting it. Drop us a line today for Booklet 62 and you will receive it free. (68)

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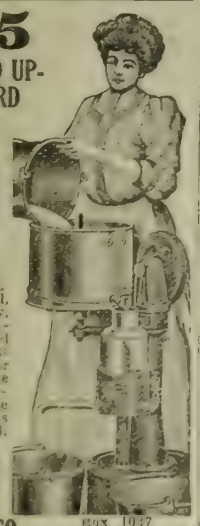

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for 3 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

Four Good Reasons for Having Cows to Milk During the Winter

THERE is comparatively very little winter dairying done in the Missouri valley territory. It must be that the reason for this fact is that farmers do not fully appreciate, perhaps have not given adequate consideration, to the reasons why winter dairying will prove most profitable to them in this territory. There are four reasons why everyone should manage his herd in such a way as to do his principal milking during the winter.

In the first place, the price paid for butter-fat during the winter months is so much in excess of the June price of butter-fat as to establish a wide margin of profit in favor of winter dairying.

Secondly, where winter dairying is practiced the lactation period is extended, at the least calculation, not less than two months. Cows that are bred to calve in the spring do not average to give milk for more than six months. If they are bred to drop their calves in November, the milk will begin to shrink noticeably about the time that the grass starts, and when turned out to pasture the cows will refreshen and continue their milk production until the heat of the summer and the torture of the flies puts an end to it. Such cows will produce, on an average, a much greater amount of milk during the year than cows that are bred exclusively for summer milk.

In the third place, during the winter months the farmer is not pressed by other work, and has plenty of time to give adequate attention to his cows. Many a farmer fails with his milch cows simply through lack of proper attention at the right time, both as regards feeding and as regards milking. In winter, relieved of the pressure of other farm work, the farmer can look after his milch cows and care for them in the proper manner.

Lastly, it will make it easier for the cows. The production of milk is a great drain on the vital energy of the cows. The heat of the summer and the torture of the flies and other insects materially lessen milk production during that period. If a cow has to give milk, endure the heat and fight flies all at the same time, it will be pretty hard on the cow. If she is bred at such a time as will permit her to go dry during the severest part of the season, it will be much easier for her, and she will thrive just so much better in proportion.

Probably the scarcity of proper winter feed is the reason that leads most farmers to adopt the plan of summer milking. For the production of milk a cow needs an adequate supply of appetizing, succulent food. The ordinary farmer, with his present equipment, is not able to supply this. Here is where the silo becomes of great economic importance. Silage furnishes milch cows with a food that approximates June grass in succulence and in appetizing quality. Winter dairying, with the help of a silo, becomes an easy and a profitable matter. The silo has this added advantage; in the heat of summer, when pastures are dried up, all burned brown, and pasturage is scanty, what little food the cows get from the pasture may be supplemented by silage, which will carry them through the driest season in fine condition. No man with a silo should consider anything but winter dairying.

Keep the Separator Clean

The bowl of the separator collects most of the filth that finds its way into the milk, and when it is left without washing for several days becomes foul.

Model Dairy of Missouri

Interior of the W. M. Beauchamp dairy barn at Pacific, Mo., showing one of the men washing the white enameled ceiling and cross beams with a hose, which is done once a day to remove every particle of dust. The concrete floor and side walls are washed with a hose and scrubbed twice a day, immediately after each milking. All of the manure is washed into the sewer, which carries it to two large concrete tanks on the side of a hill, 100 feet from the barn. This barn houses seventy-six cows and the milk is sold to the St. Louis School board for use in the various high school lunch rooms. The School board selected this dairy after visiting all of the large dairies in the vicinity of St. Louis, on account of its cleanliness. Dr. W. P. Cutler, Missouri Pure Food and Milk commission, has called this the model dairy of the state.

DE LAVAL CREAM SEPARATORS

Cheapest As Well As Best

Every sensible person wants the **best** of everything, but in many things the best is beyond their means and they must necessarily be content with something les.

In the case of the Cream Separator, however, the **best** is fortunately the **cheapest** as well, and it is of the greatest importance that every buyer of a separator should know this.

Morover, the **best** is of more imporance in the case of the Cream Separator than in anything else, since it means a saving or a waste **twice a day every day in the year** for many years.

It is true that DE LAVAL Separators cost a little more in first price than some inferior separators, but that counts for nothing against the fact that they **save their cost every year over any other separator**, while they last an average twenty years as compared with an average two years in the case of other separators.

And if first cost is a serious consideration a DE LAVAL machine may be bought on such liberal terms that it will actually **save and pay for itself.**

These are all important facts which every buyer of a Cream Separator should understand and which every local DE LAVAL agent is glad to explain and demonstrate to the satisfaction of the intending buyer.

If you don't know the nearest DE LAVAL agent please simply address the nearest of our main offices as below.

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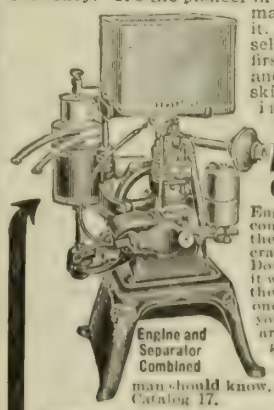
to adopt a labor-saving device of demonstrated efficiency. It's the pioneer in such things who makes the extra profit. It was so with the self-binder; with the first gasoline engine; and when mechanical skimming was first introduced. Now comes the



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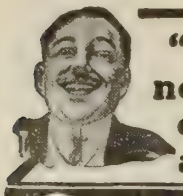

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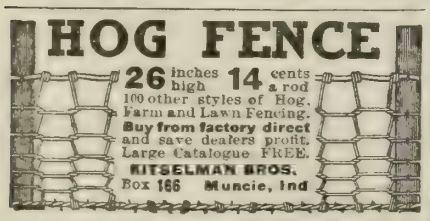

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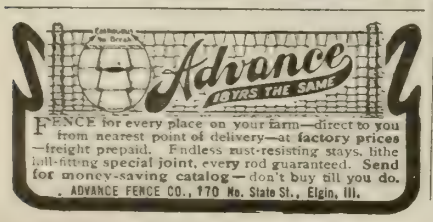

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Better Way to Get Gophers

W. D. S., Richfield, Neb.: In your March 8 issue I noticed your article concerning the pocket gopher, advising the poisoning of it as the best means of eradication. I find a better way, including no risk, as with poison, in the use of bi-sulphide of carbon. Last year with a very small cost I kept them out of a small field of five acres of alfalfa with this material. When the mound shows a gopher at work I go and dig down till I find the open run, and then saturate a rag with the bi-sulphide, and with a small stick or rod push in quickly into the hole, then fill up the outer part, pressing the dirt firmly, and in almost every case the one application does the work. At this time I scatter all the mounds that may have been thrown up, thus leaving the ground level, and then if a new one comes onto the field it is soon revealed and another application does it. While speaking of this pest, it seems to me that a law making it compulsory on the part of every land owner to kill off these little depredators would be a good thing, for it is very difficult for one man in a community to keep rid of them when his neighbors are breeding them faster than he can kill them. I note the woman legislator of Colorado has a bill before their house concerning the prairie dog that will soon rid the state of that pest, and the gopher is not as difficult to deal with as the dog, for I have had both in years past.

Editorial Comment—Some people have not been successful in killing gophers with bi-sulphide of carbon. They claim that the gophers, as soon as they smell the gas, run away from it a little distance, and then fill the hole with dirt so as to shut out the gas. This paper hears of many such instances, and is informed that most of the people who have tried it have abandoned it for this reason.

An Exceptional Case

C. M., Shickley, Neb.: I have read an article on applying manure to insure greatest benefit. We have had high winds this week and I saw a half-inch of dirt blow away. Farmers who used a spreader had most of the manure blow away. Long manure is the best. In Fillmore county, plowing it under for corn and potatoes makes the ground loose, and that is why we plow the ground. A good roller is all right after plowing.

Editorial Comment—Here was an exceptional climatic condition—something no one could foresee or protect himself fully against. Plowing under manure for corn and potatoes does make the ground loose, but even in Fillmore county there are times when such a method robs the soil of moisture necessary for a full crop production. "It takes more than one swallow to make a summer." The method to be adopted should be the method that would be the best under all kinds of conditions.

An Indefinite Question

E. S., Corwith, Ia.: I would like to ask you a question. I have a field of eighty acres of peat ground which runs from one to twelve inches deep. What would be good to sow in this kind of ground?

Answer—This is rather indefinite. Is the ground well drained? If not, can it be drained? If it cannot be drained, any wet land grasses, such as red top and other swamp grasses, would do well. Alsike clover does very well in this kind of ground. If the land can be drained, any hoed crop will do well there.

Cement and Metal-Lath Silos

A. P. D., Mulvane, Kan.: I see that some parties claim that the acid from silage corrodes and causes the walls on cement silos to crumble. It is also said that the silage does not keep in good shape next to the walls. I have built about fifty cement and metal-lath silos and they are giving satisfaction; the older they get the harder the walls are. I put on seven coats of Portland cement plaster upon the metal lath. For the inside first three coats I used two and one-half parts of good, clean sand to one part of Portland cement. The inside finish coat consists of five parts of sand to four parts of cement. The composition of the outside coats is two and one-half parts of sand to one of cement. I also use Medusa waterproofing on both the inside and outside finish coats. If builders will use cement in the above proportion they will never be bothered from acids eating up the cement, and they will have a silo that will last through the next generation. The hot winds will never affect them when empty.

Editorial Comment—There has been a great deal of loose talk indulged in about the use of cement in silo construction by promoters of silos built of other material. Cement silos have been in use for a great many years. Their users are generally satisfied with them. An ounce of experience in this matter is worth whole reams of theory.

Let Us Hear from Others

J. C. E., Crete, Tex.: Congressman Bathrick of Ohio deserves the praise and encouragement of every man that has to borrow money for the bill he introduced in congress authorizing the government to loan directly to the farmers. Why should we pay the national banks 12½ per cent on money that the government has loaned to them at one-half of 1 per cent, secured by their own bonds? Who is the government? Is one man any more a part of the government than another? If not, why this discrimination? Perhaps it is because we have not had the courage to demand an equal distribution of these favors. I think it is time that every man that borrows money, and the farmer in particular, ought to sit up and take notice. Here is an opportunity that it won't do to let pass. Sit right down and write to your congressman; tell him to support and vote for the bill mentioned above, and if he does not, give him a black eye at the next election

Editorial Comment—Here is one reader's opinion of the Bathrick bill. Let us hear what others have to say about it.

Danger of Sows with Cattle

A. K., West Side, Ia.: I have been a reader of The Twentieth Century Farmer for the last five years and like it very much. I have been raising pigs for the last seven years and never was troubled with brood sows slinking the pigs before farrow time until this spring. I have a lot of 100 head, and about half of them are sows. Had two boars in the lot. These hogs ran behind two loads of cattle on full feed, and I feed the hogs four bushels of corn and two bushels of oats once a day. I would be very pleased if

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KIND OF WIRE? You want a wire that is springy, but not brittle. We make the wire for Square Deal Fence in our own wire mills right next to our fence factory. We make it hard enough to be springy, but not brittle—then we galvanize it heavily and evenly.

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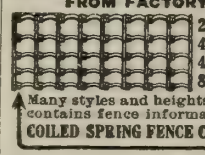

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anyone would tell me the cause of this stinking the pigs before farrow time.

Answer—Abortion of a contagious nature among sows is not common, and from the description given above we would suspect that the trouble was caused by the cattle. Sows that are heavy in pig should not be allowed to run among cattle, as there is always danger of this very trouble. We would suggest taking them out from behind the cattle at once, and if there should be no further trouble it would be good proof of the cause.

F. G. M., Barstow, Cal.: Answering your article, "Getting Rid of Coyotes," will say that I was in the same boat with H. E. M. I will give my experience in getting rid of the brutes, besides making a little stake from the furs. I don't make a miss. First, put your bait where the coyote can get at it only on one side, beside any old brush pile, or stump, or any other obstruction; then line your traps around it about three feet from it, and if there is a spot a little higher than the bait at a distance of ten to fifteen feet, put a trap there, as he will be sure to walk up on that elevation to look at the bait. He won't think of a trap being there, and nine times out of ten you will get him right there. I have caught several with the same bait in the same place. After catching two or three they will get shy; then shift the bait to a new place. In setting the trap, make a hole just the size of the jaws and springs, so that they will be level with the ground; then cover with a piece of newspaper of just that size, and then cover this with fine dirt. Don't use gloves to do this. Then take a piece of brush and smooth the ground all over to make it look as natural as possible; cover chain as well. Fasten the chain to a drag of wood weighing from ten to fifteen pounds and place the drag from six to eight feet from the trap. He won't hurt himself and he can't get away. Don't walk around the traps much; just go near enough to them to see that they are all right. Use traps with six-inch jaws and two steel springs, and you'll get him every time.

Editorial Comment—This should be sufficient on the matter of trapping coyotes. Our readers who are bothered by the pests will be glad of this information from a practical man.

Cow and Field Peas

C. F. F., Woodbine, Ia.: I wish to sow some cow or hog peas for my hogs. When can I sow them, and when will they be ripe for hogs? Do I sow oats with them or not? Will hog peas and oats get ripe at the same time?

Editor's Note—The correspondent does not state whether he wishes to use the crop for pasture or to thresh the harvested grain. If for pasture, Canada field peas should be sown as early as the ground can be worked. They will be ripe, or ripe enough so that hogs may be turned into the field, from the middle to the last of June. If used for pasture, no oats should be sown with them. If grown for grain, the oats may be sown with the peas, threshed together, and the combined grain will make an ideal feed after grinding. Cowpeas should not be planted until the ground thoroughly warms up, as they naturally belong to the southern climate. They will ripen the last of August. Both cowpeas and field peas, being rich in protein, make a very valuable growing food.

Would Buy Registered Stock

C. P. C., Miller, Mo.: I have been reading your magazine for about two years and find it interesting and instructive in many ways, but I do not hear as much from my home state as I would

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Only when you have done this can you buy intelligently and be sure of a range that will last a lifetime. You don't buy a range every day—be sure of satisfaction by not trusting wholly to printed descriptions. See the *Great Majestic* (dealer in nearly every county of 40 states) compare it point for point with any other range made. The

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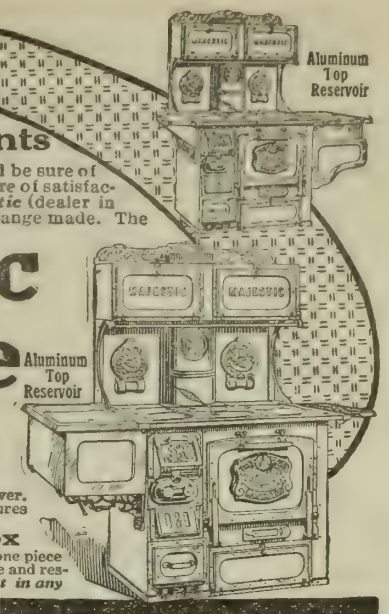

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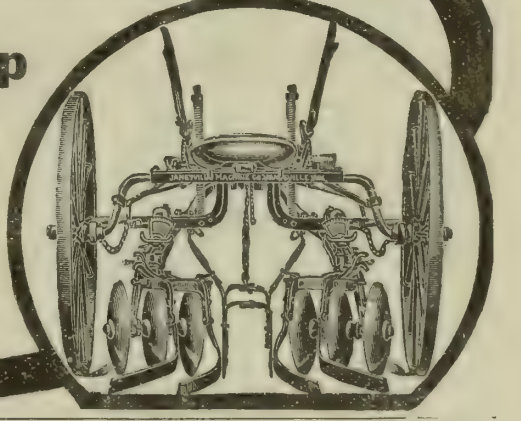

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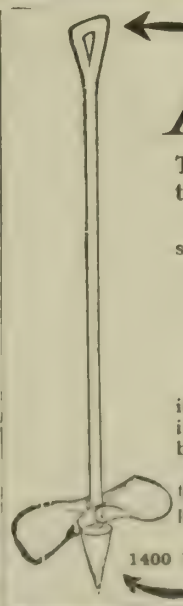

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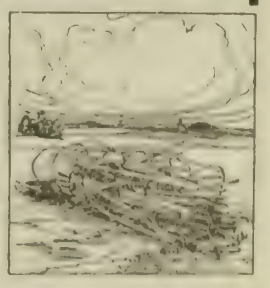
This farmer waited until it was too late—are you doing the same?

Less than ten dollars would have saved his silo, mill, etc.



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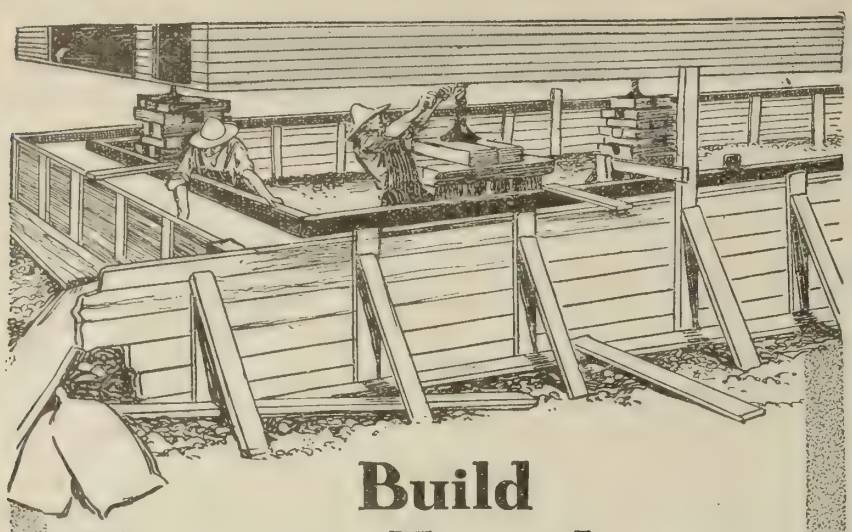

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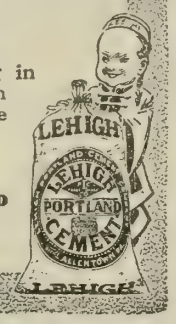

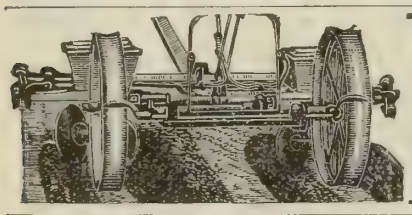

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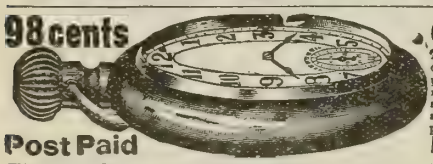

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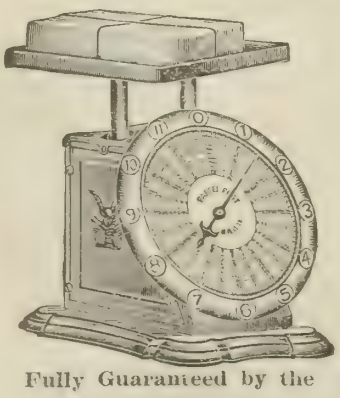

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like. I am a farmer and stock raiser and would probably buy registered stock sometimes if it were closer to me. I believe that there is plenty of good stock in Missouri, if I only knew where to find it. The series of articles on "Handling the Soil for Production" are very good. I have advocated deep plowing for forty years, but find it a difficult matter to get a plow that will do the work successfully. There is another thing that is practiced by so-called farmers; they burn all grass, trash, stalks and strawstacks, which should all go back to the soil. Land requires food the same as an animal.

Editor's Note—The man that burns waste roughage on the farm starves the soil. The man that starves the soil is taking bread from the mouths of the women and children of the future. Every owner of a farm holds his land in trust for the future. He should at the least surrender that trust inviolate. Future generations have an inalienable, indefeasible right to the fertility that is in the soil.

A Successful Co-Operative Store

Up in Beltrami county, Minnesota, the farmers and settlers are operating a co-operative store which promises much for the good of the community after a trial of about three years. The store room and its manager, D. A. Whiting, are shown in the accompanying picture.

A Farmers' Co-Operative Store That Prospers by Paying Profits According to What a Member Buys, Instead of According to the Stock He Holds

The winning feature of this co-operative movement seems to be that a stockholder gets his dividends in accordance with what he buys, rather than from the amount of his stock holdings. In explaining the workings of his store, Mr. Whiting says:

"This is a farmers' co-operative store which has been running for three years, and is now proving that co-operation is the only hope of poor people of today. We see a great deal in the papers in regard to the high cost of living, but it seems as though the very thing that will accomplish the desired effect is overlooked.

"Our method has not been to see how much we could make, but to see how much we could save and still make our business pay. We are located seven and a half miles from the railroad, so we have to haul all of our supplies by team that far. Our territory is thinly settled, which is another drawback to the store, but our sales have averaged $3,000 a year, which is not a large amount, but, considering that at the start we had a capital of only $100, it is not so bad a showing. To start, we handled only groceries, but later added flour and feed, shipping it in carload lots. As our capital increased by profits and new members joining, we have included hardware and dry goods, until now we have a nice little store carrying a line of general merchandise. At present our capital is about $800, which will be increased to $1,000 in the near future.

"We have used a little different method of dividing the profits than most co-operative stores; they are not divided according to the stock owned by a member, but according to the amount of goods he buys. In this way each member draws what he has actually contributed for the support of the business and serves as an inducement for the members to do all of their trading they can at the store. Members and nonmembers are all charged alike, but nonmembers draw no dividend. We do a cash business, so have no losses on bad bills; also we are able to take advantage of all discounts on cash purchase of our goods from the wholesaler.

"Our business is rapidly increasing and we look forward to a more successful year than ever in 1913. We are not trying to kill catalogue business, nor have we any quarrel to make with local merchants, but we believe we have a right to do our own business if we so wish, and we have tried to work out a plan that will do us as individuals the most good and at the same time give the best satisfaction to our customers."

Mr. Whiting is a farmer on his own account, and in one or two instances has shown what may be accomplished in clearing new land and putting it in crops at the least possible expense and in quick time; he manages the store and his farm at the same time, but there are three other officers in the store—J. H. Rendal, president; L. A. Gould, secretary, and N. G. Reynolds, vice president.

J. L. GRAFF.

The Other Side of Competition

Competition may become so acute as to injure business rather than to help it. Cream buyers have precipitated a war of prices at Falls City, Neb., and have advanced the price of cream above the possibility of profit. Such competition is suicidal.

Unique Western Woman's Club

(CONTINUED FROM PAGE SIX.)

great and unselfish was her devotion to the enterprise that she is now affectionately called the "Club Mother."

Worked Along Well Defined Lines

Amid circumstances as little conducive to leisure for intellectual pursuits and self-improvement as any under which the average farmer's wife struggles along, Mrs. Hubbard made up her mind that two propositions were true, and that she could prove them so:

First—That she and her neighbors could find some avocational time.

Second—That by uniting their efforts and following a definite program, they could enrich their daily lives and help each other to do more effectively the work that was their common lot.

This was in the autumn of 1903. After a few conferences the club was started and given its name. The charter membership numbered eleven. At first they had to bear with all the disadvantages of inexperience, the absolute lack of library facilities, and some good-natured ridicule from their "men folks." There were times of discouragement, of course, when the overabundance of farm work made it most difficult for the members to find time to devote to the club. Still, their stick-to-it-iveness was successful. So well, indeed, did they do their work that a little more than a year after the club was organized it was admitted to the State Federation of Women's Clubs. Since then the club has been regularly represented at the annual meetings of the federation.

The membership of the club is now limited to thirty, and its ranks are always full. The meetings are held on alternate Fridays. The membership is confined locally to the school district, which has an area of eight or nine square miles. When the club was organized the population of the district was between 100 and 150. It is now over 400.

What the Club Has Done

A copy of the first year's program, that for 1903-04, speaks volumes for the willing energy devoted to the first efforts of its members. The program is written out by hand on sheets of inexpensive paper. These sheets are neatly sewed together into booklet shape with a sewing machine.

But a program it is, with definite work outlined for the members to do, and a profitable range of subjects covered. The main subjects for that first year was the political history of the United States, with each presidential administration as the central theme of the program. Current events form one incidental topic for each meeting and each closes with a discussion of some definite problem or subject in housekeeping.

Thus the club became a force for good in the vocations of its members, and a means toward the most profitable use of such scant moments as each had for avocational pursuits. As one member said: "It brings the women together, and as we are all farmers' wives, this really means a great deal to us; otherwise, it might often happen that we would not see one another for months at a time. We have learned to strive to find time to attend the meetings of the club. We find the exchange of ideas of great benefit to us."

Another member said to me: "My experience as president of the club has been of incalculable benefit to me, through giving me a degree of self-confidence in the presence of others. I believe all of the members have profited greatly in a similar way, through being obliged to take their regular places on the fortnightly program. It also means a pulling together of the entire neighborhood."

Neighborhood Pulls Together

This "pulling together" process fostered by the club has been well illustrated in a movement that has given the community a notable school for a rural neighborhood. When the club first started its members lived in two adjoining school districts, each of which had an insufficient one-room, ungraded country school.

During the life of the club a movement was started looking toward the consolidation of the two districts into one, and the erection of a suitable building. At first the plan was advocated by one or two progressive farmers, who saw that by consolidating the territory for school purposes they might have an effective graded school instead of the old ungraded, one-room district school, where the teacher was obliged to hear so many little recitations daily that she could do none of her work well.

The first response of the neighborhood was mockery and scorn. The people would none of it. So vigorously was the leading promoter of the enterprise—a far-sighted farmer with a large family—turned down that he left the neighborhood in search of a better school for his boys and girls.

Women Not Easily Squelched

But the Women's club got to studying the subject, and the members soon reached the conclusion that consolidation was desirable. They took up the matter and promoted it with a will. When the first vote was taken, about four years ago, the project was turned down by a disheartening majority. The club women were not squelched, however. They kept right on agitating and convincing the opposing side. Largely as a result of their efforts, in the fall of 1910 consolidation was accomplished, and on a most sightly spot there was erected a two-story stone building, modern in arrangement, architecturally attractive and complete in every detail. I doubt if there is a better rural school house in the United States. It is so substantially built that it will serve the district for several generations. The school grounds contain several acres of land, to be used for the teaching of practical agriculture and horticulture.

The Women's club is now urging the necessity of medical inspection of the children, in order that they may be guaranteed the highest possible promise of efficient living.

The children of the district may now attend a good graded school, in which, in addition to the literary and mathematical essentials, they are taught agriculture, manual training, domestic economy and rural life subjects. So determined did the people of the district become that their children should have the best that they went to one of the state normal schools and employed a member of its faculty, C. W. Macomber, to come and take charge of their rural school.

Some Social Influences

One of the problems of any rural community is that of furnishing the means of suitable social enjoyment for young people. From a lifelong experience in a new, growing state that is suffering from the country-to-city movement just in proportion as the country people enjoy prosperity, I know that one of the most effective influences now sending young people from prospects of independence and competence in the country to dependence, weekly salaries, insignificance and perhaps incompetence among the city dwellers is the lack of adequate means of social enjoyment. The natural love of young people for music and dancing, fun and laughter, is generally repressed in the country by one or all of the following conditions: The difficulty of getting together, owing to isolation and bad roads; a religious point of view that much genuine fun is superfluous and unnecessary and that dancing is impious, damning and generally damnable, and the lack of suitable halls, or roomy places for amusements.

One Mother's Solution of Problem

As a result of their social studies, one member of the club Mrs. Johnson the mother of four growing sons and daughters, made up her mind that at least a partial solution of the problem could be effected right there in her own neighborhood. Her experience is worth relating. Many another mother on the farm could follow her example profitably.

Her Methodist bringing-up and lifelong adherence had taught her that dancing was at least productive of much wickedness and human disaster. On the other hand, mother experience and social studies carried on as part of her club work had taught her that her children would seek amusement, and that dancing to music was one of the most natural forms of amusement for young people. Besides, her boys and girls attended such dances as they could. There not being any suitable place in which to dance in the negihborhood, they would drive to town and attend the public dance, with its promiscuous society and crude manners.

Result Most Satisfactory

About this time Mrs. Johnson and her husband were planning to build themselves a new home—not large and pretentious, but comfortable. One feature of the new house when built was a large front living room, extending "clear across" the end of the building. This room was built for the express purpose of being a place where her own sons and daughters, and the other young people of the neighborhood, could come together occasionally for social diversion.

The result has been most satisfactory. Frequently, throughout the winter season particularly, the young folks gather together in the Johnson home and dance and sing and play as healthy, normal lads and lasses should. Raw, uncouth young fellows have there learned lessons of politeness, courtesy and self-confidence that are of the utmost value to them. Sitting in that big living room only a short time ago, and listening while that mother told me of her experiment with the important problem of amusements for young people, I wished with all my heart that more of the thousands of young people growing up in the country might have as much attention paid to the matter of their amusements as those young people. I am positive that the result would be more young people content to stay on the farm.

Demonstration of Great Social Truth

And the circle of that influence has widened. That practical demonstration of a great social truth has had the effect of dignifying fun and pleasure as it should be. Now the young folks have their dancing parties in many homes in the neighborhood, and do not need to seek the public dance, of doubtful wisdom and value. And this excellent social experiment can be traced directly to the influence of the Women's club.

I spent a day or two in the vicinity talking with members of the club. Each one held the same opinion—that her membership in the club had been productive of the greatest good, in making life in the open country more profitable and enjoyable. A number mentioned the fact that the members had learned lessons of self-confidence, of tolerance of each other's views, of the value of setting self aside for the good of all, which had been of the greatest value. One could not but feel convinced that here is a group of farmers' wives demonstrating in a simple, practical, concrete way how one of the deepest problems of rural life may, in part at least, be solved.

His Interest Explained

"At one of the first meetings," said Miss Frooks, president of the Equal Rights' league of Newark, "the audience was full of giggles. I felt it getting away from me. Fortunately, I saw an earnest-eyed old man, not too far from the stage, who was looking up at me very intently. I concentrated on him. I hurled my arguments at him. I shook my finger at him. I told my best stories to him. He looked up at me most intently. He was such an intellectual-looking old man that I felt flattered. After the meeting he came forward to shake my hand.

"'Your interest in my speech was a great help to me,' I told him. 'I felt you watching me.'

"'Well,' said the old man, 'you see, I've got a stiff neck.'" New York Sun.

Against the Rules

William, who was visiting his uncle near Glenwood avenue, spent one Sunday afternoon admiring the beautiful walks and scenic views in Mill Creek park.

"Well, laddie," queried his uncle when the boy returned to the house, "what did ye see in the park?"

"Some of the most beautiful vistas I ever saw," replied William.

"Ah, laddie," cautioned the old gentleman, "but ye mustna pluck them; it's against the rules." Youngstown Telegram.

Fills 60-ft. Silos With Ease!

The day of the skyscraper Silo is here. No Silo too high for the Smalley! When George Crow of Hutchinson, Kan., got ready to fill his big 60 ft. Silo he promptly sent for a **Powerful "Smalley"** and patented chain-drive **Blower** to do the cutting and filling.

Mr. R. M. Freeman of Fremont, Neb., says "I have run your machine six days cutting green corn for silo filling. In the six days' run I cut 500 tons; I cut the first 200 tons in seventeen hours."

Real **business** farmers like Mr Crow and Mr Freeman have no time to fool with the old **slat-apron** type of machine. They want this **forced-feed chain-table, grip-hook** kind, made by Smalley only. Thus they save a **tremendous** amount of work and do a **quicker, cleaner** job. No coarse, uneven silage. All **uniformly** cut. Which means greater tonnage per silo.

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not only handles green silage, but is also a wonder at cutting dry feed. Handles alfalfa, for instance, to perfection. Letters in catalog prove it. Many farmers use their **Powerful "Smalley"** to cut corn in the fall and oats and peas in the spring for feeding when pastures dry up in July. Only one drive pulley on Blower outfits. No Idler to bother with. Ten per cent steel guaranteed in all foundry castings. No oiling by hand—hard oil cups on all important bearings.

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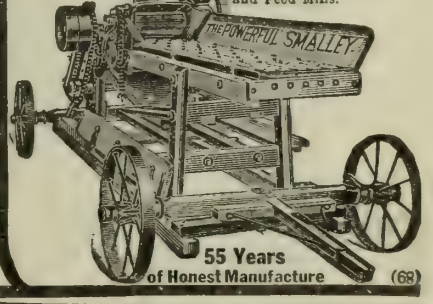

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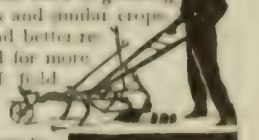

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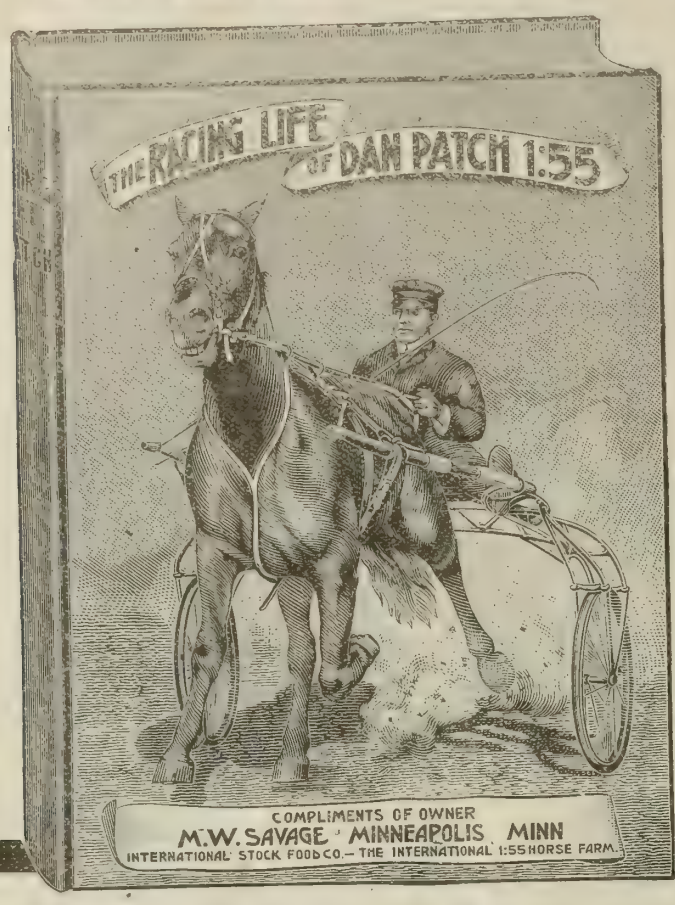

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E. Myers, President, E. Myers Lye Company

Real hog cholera—the disease that is caused by a certain germ—is by no means as common as many farmers and hog raisers seem to think. In fact, it is rather rare. Yet every year an epidemic breaks out and sweeps the country like wildfire, killing thousands of hogs and causing millions of dollars loss. An enormous part of this disease is caused by **worms.** The symptoms are similar to those of cholera—the hog snoops around, his flanks "flop," hair sticks up, tail hangs down, he coughs, eats little, gets thin. You think he has cholera, but he hasn't. **Rid him of the stomach and intestinal worms that are sapping his vitality and strength and he'll get well. You can quickly rid all your hogs of worms by mixing with their feed twice every day according to directions on every can a little**

Merry War Powdered Lye

Hog raisers declare it is a **dependable destroyer** of hog worms. It makes hogs strong, healthy, fat and sleek, tones up the digestion so that all feed is changed into firm flesh and juicy fat. MERRY WAR POWDERED LYE is likewise the **safest preventive of real hog cholera and the best hog conditioner** the world has ever known. Keep your hogs on a MERRY WAR POWDERED LYE feeding from weaning until marketing time—they'll never know a day's sickness and will weigh heavy. Feed **twice every day** according to directions printed on every label.

About Vaccination I've no doubt that vaccination, as a preventive of cholera, has done some good. But it is an expensive and difficult treatment. It guards only against the specific cholera germ. It does **not** destroy hog worms, make sick hogs well, or thin hogs fat. So why use a treatment which is more or less of an experiment, when you can so easily get MERRY WAR POWDERED LYE, which **actual experience** in thousands of cases has **proved** to be a **dependable, safe preventive of cholera, destroyer of worms** and a **wonderful hog fattener?**

Beats Everything As A Worm Destroyer A. U. PATE, Blue Jacket, Okla. "I have been feeding Merry War Powdered Lye to my hogs for worms. It beats everything I ever saw."

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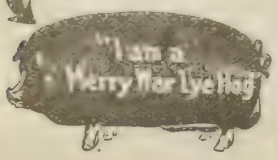
MERRY WAR POWDERED LYE is for sale at most grocers, druggists and feed dealers everywhere, 10c per can (**120 feeds**). It is convenient to buy in case lots—4 dozen cans $4.80. **Costs only 5c per hog, per month, to feed regularly**—by far the best and much the cheapest hog insurance you can buy. If your dealers can't supply you, write us, stating their names. We will see that you are supplied, and also send you, **free,** a valuable booklet "How To Get The Biggest Profits From Hog Raising." **Order direct from us in case lots (4 dozen cans $4.80) if your dealers won't supply you.**



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The Swine Herd

Movable pens are excellent to have on any farm where hogs are raised. If these are used and moved from place to place, the hogs are kept clean and healthy.

Medium sized hogs are now most in favor. It is best to feed hogs for only eight or ten months. After they are a year old the feeding is not profitable.

There should be placed in every pig yard and pasture a box with salt, charcoal, air-slacked lime, bone meal and hardwood ashes, so that the pigs can help themselves at will.

Sows should be bred in trios; then if two of them should produce small litters, all the pigs may be given to one sow and the other may be again bred, or fattened and sold.

The sow that has proved herself extra valuable as a breeder and a mother should be one of the most prized animals on the farm.

A brood sow should be well nourished, but a great mistake is to allow her to become very fat, as a fat sow will lose litters or farrow weaklings.

Caring for Horses' Shoulders

A good wash for horses' shoulders is made of one-fourth salt, one-fourth alum, one-fourth borax and one-fourth saltpetre. Dissolve fully in a gallon of rainwater and put it in glass jars and keep covered. One should wash the horses' shoulders every night; they must not be brushed too hard, for that would irritate the skin and cause it to get sore.

One should never clean horses' collars in the morning, but at nighttime. In case one forgets to clean at night, one should take a wet cloth to them in the morning. If one scrapes the collar with a knife it will roughen the surface of the collar and cause sore shoulders. In getting the shoulders ready before one starts to work, one should always clean them well to remove dandruff, and also keep the collar from under the mane.

Breeders' Notes

J. M. Coleman, the well known breeder of Poland-China hogs at Belgrade, Neb., has recently purchased the Hooper Roller Mills at Hooper, Neb. This does not mean that Mr. Coleman is going out of the breeding business. He says he will not raise as many as he has in the past, but he is going to raise them bigger and bettter than ever.

Kaffenberger's Herefords

We recently called on George A. Kaffenberger, breeder of Hereford cattle and Duroc-Jersey hogs at Plattsmouth, Neb. Mr. Kaffenberger has been breeding Herefords since 1896 and has a herd of breeding females at this time that are strictly first-class. They are strongly of Heshiod and Anxiety breeding. He recently sold fifteen females to one party, but still has about forty head left. His present herd bull is Bryan, a strongly-bred Anxiety bull. He will not be 3 years old until October and will weigh around 1,800 pounds in just breeding condition. Mr. Kaffenberger should obtain splendid results in crossing him on the type of females composing his herd. If in need of anything in his line write him, mentioning this paper.

Unitt Offers Polled Durham Bulls

W. G. Unitt, located at Seward, Neb., is offering for sale at the present time a Double Standard Polled Durham bull, registered in both the Shorthorn and the Polled Durham associations. This bull is a No. 1 bull, and is coming 5 years old, and is a sure breeder. He also has a good single Standard Polled Durham calf that is the making of a good bull that will be sold worth the money. This calf will be a year old in July. He will be pleased to furnish an accurate description of them to parties in search of a good aged bull or calf. Write him for particulars, mentioning this paper.

Sheep Scab Picks the Breeder's Pocket

Scabby sheep pay little profit. Dollars that should fatten your bank roll are cut in half by the low price of ragged "clip" and ill-developed carcasses. Nothing but unthrift is possible with scabby sheep. Bear this in mind and forestall disaster by using

Dr. Hess Dip and Disinfectant

This meets the Government requirement as an official dip for sheep scab. Very easy to use. Provide a suitable "dipping tank" and fill with a solution one part dip to 72 of water. Then thoroughly souse all sheep, taking pains to **wet the skin well.** Repeat after 10 days and your sheep will at once show marked improvement, with a consequent rise in values.

Dr. Hess Dip is a germicide, disinfectant and deodorizer. **It destroys all germ and parasitic life.** Prevents live stock diseases and purifies outbuildings, sewers, drains and sinks. Write for free dip book.

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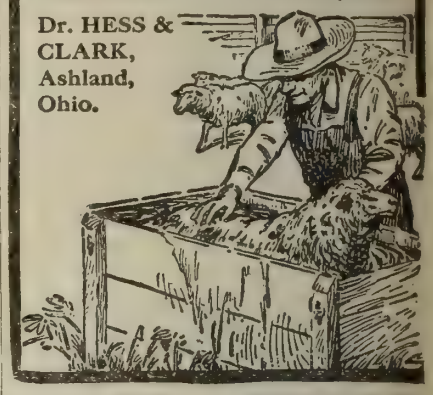

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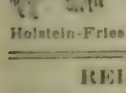

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Live Stock Notes

Holstein Opportunities

It is not often that such opportunities are offered in dairy cattle as will be found in the sale of Holstein cattle to be held at Lincoln, Neb., on March 31 by J. R. Roberts of that place. Mr. Roberts for a number of years has been conducting Roberts' Sanitary Dairy. In that time he has builded up a herd of high-grade Holstein cattle that are absolutely second to none in point of dairy productiveness. He has culled them closely and no animal has been allowed to remain in this herd unless she has proven herself to be a profitable investment. By this process of elimination from year to year he has been able to get together this great herd of cattle. On account of other business interests he has decided to discontinue the dairy business, and as a consequence everything will be offered for sale without reserve. This, of course, will give prospective buyers an opportunity to buy cattle that they could not purchase under any other conditions. This herd is regularly tested by the Lancaster Cow Testing association and has been producing right up close to the record of the state farm dairy herd. The record of this association will be open to inspection on sale day and prospective purchasers will have an opportunity of seeing just what every individual has been doing. Not only this, but they will have an opportunity of selecting from a splendid lot of young females, these being daughters of the cows that will be offered for sale and whose records will be given. These cattle have all been tuberculin-tested and are absolutely free from disease. Get your name on Mr. Roberts' mailing list for catalogues and arrange to attend this sale. Kindly mention The Twentieth Century Farmer when writing.

Katie Gerben

30 head of the females in the Holstein sale of J. R. Roberts at Lincoln, Neb., on March 31, are sired by Klondyke, a brother of this great cow.

Shallenberger Sells Shorthorns

On April 10, at Alma, Neb., ex-Governor Shallenberger will hold his regular annual sale of Shorthorn cattle and will put up an offering that should attract the attention of anyone wanting some strictly first-class cattle. The offering will consist of thirty-five females and ten bulls. Thirty head of the females are of straight Scotch breeding, and the balance are highly Scotch-topped. They represent such families as the Duchess of Gloster, Orange Blossom, Bruce Mayflower, Lovelys Secret, Marr Maudes, Marr Goldies, Cheerful and Evangelines. Ten head of cows will have calves at foot sired by Imp. Scottish Sentinel. His Highness and Red Sultan, by Whitehall Sultan. They are bred again to His Highness and Royal Peer. Both these bulls are by Mr. Shallenberger's former herd bull, Victor's Roan Duke. In this connection we want to say a word about His Highness. He is without doubt one of the best bulls ever bred by ex-Governor Shallenberger. Shown in moderate flesh, he was first in Nebraska class and second to the grand champion bull at Nebraska State fair, 1911. He has developed in splendid form since that time and if all goes well he will be a power to be reckoned with this fall. This bull is proving a grand, good breeder, and a cow bred to him, or one with a calf at foot sired by him, is going to be a mighty valuable asset. Twenty head of the females are bred to this bull and Royal Peer. These females are in just good breeding condition and will certainly prove profitable to those who are fortunate to get some of them. The bull end of the offering is a good one. Eight of the ten bulls are of straight Scotch breeding. The fact of the matter is, taking them as a whole, they are as strong a lot of highly-bred and highly-tested bulls as have ever been offered from Ashbourne herd. Among the attractions is Royal Peer a bull that Mr. Shallenberger considered good enough to use in his own herd. He is a Creek Bank Lancaster, coming 3 years old and should go to head some good herd. Another splendid bull is Star Attraction, a red roan calf 7 years old in May, sired by Imp. Scotch Lank and out of Imp. Maude 4th. He is a thick, smooth low, well quartered fellow and will make some one a good herd bull. We will have more to say about this offering in our next issue. In the meantime write Mr. Shallenberger for catalogue, mentioning this paper.

Many a fellow who prides himself upon being a pronounced man is too prominent for his own good.

60 HOLSTEIN
Grades at Auction

A Producing Dairy Herd With Records Given.
Descendants From Famous Cows
To Be Sold at Robert's Dairy Farm, 4 Miles Southeast of

Lincoln, Neb., Monday, March 31,' 13

Forty-Nine High Grade Cows

KAREN II
Record—One Year
Milk .....17810.9 pounds
Butter ..... 702.2 pounds

And a Few Choice Registered Bulls

I am selling out completely a herd that I have been breeding up for 20 years. The herd consists of 59 cows and heifers and one bull. Five-sixths of these cows were born on my farm. 30 head are sired by **Klondike,** son of the famous State Farm cow Karen II, and brother to the world famous cow Katy Gerben. In production, this herd is now practically equalling the Holstein herd at the State Farm. This is a chance for the farmers of Nebraska who want good cows to buy where they know exactly what they are getting, and to get exactly what they pay for. **Write for catalogue.**

ALL ANIMALS TUBERCULIN TESTED.

J. R. ROBERTS, Pres. Roberts Sanitary Dairy Co., Lincoln, Neb.

G. E. HALL, Fieldman. COL. F. M. WOODS, Auctioneer.
Farm ½ Mile East of NORMAL on the Lincoln and College View St. Car Line.

HOLSTEIN-FRIESIAN

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers.....
50 1½-year-old heifers..... } Just being bred to a son of a 24-pound dam.
100 2 to 2½-year-old heifers.....
100 2½ to 3-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

HOLSTEINS AT AUCTION
AT FARM TWO MILES EAST OF
College View, Neb., April 3, 1913

This offering will consist of 30 Holstein cows fresh and freshening; nine splendid young heifers safe in calf; four registered Holstein bulls, and 11 young calves. These cattle were personally selected by me from the leading herds of Wisconsin and they carry my personal guarantee to be just as represented. For particulars address, W. H. ENGLAND, Lincoln, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

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Percherons-Shires-Belgians

Imported Stallions .....$600 to $1,500
Home Bred Stallions .....$300 to $600
Mares Safe In Foal .....$350 to $500

Come to our barns and pick out your horse.

Watson, Woods Bros. & Kelly Co., Box No. 3, Lincoln, Ne

RHEA BROS.' ACCLIMATED PECHERONS

We have 10 Stallions on hand today that we are selling at very reasonable prices. If you are interested write us or come and see them.

References: Packers Nat'l Bank, So. Omaha; Arlington State Bank, and First Nat'l Bank of Arlington, Neb. On main line of C. & N. W. R. R., 34 miles N. W. of Omaha, 25 miles north of Lincoln and 5 miles east of Fremont, Neb.

RHEA BROS., - - ARLINGTON, NEB.

FAIRVIEW FARM

Percherons, Belgians, Shires, Mammoth Jacks and Jennets

SPECIAL PRICES - 10 head Percherons and Shire Mares, 20 head Jennets - in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them or write.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS, STALLIONS AND MARES.

I have on hand a lot of imported and American bred Percheron and Belgian stallions and mares as cheap as the cheapest. Prices lower than other importers as I am selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying.

W. L. DeCLOW, Cedar Rapids, Iowa.

Review of Live Stock Market

By A. C. Davenport

ACCORDING to the traditions of the trade the latter part of Lent is seldom favorable to the sellers of cattle. Experience of previous years has taught cattlemen to anticipate a poor consuming demand for beef during the last week of the Lenten period. Many times anticipation is almost as bad as realization, and that proved to be the case last week. Anticipating a poor consuming demand for the coming week, packers everywhere seemed to reduce their purchases of live cattle, with the result that the buying at all market points was of a very indifferent character. The further fact that most packers were already filled up and that the current consuming demand was none too good still further reduced the buying demand for live cattle. Under such influences prices everywhere showed more or less weakness. The best light and handyweight beeves for the week were quoted around 10c lower, while the heavier grades were from 15c to as much as 25c lower in some cases. While the break was not large enough to be considered as of any great importance, the country took notice of it to the extent of reducing shipments a little toward the later part of the week.

The trade is generally afraid of a dull and indifferent market for the next week or ten days, until the final effects of Lent have worn off. Aside from that, the future of the market looks very encouraging. As has been detailed before in these columns, the supply of cattle in the country is very moderate, according to the most reliable advices, while feeders are very bullish in their ideas and have given frequent evidences of their disposition to reduce shipments as often as prices show any material decline. If the country continues to follow this policy it will be next to impossible to cause any permanent break in the market, while it will be possible for advances to occur. Some operators on the market are so strong in their views that they are predicting that cattle will sell as high as $9 on the basis of Omaha before the close of the corn-fed season.

One of the features of the live stock trade is the extremely high price at which feeding cattle are selling. With surplus feed in the country and with the price of corn low compared to recent years, there is a strong inducement to pay the limit for desirable feeding cattle.

Hogs, in spite of all opposition, have been steadily forging to the front. After a sharp advance the bears generally rally and make a strong endeavor to break the market down and while they may succeed in taking off a little, the market readily springs back again, generally going up to a little higher figure than previously reached. Thus little by little prices have been working up to a higher level, until this week the average at all market points was the highest touched since last October.

The bears in their fight to keep prices down have had everything against them, light stocks of provisions, light receipts at all market points, good consuming demand for the product and a large shipping demand for live hogs. Some idea of the shortage in supplies may be gained from the fact that for the year to date the five big markets are 860,000 head short of the corresponding period of last year. Eleven markets show a total shortage for the year to date of 1,130,000 head as compared with the corresponding time in 1911. It is not surprising when such figures as these are taken into consideration that prices should continue to work upward in spite of all opposition. When this upward movement will stop or when the limit will be reached as a matter of course, no one can say, but there is quite a numerous element in the bull crowd that does not hesitate to predict $9.00 hogs for the Missouri river before the end of the summer packing season

Sheep and lambs have sold to good advantage during the last week or more. If anything, the market has been better than most sheep men have reason to expect. A week ago sheep men were very much in doubt as to the future of the market, and most of them were prepared for a somewhat lower range of prices on lambs. The consuming public had shown considerably hesitancy about paying high prices for the product and it was noted that as often as the price advanced materially, the consuming demand decreased in a corresponding degree. At the same time it was known that there were still a good many lambs in the big feeding centers of the west and sheep men had come to fear that when these lambs began to move freely that prices might show more or less decline. During the week just closed much of this fear has been eradicated, and sheep men at present writing are more confident of the future of the market than they have been for some time past. This renewed confidence is apparently born of a belief that the lambs remaining in this country are mostly in strong hands and that there will be no undue haste on the part of holders in disposing of them. It is believed that lambs owners will limit receipts at every sign of danger and that receipts at leading market points will be as far as possible regulated to suit the demand. Moreover it is generally conceded that there is no more than sufficient stock in the hands of feeders to carry the country until the coming of grass lambs. The following out of this policy would have a tendency to maintain values and insure a good market for the remainder of the season. Thus, at present writing most sheep men are looking for a satisfactory market for the future, although no one is predicting any material advance over present prices. As a matter of course it is to be expected that the market will fluctuate to some extent, touching both high and low points, but it is not felt that the average market can go very much higher than at present on the theory that consumers will not stand for a corresponding advance in the price of the product.

Uncle Bing Says

Uncle Bing and I had been such close friends that I missed him very much when I went away to the city to attend the agricultural college. And although I wrote to him frequently, it was several months before I had a letter from him. The letter was worth waiting for; full of good cheer and the usual Uncle Bing philosophy. Here are a few paragraphs from the letter just as he wrote them:

Pork chops; but jes' you keep right on sawin' wood.

A heap o' men and wimmen have the contrariness of a hog; the only way to git 'em goin' north is to try to drive 'em south.

A lot o' people allus boast bekuz they go to bed with the chickuns; but I notis they ain't so keen 'bout gittin' up with 'em.

So they are callin' you a "hayseed" at skule, are they? Well, don't let it worry you. 'Pears to me a hayseed from the country is a heap better any time than a worthless smartweed from the city.

Yep, I think jes' like you do, that every farmer should have his own pork barrel. The farmer that doesn't raise his own pork allus reminds me of a ham sandwich without any ham in it.

Too much work any place is as bad as too little. Take a day off now and then and rest up a bit.

Nope, I never read that book, the "Descent of Man." But if he landed on a soft spot, it's all right. That old sayin', "Look before you leap," is jes' as true and as good a sayin' as it ever was.

So a scientific feller has discovered that fishworms think, has he? Wouldn't it be a heap better if he'd figger out some way to make us farmers do a little more thinking for our own good?

Whew! It's cold tonite! I'm goin' to git into bed afore the kivers are plumb froze together. Take keer o' yourself.

L. L. DEBRA.

Safety Makes Progress

"Safety first," which has become, or is fast becoming, the watchword of the railroads of the country, is the wisest watchword ever adopted by any interest, and if it were written above the doors of industry and learning generally the country would be better off. We need not energy and enterprise so much as balance, and the inculcation of the spirit expressed by the railroad watchword would go far to restore this. Others besides the railroads are taking heed of the wise policy that lies in these words. Stress is placed on the fact that work is done not in a hurry, but with all the time needed. All this shows that we have quickly "seen the point." It illustrates again that the railroads are great teachers in this country. And this side of their opportunity, and in a broad sense duty, they ought to take seriously. As they have carried to many a village a lesson in making the home beautiful by making their stations beautiful, so in this "safety first," they are doing a still greater work reaching to the morals of the people as well as their manners.

They have entered this work for themselves in earnest. Teaching railroad men how to play the game safely has become a profession, says the Chicago News, which tells of lessons through committees of workmen organized for this purpose, through lectures and through pictures showing the right and safe way, and the wrong and dangerous way of doing things. One road uses moving pictures to show what happens on trains, in shops and in yards. A committee of three, which represents the safety departments of all the roads that enter Chicago, is now combining separate efforts into a central movement, and therewith a country-wide campaign against deaths from carelessness on railroads is to be waged. Six lectures have been prepared, illustrated with lantern slides. These lectures are on car and machine shop risks, transportation and yardmen's risks, trespassing, maintenance and construction. Such demonstrations will be made everywhere, generally at the noon hour. One great advantage is that the pictures reach foreigners who can not understand English.

All is undertaken in the spirit that men cannot be driven, but can be led; that is, can be shown, while they themselves shall do the work. This is why committees of workmen are enlisted in this cause. One road has about 650 men engaged in this safety work or showing, and the result is that in a year there has been a decrease of 35 per cent in employes killed and 31 per cent in injured, and a decrease of 29 per cent of the total number of people killed and 34 per cent in the number of injured.—Indianapolis News.

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The only perfect weaning device for calves and colts. We guarantee satisfaction or your money back. Hundreds have been sold without one single failure. If your hardware dealer does not handle them, send postal order and we will mail to you prepaid at the above price. Give age and breed of animal to be weaned. Complete description sent on request.

Price 75c each. Made in 3 sizes.
No. 2, calves 3 to 4 months.
No. 3, calves 5 to 7 months.
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SAVE THE PIGS

The Little Wonder.

FARMERS and Breeders, why not buy the best on the market. Coe's Humane Pig Forceps is not only the latest instrument of its kind, but the best, simplest to operate and the least chance to injure the sow or pig. The only self-adjusting forceps on the market. Ask your dealer for them. If he does not have them in stock send $1.00 and get one by return mail. Chas. A. Coe, 402 Maple St., Atlantic, Iowa.

Wool Growers, Beware of the Tariff "Bugaboo"

Don't let this *tariff talk* scare you. Even though the tariff is being revised, you will get a good price for your clip, *provided you sell at the right time.*

To take care of our customers during this season of surprisingly quick-changing prices, we are going to send FREE Special Market Reports *frequently*, from now till September. These Special Reports will be authentic and reliable, being based on our 47 years experience, during which time we have become one of the biggest wool merchants in the world.

By watching our Reports closely, our customers can pick the best time to sell. Last year our customers made an average of 2c to 3c per pound more for their wool by following our advice. *This* year they will profit *even more*, as a result of our Special Reports.

Now, if you have as much as 200 pounds of wool, you can have your name put on our mailing list. You'll get our Special Reports, free, *all through the season.* You won't make the mistake of selling at the *wrong* time, or of selling to some buyer who, on account of the tariff agitation, is afraid to pay you the market price, or will scare you into taking less than the market value.

Remember, we charge nothing for this service. We place you under no obligation whatever. We must print about 50,000 Reports anyhow for our old customers. It's no particular trouble to print a few hundred extra for other wool growers.

Merely send us your name on a postal. Then, every time we get out a Special Market Report you will be remembered. You certainly can't *lose* anything by watching our Reports, and they may be the means of saving you a lot of money—*good, hard coin that rightfully belongs to you.*

This is no season to be selling wool to any old buyer at any old time. GET POSTED. If you send your name on a postal *now*, you'll get some interesting Wool News by return mail. (12)

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just the same as you do. How would you like to still wear your winter coat when spring work begins? If you want your horses to keep well, last longer and give you better service in every way take off the heavy coat that holds the wet sweat and dirt. Don't buy any thing but

The Stewart Ball Bearing Clipping Machine

the only machine that will clip horses, cows and mules without any change whatever. Has all file hard cut steel gears, enclosed safe from dust and dirt and running in oil. Has 6 feet of new style, light, easy running flexible shaft and the Stewart single tension clipping head, highest grade. Clips easier and faster than any other and lasts longer. Every machine fully guaranteed. Get one from your dealer or send $2 to us and we will ship C. O. D. for balance. PRICE $7.50

GET ALL HIS WOOL

You lose $1 on every six sheep by shearing the old way. You know how many you've got. Figure out how much more money for you if you get more and a longer, better quality of wool, that will bring a higher price. Use a

Stewart No. 9 Ball Bearing Shearing Machine

It's the most perfect hand operated shearing machine ever divised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Comes complete, including 4 combs and 4 cutters of the celebrated Stewart quality at..... PRICE $11.50

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FAMOUS Sewing Awl

Sews a lock stitch just like a machine. Just the thing for repairing shoes, harness, gloves, mittens, saddles, buggy and auto tops, grain bags, wire cuts in horses and cattle.

Sews neat, quick and strong. Has a diamond point grooved needle and a hollow handle. Comes ready to use with two assorted needles and 25 yards of waxed thread. This awl can be carried around in the pocket just like a knife.

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STOVER MANUFACTURING COMPANY
312 Samson Avenue FREEPORT, ILLINOIS

What Is Best Method of Planting Corn?

(CONTINUED FROM PAGE FIVE)

way before the weeds start, and then there will be no difficulty in taking care of them through thorough cultivation with the harrow. Another advantage that he claims for this method is the fact that, while it takes more labor to prepare the ground, this additional labor is more than saved in the labor required for cultivating the crop. Most of the cultivation is done with a harrow, which not only keeps down the weeds, but keeps so deep a soil mulch upon the surface as to prevent unnecessary evaporation of moisture. The cultivator is used only when the corn becomes too large to permit the use of a harrow.

Processes of Cultivation

The processes of cultivation fill the furrow made by the lister, leaving the ground level, in which the roots are located so deeply as to be protected from danger. Such corn will stand up under a heavy wind much better than planted corn; in fact, corn planted by the ordinary method of listing will stand better under wind than planted corn.

The disk lister is to be preferred to what is known as the loose ground lister for the reason that it makes a deeper and broader furrow, thus enabling the corn to be planted at greater depth.

Corn planted according to this method has passed through severe seasons without rolling a leaf, when corn in an adjacent field would roll up tight during the daytime, only to unroll at night. Corn that rolls and unrolls in this way is not producing profitable growth; it is at a standstill, and such a condition should be avoided, if possible.

To Secure Rapid Germination

In order to assure a more rapid germination of the planted corn, and thus be sure of giving it the chance to outstrip the weeds in its early growth, it will be found advisable to soak the seed in warm water for twenty-four hours before planting. If it is then drained and permitted to become partly dry on the outside it will pass easily through the different kinds of planting devices. This soaking of the seed will be found to be of equal advantage, whatever method of corn planting is employed.

Whenever it is possible in using a lister the listed rows should be made to run east and west, instead of north and south. The reason for this suggestion lies in the fact that when the rows run east and west the bottom of the furrow is protected by the intervening ridge from the cold north wind, and at the same time the sun can shine into the bottom of the furrow all day long and give it added heat. Every farmer has noticed that even in freezing weather, when the sun is shining, the south side of a stone projecting above the surface will be warmer, and the soil and snow there will be melting while the north side is locked with frost. This same thing happens through the protection that the listed ridge gives to the bottom of the furrow. When he rows run north and south the cold wind can pass directly down the furrow, chilling the plant and lessening and hindering growth.

Where the field is hilly and there is special liability to wash, many farmers have successfully adopted the plan of running the listed rows at right angles to the slope. In some fields the rows are nearly circular, running around the slope of a hill. To one used to straight rows this will look unusual, but it has been found to prevent wash and to increase production.

It is to be hoped that farmers with a taste for experimentation, and with a desire to increase their production will give this matter a thorough "try-out," in order to see whether it does all that is claimed for it.

Pointed Paragraphs

Flirt and the world flirts with you; marry and you sit at home.

Our neighbors seem to believe that one good turn deserves ten others.

A girl who has been engaged three or four times may look as hopeless as a woman who is married.

FREE GOVERNMENT HOMESTEADS in **MONTANA**

There are still millions of acres of government land in Montana to be homesteaded. It is good land, too — land that will grow from 30% to 50% more Wheat, Oats, Barley, Potatoes, etc., to the acre than the best cultivated farms in the Middle West and East — proved by U. S. Government crop reports. These homesteads in some counties are 160 acres and in others 320 acres each.

Prove Up in Three Years

A recent act of Congress reduces the period of residence on homestead land from five to three years and permits a five-months' leave of absence each year.

Your Opportunity Is *Now*—Special Low Rates

Visit Montana—learn first hand of its splendid climate, bountiful crops and the boundless opportunities it offers to energetic men with limited capital. Daily from March 15 to April 15 one way Colonist and on every Tuesday from March 11 to April 29 one way Settlers' fares are in effect to points in Montana, via the

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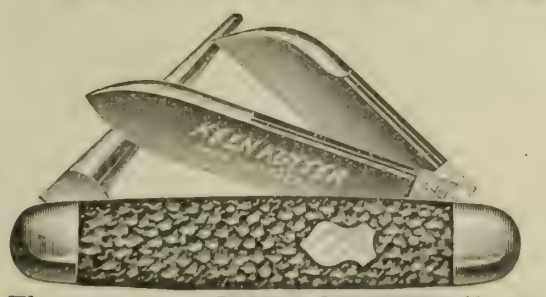

The name, "KEEN KUTTER," stamped on every blade, is a positive guarantee of its unexcelled quality.

The regular selling price of this knife is $1.50. Ask any dealer; he will tell you the same.

This particular knife is designed for the special use of farmers, stockmen and sportsmen, on account of the Leather Belt Punch Blade for making various sized holes in leather for buckles, rivets, belt lacing, etc.

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Send us $1.50 for a year's subscription to THE TWENTIETH CENTURY FARMER and we will send you the KNIFE FREE.

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The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

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160 ACRE FARMS IN WESTERN CANADA FREE

For years the Province of ALBERTA, (Western Canada), was the Big Ranching Country. Many of these ranches today are immense grain fields, and the cattle have given place to the cultivation of wheat, oats, barley and flax, the change has made many thousands of Americans, settled on these plains, wealthy, but has increased the price of live stock. There is splendid opportunity now to get a

FREE HOMESTEAD OF 160 ACRES

(and another as a pre-emption) in the newer districts and produce either cattle or grain. The crops are always good, the climate is excellent, schools and churches are convenient and markets splendid in Manitoba, Saskatchewan or Alberta.

Send at once for literature, the latest information, railway rates, etc., to

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or write Superintendent of Immigration, Ottawa, Canada.

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Government land that will enormously increase in value, is yours—if you want it. A start in life, a prosperous future!

I have just been through that section of Wyoming where the U. S. Government is offering 80 acre irrigated farms, and 320 acre farms without irrigation on the same kind of land that is raising the big crops which make Wyoming famous. The new homestead laws make it easy to get one of these farms, and I am paid by the C. B. & Q. Railroad to give any one who asks, full information about how to get one.

I will send you maps and printed matter and answer your questions—and then you can join one of our homeseekers parties which I will tell you about, and at small expense you can go out and see exactly what you can have. Surely for any one who has a wish to better himself and family this is the chance of a life time. Write me a postal and say you want to know about Government land in Wyoming and state whether you are interested in irrigated land or land not irrigated.

D. Clem Deaver, Immigration Agent C. B. & Q. R. R., 350 Q Building, Omaha, Neb.

Money-Making Farm

1,000 Apple Trees

James Wilson, Ex-Secretary of the U. S. Department of Agriculture, after personally inspecting New York State farms, said: "Hereafter when a young man with a few hundred dollars asks where he can engage in farming to the best advantage I shall ask that he be directed to the possibilities existing throughout New York State." This splendid 186-acre New York State farm is better than the average; smooth machine-worked fields cut 75 tons hay, brook and spring-watered pasture for 40 cows, lots of wood, 1,000 apple trees, 800 sugar maples and only two miles to R. R. station, stores, high school, milk station; 2-story 10-room house, 50-ft. barn, silo, milk house; owner has made money, is buying larger farm; if taken now includes 20 cows, 2 horses, lot of machinery, dairy utensils, wagons, sugar tools, farming tools, etc.; price for all only $5,900, with $1,600 cash, balance very easy terms. Traveling directions to see this and other splendid New York State farms, page 33, "Strout's Farm Catalogue 36," just out, biggest and best farm catalogue ever issued, giving reliable information regarding soils, crops raised, markets, climate, etc., all the best farming districts of the East. Write today for free copy. E. A. Strout Farm Agency, Station 3128, Union Bank Bldg., Pittsburg, Pa.

CALIFORNIA

Orchardists are making

Fortunes in Fruit

in the famous Santa Clara Valley. Farms, dairies, vineyards, orchards, stock and chicken ranches, large and small. *Write today for literature and list of places*

E. D. CRAWFORD & CO.
742 Market Street San Francisco

WE SELL IT

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento, **CALIFORNIA**

Will make a very attractive proposition to agents. I have a splendid assortment of land in Minnesota, North Dakota and Montana. Write me. My proposition includes a liberal commission for selling. D. J. McMahon, 518 Commerce Bldg., St. Paul, Minn.

Investment

A cultured family never grew up out out squalor and poverty is well known, hence it is of the very utmost importance that the family have comfortable surroundings.

What's wanted is a home place where every member of the family can exercise all its faculties, where nature's processes may be observed in plant and animal life; in short, live close to nature and in harmony with it. Now where can such a place be found?

Some years ago James M. Irvine, editor of the Fruit Grower and an orchardist of national reputation, sought to find a locality which should meet his ideal. The points he considered in coming to a conclusion were:

First—The climate must be favorable No one can afford to live in an unfavorable climate, no matter how much money can be made.

Second—The soil must be capable of producing fruits of high quality.

Third—The soil must be well drained, for drainage is essential in an irrigated country; air drainage must also be had to prevent late frosts.

Fourth—Water supply must be abundant and of good quality.

Fifth—Shipping facilities must be good.

Sixth—It is expensive and it takes time to experiment; therefore, the section must be a proven one.

Then there are other considerations, such as church and school facilities, fuel supply, class of neighbors, cost of building material, fencing, etc. After much searching and great expense he settled upon Grand Valley, on the Grand river, Colorado, as the place that would answer his ideal. Subsequent events have since proven that his selection was one that really measured up to the very high standard he set for himself; hence, a few acres of this land would unquestionably be a matchless investment.

Procrastination

A gentleman who had been in Chicago only three days, but who had been paying attention to a prominent Chicago belle, wanted to propose, but was afraid he would be thought too hasty. He delicately broached the subject as follows:

"If I were to speak to you of marriage after having only made your acquaintance three days ago, what would you say to it?"

"Well, I should say never put off till tomorrow that which you should have done the day before yesterday."—Life.

Live Stock Notes

Holsteins at Auction

We desire to call attention in this issue to the advertisement of W. H. England of Lincoln, Neb., who is offering fifty-seven head of Holstein cattle at public sale at his farm two miles east of College View, Neb., on April 3. This offering will consist of thirty head of cows, fresh, or due to freshen, well along in calf, and four registered Holstein bulls of breeding age; also fourteen head of young calves. These cattle were personally selected by Judge England from the very best herds of Wisconsin, and while the majority of them are not registered, yet they are pure-breds and would really be eligible to registration had the papers been kept up on them. These cattle are not only individually right in every way, but they also represent some of the very best families of the breed. They are guaranteed to be just as represented, and when Judge England says that he guarantees anything that means that it must be absolutely right. Look up his ad elsewhere and write Mr. England, mentioning The Twentieth Century Farmer.

Wiles Makes Good Sale

We called on Luke L. Wiles, the well known breeder of Red Polled cattle at Plattsmouth, Neb., a few days ago and found him in good spirit, as usual. Mr. Wiles has one of the leading herds of Red Polled cattle in the west and always has a few good ones for sale. He recently sold to C. S. Fremewan of Gold Creek, Nev., a splendid lot of young stuff, consisting of eighteen head of heifers and one bull. Mr. Fremewan visited a number of leading herds and finally decided to make his selection from this herd. This sale about exhausts Mr. Wiles' present surplus of females, but he still has a few splendid young bulls for sale sired by Happy Jack 2d, present herd bull, and some by a son of Closson, the great breeding bull so long at the head of this herd. He would advise anyone wanting a good bull to write Mr. Wiles, mentioning this paper.

LOW ONE-WAY COLONIST FARES

March 15 to April 15, 1913

$30 from Omaha to California and Pacific Northwest.

$25 Various points in Utah, Idaho and Montana.

Now is the time to make arrangements to visit this rich and growing section of the west and select a farm home for yourself and family where large crops and handsome profits are made from small tracts of land planted to orchards or truck gardens. Some crop matures every season of the year—your land is never idle.

Union Pacific

Standard Road of the West

Protected by Automatic Electric Block Safety Signals.

Dustless Roadbed. Double Track.

For literature and further information relative to fares, routes, etc., call on nearest Union Pacific representative, or address

UNION PACIFIC OVERLAND

GERRIT FORT, P. T. M., 1523 Dodge Street, Omaha, Neb.

Southern Farm Facts

Land at $10 an acre up

Alfalfa makes 4 to 6 tons per acre; Corn 60 to 100 bu. All hay crops yield heavily. Beef and Pork produced at 3 to 4 cents per lb.—Apples pay $100 to $500 an acre; Truck crops $100 to $400; other yields in proportion.

SOUTHERN FIELD FREE

THE SOUTHERN RAILWAY Mobile & Ohio R.R. or Ga. So. & Fla. Ry. will help you find a home in this land of opportunity. Booklets and other facts—free.

M. V. RICHARDS, Land and Industrial Agent Room 94 Washington, D. C.

Free land information

You can learn the facts

about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

Land Information Bureau

Twentieth Century Farmer

Omaha, Nebraska.

Over 100,000 farm families read it.

...The Market Place...

SEEDS

HOW DOES MORE CORN PER ACRE appeal to you? 1,000 bu. of choice-bred seed corn picked before October 15 will plant 7,000 acres of land. At a safe estimate will raise ten bushels more corn per acre than the average seed planted. This would be 70,000 bushels of corn. If sold at 40c per bushel, would make $28,000; if you want your share of this amount, you can get it by using this seed. This is just what some of our best farmers are saying. To anyone who will visit my seed house and after inspecting my corn you do not find more early-picked, pure-bred seed corn than you have ever seen in one house in Iowa, I will pay your railroad fare and all expenses of the trip. Remember, I am talking for you when I talk planting my seed. What others have done you can do. J. H. Petty, Elliott, Ia.

SEED POTATOES—HOME-GROWN Early Ohio; large, well kept, hand-sorted, scab-free potatoes, sacked, f. o. b. station, $1 bushel, in ten-bushel orders; supply limited; order now; cash with order. W. O. Ayer, Guide Rock, Neb.

ALFALFA SEED, NEBRASKA-grown, for sale by S. Hunziker, Sutton, Neb.

SEEDS—ALFALFA, $6; TIMOTHY, blue grass and cane, $2; sweet clover, $9. Farms for sale and rent on crop payments. J. Mulhall, Soo City, Ia.

DUNLAP STRAWBERRY PLANTS, $4 per 1,000, 50c per 100, prepaid anywhere. W. C. Hebdon, Blair, Neb.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Hagglund, Essex, Ia.

ALFALFA SEED, BEST NORTHwestern Nebraska Seed, graded. Prices and samples free. Schwabe Bros., Chadron, Neb.

ALFALFA SEED—WRITE FOR price and sample. J. L. Maxson, Buffalo Gap, S. D.

TREES

$3 PER THOUSAND FOR COTTONwood trees. James Cassell, Route 3. Fremont, Neb.

HELP WANTED

AGENTS—$173 IN TWO WEEKS made by Mr. Williams, Illinois, selling the Automatic Jack, combination 12 tools in one; used by auto owners, teamsters, liveries, factories, mills, miners, farmers etc.; easy sales, big profit; exclusive county rights if you write quick. Automatic Jack Company Box O, Bloomfield, Ind.

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

GOVERNMENT FARMERS WANTED Examination April 9. Prepare now; $75 monthly. Write Ozment, 39-F, St. Louis, Missouri.

HONEY

CALIFORNIA HONEY, FINEST FLAvor and quality; freight prepaid anywhere and examination allowed before paying; per lb., 10-lb. can, 15c; 60-lb. can, 13c; case, two 60-lb. cans, 11½c; pound sample pkg., 20c; leaflet free; liberal discount to agents. Hustlers make big profits; experience unnecessary; permanent business; steady orders and protected territory. Spencer Apiaries Co. 162 Hill, Nordhoff, Cal.

FENCE POSTS

IDAHO RED CEDAR SPLIT POSTS direct from producer to consumer, 4½c to 9c each here. Delivered prices carlots on application, shipped subject to approval before payment. A. R. Derr, Secretary Farmers' Local, Clarkfork, Idaho.

FOR SALE—SOUTHERN RED CEDAR posts, poles and piling. O. W. Anderton, Cherokee, Ala.

COMMISSION MERCHANTS

POULTRY, EGGS AND BUTTER wanted, highest market price, egg cases furnished free. Perry & Co., Omaha.

LIVE STOCK

4 HIGH-GRADE HOLSTEIN BULLS, 8 months old. Bargain. Peter Brehm, Harvard, Neb.

GET TWO NEIGHBORS TO SUBSCRIBE FOR

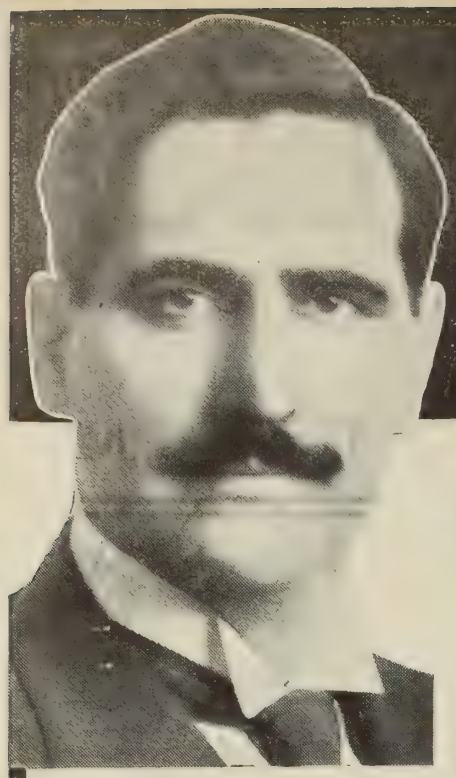
The Twentieth Century Farmer

Renew your own subscription for one year, and we will send **ALL THREE FOR $3.00.** You can thus get your own subscription free; or, in this club plan, get each at $1 a year, instead of the regular price of $1.50 per year.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, March 29, 1913 | Number 642



I WANT EVERY READER of Twentieth Century Farmer to WRITE ME for MY CATALOGS

W. M. Galloway

I want **you**—the man who is holding this paper in his hands right now—to write to me **right away.** I'm making a special appeal to readers of Twentieth Century Farmer. I've got **something special** to offer every one of you. I know what kind of farmers read this great paper. They're **my** kind—the up-to-date, wide-awake kind—the kind I like to do business with.

You know what I've done in the **past—saved more money** for the farmers of this country and given them a **squarer deal than any other manufacturer.** That's why I've been able to build up a mammoth business here in so short a time. Now, **this** year I'm going to break all my own records. And I'm going to do it by putting some **special propositions** right up to the best farmers in the country. I'm going to make you some offers that are so amazing that you **simply can't get away from them.**

Over one hundred and twenty-five thousand farmers know by actual experience that

The Only Way Is THE GALLOWAY

And I want **you** to be the **next** one. I wan't to show **you** just what a man can do for you when he will sell you **direct from his own factories to your farm.** I want you to see **for yourself** what an amazing difference it makes in prices **when you don't have to pay one single middleman's profit.** Write me—you won't be under the **slightest** obligation. Just get this wonderful story. I'll show you how you can save hundreds of dollars in the next year alone. I'll give you the evidence—then let **you decide.** Send me the coupon, or a postal or letter, **right now.**

I'm Going to Tell You Some Inside Facts About My Business

I haven't any secrets about my business. The more my farmer friends know about my affairs the better I am satisfied. I've made good—but I know that every bit of my success is due to the fact that every single man who does business with me has found that *he can trust me absolutely.*

I'm a farmer myself—always have been and always will be. I was born and raised on a farm and I know what you're up against when it comes to buying right, *because I've been through the mill myself.*

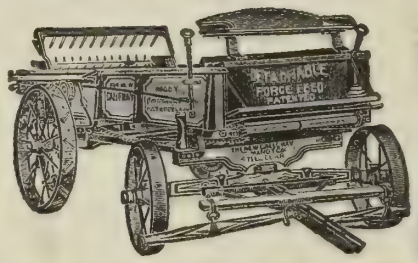
That's why I got into this business. I used to sell farm implements for other people. I didn't keep at it very long because I saw with my own eyes every day the actual evidence that convinced me that the farmer simply couldn't get a square deal and his money's worth so long as he had to pay a lot of middlemen's profits which were always loaded onto the real value of the goods. Why, I could tell you of any number of cases where the profits were so much greater than the real value of the article that it seems almost unbelievable.

I made up my mind to see if the cheaper and better way wasn't to manufacture my own goods—making them just the best that they could be made—*and selling them direct to the farmers at actual factory cost with only one very small factory profit added.* I started out in a small way because I didn't have much money. But it didn't take long to prove that my faith in the intelligence and buying judgment of the men on the farms was founded on solid rock. My business has been tremendous right from the start. My profits have been small—smaller than almost any other manufacturer in the country. And I'm going to keep 'em that way. I'd rather make a small profit and sell a lot of goods than a big profit on a few goods.

Of course, I've made enemies among the other manufacturers who tell me I am "spoiling business." I'm sorry, because I don't like enemies—but I am working to help you get your goods at a fair price. Naturally the dealers don't like me very well, either, for I stand in the way of their big profits. That's why a lot of them have gone out of their way to misrepresent my business. They can't do that very well any longer, now, for I've made a $5,000.00 Challenge Offer to any man or company in the world who can prove that every word of Galloway's story is not true right down to the last detail, or can disprove that my factories are not exactly as shown, or can disprove any statement or claim I make. I'll send you a copy of this challenge offer when you write me. Besides that, I protect every single man who does business with me with a $25,000.00 Cash Guarantee Bond that makes it just as safe for you to do business with Galloway as with the United States government.

Now, I want you to find out just what all this means to you in *cold, hard cash.* I've enlarged my line tremendously for 1913. I am offering *more* bargains and *bigger* bargains than I have ever been able to before. I want you to get the proof for yourself.

Don't Send Me One Cent! I'll Ship You This Spreader FREE



Use It 30 Days On Your Own Farm FREE!

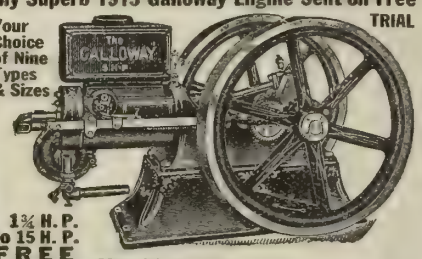
Not one cent down. No bank deposit. Keep your money in your own pocket. I just want you to TRY my new Spreader, *that's all.* Try it right on your own farm for a whole month FREE. Test it out as you wouldn't think of testing any other spreader in the world. Pile on the manure a foot and a half above the box. Put on all she'll hold! Take the fine powdered stuff or the toughest, beaviest, trampled-down, slough-hay kind from the calf-yard. If it's frozen, so much the better. Take it into your field, whip your team to a *gallop* and *slam it in gear!* Say, I know that's an awful test! So do you. A test no other manufacturer dares even suggest to you. But, do you think for a minute I'd ship you a spreader and let you abuse it that way if I didn't *know* it would make good? I know what I'm doing. I've made the same offer for seven years, and the Galloway today is better than ever. 40,000 farmers have proved it. Besides giving you the best spreader made at any price

I'LL SAVE YOU $25 TO $45

Try the Galloway and see for yourself what it will do. The best proof of all is the machine itself. Eleven patented features all exclusive with the Galloway. Double drive chains furnishing power from both wheels alike direct to the beater and moving the load. The only endless apron force feed, roller-bearing feed spreader built. Makes the Galloway worth $25 more than any other spreader sold today. Low down; easy to load; light draft, two horses will handle it easily. Pull between wheels entirely on the reach, and many other special features. I can't tell them all. Just get my catalog before you buy any other make or style of spreader. Nine different styles and sizes to select from. You are certain to find just the machine you need most for your purpose. Write me. Get my free Spreader Book and valuable FREE book of information, "A Streak of Gold". Write now, today.

Three Months' Power FREE

My Superb 1913 Galloway Engine Sent on Free TRIAL



Mean it? You bet I mean it! I'm going to make you an offer right now **that you absolutely can not afford to refuse.** Listen to this: I'll let you use a genuine, 1913 Galloway Gasoline Engine right on your farm for a whole month absolutely free. If that isn't long enough, just say so and I'll let you keep it for a month or even two months longer. I'll let you pick out any one of my nine different models you want, I'll let you put it to any test you want. I want you to compare it point by point with any engine on the market, and I don't care what the other engine costs. I'll put the Galloway up against any other engine, absolutely regardless of the price. But, remember, when you buy from me, I'll save you $50 to $300.

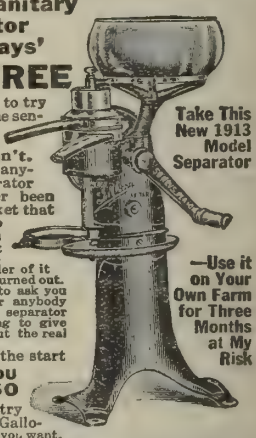
Can you beat that? Never! I'll put the whole thing right square up to you. You handle the engine yourself—make it do your work day after day for one month, two or three. I won't send any salesman or dealer around to help you make up your mind. *I know I can bank on my engine and your judgment.* Your word *goes.* After you have had the free trial if you think that there is one other engine on the market at any price that is anywhere near the Galloway in quality, workmanship or actual performance, just send it right back, and *I'll pay the freight both ways, so you won't be out a single penny.* Or, if you find that the Galloway is so far ahead of your expectations that you simply can't afford to get along without it, you may keep it and on the squarest, straightest and most liberal offer that you or anybody else ever heard of.

Now, you can't beat that offer anywhere. No man living can go further than I have to show my perfect confidence in my goods and insure the *absolute satisfaction* of every man I deal with. My engines have got to be so perfect in every way that they *simply sell themselves,* that's all. My big, beautiful engine catalog is yours for the asking, FREE. Write for it today!

FREE SERVICE BUREAU!

I've got a bunch of engine experts that you can't beat anywhere in the country and their services are at your command *absolutely without charge.* They'll help you solve every one of your engine problems, tell you just which engine is best suited for your particular purposes, how to fit up your power house, how to handle your engine and use it to best advantage. This service is free to you always, whether you buy an engine from us or not.

Let Me Send This New Galloway Sanitary Separator On 90 Days' TRIAL FREE



I'm not even going to try to tell you about the sensational new Galloway Sanitary Separator. I couldn't. It's so far ahead of anything in the separator line that has ever been placed on the market that there is **simply no comparison.** It's the latest and greatest product of my factories and I am prouder of it than anything I ever turned out.

But I am not going to ask you to take my word or anybody else's word on the separator question. I am going to give you a chance to find out the real facts for yourself.

Listen: Right at the start

I'LL SAVE YOU $25 to $50

Then, I'll let you try my New Improved Galloway Sanitary any way you want.

I'll send you one of these wonderful new separators, any size you want, right to your farm for 30, 60 or 90 days' trial absolutely free. I want you to test it out every way that you can think of. Compare it with any other machine that you know of, no matter what the price. If anybody else is trying to sell you a separator, make them let you take their machine and set it right up by the side of mine. Take the skim-milk from one machine and run it through the other—that will tell the story! Then examine its wonderful patented features. See how *simple* it is—how *easy to operate* and how very, very easy to clean. See how perfectly it is made in every single part. And notice the new improved features that make it the most sanitary separator built.

Take a month if you want to or keep it two or even three months if you prefer. Then decide. I won't hurry or bother you in any way. If you think that there is any other separator in the world at any price that you would rather have than the Galloway, just ship it right back to me at my expense. I'll agree right now to pay all the freight *both ways,* so that you won't be out a penny or under the slightest obligation if you decide not to keep the separator after having had the free trial.

If you decide to keep it, I'll guarantee to save you from $30 to $50, besides giving you a separator that absolutely has no equal in the world at any price.

Now Send for My New Book of Bargains FREE!

I'll save you money on practically **everything** you need for the home, farm or family. When you see the amazing bargains—hundreds of them—that I am offering in this big 144-page book you'll say: "Well, I didn't think such things were possible." Farm machinery, tools, buggies, harness, clothing, furniture, house furnishings—everything at the same amazing, **rock-bottom prices** and on the same **wonderfully liberal plan.** You can't afford to be without this book one single day longer. It's FREE. Send for it right away.

Catalog and Regular $1.00 Book "A Streak of Gold" FREE

The only book of its kind in the world. It tells you, in clear, plain English, just the practical facts that every man ought to know about fertilizing. It tells how to handle manure, how to treat it, keep it and use it to the best possible advantage. Worth $100 to any business farmer. Regular price $1—Free to you when you write me. Be sure to send for this famous book today.

Get My Engine Book and 90-Day Offer FREE!

Now don't miss this splendid offer. Don't lay down this paper—don't even turn the page until you have sent for this splendid Engine Book and full explanation of my new 1913 plan. Just fill out the coupon and mail it today—or drop us a postal. Find out the **real facts** about gasoline engines. Don't take anybody's word; post yourself! Send the coupon, or a postal or letter, for this valuable book and my Special Engine Offer, NOW.

Write for My Big 1913 Separator Book FREE

Get my new 1913 Separator Book *right away.* Pick out the machine you want—tell me and let me send it to you for three months' use and *trial free.* I want you to have my new 84-page Dairy Cow Book. It's chock full of valuable information that will help you make your dairying more profitable. Regular price $1.25, but free to you if you send for my separator catalog. Just use the coupon or a postal or letter. Write me TODAY sure.

Fill Out the Coupon—Get My Four Great Books—All FREE!

I'm ready to put money right in your pocket. I'll **prove** that I can do it. You are going to buy **something** that I have to offer you, within the next few weeks. Get my prices—learn my plans **before you spend another dollar for anything for the farm or household.** I won't take a cent of your money until I have proved to you that every word that I have said to you is absolutely and positively true. You can use a postal or a letter if you want to, but the coupon is handiest. I'll send you any or all of my great books free.

GET MY SPECIAL 1913 PROPOSITION SURE!

I've been working on this plan for four years. **It's the biggest, finest thing I've ever offered.** I can tell you how you may actually get a Galloway Engine, Spreader or Separator **either partly or entirely without a cent of cost to you.** No canvassing or soliciting—no work at all. Just the cleanest and most liberal co-operative offer that you or anybody else ever heard of. I'll tell you all about it in a **personal letter** when you write for my free books. **Get this sure!** It won't take you a minute. It may mean hundreds of dollars to you this year alone. Write for the free books and my Special 1913 Proposition **before you do another thing.**

WM. GALLOWAY, President WM. GALLOWAY CO.

417 GALLOWAY STATION, WATERLOO, IOWA

We Carry Machines In Stock at Chicago, Kansas City, Council Bluffs, Minneapolis and Winnipeg, assuring prompt shipment.

Send This Coupon or a Postal or Letter NOW

MAIL FREE COUPON NOW

Wm. Galloway, Pres. WILLIAM GALLOWAY COMPANY,
417 Galloway Station, Waterloo, Iowa

I want to know all about your Special 1913 Offer. Tell me all about it and send me the books I have checked below, by return mail, FREE.

- ☐ BOOK OF BARGAINS—A big 144-page book in two colors with a thousand or more bargains in implements, buggies, harness, furniture, rugs, carpets, etc. Everything for the home and family.
- ☐ MANURE SPREADER CATALOG—and valuable book of information "A Streak of Gold."
- ☐ ENGINE BOOK—and my book "Proof of the Pudding."
- ☐ SEPARATOR BOOK—and my new, big, illustrated Dairy Cow Book, FREE.

Name .....

Town .....

R.F.D. ..... State .....

Prattle of the Youngsters

Undressing the Chickens

A little slum child was enjoying his first glimpse of pastoral life. The setting sun was gilding the grass and roses of the old-fashioned garden, and on a little stool he sat beside the farmer's wife, who was plucking a chicken. He watched the operation gravely for some time. Then he spoke:

"Do yer take off their clothes every night, lady?"—Youth's Companion.

Boundless Faith

Chairman H. S. New of the subcommittee on arrangements said at a dinner at the Auditorium in Chicago, apropos of a state that had evinced great faith in Colonel Roosevelt:

"Their boundless faith reminds me of a little boy whose father showed him, through a fragment of smoked glass, an eclipse of the sun.

"When the eclipse was over, the youngster said eagerly:

"'Do it aden, daddy! Do it aden!'"

A Youthful Schemer

A youth who is employed by a Federal street meat dealer has Tom Sawyer's system down pat. He gets the boys of the neighborhood to ride with him in the delivery wagon and sometimes has them quarreling for the privilege. One afternoon recently two boys were available, but only one was needed.

"Aw, let me go," said one.

"You know me, Jimmie," cried the other; "I'll give you an apple if you let me go."

"All right," replied Jimmie, "and if you give me two apples I'll let you carry in the meat."

Imaginary Lines

"Now, boys," asked the schoolmaster, "what is the axis of the earth?"

Johnny raised his hand promptly.

"Well, Johnny, how would you describe it?"

"The axis is an imaginary line which passes from one pole to the other and on which the earth revolves."

"Very good," exclaimed the the teacher. "Now, could you hang your clothes on that line, Johnny?'

"Yes, sir," was the reply.

"Indeed," said the examiner, disappointed. "And what sort of clothes?"

'Imaginary clothes, sir."

Natural Suspicion

The kindly old man stopped to watch a wee tot who was diligently searching the sidewalk for something, and at the same time sobbing loudly.

"What have you lost, little girl?" he finally ventured.

"Boo, hoo!" came the reply between snuffles, "I've lost my nickel.'

Touched by the child's grief, the old man extracted a 5-cent piece from his pocket, pressed it in the little tot's palm and said:

"There, there, little girl, here's your nickel. Now stop crying."

To his surprise, the child flashed on him a look of bitter contempt.

"Why, you wicked old man," she said, stamping her tiny foot, "you had my nickel all the time!"

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Home and Household Number

NEXT week the dominant note in the Twentieth Century Farmer will be the home. Things relating to household affairs and home surroundings will receive attention in special articles.

The leading article is entitled, "Mrs. Woodrow Wilson as a Homemaker," by Lucy Stevens. The first lady of the land has many accomplishments, and is a rarely gifted woman. She possesses all the domestic virtues and social graces. She is at her best as a homemaker, however, and loves her home and family life. She makes everything about her "homey" and inviting, and has a perfect genius for making any place charming in which she lives. This article deals with Mrs. Wilson's skill as a needlewoman and is fully illustrated with samples of her handiwork.

Among the articles for this issue are, "A Boy's Own Room," "Furnishing the Farm Kitchen," "Closet Doors and Mantlepieces," and others of a similar character.

The cover design and frontispiece are in harmony with the spirit and purpose of the number.

Bright and Breezy

A Gentle Hit

Richard Harding Davis, at a supper at Mouquin's in New York, told a good story about a dramatic critic.

"The young man," Mr. Davis said, "had roasted an actress dreadfully in his dramatic column. He was introduced to her a few days later, and she said:

" 'I think it was real mean of you to roast me like that, especially when you know that I have three children and a husband, who is a dramatic critic, to support.' "

All in the Sound

Many tales might be told that hinge on the sounds of hastily spoken words to unaccustomed ears. The only true one we have heard of late is this:

Last week Mr. Charles De Harrack, the well-known pianist, stood in front of a local theater, being polite to a certain society lady. In order to make conversation he said:

"Have you seen 'Julius Caesar' this week?"

"No, I haven't," answered the lady. "Where is she playing?"

Taking it Easy

It was a very hot day and the fat drummer, who wanted the 12:20 train got through the gate at just 12:21. The ensuing handicap was watched with absorbed interest both from the train and the station platform. At the conclusion the breathless and perspiring knight of the road wearily took the back trail, and a vacant-faced "red cap" came out to relieve him of his grip.

"Mister," he inquired, "was you tryin' to ketch that Pennsylvania train?"

"No, my son," replied the patient man. "No, I was merely chasing it out of the yard."

Out for Trouble

Mayor Samuel L. Shank of Indianapolis was talking about England's interference with the question of Panama canal tolls.

"England," he said, "seems to me to be as meddlesome, in this instance, as the Irishman who was watching the fight.

"This Irishman watched two chaps pummeling each other for three or four minutes, and the sight made him more and more uneasy.

"Finally, tuning to the crowd, he said:

"Excuse me, friends, but is this a private scrap, or moight we all take a hand in it?"

Getting Back at Brady

When James T. Brady first opened a lawyer's office in New York he took a basement room which had been previously occupied by a cobbler. He was somewhat annoyed by the previous occupant's callers and irritated by the fact that he had few of his own. One day an Irishman called.

"The cobbler's gone, I see," he said.

"I should think he has," tartly responded Brady.

"And what do you sell?" asked the visitor, looking at the solitary table and a few law books.

"Blockheads," responded Brady.

"Begorra," said the Irishman, "ye must be doing a mighty fine business—ye hain't got but one left."

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

National Movement to Increase Production

Why Railroads, Commercial Clubs and Banks Have Enlisted in the Campaign

WITHIN the last two years there has arisen a general and widespread movement for the purpose of increasing production on the average farm. This movement has assumed various forms of activity. In some places the railroads, of their own initiative, and acting entirely alone, have been working to accomplish this result. In other places the railroads have acted in co-operation with the commercial clubs for the same purpose. Lately the United States government began to co-operate with any agency that would assist in promoting the work, and as a last development various states have undertaken the work in co-operation with the government and with other forms of organized industry.

The government supply of arable land is nearly exhausted. The hope that once was a reality, of increasing agricultural production by means of increase in the acreage of cultivated land has passed. From now on whatever increase in production is gained must be gained through increase in acre production; that is every acre upon the average farm, by some means or other, must be made to yield a greater production than it has been doing in the past. The population of this country is rapidly growing. The time was when the United States produced more foodstuffs than the limited population could consume, and then immense quantities of agricultural products were exported and sold in foreign lands. Gradually, with the increase of production, the amount of exports of agricultural products has decreased, until now the United States consumes the equivalent of all it produces. But the population continues to increase. Unless something is done to increase agricultural production, the time is near at hand when the United States will fail to feed its own people, and will have to import foodstuffs from foreign countries. This will produce a new and unfortunate change in domestic economies. It will be a bad day for this country when it cannot feed its own people.

Americans Are Soil Robbers

United States farmers are the poorest farmers on the face of the earth, except the Russians. The soil of Germany and of France is richer and more productive today than it was a thousand years ago. Japan and China have farmed their land continuously for forty centuries, and their soil, more productive than ever, supports the population, many times denser than the population of the United States, and in addition amazing quantities of farm products are exported. They have continuously, by the application of the principles of the correct agriculture, built up their land and have increased, instead of decreased, its capacity for production.

The Americans have been robbing their soil for 200 years; they have ignored the fact that the man that robs the soil today is taking bread from the mouths of the women and children of the future; they have forgotten that future generations have an indefeasible right to the fertility that is in the soil; that they themselves hold he soil merely in trust for the future, and that it is their bounden duty to surrender their trust inviolate. By the adoption of the principles of a correct agriculture this state of affairs might be reversed. Soil robbery must cease. Shiftless, happy-go-lucky methods of handling the soil must give way to intelligent, careful methods of tillage. The soil must be fed; its fertility must be restored. Intelligence, industry and careful attention to detail will, in a large measure, correct the mistakes of the past, and improved agriculture will double the acre yield of most of our farm area.

It is not claimed for a moment that the interest of the railroads, commercial clubs and banks in this matter is entirely disinterested; they are not led in this direction either by their desires to improve the condition either by their farmer or by their patriotic consideration to insure the success of the future nation; they are driven almost exclusively by motives of self-interest. But this self-interest is intelligent. There is such a thing as a primary self-interest, and there is also a secondary self-interest. The first is pure selfishness, and generally seeks its own advantage at the expense of others. A secondary self-interest may provide a very commendable motive, because it seeks to promote its own interest only through promoting the interest of others. It is this motive of secondary self-interest that is bringing corporate influence to bear upon the matter of increased production.

In the early days, before the arable land of the country was fully occupied, the railroads were interested in settling up the country, and they derived benefits from transportation that such settlement afforded. This source of revenue has now passed away. The only method remaining by which railroads may increase their revenue is through the increase of their tonnage. The more goods they have to haul, the greater will be their income. Accordingly, they are interested to increase production, simply because by this means they may increase their tonnage and thereby increase their revenue. This, in short, is the reason for the activity of the railroads in agricultural matters. It must be admitted that, in addition to this, many leading railroad men of the country, the men who dominate the spirit of railroad activity, are also moved by high considerations of public policy, by a healthy and earnest desire to make this a greater nation.

The same motive of secondary self-interest has aroused the activity of the commercial clubs. These clubs represent the commercial activity of the towns in which they are located. In many cases they have a powerful influence in directing and controlling this commercial activity for the upbuilding and permanent development of the towns in which they are located; they are intelligent enough to see that the more prosperous the farmer, the more money he will have to spend; that the more he produces, the more he will buy, and the business houses in the towns will consequently thrive better because they will handle and sell more goods. This increase in the volume of trade is the real end sought by the activity of commercial clubs in promoting agricultural pro-

Investigation of Dairy Industry

THE dairy industry of the Missouri valley owes an immense debt to the centralized creameries. It is largely through their efforts that the industry has been built up to its present proportions. It is the opinion of this paper that the centralizers, however, are facing conditions that will force a modification of their methods in the interest of economic production and adequate compensation to the producer. The number of centralized creameries in this territory has multiplied far beyond the demand for them. The result has been such stringent competition among them that each of them has adopted uneconomic methods in order to maintain its position in the field of operations. Some modification of method is imperative in order to comply with the demands of economic law.

There has been some reckless promotion of independent creameries in this territory, and in many instances the promoters have used reprehensible methods. Such premature promotion will inevitably result in damage to the dairy industry.

The Twentieth Century Farmer is undertaking an investigation of the whole matter.

It believes that there are localities in which the centralizers afford the best means for the marketing of dairy products.

It believes that there are other localities where the independent creameries may serve the cream producer to better advantage.

It proposes to give the matter a thorough investigation, and when the investigation is concluded it will publish the results without fear or favor, and with what it regards as absolute fairness to all parties concerned.

It will use its best efforts for the upbuilding of the dairy industry, and for the purpose of accomplishing this, and for this purpose alone, it undertakes this investigation.

duction. They realize, also, that such activity will bring about a closer relation between the town and the farm; that from such activity will spring a new social condition which will be felt by both farmers and town people, bringing them into more closer and human relations. They realize that the interest of each is the interest of all. Because this is true, they are trying to promote the interest of each in order that the interest of all may be promoted.

Why Banks Are Interested

It is estimated that the total indebtedness of all our farmers is about $6,046,000,000, and that the annual interest bill paid by farmers is about $510,000,000. Half of this total amount of loans is mostly in the shape of mortgage loans, the money coming from insurance companies, trust companies and other great financial institutions. The other half of the indebtedness consists of current loans, and these are mostly made to farmers by the banks in their immediate vicinity. From this it appears that the banks have loaned to the farmers about $3,023,000,000. Is it any wonder from this that the banks are interested in agricultural development? They must look after their own. With a soil in process of constant depletion, the security for their loans becomes constantly less, and their hazard in making loans becomes constantly greater. It is to their interest that the farmer be placed in a position where he may easily bear the burden of the loans he makes and be able to pay them upon a reasonable demand. More than this, the banker realizes that the increase in the volume of business done in any community brings an increase in the revenue derived from such a business. In this respect the bankers, as well as the railroads and the commercial clubs, are moved to action by an intelligent, highly commendable secondary self-interest. If the banker were trying to thrive at the expense of the farmers, he would be doing a despicable business. But when the banker seeks to promote his own welfare by promoting the welfare of the farmer, his action cannot be too highly commended.

Farmer Comes First

Some farmers fail utterly to grasp the significance of this new movement in agriculture; stand aloof from all efforts made to increase agricultural production and improve their financial condition, and fail to co-operate heartily with the movement of which they are the chief beneficiaries. If the farmer is narrow and self-centered, if he fails to apprehend the fundamental reasons for the movement, he is at first inclined to stand back and declare that he is not in business for the purpose of helping either the railroads, the commercial clubs, or the bankers. He does not see that his own welfare is what these different agencies are seeking. Let such a farmer bear this fact constantly in mind—the only way in which increased production will help the railroads is through increased tonnage; the only way in which it will help the commercial club is through the increased capacity to buy that it gives to the farmer; the only way in which it will help the banks is through the increased capacity of the farmer to make loans and pay his debts. None of these agencies can derive any benefit from the movement unless the farmer first derives benefit from it. None of these agencies can take any profit from the movement until after the farmer has taken his profit in increased production. Certainly no farmer who understands the condition of affairs will try to stop a man or a corporation that is intelligently trying to help him to increase his revenue, to heighten his prosperity and to add to his general joy of living.

Farm Congress at St. Joseph

The recent Farm Congress at St. Joseph of farmers of four states was attended by more than 1,000 farmers. It was addessed by the most eminent men in their special lines of effort. That meeting was merely one of the indications of the effort now being exerted throughout the nation to increase the average production upon the average American farm. It was a highly successful and enthusiastic meeting. It will go a long way toward creating a right agricultural spirit among farmers. It is to be hoped that farmers will appreciate the spirit of this movement and heartily co-operate with it.

Relic of Early Mormon Times in Nebraska

Picked Up in Cornfield Over Two Years Ago by an Artist Living in Florence

FLORENCE, Neb., is one of the oldest settled portions of the state. The land there, and in that vicinity, has been in cultivation for a long period of years. A little more than two years ago Mr. Charles M. Plein, an artist who lives in Florence, was taking a walk one Sunday on the outskirts of the town. About a block and a half southeast of the cemetery, in what was then a cornfield, and had formerly been for a number of years in alfalfa, he picked up a piece of metal, incrusted thickly with verdigris and soil. It was oval in shape, but so thickly incrusted that he could not determine its nature, so that, on arriving home, he threw it into his pile of scrap iron. About a year later he thought he could use the piece as an attachment on a door, and began carefully to examine it. When it had been thoroughly cleaned it appeared concave on one side and convex upon the other. It was also found to have upon its convex side certain inscriptions, which until the plate had been given expert attention were not fully decipherable. The accompanying illustration shows the plate as it appears today.

This plate calls to mind certain very interesting facts in the history of that part of the state. The plate was possibly used as an oval shell for a belt buckle, although no attachments are evident at present. It was, undoubtedly, carried to Florence and in the lost there by some of the Mormons early summer of 1847. The date on the plate being 1841, it was, undoubtedly, made and used in Nauvoo, Ill., before the emigration.

The Twentieth Century Farmer, knowing that Heman C. Smith, General Historian of the Reorganized Church of Latter Day Saints, would know more about this matter than anyone else, asked him to send information regarding the plate. From his home in Lamoni, Ia., he sent the following, which will be interesting reading for everyone that sees it:

"The brass plate recently found in Florence, Neb., was evidently taken there by the Mormons, or Latter Day Saints, who left Nauvoo in February, 1846, and after a journey of great hardship reached the Missouri river in the following June. They anticipated proceeding on to California, or some western point, but while there the government made a demand upon them for the enlistment of 500 men for the Mexican war. This so disconcerted their plans that they decided to tarry for the winter. In

A Relic of Early Mormon Times

the latter part of June they commenced crossing the river near where Florence is now located. On the lands of the Omahas they laid out a city nearly a mile square, with streets running at right angles, which they named "Winter Quarters." Florence is now on this location.

"During that summer they built about 1,000 houses, principally of logs. They were under the necessity of sending down the river to Missouri settlements for provisions for themselves, but from the wild grasses they secured hay for their large droves of horses, mules and cattle.

"The spring of 1847 the pioneers went west, locating at what is now known as Salt Lake City, Utah. Returning to Winter Quarters, they effected an organization of the church December 5, 1847, elevating Brigham Young to the presidency, with Heber C. Kimball and Willard Richards as his councilors.

"This organization, effected by about 1,000 members, was very much against the desire and convictions of those of the membership who adhered to the original faith as taught by Joseph Smith; hence the reorganization of the scattered elements throughout the states, and the establishment of the Reorganized Church of Jesus Christ of Latter Day Saints, whose headquarters are at Lamoni, Ia., under the presidency of Joseph Smith, son of the first president.

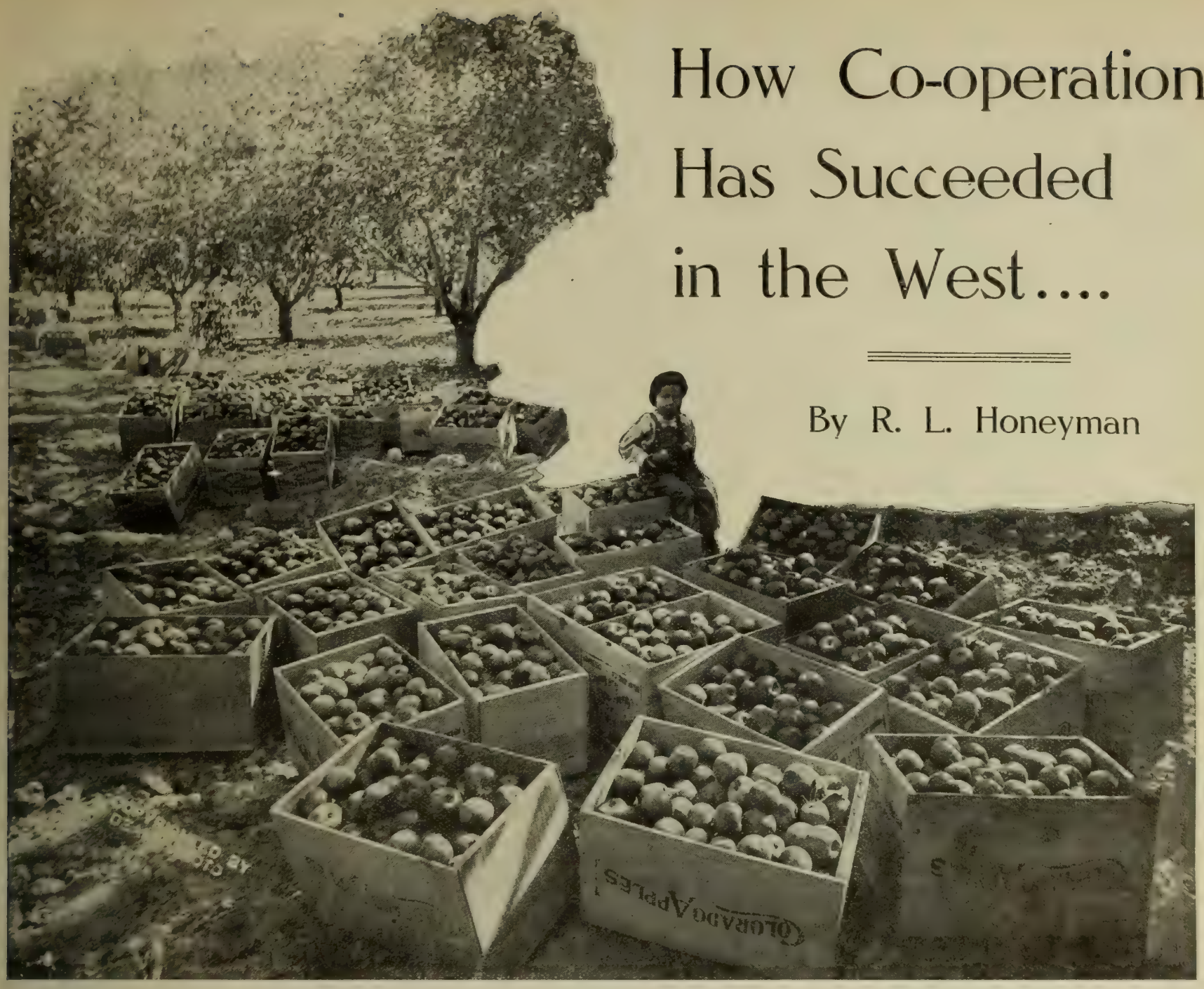
"The followers of Young continued the western exodus in the spring of 1848, and from this time Winter Quarters grew rapidly less, though a recruiting and outfitting station was maintained there for many years. Winter Quarters, or, as it is now known, Florence, therefore enjoys the distinction of being the place of the real origin of the Mormon church, so far as that organization, now holding its seat of government in Salt Lake City, Utah, is concerned.

"For several years emmigrants from the states and foreign countries, whether coming by land or by boats up the river, made this the starting point of their long journey across the plains, and it was here that the hand cart companies organized at Iowa City in 1856 made their last stopping place in the states, for those who had the desire and courage to turn tehir faces westward from this station must resotheir faces westward from this station must resojcurney to the Valleys of the Mountain, or perish in the effort. Of this journey Elder William Clayton wrote:

"And should we die before our journey's through,
Happy day! All is well!
We'll then be free from toil and sorrow, too;
With the just we shall dwell."

How Co-operation Has Succeeded in the West....

By R. L. Honeyman



NOWHERE in the country can the results of co-operation be studied to better advantage than in the Grand Valley of Colorado, for nowhere in the world has co-operation borne such perfect fruit. This spring the national government is about to spend $5,000,000 in an immense irrigation scheme. At present only a small percentage of the valley's forty-five miles is under cultivation. More than 60,000 acres are still covered with the original sagebrush. It is the plan of the government to build a huge concrete dam across the Grand river and send the stream down a high-line canal along one of the mesas to be diverted to laterals to the valley below.

The fruit growers of the valley, organized into a co-operative association, have already demonstrated the wonderful fertility of the land, under irrigation, and proven to the country that co-operation is a success.

Every foot of road in the Grand valley is watered twice a day in summer time, for the reason that the rising dust dims the rosy cheek of the peaches. The association pays for the sprinkling carts; it buys and sells fruit boxes, sprays, binder twine, flour, salt, coal, barbed wire, nails and about everything else that the farmer uses or consumes.

It was in the Grand valley that the idea of heating orchards as a precaution against frost was first introduced. There, also, for the first time was the practice of picking and packing peaches by electric light adopted—incandescent bulbs, strung along wires, being shifted at night from place to place through the orchards, as they are needed to light the workers. The Grand Valley association is also prefecting a system of subterranean storage for apples on a very large scale. Each grower is instructed to dig a hole in the ground big enough to contain at least half his crop, covering it with boards, earth, straw, and on top of that more earth. His apples are stored in this hole as they are taken from the tree and are left undisturbed until wanted for the market. Under this system the apples keep fine, the season is greatly prolonged and the prices for good apples are better than earlier in the season.

Next year the association will have built a cold storage plant for pears. Pears are usually picked as soon as they are full grown, and before they have started to ripen placed in a cool, dark cellar, where they ripen slowly. If placed in cold storage the pears would keep perfectly until after the holidays.

Gathering Scions

Recently a group of fruit growers from Grand Junction have opened apple shops in three of the largest cities of Colorado, where they sell direct to the consumer. Here a buyer can purchase one apple, or a carload, just as he fancies. The fruit is of the choicest quality and exactly as ordered. The apple shop will save the profits of the commission house, wholesale house and jobber, and also the retail merchant's profit.

The apple shop is backed by a group of fruit growers who have incorporated with a paid up capital of $50,000. The first shop was started a month ago in Denver, and it has been a splendid success. The growers have gotten higher returns on apples sold through the Denver shop and have disposed of more fruit.

The apple shops, it is claimed, will eventually do away with the commission men, and all fruit will be handled through apple shops.

CONTINUED ON PAGE THIRTY

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Stockmen are beginning more and more to appreciate the value of good breeding stock. There is more than ordinary activity already evident in the movement of breeding stock. This augurs well for the future.

Through what is probably a typographical error, it is made to appear tha Brother Hicks not only forecasts storms, but photographs them before they get here. He publishes a picture of children in a blizzard that took place Febraury 26, 1913. He calls it Mercury-Mars-Jupiter-Earth blizzard. Perhaps that combination helped out the camera.

According to the report of the crop reporting board of the Department of Agriculture on March 1, there was held upon the farms of the country 21.4 per cent of the wheat crop, 41.3 per cent of the corn crop, 42.6 of the oats crop and 27.8 of the barley crop, of the crop of 1912. The farmers seem to be holding onto their grain and keeping it out of the market to a greater degree than ever before.

There is agitation in the Wisconsin legislature to compel the Board of Regents to hold open meetings. It is argued that the regents are servants of the people doing the people's work for them, and that the people have a right to know how their business is being done. This paper believes that all public business should be transacted in open meetings, but that an executive, closed session is needed for the consideration of certain matters having purely personal relations.

Absentee-Owned Land

One of the great hindrances to the development of the agricultural resources of different sections tributary to the Missouri valley is the fact that large amounts of land have been purchased for speculative purposes and are held by nonresident owners, waiting for a rise in land values. Such land as this, especially in western Kansas and Nebraska, is by this means prevented from producing what it might produce, if it were in the hands of actual setlters as owners.

The time is at hand when every acre of land capable of production should be made to produce. All such land should be put under cultivation; the public welfare demands this. Public welfare is paramount to individual interest. No individual who lives for the sake of gain should be permitted to stand in the way of development demanded by public interest.

Ireland has had this problem to solve and has solved it. Such unoccupied, unproductive land is there condemned under the law of eminent domain, its sale value determined by a commission, and it is then purchased by the government and resold to actual settlers at the price determined by the commission, and the settler is given a long term of years in which to make his payment for the land. This method is rapidly doing away with absentee landlordism in Ireland.

This same method may have to be invoked in this country in order to relieve the situation caused by so much nonresident ownership, the result of mere speculation in land values. This country now consumes nearly all of its agricultural products. Some countries of the old world even now feed us more than we feed them. It will be a bad time for the nation when it has to import its foodstuffs. With the population growing at its present rate, that time is not far distant, unless we increase our production. Nonresident ownership stands in the way of such an increase. It may become necessary to abolish such ownership in order adequately to increase production. This is our problem. How would the Irish solution operate in solving it here?

Lice on Live Stock

As spring approaches, it will pay every owner of live stock to give his animals a thorough examination to learn whether they are infested with lice. Lice make a serious drain on the vitality of all animals they infest, and frequently are more of a cause for an unthrifty condition than the lack of proper food. Young animals, especially, are liable to lice infestation. If lice are found, every thrifty owner will take immediate measures to get rid of them. Most experiment stations recommend a kerosene oil emulsion for this purpose. The making of the emulsion involves some trouble, so that many farmers, on this ground, neglect to use it. The most effective treatment known for lice is to saturate the hair thoroughly with a solution of blackleaf cattle dip; it is instantaneous death to the lice, is easily and quickly prepared and works no injury to the animal. Any druggist can procure it for anyone who wishes to use it. A second application should be made a week or ten days after the first application in order to destroy the young lice that hatch out after the first application is made.

Marketing Problem Again

The marketing problem is the text of a rehearsal of the unsatisfactory conditions discovered at Columbus, O., by a member of the faculty of the College of Agriculture of that state, who was desirous of obtaining some typical specimens of certain varieties of apples for demonstration purposes in his class work. He visited the retail trade in search of the varieties desired, and was unable to find fruit in quality and condition that would serve his purpose, and such as he did find was priced to him at from 25 to 60 cents per dozen. With difficulty, however, he obtained a portion of what he desired; all of these were of the very common popular sorts, grown in everybody's orchard—Rome Beauty, Jonathan and Grimes Golden—and for these disease-blemished, bruised, storage scald, off-colored specimens he paid the above named prices per dozen, for what the farmer probably got per bushel when he harvested them. This enraged professor proclaims:

"With such conditions prevailing, it is not to be wondered at that fruit growers are complaining because of poor sales. People cannot pay such impossible prices, and consequently apples are moving slowly. There surely must be some means by which the grower and consumer can get nearer each other."

This brings up again the need of organization among fruit growers for co-operative marketing and handling of the product of the orchard, whereby system and accuracy is established in the grading, packing and putting onto the market, not only a guaranteed quality of fruit, but a distribution that will give the producer a fair price and afford the consumer a price that corresponds with the supply.

Here are evidences of inferior fruits being offered in the public markets at exorbitant prices, where dealers are holding in cold storage the supply that, if liberated, would equalize prices between producer and consumer, and distribute the proceeds where it rightly belongs. Co-operation will correct quality and give the producer a fair profit for his investment. The nearer the producer and consumer can get together, the nearer the laws of supply and demand will be served, which all concede is the just principle in equalizing trade.

The current average rate of farm wages in the United States, when board is included, is by the month $20.81; by the day, other than harvest, $1.14; at harvest, $1.54; when board is not included the rate is, by the month, $29.58; by the day, other than harvest, $1.47; by the day, at harvest, $1.87. Farming wages vary widely in different sections of the United States. The monthly rate, without board, in Nevada is $56.50, the highest rate paid; $17.10 in South Carolina represents the lowest average.

Crows a Nuisance

That crows are a nuisance is the decision of the Iowa legislature, based mainly on the ability and tendency of this bird to carry hog cholera from farm to farm over large areas of country throughout the state. The very contagious nature of this disease, and the belief among veterinarians and hog raisers who have had a great deal of experience with the disease, is that the common black crow and the tame pigeon are the two most potent sources of spreading hog cholera. Both of these varieties of birds feed in the stock lots and visit many feed yards in the neighborhoods where they take up their abode.

The legislature discussed the subject from every point of view, giving the birds the benefit of all evidence that could be brought to their support, but finally adjudged the old-fashioned black crow guilty. The bird that has been a resident of Iowa almost from the time the first homesteader located within its borders was found guilty of criminal trespass in carrying hog cholera from one farm to another, without first procuring a permit from the State Sanitary commission. The penalty for trespass is death, and this provision will be in force from the passage of the bill. A bounty of 10 cents per head is offered by the state for each crow head returned to the county auditor.

The very heavy loss of swine in Iowa during the last year, from hog cholera, estimated from $12,000,000 to $15,000,000, was adjudged due largely to the prevalence of crows that congregated about the feed lots. The crow did not seem to have a very strong support from the standpoint of a utility bird on the farm. All other birds seemed to be backed up by their insect-destroying proclivities and left the carniverous old crow standing practically alone, valueless as a forager, worthless and good for nothing, dead or alive, except the 10 cents offered for his execution and identity.

Storm Loss on the Range

The very serious and unexpected loss of cattle and sheep over a very large district of the northwest range and grazing territory, due to the blizzard and snowstorm that prevailed during March 14 and 15 must be regarded as doubly disastrous at this time, a public calamity, independent of the personal hardships that have befallen the owners of these animals. At no time in the history of live stock production has the life and prosperity of the meat-producing animal been so highly prized by every factor entering into the production and consumption of meat.

The cow beast, from the calf to the matured beef animal, and on up to the old mother cow, once recognized as the despised canner, are all given a respected and honored consideration now on the farm and ranch.

The storm loss of live stock over Nebraska, South Dakota, Montana, Wymoing, Colorado and the northwest generally, over which this destructive, drifting, blinding snowstorm prevailed, is deeply deplored by every sensitive business interest in the country.

Western Kansas Needs Cows

This very remarkable announcement appears in big headlines in a live stock journal as an item of news. It might be said with considerable emphasis that almost every other state in almost every division of it needs cows, or would be much better off if they had more cows. The Kansas appeal for cows was the result of an observation made by a colporter, or traveling preacher, who thought that the dairy business would be better suited to the conditions for feed production than extensive farming.

The increase of cow population might be a good solution to the natural producing ability of many sections of country for a more profitable industry than now attempted. The dairy cow, or the breeding cow, cannot be wrongly placed at the present time, especially in those districts that are well adapted for grazing and the cultivation of forage crops. The present need is for more cattle, and where calves can be produced and developed into mature animals most cheaply, there is room and need for the effort.

Western Kansas and western Nebraska cannot engage in a more profitable live stock enterprise than the growing of cattle. This applies with the man of a few cows, as well as the man of large holdings. Get cows and hold onto them, breed and stick closely to the text. Provide carefully against storm and a shortage of roughage for winter. Keep more feed than cattle; this is the way to be on the right side of the cow proposition.

The live stock man whose efforts are confined to stock raising cannot afford to lose a calf from neglect or carelessness. A calf lost is one mature animal concealed from the prospects of the breeding industry, one less in the count of possibilities. It is the possibilities that we are basing our estimate upon. This is the stimulus that encourages the greatest effort.

Nebraska Twine Factory

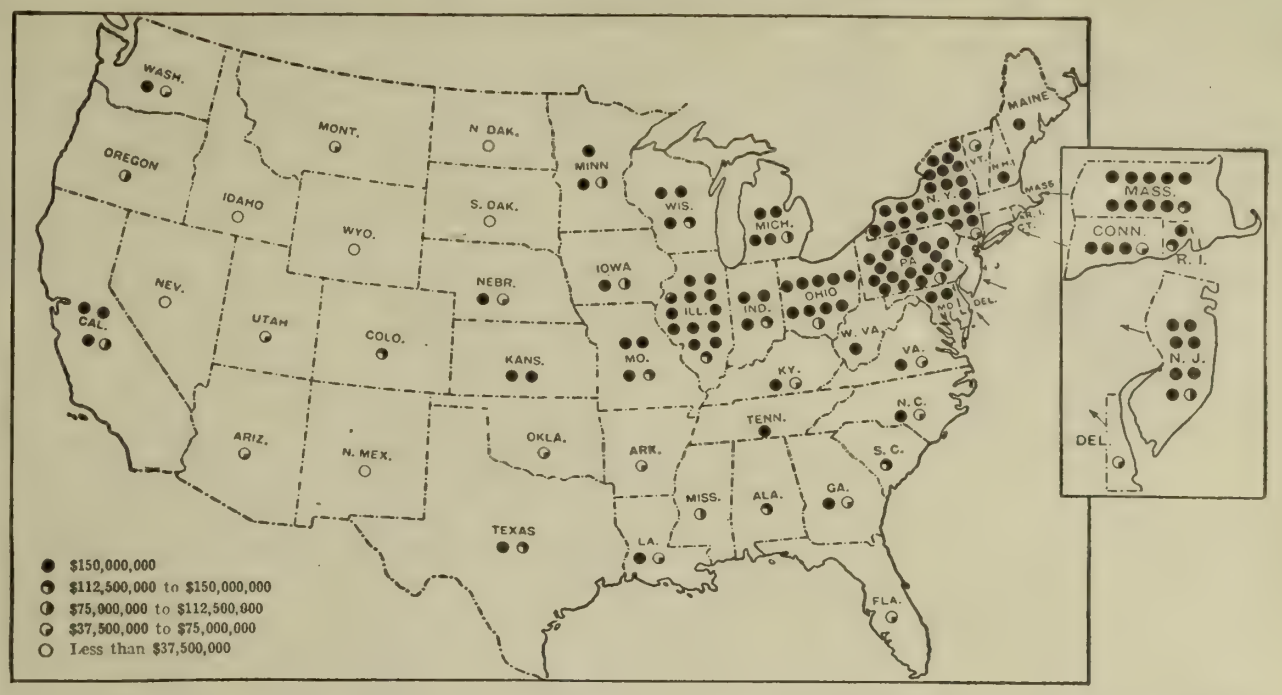
Architect Burd F. Miller of Nebraska, who was sent to Kansas to investigate the penitentiary twine factory, has reported to the legislature. He found that the penitentiary at Lansing, Kan., has established a twine factory which has been in operation something over a year. It cost $35,000 to establish the machinery necessary to operate the plant, which gives work to 108 convicts. The profits from the plant the first year were over $35,000.

He will recommend that a plant at the state penitentiary would, if the Kansas plant were duplicated, cost $35,000. That it would require $150,000 more to buy sisal for the manufacture of twine. The plant could be installed in the buildings now used for the broom factory. The Kansas plant manufactures the twine and sells it to the farmers direct for 9½ cents per pound, 1 cent more than it sells to the dealers, which it is claimed is considerable less than the regular price paid for the twine manufactured by the trust.

Other states have tried the experiment of manufacturing binder twine at the state penitentiaries with convict labor. They have found this method not only profitable to the state, but beneficial to the farmers. It has enabled the farmer to buy twine at a price considerably lower than that demanded by the Cordage trust. It seems that Nebraska is looking around to see what other states are doing in this matter with a view to determine whether it would be well to establish such a plant at the state penitentiary at Lincoln. It seems to the Twentieth Century Farmer that such a plant is a step in the right direction. In this way the work of the convicts will benefit the farmers of the state at large, instead of going into the pockets of prison contractors, and exciting the opposition of organized labor. The exactions of the Cordage trust, in times past, have been severe upon the farmers. The establishment of such state plants will relieve the farmers from such imposition in the future.

We are glad that the contract system has been abolished in the Nebraska penitentiary. It would like to see it abolished in all penitentiaries. When its abolition is made to contribute directly to the benefit of the farmers it becomes more than ever desirable. It is to be hoped that the Nebraska legislature will provide for twine factories at the state penitentiary at Lincoln, and will see that it is adequately equipped, so that the farmers of the state, as a whole, may share in the benefits to be derived from it.

Value of Products of Manufactures



This map shows the total value of products of manufacturers by states for 1909. New York heads the list, with the enormous total of $3,412,500,000. Pennsylvania, Illinois and Massachusetts follow in the order named. Ohio came very near coming within the first four, but falling slightly below Massachusetts. Preserve this map for future reference.

The Farmer's Scrapbook

Everyone engaged in business needs to adopt some method by which any information that may be needed at any time may be made immediately available. No mind can possibly carry within itself the mass of information which may at any time be imperatively needed. No one should attempt to burden the memory with such a load.

A wise judge once said that the best lawyer is not the one that knows the most law, but the one that knows where to find the law. This is true of almost any calling in life. The editor needs his file in which he may preserve information for future use. He cannot tell when he may need it, or whether he will ever need it, but it must be kept on hand in order that, when needed, it may be forthcoming. Just so the farmer needs some method by which he can make all matters of which he has read instantly available to him. As he reads, he should say, "Here is something that I may need some time to know. How can I preserve this?"

The simplest and most easily managed method for preserving such information for future reference is the scrap book. Any old, large volume may serve the purpose, or one may be easily made from wrapping paper to be had at the ordinary store. Clippings from the several farm papers, or from any other publication, that contain information that he may, at some future time, need, may be pasted into the scrap book. In order that this information may be instantly available, the scrap book should be thoroughly indexed; then there will be no trouble in finding anything that the owner may desire to find.

In time, such a scrap book would become the farmer's agricultural and live stock encyclopedia, with its store of knowledge open to instant use. Of course, not everything that the farmer reads will prove to be reliable, but as soon as the unreliability is discovered, that fact may be noted, adjoining the original clipping. The value of such a book, not only to the farmer, but to his children in the years to come, cannot be overestimated.

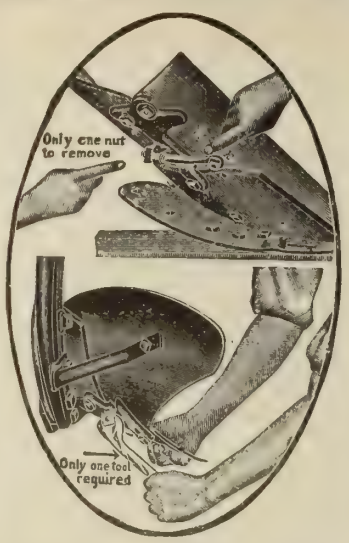
The general moisture conditions that have recently spread over the western and central western states is a guarantee of early spring seeding and favorable conditions for handling the soil in crop preparation.

More and Cheaper Wells

The winter that is just closing has been especially dry. On many farms there has been insufficient water adequately to supply the needs of live stock. Many wells have either gone dry entirely, or have been pumped dry several times during each day. Some farmers have attempted to provide against this lack of necessary water by increasing the number of wells attached to the same pump. On one farm in eastern Nebraska there are two wells attached to the same pump, and yet these have been inadequate fully to supply the demand. Where water is scarce, the farmer should adopt the expedient adopted by many of our smaller towns, which dig a number of wells, each of which is connected with the pumping plant. Such a plan will save extra installation of power and pumps, one equipment being sufficient to operate all the wells, if they are placed near enough to the power.

There is on the market plenty of modern well machinery which will both bore and drill wells. A well may be bored until rock is encountered, then the drilling attachment substituted and the work proceed. Well diggers with antiquated machinery, incapable of such use, would find it to be money in their pockets to supplant their worn-out equipment with these up-to-date machines. Such a machine would be a valuable accession to the equipment of threshing machine men and those operating corn shellers, as it would afford them plenty of remunerative employment during the dull season, besides being of material help in supplying the necessary water for the average farmer.

The question of planting trees is now being discussed by those who contemplate starting shade trees or filling in the vacant places in the orchard. There is not so much danger in haste as in delay with the planting of the tree.



Remove One Nut and Share is Off

Off or on quick—that's the new feature. That's what you want. It's the biggest plow improvement in years.

When you see how it works you'll know the advantage of the

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SHARE

For New Deere Sulkies and Gangs

"Q-D"—means quick detachable Also quick attachable. You take the share off by removing one nut. Put it back and fasten it by replacing and tightening nut.

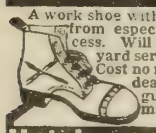
And this one nut is in a handy place—just glance at above picture. Could anything be easier? It "stays put" too. Locking lug on landside holds share perfectly tight and rigid.

Our book, mailed free, tells all about this new improvement in plows. Write for free "Q-D" Book No. Q-D 15

John Deere Plow Co., Moline, Ill.

JOHN DEERE MOLINE, ILL. THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

A Non-Rotting Manure Proof Shoe for Farmers



A work shoe with style and perfect fit. Made well from especially tanned leather by special process. Will not rot or crack through from barnyard service. Nothing like it on the market. Cost no more than ordinary shoes. Ask your dealer for them. Each pair absolutely guaranteed by manufacturer to stand manure and barnyard acids.

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Free Bottle Barnyard Shoe Oil.

If you have never worn Barnyard shoes write us for Free bottle Barnyard non-rotting preparation. Send your dealer's name. Try it on any shoe. It will convince you that Barnyard shoes are what you need.

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The first successful **Upright Ear Corn Elevator made—SOLD DIRECT to the Farmer.** Free Catalog showing 8 styles with crib plans which save you money. Write for it today.

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The advertisers in The Twentieth Century Farmer are deserving of your patronage. Read their ads carefully and send for their catalogues, mentioning this magazine when writing.

Missouri Valley Fruit Growing

VI—Marketing of the Apple

THE success of the Missouri Valley country as an apple-producing district has passed beyond the experimental stage. It is no longer a guess or a question for discussion as to the standing of this district in fruit culture. Nebraska, Iowa, Missouri and Kansas, comprising the most productive body of agricultural land of any similar area on the continent has developed an astonishing record as an apple-producing district.

Samples of Good Root Systems on Young Apple Trees. A 1, 2 and 3-Year-Old Tree

This rich agricultural country, while pursuing its main features of live stock and grain crop growing, has quietly and unostentatiously been cultivating, as a side issue, the apple orchard, until it has developed into such proportions as to threaten the crowding of other prominent and specially devoted apple-growing districts off the map. The commercial orchard, it is true, is a business proposition, and this feature of enterprise is just now commencing to make itself felt in the Missouri Valley country.

Organizing Fruit Associations

Fruit associations are being organized for the purpose of providing system and method in handling this fruit from the orchard and hands of the producer to the consumer. The demand for closer co-operative effort on the part of orchard owners in the shipping, storage and distribution of their crops of fruits is made apparent by the competition offered by the various fruit-growing districts of the country, as their products come forward to the central markets to meet the demands and exactions of present-day trade.

The western fruit-growing sections, the Pacific and mountain districts, by their enterprise and advertising sense in preparation of their products in neat, convenient and attractive packages, have taught the balance of the fruit-growing world the necessity of uniform quality and guaranteed package in the putting up and sale of the products of the orchard. It has been demonstrated that the purchaser of the better quality of fruits does not hesitate much on price when the quality is guaranteed. The present-day consumer does not, as a usual thing, contend about the price of the box or crate of apples, whether it is $1.50 or $2.50, so it has the appearance, grade and quality that is pleasing to the eye.

Package Helps the Sale

The crate and box method of putting up apples has become so popular with the consumer that only the cheaper quality of fruit is expected in the bulk sales. The large shipments of barreled apples that have taken the great bulk of the product of the Missouri Valley and farther east, central and Atlantic apple-growing districts in past seasons will be changed rapidly to the smaller package, because of the demand for the crated and boxed apple, and because of the necessity which the western fruit package methods have forced in market competition.

The perishable tendencies that enter into fruit growing must be reckoned within the management of the orchard. It would seem that the orchardist has been provided with preventive means of orchard protection in many ways to insure a crop. Storm, hail and drouth are possibilities that cannot be prevented or warded off. The harvesting and marketing is in the hands of the orchard owner, and should be as accurately and systematically looked after as the spraying, pruning, cultivation, etc., for without a seasonable and safe gathering of the crop, storage or sale, with all labor and investment, counts for nothing.

Business Side of the Industry

The business side of the apple and orchard industry would suggest some system of organized handling of the fruit crop, comprising certain districts or localities under one management or association. The necessity of handling a perishable commodity or article of produce, with a view to placing it on the market as the demands of trade re-

Is Your Home Sheltered?

Save dollars by saving heat. A wind-swept home is a cold home. Shivering cattle take on no fat. Cold hogs make the smallest gains. Wind-tossed chickens lay no eggs. Protected gardens get the earliest start.

TRANSPLANTED
100 EVERGREENS $7.50
Express Prepaid.

These trees have been transplanted and root-pruned, insuring an abundance of fibrous roots—nature's guarantee of life to young trees. They are backed by the fairest guarantee of any nursery in the United States and by the forty years' reputation of

IOWA'S GREATEST EVERGREEN SPECIALIST.

I ship direct from the ground on the day the trees are dug. The trees you buy of agents have been out of the ground often three weeks. That is why they don't grow. Buy direct of me and you will be satisfied. We can also sell you prize winning

"True-to-Name" Fruit Trees

and berry plants guaranteed to prove hardy or cost you nothing. Catalog of special bargains FREE.

Earl Ferris Prop.
EARL FERRIS NURSERY CO.
1111 Omaha St., HAMPTON, IOWA.

GOOD TREES

Save you money. We sell direct from our nurseries to you. Are you intending to set a commercial orchard? Write us. Do you need a home orchard? Ask for our catalogue. We are favorably located to handle extensively high grade trees and shrubs. Investigate our prices. It's worth while. Send for our 1913 catalogue. Write at once. A postal brings it. The names and the address of a few of your friends will be appreciated. We handle an excellent line of Spray Pumps and Spraying Material. Premiums to those who order early. Address

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FOR SALE!

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Write for Samples and Prices.

WEST BEND SEED CO.,
WEST BEND, WIS.

BARGAINS IN FRUIT TREES

16 Apple trees, ass't 2 to 3 ft., $1.00.
12 Cherry trees, ass't 2 to 3 ft., $1.00.
50 Concord grape vines, $1.00.
Free catalog and due bill on request.
Benson-Omaha Nursery, Benson, Neb., Drawer 4.

SEED CORN Golden Row, Reid's Yellow Dent, Nebraska White Prize and Silver Mine. Gathered early and dried on racks in our furnace heated seed house. Write for 27th annual price list.
LEE SMITH & SONS, De Soto, Nebraska.

Kherson Oats

Does Not Rust or Lodge

Recommended by Experiment Station and the best farmers. Yield 112 bus. per acre. We have also **Swedish Select, White Shonen, Mammoth Cluster and Danish Side Oats, Seed Corn, Grass and Garden Seeds and Pure Bred Poultry. Send for FREE Catalog.**

AYE BROS., BLAIR, NEBRASKA
Box 3. Seed Corn Center of the World.

NORFOLK NURSERY

A general assortment of selected high grade stock. Send for list. E. D. HAMMOND, Proprietor, Norfolk. Neb.

Save Seed—Preserve Moisture

Double the Yield

The Keller combined Pulverizer, Surface-Packer and Mulcher will do these things and more. It will prevent washing of hillsides, baking of soil, smut and rust. You get a **FREE TRIAL**

We prove it in your field, at our risk.

For full information address

Keller Concrete Machinery Company
KEARNEY, - NEBRASKA

$10.20 Sweep Feed Grinder. | **$14.00** Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
Seventh St., Topeka, Kansas

quire, is a principle that protects he financial interests of both producer and consumer. This calls for he service of a skilled sales manger, one trained in the market demands of the country, in order to roperly and profitably distribute he produce placed at his command. This again requires extensive storge where the product may be most asily and cheaply drawn on for lling orders for various market enters.

The Missouri Valley apple and mall fruit industry is on the verge f rapidly increasing yield. Thouands of acres of new apple orchards re now coming into bearing each ear and there is no good reason hy the demand for this fruit should ot steadily increase to take all that an be produced. There is no coun-y yet discovered, so far as we ave been able to learn, that can roduce apples so cheaply and of etter quality than is now being rown in this great agricultural and uit-growing district.

Apple a Family Necessity

The apple trade and demand is ere to stay; the apple is just as uch a family necessity as the poto. It is an every-year product nd has become practically an everyay necessity, and the shortage of ither of these articles of food is a uman calamity, and with our own ountry would be regarded little hort of a national calamity—therefore the urgency and necessity of roviding market advantages and eans of storage and distribution hat will as nearly as may be preerve these crops that they may be urned into channels of trade leading to human consumption with the east possible waste. It is not so uch a matter of great profit to the roducer as a saving of waste hrough inability to get the produce o the consumer who needs it, and hould have it at the least possible xpense and cost of labor and transortation in handling.

There are features of business and rade interests that we sometimes all advertising, and other times ublicity. It is the conveying of nformation to the public of what re have and what we do not want, nd what they need and what they hould have. This is a feature of usiness management to which the issouri Valley apple and fruit rower must give more attention, hat under organized system the ublic may know of this great fruitrowing section, its extent in prouction, its quality of fruit and its uarantee in every feature of trade n all that its association places on he market.

The fruie growers' association hould become known, and the qualty of its produce must be known by ome attractive brand, and the proucer's individuality for quality is lso worth something to the trade nd to the grower. The public soon earns the advantage of the guaranee of an association over that of n individual shipper, yet the individual grower is entitled to credit r discredit for the quality of the roduce he contributes or turns into is association. Within a few years he apple storage demand will necessitate cold-storage plants at all important shipping points along the Missouri river, from Sioux City on the north to St. Louis on the south. Local cold storage will be developed as the needs of the associations require. Apples will be more carefully handled, graded and marketed as a result of organized market observance, and the orchard will become a much more profitable investment for its owner than under the present lack of system in handling the crop from the orchard to the consumer.

Eastern Nebraska Fruit Growers

At a meeting held recently at Auburn, Neb., of the commercial orchard owners a permanent organization was perfected.

This meeting resulted in a most enthusiastic assemblage of commercial orchard owners from all parts of the apple-growing districts of Nebraska. A committee of fifteen prominent fruit growers had previously been delegated to prepare suitable constitution and by-laws to submit at this meeting, which, after some amendments and changes, were adopted, and the following board of directors of seven members was elected: C. F. Beck, Peru; E. M. Pollard, Nehawka; G. A. Marshall, Arlington; George Sanders, Brownville; Val Keyser, Lincoln; G. S. Christy, Johnson; A. M. Shubert, Shubert.

This board was elected for one year and constitutes the officers and executive committee. The president, vice president and secretary will be elected by this board and from its members. They will also choose the treasurer and general manager.

This association will be known as the Eastern Nebraska Fruit Growers' Association, incorporated under the laws of the state of Nebraska, when 100 shares of stock shall have been subscribed and fully paid, with a capital stock of $30,000 shares, divided into 1,000 shares of $30 each. The general manager shall have full charge of all the commercial and shipping transactions of the association. He appoints such inspectors and assistants as may be needed in carrying on the work of the association, in packing, inspection, etc.

The members were not anxious to start out upon too large a membership and too extensive a plan of operation, but rather chose to enter modestly the first year and become familiar with all the details of marketing and then widen out into a more broa ened and extensive territory as the opportunities may offer. It is safe to predict that this is the beginning of a co-operative sales industry that will spread over a very large district of the Missouri valley fruit-growing country within the next few years.

There is an impression with some that such an association affords greater advantages to the large grower, but it is exactly the reverse. The small grower who cannot ship by carload shipments is the one who most needs such a combination, enabling him to join in with others and get the carlot benefit.

A New Cross Country at $1875

Rambler Motor Cars

Big sales proved the right of the Cross Country to leadership in the medium priced field. This car is sold at $1875 with long stroke motor, fifteen per cent increase in power, and dual ignition.

It's a car of exceeding beauty, richly finished in light Brewster green. Rakish, low and balanced perfectly, it has grace, suggestion of speed, and lines that catch and hold the eye.

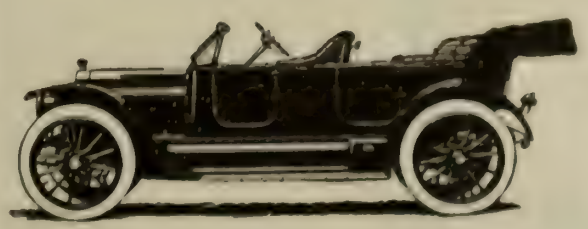
It's the easiest riding car we know. You may tour all day with pleasure and return without fatigue.

You will never know the meaning of Jeffery service until you get a Cross Country. The ten thousand mile guarantee goes with each car.

Started electrically by push button. Press another, you light the lamps.

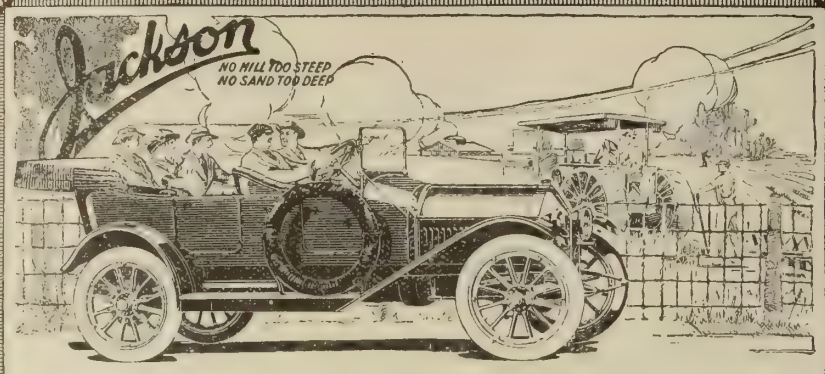
Wheel base, 120 inches. Tread, 56 inches, option 60 inches. Wheels, 36 x 4 demountable. Tires, Goodyear or United States, 36 x 4. Equipment complete.

Have you seen the new Cross Country at $1875?



The Cross Country $1875

The Thomas B. Jeffery Company
Main Office and Works, Kenosha, Wisconsin
Branches: Boston, Chicago, Milwaukee, New York, Philadelphia, San Francisco



"Majestic" (illustrated)—$1975
45 H. P. four-cylinder touring car, completely equipped and fitted with electric starter and lights.

"Olympic" —$1500
35 H. P. four-cylinder touring car, completely equipped. Electric starter and lights are optional, at an extra cost of $225.

"Sultanic"—$2650
55 H. P. six-cylinder touring car, seven-passenger, completely equipped and fitted with electric starter and lights. Five-passenger, $2500.

Not Comfort or Sturdiness alone, but the most of both

Soundness and strength you must have in your car, if it is to prove a real investment.

Comfort you must have, if the family is to get the greatest possible pleasure out of the car.

We believe the Jackson offers the best combination of both to be found among cars of similar type.

You have long known the Jackson to be a thoroughly comfortable car; and you are doubtless acquainted with its reputation for service in country use.

It is because of its ability to stand up in such use that the Jackson has won a favored place among farmers.

In many instances, Jackson cars have seen three, four and even five years of service on the farm and over country roads.

And it is on such roads that its comfort features are most appreciated.

Between you and the ruts are not only seat cushions ten inches thick but four elliptic springs—and you know how easily they ride.

With long wheelbases and large wheels, the easy riding is made more pronounced; and the generous room inside the car is a feature not to be overlooked.

On your own judgment will depend pretty largely your satisfaction with the way your car rides and runs.

So you should not neglect to post yourself.

Do this in the case of the Jackson by writing for the catalog and the name of the dealer who can give you a demonstration.

JACKSON AUTOMOBILE COMPANY, 1440 E. Main St., JACKSON, MICH.

Va. Ala. N&S. Car. Miss. Ga. Tenn. Fla. Ky.

The Home Land of the Nation

A DELIGHTFULLY healthful summer and winter climate with neither extremes of heat or cold—a well distributed rainfall, varying from 45 to 60 inches annually—the production of nearly all fruit, vegetable and other crops known to the temperate zone—the rural telephone, improved highways, modern schools, ample church and social privileges—these are some of the advantages that tend to make the Southeast the "Home Land of the Nation."

A Great Profit Producing Section

The Dunleith farm in Mississippi, from a 28 acre field of alfalfa averaged six tons per acre (from five cuttings). The net profits were $69.17 an acre at the local selling price of $15 per ton.

There is not a state in the South today which does not import annually over $10,000,000 worth of beef, yet Government experiments have proved that beef can be produced cheaper in the Southeast than elsewhere in America, the cost varying from 3 to 4 cents per pound.

Over $32,000,000 worth of butter is shipped into the Southern Railway States each year, though nowhere else can dairy goods be produced so cheaply.

Northern Florida truckers were marketing strawberries the latter part of December, receiving locally $1.00 per quart.

Good Land $15 an Acre Up

The present price of Southeastern land is but a fraction of the cost of those in other sections. Good two and three-crop lands are selling from $15 to $50 an acre, prices varying according to improvements and location.

Market Conditions Favor Farmers

The large consumption of farm produce by the rapidly growing cities, towns and factory districts of the South, and the Northern demand for winter truck will always exceed the supply, thereby maintaining good profits to the producer.

You should investigate now the *wonderful* opportunities of this section. Send for the "Southern Field," our *free* magazine, mention the State and line of agriculture in which you are interested, and booklets and land lists will be sent.

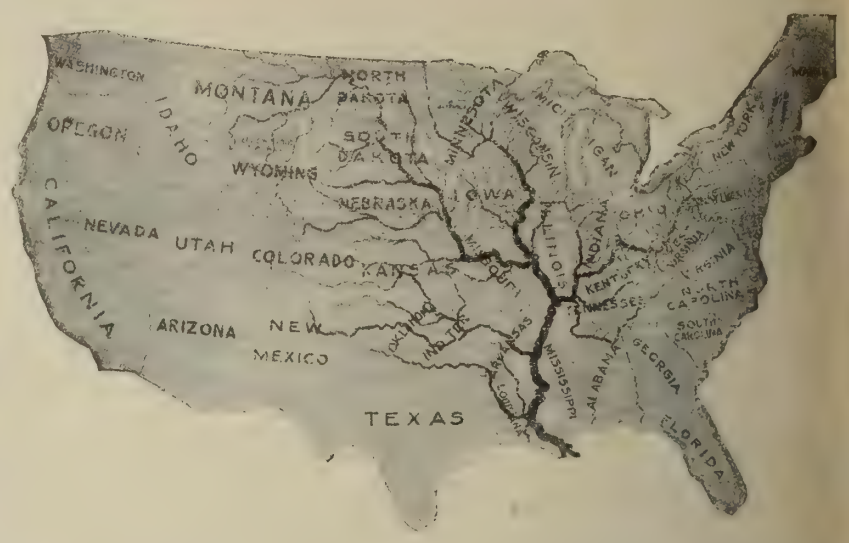
M. V. RICHARDS, Land and Industrial Agent, Room 94 Washington, D. C.

Mobile & Ohio R.R. SOUTHERN RAILWAY Ga. So. & Fla. Ry.

Mention The Twentieth Century Farmer When Writing.

National Drainage Congress

To Meet at St. Louis April 10, 11 and 12



THE accompanying map shows the territory drained by the Mississippi river and its tributaries. In this territory there are 75,000,000 acres of land, naturally the richest, and capable of the greatest production, of any land in the country, that is now unproductive and valueless for lack of drainage. If it could be drained so that cultivation would be possible it would easily be worth $100 an acre, or, in round numbers, $7,500,000,000. This is an immense sum of money to be wasted or lost in unprofitable land at a time when shortage in agricultural production is imminent. As a money-making proposition it is worth while to bring this land under cultivation.

The drainage of this land is not possible until after the control of the Mississippi river is assured. As soon as this control is secured the drainage of the wet lands within their territories becomes a problem for the different states to undertake. The control of the Mississippi river is a problem for the nation. The nation should undertake its solution at the earliest possible moment. Then it will be possible for the states to undertake the drainage of land within their several borders. To promote this drainage work the National Drainage Congress was organized. It will hold its third annual meet at St. Louis April 10, 11 and 12.

The work undertaken by the congress is of the first importance and should receive universal support. The first responsibility, however, rests upon the nation at large, and the National Congress should undertake immediate steps toward securing control of the Mississippi river. The following verses from the American Lumberman puts the national responsibility where it belongs:

To Whom Does the River Belong?

(Republished from the American Lumberman.)

The river belongs to the Nation;
The levee, they say, to the State;
The Government runs navigation.
The Commonwealth, though, pays the freight.
Now, here is the problem that's heavy—
Please, which is the right or the wrong?
When the water runs over the levee,
To whom does the river belong?

It's the Government's river in summer,
When the stage of the water is low;
But in spring, when it gets on a hummer
And starts o'er the levee to flow,
When the river gets suddenly dippy,
The State must dig down in its till
And push back the old Mississippi
Away from the farm and the mill.

I know very little of lawing.
I've made little study of courts,
I've done little geeing and hawing
Through verdicts, opinions, reports;
Why need there be anything more said
When the river starts levees to climb?
If the Government owns the aforesaid
It must own it all of the time.

If the bull you are leading should bellow
And jump over somebody's fence,
There isn't much doubt you're the fellow
Expected to bear the expense
If it follows a Sunday school teacher
And chases the maid up a tree,
You're owner the same of the creature,
Undoubtedly all will agree.

If it's your Mississippi in drytime,
It's yours, Uncle Sam, when it's wet;
If it's your Mississippi in flytime,
In floodtime it's your river yet.
There's no other way you can make it.
And so, when I give the alarm,
Come get your darned river and take it
Away from my timber and farm!

Stable Rules for the Work Horse

The best order in feeding is: Water, hay, water again, grain.

Never give grain to a tired horse. Let him rest and nibble hay for an hour or two first. Grain in the manger before the horse comes in looks bad.

Water the horses as often as possible, but let the horse that comes in hot drink a few swallows only.

Always water the horse after he has eaten his hay at night; this is important, not only for his comfort, but for his health.

Do not forget to salt the horse once a week; or, better yet, keep salt always before him.

Give a bran mash Saturday night or Sunday noon, and on Wednesday night also, if work is slack. After a long day in very cold or wet weather, a hot mash, half bran and half oats, with a tablespoonful of ginger, will do the horse good.

Keep a good, deep, dry bed under the horse while he is in the stable, day or night, on Sundays especially. The more he lies down, the longer his legs and feet will last.

In order to do well, the horse must be kept warm. Give him a blanket on cool nights in late summer or early fall, and an extra blanket on an extra cold night in winter.

In cold rains do not tie up the

horse's tail. The long tail prevents the water from running down the inside of his legs, and keeps off a current of air from his belly.

Take off the harness, collar and all, when the horse comes in to feed; he will rest better.

Never put a horse up dirty or muddy for the night; at least brush his legs and belly, and straighten his hair.

In hot weather, and in all weathers if the horse is hot, sponge his eyes, nose, dock, the harness marks and the inside of his hindquarters when he first comes in.

When the horse comes in wet with rain, first scrape him, then blanket him, and rub his head, neck, loins and legs. If the weather is cold, put on an extra blanket in twenty minutes. Change the wet blanket when the horse dries. Do not wash the legs; rub them dry, or bandage loosely with thick banadages. It is far more important to have the legs warm and dry than clean.

Examine the horse's feet when he comes in and see to it that they are in good condition. If driven on paved streets or roads the horse should be properly shod.

Speak gently to the horse, and do not swear or yell at him; he is a gentleman by instinct, and should be treated as such. The stable is the horse's home, and it is your privilege to make it a happy one.

Side Delivery Rake and Tedder in Alfalfa Field Near Weston, Ia.

Sunny Side and the Other Side of "Livin' on the Ranch"

Mrs. J. G. Cooley writes us as follows: "Last summer, in the children's department, was printed the inclosed poem, 'Livin' On the Ranch.' It certainly is a very pretty poem, and I enjoyed it very much. But still, it only shows the sunny side of living on a ranch. As I have lived on a ranch in western Nebraska since '84, and should be a pretty good judge of ranch life, I have written the other side of this mode of existence."

Sunny Side

When the days are long and busy,
And the sun's a-shinin' bright;
When the birds are all a-singin',
An' everything's all right;
The world's a-growin' young again,
An' all the trees are green;
When everybody's happy,
An' no one can be mean;
When the bees are all a-hummin',
An' the creek begins to dance,
A feller's heart begins to yearn
For livin' on the ranch.

For herdin' all the cattle, an'
For bringin' home the cows,
An' a-pickin' all the cherries,
An' a-swingin' in the bows;
With Rose, an' Jim, an' John, an' Bub,
A-swimmin' in the dike;
A-makin' rafts an' floatin' 'em,
You can't know what's its like;
A-slidin' down the gran'ry roof,
Whenever we've got a chance;
There's nothin' in this world compares
With livin' on the ranch.

A-catchin' little toads an' snakes,
An' teachin' 'em to swim;
A-ridin' after cattle
With Bub, an' John, an' Jim;
A-walkin' on the wire fence,
An' tearin' all your clothes;
A-goin' without your shoes an' socks,
An' stubbin' all your toes;
A-gettin' up at 4 o'clock,
An' weedin' out the plants;
There's nothin' in this world compares
With livin' on the ranch.

A-hitchin' up the little calves,
An' goin' for a ride,
A-playin' "catch" an' "spat 'em out,"
An' laughin' till you cried.
A-takin' all the dogs an' guns
An' goin' for a hunt,
A-bringin' home the sheep at night,
An' teachin' 'em to hunt;
A-catchin' lots of angleworms,
An' fishin' in the branch;
Oh, there's nothin' in this world compares
With livin' on the ranch.

—Mary Reddick.

Other Side

There comes a time of ice and snow,
With winds so drear and cold,
And life upon the ranch, I know,
Is not so fair as told.
The horses do not want to run,
The cows are on the bum,
Your nose and feet are pinched with cold,
And life is then not always fun.

For on the ranch there's lots of work,
And naught is done by halves.
And though the job we'd like to shirk,
We go to feed the calves.
Our fuel oft is not the best;
It is not nice and clean;
We have not city coal to use;
We burn the grass-o-lene.

We bundle up so we won't freeze,
And go to feed the hen.
The husband then comes in and says:
"The old cow's down again."
We lift and boost, and boost and lift
Just like a dozen men.
At last we get her on her feet,
Then down she goes again.

Again we lift and tug and strain,
But no matter how we try,
We cannot lift her up again,
And so the poor old cow must die.
And when the rain is falling fast,
And the house begins to leak,
It is not just like the summer past
And wading in the creek.

Then John comes dashing in so fast,
With face as red as fire,
"What is the mattter now?" I ask.
"My mare's cut in the wire.
Go get a needle and some silk,
For mamma don't you see,
It is an awful cut and could
You hold the mare for me?"

Now friend, just listen unto me,
While I this thought advance,
You'd better be a dozen dudes
Than move out on the ranch.
For life is short at longest,
And if you have a chance
You'd better go to Hardas
Than live out on a ranch.

—Mrs. J. G. Cooley.

The Greatest Power in the World

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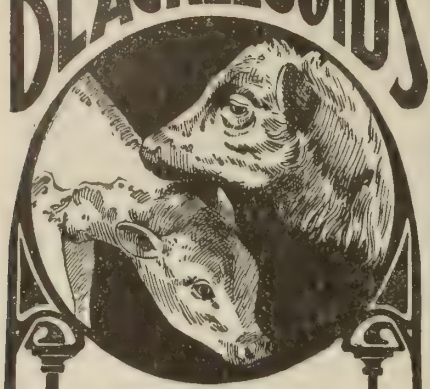

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Queer Feature of Easter Celebration in Mexico

By Frank G. Carpenter

MEXICO CITY—After the sorrow of a Lenten season, bathed in the bloodshed of the revolution, Mexico City will celebrate Easter Sunday as the gayest day of the year. There will be a great bull fight in the Plaza de Toros, the theaters will have matinees and night performances, and Judas will be hung again and again by the children and grown-ups in all parts of the city. This hanging of Judas is a regular Easter celebration; it was originated by the Indians, to give them a chance to vent their rage upon the traitor to Christ, and it is still so used in the more ignorant back districts, although in the cities it has become a mere show for the children.

Here at the Mexican capital images of Judas, made in all shapes and sizes, are peddled about the streets in advance of the celebration. They range in price from a few cents to a number of dollars, the larger ones being often filled with firecrackers and other explosives, which go off and blow Judas to pieces.

These Judas figures are made as ugly as possible; they have ropes attached to them and they are dragged about the streets. They are knocked about this way and that until their owners think they have sufficiently shown their disgust and contempt. They are then taken up and hung. Sometimes a rope is stretched across the street, from the second-story windows of the houses on the opposide sides, in such a way that Judas hangs from the middle, and at others a flagstaff is put out with Judas at the end of it. Both children and grown-ups mob the effigy, throwing stones at it or pelting it with mud.

Some of these Judas figures are stuffed with candles and presents for the children, but in such cases they are usually hung inside the patios or courts of the houses, where the little ones can keep the sweets for themselves. There are also merchants who hang Judases above their stores, the figures being filled with petty articles of one kind or other. When the explosion occurs the contents are scattered over the sidewalk and the crowd fights for them, the whole serving as an advertisement for the establishment which furnishes it

Lent in Mexico

Easter Sunday is very popular here on account of the rigid way in which the Mexicans celebrate Lent. During that time all festivities are prohibited; the church will not perform the ceremonies of marriage, and all of the women put off their fine clothes and wear only black; even the churches are clad in black, and the gorgeous altars have sable mantles over their beautiful decorations of gold, silver and lace. Every good Christian is supposed to go to church, and all of the women and the Indians do so. The church bells ring from morning till night, and they awaken me before daybreak by their din.

This continues until Palm Sunday, when the Indians bring in palms by the thousands, and crosses, woven of palms, are everywhere sold; some of these crosses are from six to ten feet in length and some are so small that you can wave them in your hands; some are not more than two inches wide, being made of the finest fibers of palm; others are of the whole leaves, and often a single large palm cross will sell for $5. These palms are blessed by the priests and are carried home to be tied to the front balconies, there to remain until the next Palm Sunday.

Good Friday has its own special services, and in the afternoon and evening of that day the churches will be dark and the worshipers will engage in silent prayer. The last of the ceremonies occur Saturday morning, when the choirs will sing the "Gloria" to organ accompaniments; at the same time the black draperies will be stripped from the altars and the bells will be rung; after this the gaieties will commence and Easter will practically begin.

The Government and the Church

The Mexican government now insists that there shall be an absolute separation of church and state; it prohibits church processions throughout the country; no one is allowed to wear clerical garb on the street, and you do not see monks with tonsured heads, wearing sandals and long gowns, or nuns or sisters of the Spanish-American republics.

This great break between church and state originated before the time of President Juarez, but it was first put in force by him in 1867. At that time all of the church property was confiscated and all of the members of the religious societies, from the Jesuits to the Sisters of Charity, who taught in the schools and served as nurses in the hospitals, were sent out of the country. For a while even the ringing of the church bells was prohibited by law, and all religious parades outside the churches were forbidden. Since then many of the priests and nuns have come back; the priests have taken charge of their churches and a large number of the educational institutions are now again conducted by the nuns, although their work is kept in the background.

The long gown and clerical hat are not seen on the streets, but one can easily tell the priests by their suits of black broadcloth, their high cravats, straight collars and tall silk hats, while the nuns are easily known from their black gowns and the somber shawls which they wear over their heads. As to the religious processions, they have been practically abolished. A priest who defied the law not long ago was arrested in his clerical robes and cast into prison. The archbishop of Mexico recently called attention to these laws and forbade the encouragement of the superstitions of the Indians, which led them to have fantastic dances and shows during Lent, including imitations of the crucifixion and the celebrations of the punishment of the enemies and executioners of Christ.

Church Superstitions

Nevertheless, I doubt whether there are any people more superstitious than the Mexican masses. The Indians here were converted wholesale at the time of the conquest, and their religion of today is still mixed with that of the Aztecs. I am told that they have difficulty in keeping them from decorating some of the relics of the National museum, which have come down from the days of Montezuma, and that there are many places away from the cities where the Passion Play is still celebrated. It is not long since many of the churches had a ceremony of washing the beggars' feet; this occurred on Holy Thursday, when twelve of the oldest beggars of the parish were given seats near the altar; an attendant then brought water in a basin, and the priest, taking off the sandals of the beggars, rinsed and cleansed their feet; after this he anointed them with oil, and they were then permitted to depart and go on with their begging. This ceremony was very like the washing of the feet of the twelve apostles, which is celebrated by the Greek church every Easter in front of the Church of the Holy Sepulchre at Jerusalem. I have seen the latter ceremony, but in that case the Greek patriarch and his assistants did the washing, and

A Jolly Good Day

Follows

A Good Breakfast

Try a dish of

Post Toasties

tomorrow morning.

These sweet, thin bits made from Indian Corn are cooked, toasted and sealed in tight packages without the touch of human hand.

They reach you fresh and crisp — ready to eat from the package by adding cream or milk and a sprinkling of sugar, if desired.

Toasties are a jolly good dish—

Nourishing
Satisfying
Delicious

was the feet of the priests and not
ose of beggars which were washed.

At the Shrine of Guadalupe

One of the best places to see how
rnest the Indians are in their wor-
ip is at the Shrine of Guadalupe,
uated about three miles from the
thedral of Mexico City. The place
ıy be reached by street cars. I
ve spent several days in moving
out through the thousands of In-
ıns who come there to worship.
e shrine is based upon a miracle,
id to have been performed by the
rgin Mary, about 400 years ago.
was one bright December morning
ıen Juan Diego, a poor Indian
asant, was on his way to worship
a church farther on, that he
ossed the rocky arid hill where the
rine is; as he reached it he was
nfronted by a beautiful woman,
ıo told him that she was the Virgin
ıry and that she wished the Mex-
ın people to build a church on the
ot where she stood. Juan was
mmanded to report this to the
shop; he did so, but was disbe-
ved.

The next day he came again and
ain the Virgin met him and called
n her son and repeated her wish
have the church built; she then
id that she would give him a sign
show the bishop that he was tell-
g the truth, and bade him go to
e top of the hill and bring back
armful of roses which grew there.
an knew that the hill was a rocky
sert and covered only with cactus,
t he went and lo, it had changed
a bed of beautiful flowers. He
ok down the cloth from his shoul-
rs and filled it and the Virgin told
m to carry the flowers to the
shop; Juan did so. He repeated
s story and spread the flowers out
the ground; at the same time he
id up his mantle, and lo, the por-
ait of the Virgin was to be seen
inted upon it.

It was then known that a miracle
d been performed and the news
ent far and wide. The bishop de-
led that a church should be built,
d with the money that rolled in
as erected the Guadalupe Cathe-
al, which cost more than a million
llars. This was generations ago.
ne sacred picture reposed for a
ne in the cathedral in Mexico City,
t later on it was brought to this
urch, and it may now be seen on
s altar. I have a photograph of it
hich was recenly made by Waite,
e American photographer of the
exican capital.

Thousands of Pilgrims

Every peasant knows of this
rine, and the pilgrims come by
e hundreds of thousands to visit
The railroad officials tell me
at the travel to it materially in-
reases the receipts of the roads, and
at it is a traffic asset worth sev-
al hundred thousand dollars a
ar.

I wish you could see the Indians
they crawl up the hill on their
nees to visit the spot where Juan
ound the roses. I should like to
ke you into the mighty cathedral
nd show you the altar of marble
nd bronze which cost more than
200,000, and at the same time have
rought out the crown of the Virgin,
hich is studded with jewels, worth
lmost a half-million dollars in gold.
he crown is of gold and it weighs
thirty pounds; it is about three feet
in diameter.

Another spot at Guadalupe where
the praying always goes on is in the
Chapel of the Well, back of the
cathedral. Here is a spring of sul-
phur which boils and bubbles below
the pavement within its walls of wet
stone. The waters contain sulphur,
magnesia and potash, and they smell
like old eggs. There is a grating
over the well, and upon it are copper
dippers, fastened to chains, which
the pilgrims let down to draw up
the water. There are no individual
cups and the microbes of 10,000 dif-
ferent mouths are mixed together
upon the rims of these cups.

But suppose we go into the church.
It is filled with Indians, girls and
boys and women and men, all on

The Puebla Cathedral, One of the Finest Church Buildings on the North American Continent

their knees and all holding candles,
the flames of which make a smoke
so thick that it half hides the altar.
There are candles burning about the
altar, and outside are dozens of ped-
dlers who sell candles and rosaries.
The candles are all sizes, from that
of your finger to that of your leg,
and they range in price from 10 cents
to several dollars

Another favorite shrine of Mexico
is at Amecameca, on the slope of
Popocatapetl, and there are others
scattered here and there over the
country. Indeed, there is scarcely a
cross-roads which has not a crucifix of
one kind or other, and you will find
no village which has not its chapels

A Country of Churches

Although the Mexican government
has said that the Roman Catholic
church shall not rule, the officials
realize that it has a strong hold on
the people, and it is only a few
months since the administration
begged the archbishop of Mexico to
assist in restoring order. The sec-
retary of Fomento asked that the
pope be requested to issue a decree
to that end, and, in the Catholic
churches throughout the country, a
special mass for divine intervention
was celebrated. At the same hour
the papal father celebrated mass
and joined in the prayers for the
restoration of peace.

The Mexican people are really
Catholics, and the great majority of
them believe in their religion. I am
told that there are 11,000 churches
and chapels in the republic, and I
find a cathedral in nearly every city
I visit. The church is supposed to
be enormously wealthy. At the
time of the confiscation it had prop-
erty amounting to $300,000,000, and
it then owned almost 9,000 estates,
which were valued at millions. It
had more than 22,000 lots here in
Mexico City, which alone were worth
over $100,000,000, and it had prop-
erty scattered here and there
throughout the republic When
Juarez put the law of confiscation
into effect a great part of this prop-
erty was put up at auction and sold
to the highest bidders, but it is said
that those who bought risked the
disfavor of the church, and that
many took over the properties and
held them in trust so that the church
got them back

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ALFRED CORNISH & CO.
1212 Farnam Street, OMAHA, NEB.

Of Interest to Our Women Readers

Don't Worry

There are too many frowns where a smile might be,
There are too many tears that are sad to see;
There are too many hearts that are not care-free,
All on account of worry.

Tender hearts oft' hurt by cruel tongue,
Many snares in the paths of the pure are flung;
Many heroes fall in the march begun,
But useless it is to worry.

Look not for the briars, but the rost that blooms;
Let light foreshadow the depth of glooms;
Look up, not down, on the silent tombs,
And stamp out the name of worry.

This life is too short and too precious the hours,
And golden the sunshine that follows the showers;
Let us sing the sweet songs with glad voice of ours,
And never again shall we worry.

—Ina E. Heath.

Our Home Chat

Dress is not only an expression of character, it helps to form character, for there are very few who are not more or less influenced by wearing a particularly suitable and becoming gown or suit. Have you ever noticed the little girl who is a perfect tomboy in her rompers and short skirts, climbing trees, skinning through fences and romping down the lane with hair flying? Then let that same girl have her hair nicely done up and one of mother's long skirts on; isn't she a little lady? Her manners do credit to mother herself.

It has been said that it is the duty of every woman to be well dressed. This does not necessarily imply that she be expensively or extravagantly dressed, for there is nothing in poorer taste than to be overdressed. But it does mean that a woman should be neatly and attractively dressed, from the crown of her head to the sole of her foot, and dressed to suit the occasion and her station in life.

The woman who wears in her kitchen a trim percale of nurse gingham dress is well clad, and dressed in much better taste than the woman who sees fit to "wear out" a soiled and inappropriate party or "good dress," which was intended for festive occasions. Of course, often by removing superfluous trimmings and making over, dresses may be adapted to such uses.

House dresses are inexpensive, costing less than a dollar for material, thread and a bolt of finishing braid for trimming. Being plain, they are easily made, and with a good pattern of the right size any woman can learn to make them neatly and attractively. I know a farm woman who has earned the reputation of dressing exceptionally well simply because she has three or four pretty light gingham—blue and pink—dresses for afternoon wear, and because she whips off her gingham apron and comes to the table wearing a pretty white one. Her explanation was:

"Of course I am busy, but it only takes a moment, and I feel so much more self-respecting."

You will recall in this connection that old Scotch verse, which sums up the matter in the canny way of the Scot:

She dresses aye sae clean and neat,
Baith decent and genteel;
And then there's something in her gait
Makes ony dress look weel.

THE EDITOR.

Children's Playthings

The best toys for the little folks are not necessarily the most expensive. For the very little tots there are no better playthings than the

Not Afraid of Work

soft balls and the rubber toys, and strings of empty spools. Small animals made of canton flannel are well beloved, but they should be disposed of as soon as they become soiled. When the weather is pleasant most children are better off and happier to be out in the sunshine, but there are so many days when outdoor playing is out of the question.

One corner of the living room or kitchen should be given over to them for their very own "playhouse," and where they may stow the oftentimes queer articles dear to a child's heart. Boxes of blocks, whether they are from the store or only pieces of smooth wood, are dear to all small people. Give them something to do rather than hush them to quiet idleness. It takes but little to make a child happy; a little time, a little work and a little money will do wonders along this line.

A blackboard and slates and pencils are a real need, and most children love to color all the pictures they can find in catalogues and papers, with colored crayons. Girls, of course, must have their dolls and dishes, and should early be taught to sew. Dollies must have quilts and clothing. To some small neighbors of ours a box of dominoes and a large package of picture post cards have been an unfailing delight. Home-made scrapbooks are fine, especially so if there are older children to help the smaller ones in the making of them. A box of the large colored beads, with needles and thread to string them, and a set of sewing cards are fascinating to children 4 or 5 years old. When children become listless and fretful, and think they must have something new to do or play with, pack all their older playthings out of sight. They will be just as good as new again some stormy day.

A chest of a few good tools, a stout knife and a ball of twine is a far better gift for a boy than a wagonload of ready-made toys and finished articles. As the children grow older they should be encouraged to make their own playthings. Stir up the boys and girls to amuse themselves. Do not suppress their imagination. It will supply all things that might be thought lacking by older eyes, and in older minds.

MRS. GILBERT.

Little Economies in Strength

If cake pans are lined with parafine paper before pouring in the batter, sticky pans will cease to be a bugbear at dishwashing time, and the cakes will come out unbroken without the least trouble. Try baking a loaf of cake in a long pasteboard cracker box (10-cent size), breaking off the end flaps and lining with the parafine paper that came in the box. There will be no cake pan to wash, little danger of the cake burning, and slices of just the right size can be cut crosswise off the loaf.

Newspapers are indispensable as labor-savers. Shallow receptacles made by pinning the corners of a double newspaper into box shape hold feathers, vegetable hulls or any garbage to be discarded, lessening dishwashing considerably. Several thicknesses of newspapers on top of the oil stove oven keep in heat and lessen time of baking.

An old couch cushion as a footrest on ironing day dispenses with aching feet.

If clothes are neatly folded from the line into the basket the labor of ironing is lessened by half.

In washing pieces of carpet and overalls, if it is necessary to do some hand rubbing, save the knuckles by using a small, stiff scrubbing brush, which will give just as good satisfaction.

Corn may be "silked" with a whiskbroom in much less time than it can be done with the fingers.

A large dishpan of tepid water in which cooking utensils may be immersed to soak, when emptied for the table, will be found a great help at dishwashing time.

Make a lump of fondant (the recipe for which is given in any good cook book) during odd moments, keeping it wrapped well in a damp cloth, and cakes, doughnuts or cinnamon rolls made on short notice for the unexpected guest can be given a festive touch by simply pinching off a piece of fondant and thinning slightly with a few drops of milk or hot water. The icing dries quickly on the surface, yet does not crumble or become hard. The fondant will keep a week, or longer.

Saving dimes is less essential than saving human strength, and a few of them invested in labor-saving kitchen devices is true economy.

DAISY CANNON.

Practical Styles for the Home Dressmaker

All the Patterns on This Page Ten Cents Each

ILLUSTRATED here are a few practical designs, all of which can be very easily made up by the home dressmaker. These patterns allow for all seams and are perfect fitting. Full instructions and a chart accompany each pattern. All patterns 10 cents each; no extra charge for postage.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want, enclosing 10 cents for each pattern.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Description of Patterns

5784—Ladies' Dress. This pretty dress is just the thing for afternoon wear if made of serge, cheviot or linen, with the collar and cuffs of all-over. The skirt is cut in six gores. The long or short sleeves can be used. The pattern 5784 is cut in sizes 32 to 42 inches bust measure. Medium size requires 6¼ yards of 36-inch material. Price of pattern, 10 cents.

4480—Boys' Russian Dress. The Russian suit pictured here is for the real small boy who has not yet reached the age when trousers are worn. The garment is simple to make with the closing at the right side of the front. Chambray or linen can be used to make this dress. The pattern 4480 is cut in sizes 1 and 2 years. Medium size requires 2 yards of 27-inch material. Price of pattern, 10 cents.

5786—Ladies' Five-Gored Skirt. This is one of the new skirt models, cut in five gores and with the closing at the front, and can be made with Empire or regulation waistline. Serge, cheviot or broadcloth can be used to make this skirt. The pattern 5786 is cut in sizes 22 to 30 inches waist measure. Medium size requires 3¼ yards of 44-inch material. Price of pattern, 10 cents.

2232—Boys' Russian Suit. The coat of this suit is plain, closing quite far over at the shoulder and held in at the waist by a belt. There are small trousers made without a fly, which completes the costume. Such materials as Galatea, serge or cashmere can be used to make this suit. The pattern 2232 is cut in sizes 1 to 7 years. Medium size requires 3 yards of 27-inch material. Price of pattern, 10 cents.

5478—Misses' and Small Women's Dress. Developed of linen, serge or cheviot, this dress is just the thing for afternoon wear. The garment closes at the front and is made with four-gored skirt. The dress is made with a sailor collar and turn-back cuffs. The pattern 5478 is cut in sizes 14, 16 and 18 years. Medium size requires 5¼ yards of 36-inch material, with 1⅛ yards of 27-inch contrasting goods. Price of pattern, 10 cents.

Program in Farm House Work

To some of our busy readers the idea of doing farm housework by program may seem visionary. It seems the unseen hand of Destiny, with inexorable grip, siezes one as she rises before day places her feet upon a track, and turns on a current, and in that track she runs almost without volition, until evening, when, the switch being turned off, she retires to rest. The current is her own vitality. Why need or how use a program?

Having small pleasure in automatic humanity, I believe most women may lead their work, instead of being driven by it, if they properly make and use a program. Such a plan includes first having well in mind a general survey of the year's work. Taking down a large calendar, upon the back of each month's sheet I write the probable leading tasks for that month. In April housecleaning may be one, so as to be ready for the chickens, the garden and the flowers in May and June. In June also begins fruit canning, which continues most actively through August and September, leaving July for the harvest. By blocking out for all the months, one may by a glance later prepare her mind to meet these tasks, and hold mental equilibrium. Then, there should be a weekly program, permitting, perhaps, the following tasks to fall upon the days of the week as they come, beginning with Monday—washing, ironing, baking and scrubbing, mending and making calls, sweeping and pantry cleaning, with a ride to church on Sunday. Each evening it is wise to take some fifteen minutes in which to note the special duties of the day following. Time is gained by system.

Much of the excessive fatigue of the housewife comes from crowding too much into one day's program.

MRS WILBUR KRISTENSON.

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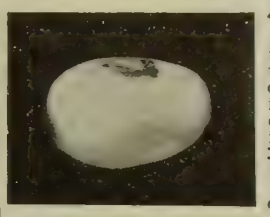

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from seed found in jar buried with mummies of a former age, in prehistoric cliff dwellings in Verde Valley **Largest edible bean known;** world's greatest drought resister; average yield 80 per seed a table luxury. We control total 1913 supply; 9 for 25c, silver, while they last.
AZTEC BEAN CO., Prescott, Arizona.

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Picked in September, sure growing, big yielding, Reid's Yellow Dent, Johnson County White, Leaming, Improved Silvermine, and Bloody Butcher, grown by us on Sunnyside Seed Farm which we own and operate ourselves. Send today for the free corn book giving full particulars, prices, etc.
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A new edition (Spring and Summer, 1913, issue) of **EVERY WOMAN HER OWN DRESSMAKER,** illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

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To thresh your grain this year. You will save more of your grain than you ever saved before.

Jos. H. Roberts and five other farmers of Hughsville, Mo., say: "It saved so much of the grain that would have been wasted by any other machine that we practically got our threshing done for nothing."

It will do the same by you. We can send you hundreds of testimonials like above from all parts of the country. Insist upon a RED RIVER SPECIAL this year and

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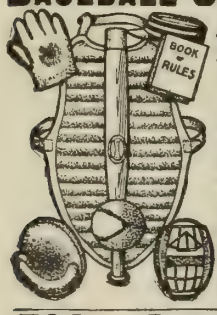

BOYS! Here is your chance to get a fine baseball outfit, consisting of complete suit, including shirt, pants, cap and belt, good quality, extra well sewed, or combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector. **Will Not Cost One Cent.** Send your name and we will send you 8 set of our fine pictures to dispose of at 25 cents each. Send us the $2 you collect and for your trouble will send you outfit as described. **WRITE TODAY** for pictures. No harm done. I take back what you can't sell.

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in each town to ride and exhibit sample 1913 bicycle. *Write for special offer.*

Finest Guaranteed 1913 Models **$10 to $27**

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1911 & 1912 Models all of best makes . . **$7 to $12**

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with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made $90 one week. We mean business and want a man in your County. Write us.

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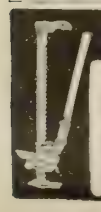

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Automatic Jack Co., Box 160 Bloomfield, Ind.

Stories by Our Young People

Little Miss Tardygirl

At bedtime she sat in the firelight's gleam,
And little Miss Tardygirl had a queer dream.
She dreamed that she'd turned to a wee flower-elf,
And was out in the meadow to live by herself.
Her breakfast was served in a big buttercup,
But she came there too late, and a bee ate it up!
She managed to miss every thistle-down car
That went to the knoll where the blueberries are,
And she was too late at the Toadstool Cafe.
And so she went hungry the long summer day.

At last it grew dark, and she looked for a bed.
"I'll sleep in that lily," she drowsily said.
To reach it she climbed up a grass-stalk so green;
How soft was its gold heart, a bed for a queen!
"Too late," said the lily, and shut her bud tight,
Leaving poor little Tardygirl out in the night.
At bedtime she sat in the firelight's gleam,
And little Miss Tardygirl woke from her dream.
She blinked her blue eyes as she rushed to the bed.
"Oh, don't shut it up—I am coming," she said.

—Mabel S. Merrill in Youth's Companion.

The Editor's Corner

Some of the old children, like the writer, sometimes wonder if the younger ones realize what they are going to school for. Probably most of them think that the sole purpose in going to school is to learn from their text books and to be trained and disciplined by their teachers, with more or less grief on the part of both teachers and pupils, and that that is all the school is for.

Now, really, youngsters, that is not the purpose of the school at all. The learning and the discipline are simply the means by which the real purpose of education is accomplished. The purpose of education is to train children for the activities of life that are before them, to make them self-dependent, to enable them to make their own way, to fit them for the work that lies before them in the years to come. The world is full of jobs actually crying to be done, and the child that is best educated in the right sense of education is getting qualified to do some of these jobs; and when he gets through with his education he will start out to find one of these jobs that needs to be done, and proceed to do it, because his education will have fitted him for the doing of it.

That, youngsters, is the purpose of education; now use your school in such a way as to accomplish this result.

(Prize Story.)

Benny

By Emelie Hunt, Aged 12, Dunlap, Ia. Original. Red.

"Teacher," called out Benny, "did you say the wavy lines were seas and the fuzzy lines were mountains?"

"Yes," answered teacher, "but you musn't speak without permission."

Then for a while there was silence. Miss Shirley did not scold Benny, but she felt like it many times.

"Did you say the wavy lines were mountains and the fuzzy lines were seas?" asked Benny again.

"No," said teacher, patiently, "but, Benny, you must remember not to speak without permission."

The next day Benny was absent, and the next. The teacher wondered what was the matter and after school she walked around toward the dirty old tenement in which Benny and his mother lived. On the door hung a little piece of crepe. The teacher's heart stood still. She rapped and the mother answered.

"Yes," she said, "he was taken very suddenly, and here are some pennies he saved to buy you a flower with. Will you take it and buy it for him?"

Miss Shirley said, with tears in her eyes:

"I was not worthy of Benny's love."

(Honorable Mention.)

A Pencil's Story

By Gladys Swift, Aged 12, Abilene, Kan. Original. Red.

I am a pencil and was made in New York on January 15, 1912. My color was brown. I am only four inches long, because a little boy, with such dirty, dirty hands, bought me and paid a nickel for me. He would bite my point off in order to get to go to the waste basket in school time and sharpen me. I was once six inches long. Oh, now I am falling down in the aisle, and the teacher sees me.

It is a year since I started this story; I have had so many hardships I have not been able to finish. They picked me up from the floor and put me on the teacher's desk, and then sharpened me some more. My lead was broken from the terrible fall I had received. The teacher went to sharpen me as fast as she could, but my lead would break. She kept on until I was very small, and then she decided I was no good and I was thrown into an ash pile. Here I still am, helpless and in bad company.

The Penny

By Irene Hastings, Aged 13, Blair, Neb. Original. Blue.

The first I can remember is that I was lying in the street. I saw a little boy coming down the street. I thought I would like to belong to him. He saw me and picked me up and carried me home. He was very proud of me, because I am a Lincoln penny, and I was the first Lincoln penny he had seen. He showed me to his mother and said:

"Oh, mamma, see what a pretty penny I found."

She told him to put me in his bank with some more of his money. One day he wanted to buy a pair of shoes, so he happened to get me along with his other money. I felt very proud to be able to help buy a pair of shoes for a little boy. Then he gave me to the shoeman and the shoeman put me in a box. After a while a man took me with the rest of the money in the box to a large building and gave me to another man, who kept me. My friends tell me it is the bank, and here I still remain.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Paul Vail, Arlington, Neb.
BLUE—Nellie Snyder, Provo, Utah.

Fun in a Water Tank

By Gladys Simmons, Aged 9, Sioux Falls, S. D. Original. Blue.

One time when I was small my little brother and I went out to the tank. There was a mud hole around the tank, so we thought we would wade around in it. My little brother soon fell down and got all muddy; then mamma came out. She put us in the tank of water and tried to scare us. We laughed and thought it was fun.

The next day we went out there again. We both fell down and got all muddy. Mamma came out with a string this time and tied us to a tree. We yelled and cried until mamma untied us, but we never went near the tank again.

Additional Stories

Red—Emma Schleuter, Seward, Neb.; Polly Milburn, Cle Elum, Wash.; Robert Arnold, Keota, Okl.

Blue—Lenore Stolley, Moorhead, Ia.; Viola L. Yielding, Kirbyville, Tex.; Rita Ross, Plainview, Tex.; Ethel Speese, Torrington, Wyo.; Tom Sherman, Cortland, Neb.; Mabel Powell, Dawn, Mo.

THEY KNOW HOW
To Feed Children and Get Good Results

There are more nervous persons made so by undigested food lying in the stomach than the average individual would suppose.

If food remains undigested in the stomach it begins to ferment, set up gas and a large portion is thus converted into poison.

That's why imperfectly digested food may, and often does, cause irritation of the nerves and stupor of the mind—brain and nerves are really poisoned.

"My daughter had complained for some time of a distressed feeling in the stomach after eating, which set me thinking that her diet was not right," writes an anxious and intelligent mother.

"She had been fond of cereals, but had never tried Grape-Nuts. From reading the account of this predigested food it seemed reasonable to try Grape-Nuts for her case.

"The results were really wonderful. The little brain that seemed at times unable to do its work took on new life and vigor. Every morning now before going to school she eats the crisp little morsels and is now completely and entirely well; she seems to have a new lease on life—no more distress in the stomach, nor headache, but sound and well every way." Name given by Postum Co., Battle Creek, Mich. Read the book, "The Road to Wellville," in pkgs.

"There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

Home Grown Daffydils

e book worth a dollar to two best ch week. Mail yours to Daffydil ditor, Twentieth Century Farmer.

FIRST PRIZE — Edda Snyder, ovo, Utah: If Anna Held four s and John Drew four kings, how ch would Nat Goodwin?

SECOND PRIZE — Grace Van uten, Route 7, Corning, Ia.: Said ginia to Carolina, "How much es Cleveland, O.?"

Augusta Noehrn, St. Libory, Neb. If the moon wanted to sleep, uld the sky rocket?

Ethel Houter, Okeene, Okl.: If worked in a United States hospi-, would you rather have the job Lansing, Michigan or Wheeling, st Virginia?

Will Anderson, Blencoe, Ia.—If first lady of the land refused to ve wine, would the cabinet maker, l would the anti-liquor?

Mrs. Dan Chase, Fort Crook, Neb. If the great writers had a race, uld Charles Dar-win?

An Electrical Tree

Scientists tell us that there has en discovered in the forests of In- a strange plant which possesses in a very high degree astonishing electric and magnetic power, says The Christian Herald. The hand that breaks a leaf from it receives instantly a shock equal to that which is produced by the conductor of an inductive coil. At a distance of thirty yards a magnetic needle is affected by it. The energy of this singular force varies, but it is most powerful when the sun is hottest, and in times of storms its intensity increases in striking proportion. One never by any chance sees a bird or an insect on the electrical plant. Nature seems to warn them that they would find their death.

"Can You Keep a Secret?"

The Mind of a Sea Anemone

Almost every visitor to the sea- st has seen sea-anemones grow- among the rocks. At low tide y look like reddish-brown lumps the stones; at high tide the top the lump expands and waves a ged crown about in the currents t are produced as the waves ch the rock-encircled pool. These atures are not plants, but ani- ls, although they are rooted to spot and look as if they might a kind of seaweed. Few would pect them of possessing minds," s the Youth's Companion.

Yet the proof of the existence a mind in a sea-anemone, as in a d, lies in the fact that you can h it something. It is easy to the sea-anemone by dropping it of animal matter, say a bit of shed snail, on the expanded ge; the anemone folds itself in, when it expands again the food disapeared into the interior. various experimenters have d dropping upon the fringe es of soft paper soaked in fish e, and these the sea-anemones first swallow as readily as they ld more nourishing material. after a few experiences of this t the animal no longer swallows paper ball, but allows it to float eeded off the tentacles. On the er hand, it seizes a bit of real d as eagerly as ever.

Some of the men who first made experiment with the sea-ane- e thought its conduct might be to fatigue. The paper soaked fish juice, they argued, does not excite the animal as strongly as actual fish meat does, and when the sea-anemone is fatigued by the repeated act of swallowing it required the stimulus of real meat to provoke it to activity.

"Some English observers, however, have shown that this is not the true explanation. They fed the sea-anemone paper soaked in food juice once every twenty-four hours. This gave the animal plenty of time to rest between its swallowing exertions. After somewhat less than a week the sea-anemone refused to have anything more to do with the imitation food, although it took the genuine thing eagerly. It really appeared to have learned the difference.

"Moreover, some of the earlier experimenters found that when one part of the fringe of tenacles had been educated they could deceive another part of the fringe as easily as ever. This would seem to mean that if the animal has a mind at all, it must have different minds for its different parts. But the English scientists, Fleure and Walton, found that the learning of one part of the fringe did affect the other parts, although the effect was transferred rather slowly from one part of the animal to another. The untrained portions of the fringe would accept the imitation food once or twice after the trained portions had refused it, but after that no part of the animal would take the paper balls. The whole sea-anemone had been educated. It forgot, however, after six or ten days."

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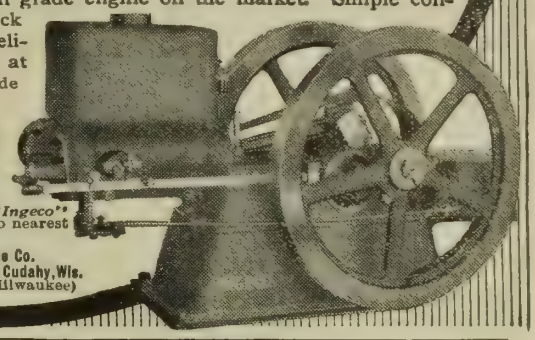

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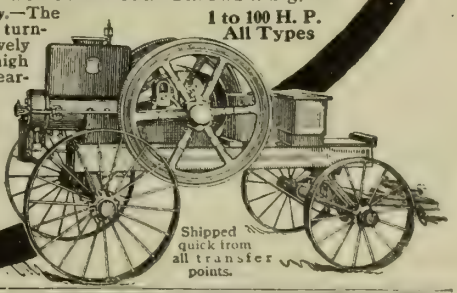

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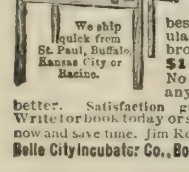

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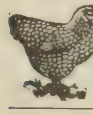

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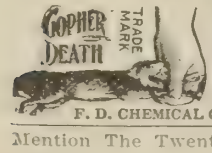

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Queries and Responses of Interest to Poultry Raisers and Fanciers

ONE of the questions asked of late relates to the hatching of turkeys by means of the incubator. It can be done by one who knows how to successfully hatch chicken eggs by an incubator; the beginner should never risk anything so precious as turkey eggs. If one is in the turkey business in a large way, then, by all means, learn to hatch by the incubator; otherwise, use hens, or the mother that laid the eggs. If you use the turkey hen, give her from sixteen to eighteen eggs to brood, and not more than twenty-five to care for if the poults come off early, but if the weather is fine when the poults are hatched and summer is at hand, the turkey hen can take care of at least ten more. It is best, if using chicken hens, to not give even a large hen over nine turkey eggs to hatch. The litlte fellows get very lousy with chicken hens because the mother leads them into infested places. Begin from the start to look for lice, though often these pests do not begin to get in their work until the poult is from 3 to 4 weeks old, and then you may judge something else is putting it blind and lame, then out of existence, besides lice, when all the time it is lice sucking the life out of it. Never allow them to come to the pale comb and drooping wing condition, for if you do, though you kill the lice, the poult dies anyway. Don't trust to vermin powders unless you know they kill lice for sure—too many of these do not kill all the lice. Trust to pure lard or sweet oil; this kills the lice. Never use kerosene in the oil; there isn't the slightest need for risking the poult's life when pure grease kills the lice as quickly as kerosene, and does not hurt the poult. Remember, the lice gather thickest in the quill feathers of the wings and under the throat.

Silver Wyandotte

A reader asks about the Silver Wyandotte, and wants to know if it is one of those breeds that boom for a while, then sink nearly into oblivion, as have Jersey Blues, Dominiques, Erminites, etc. The Wyandotte, as an American breed, in all of its varieties, has come to stay. Certain varieties seem to lead in this breed, the White and Silver being two of these. Up to 1870 the Wyandottes were attracting very little attention. The first Wyandottes were really the Buffs, and before the latter '60s these were called Seabright Cochins, and were descended from a cross between a Bantam and a Buff Cochin. This cross, because of its peculiarity, seems to lend itself easily to the producing of many varieties of the Wyandotte or Seabright Cochin. Dark Brahmas and Silver-Spangled Hamburgs, introduced, has greatly helped in the making of some of the varieties, and one of the first of these was the Silver Wyandotte. Its record as a prize winner in the world's laying contests will keep it from extinction, and its beauty will further save it. In color it is not all silver; it is really Silver-Laced, for the hen all of the main body feathers are silver in color, each feather bordered about with black. The hackle of the hen is black, each feather bordered with white; tail feathers and fluff are dark. For the male the hackle consists of long, black feathers, bordered with white, the body feathers silver, edged with black. The Silver must grow in favor instead of disappear.

Breeding Up the Flock

Breeding up the flock is another question suggested for an answer. Breeding up means breeding up to some pure-bred variety. It is safer, of course, to breed up to one that has been long established; you get fewer culls in such cases—for instance, White Wyandottes, or any of the older Wyandottes, Barred Rocks, Rhode Island Reds, Brahmas, Cochins, etc. It is best to start directly with the pure-bred, but often farmers feel that they do not care to go to the extra expense, and prefer to build up their own breed of hens. To do this successfully means, first, a selection of your largest, strongest, best marked hens of the breed you wish to build. These hens may be simply scrub hens of the variety chosen; you cannot build a breed by introducing a Barred Rock male into a flock of white, black or red hens, though I have known persons to try this foolish thing. The hens always must have the markings and some of the pure-bred blood of the sire to be introduced. To breed up quickest requires new male blood each year of the best kind, and the saving over of the very best of the pullets each year. With this buy some settings of eggs from pure-bred yards. In buying each year pure-bred males it isn't necessary to buy high-scoring birds, but buy from some breeder that, while he sells you cheap birds, gives you birds that are well marked for color and size.

Poultry Paragraphs

If you find the chicks with tight, heavy-looking yellow lumps at the corners of their mouths, and at the base of the tongue, you may rightly conclude that these chicks have been picking up some roup germs. For a wonder, though, great numbers of these chicks survive the trouble.

Closely watch the fluffs of the little chicks. Every time you go to feed each flock up to the time they are 2 weeks old, anyway, notice if the fluff is bushy and clean, for the moment the white diarrhea shows its first signal it shows it right here. It may only show drawn and wet at first; no matter, get it away from the flock instantly.

* * *

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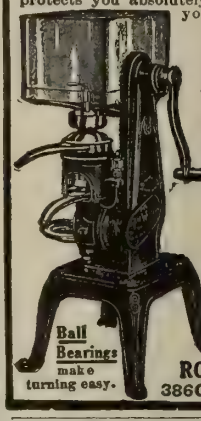

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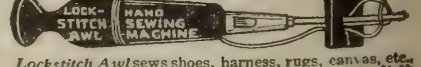

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Corn Silage Excellent Ration for Both Horses and Mules

CORN silage as a part ration for horses is not new, but has been used by farmers and breeders for many years. The need for an economic ration for horses is greater now than it has been in the past. High-priced forage and grain, with advanced land values, demand greater economy in feeding.

The question as to the use of corn silage for feeding horses can be best answered by reviewing some of the experiments and tests conducted along this line of work.

In Bulletin No. 117 of the Pennsylvania Experiment station, Prof. V. A. Cochel gives the results of a horse-feeding test where silage was compared with hay and other forage. In this test twenty-one horses were used and the experiment was so planned that comparisons could be clearly and fairly made. The result of the test, briefly told, can be summed up as follows:

"The horses fed silage as a portion of their ration consumed less grain, made their gains at a lesser cost per pound, were sleeker and better finished than those fed on rations not containing silage."

In this test they noted that silage could be fed in amounts varying from five to twenty pounds per day. They recommended silage free from mould and made from corn fairly well matured. They also advised against feeding horses large quantities of silage, especially after coming in from heavy work when they are in a heated condition.

The Michigan Experiment station has been feeding horses for many years on silage and favors its use, especially for horses not at heavy work. In a test made some years ago with seven teams of work horses, one horse of each team was fed hay and grain, while the other receievd small amounts of hay and grain, with about fifteen pounds of corn silage. These teams were doing moderate work. The experiment lasted for twelve weeks and the following results were noted:

The silage-fed horses showed an average gain of five pounds per head. Besides the increase in body weight, the drivers noted that the silage-fed horses worked fully as well and did not appear to be any softer than those not receiving silage. The silage-fed horses showed a better finish and sleeker coats.

Mr. Shaw of Medicine Lodge, Kan., has for many years been feeding horses and mules on silage. He reports splendid results and counts corn silage one of the best horse feeds he has ever tried. With the large numbers he has been feeding, his data is certainly valuable. He has been feeding from thirty to forty head of colts and mares each year, besides a number of mules. His ration is made up of corn silage and alfalfa hay, the principal part being silage.

The horse-importing firm of Watson, Woods Bros. & Kelley has for the last year been feeding to its fine imported draft stallions a ration of corn silage. They feed from six to twelve pounds per head per day, and have emptied one silo and are starting the second. Mr. Burkett, the foreman, has been caring for imported horses for over twenty years, and reports he has never fed a bunch of horses with better results. He has noted in particular the good gains and fine condition of the animals receiving silage. The horses have been entirely free from ailments of any kind, their coats are sleek and there is a freshness and finish to the animals which is better than he has ever seen. Many of these horses are extremely valuable, but the members of the firm count they are running no risk, provided they feed good silage, and certainly the cost of the ration is greatly reduced.

Among the thousands of silo owners in the United States it is safe to say that a great majority are using silage as a part ration for their horses. Many farmers in the east who have had silos for twenty-five or thirty years report most favorably on the use of this great feed. Especially do they recommend silage for growing colts and mares with colt, and for horses during the winter months, when they work short hours.

It is self-evident that horses doing heavy work need a condensed ration, especially when they have but a short time for feeding. For this reason large rations of silage to work horses are not recommended. As silage is a watery feed, bulky in nature and succulent like grass, it should be given as grass.

Considering the data already at hand, we can conclude that corn silage is an excellent ration for horses, economic in character and wholesome in use. By using good judgment, the horse feeder will make no error and will be better off financially if he adopts the silo.

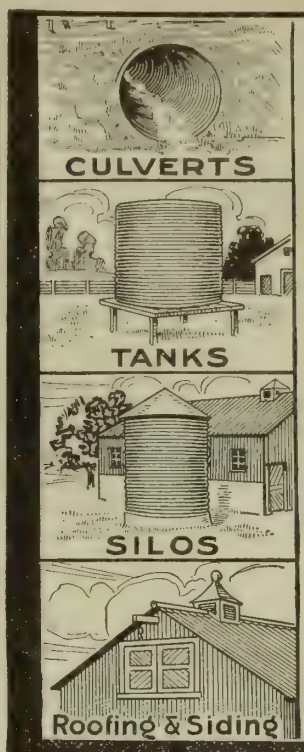
JOHN BOWER.

An Indication of Success

A man who was traveling from Ohio, through the central states to Montana, said that wherever he noticed a silo on a farm the farm buildings were in good shape. It made him believe that the man who had the silo was a live stock farmer. Live stock farming is permanent farming and is an indication of success.

Co-Operative Purchasing

The Southern Commercial Congress, which proposed to investigate the rural credit system in Europe with a view to adapting them to American conditions, has been obliged to enlarge the scope of its work so as to include a thorough investigation of co-operative purchasing organizations, co-operative and municipal markets, where farmers' produce is sold to agents at a fixed commission, the entire balance of the proceeds going to the farmer direct, and co-operative associations for packing and distributing farm products.



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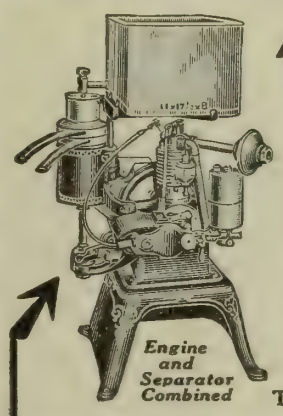

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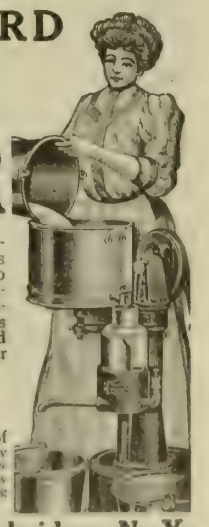

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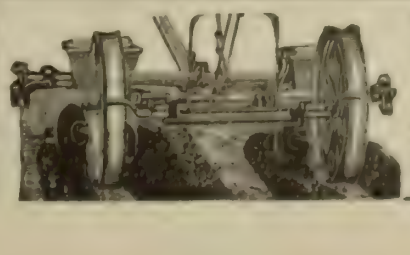

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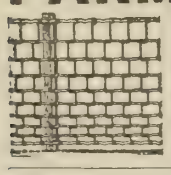

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Top Dressing With a Spreader

C. H., Pawnee City, Neb.: I have read with interest every article in every farm paper about top dressing land with manure, but in vain I have watched for some paper to state how many horses to hook to a spreader in order to pull it in plowed land. It would seem to me that land would have to be plowed in the fall and harrowed down smooth, and no one does that, as it weathers better without harrowing. Top dressing with a spreader has never been done in this locality, and I would like to know how one could do it.

Answer—Naturally, the number of horses necessary to haul a load depends upon the weight of the load. The writer has no difficulty in handling a full loaded manure spreader on plowed ground with four horses. Much will depend on the weight of the horses and on the size of the wheels on the manure spreader, the width of the tires, and whether the front wheels and hind wheels track. Of course, if the load seems too heavy for four, a lighter load might be hauled. The correspondent is right in saying that fall plowed land should not be harrowed before winter sets in. It should be left as rough as possible, because, as he says, it weathers better so; and besides, it will catch and hold more moisture in such condition.

Canvas Device Used Instead of Ordinary Bundle Carrier

Useful Device for Grain Binders

The accompanying illustration represents a canvas apron substituted on a grain binder for the ordinary finger bundle carrier. In a season like the one just passing, when the wheat is very short, it is impossible for the binder to catch all of the short grain in the bundles. Naturally, as soon as the loose straws fall to the finger carrier they drop off and are practically wasted. By means of this apron carrier all of the grain which the sickle is able to cut is conveyed up through the knotter and down onto this apron, and thereby saved. The illustration shows the chain drive which runs from the cogwheel on the apron over to the drive shaft near the binder seat. By means of a small lever the operator of the binder easily turns this canvas in and out of gear. When the machine is approaching the windrow he turns the apron in gear and the canvas turns about and quickly dumps all of the wheat upon it. Where these patent carriers have been used this year the loose grain which could not be bound at the time the bundles were shocked was later raked up with an ordinary hayrake and then hauled to the threshing machine or stacked. One of these devices quickly pays for itself in a field of short grain, such as most people had to contend with this year. This particular apron was attached to a twelve-foot push binder; however, it could be attached to a smaller binder very easily.

A Little Chicken History

Editor of The Twentieth Century Farmer: February 1, 1899, husband and I were married and began housekeeping on a farm, and, of course, we had to have some chickens. We started with forty hens of mixed breedings and bred stock for two years. Then we decided on the Barred Plymouth Rock. I bred them during the two seasons, but for some reason they did not seem healthy, and we lost a good many, so we decided to change breeds.

In the spring of 1903 we sent to Iowa and got a setting of Light Brahma eggs and hatched three chicks; we also got a number of settings of Light Brahma eggs from my mother and hatched and raised about fifty chicks, and also a goodly number of the Buff Plymouth Rock chicks.

The season of 1904 found us with the chicken fever worse than ever. We sent to Illinois for some more Light Brahma eggs, and also sent to Iowa for a trio of D. Cornish chickens, which we keep in a pen by themselves. The male seemed to be weak and only a few of the eggs were fertile. During the winter I sold off most of my dark chickens keeping all of my Light Brahma pullets. The spring of 1905 I bought all good Light Brahma cockerels. By this time I had learned to love the Light Brahmas.

My Dark Cornish chickens did not do well this season, either, so I sold them all off; also culled my flock so that I had all Light Brahmas to start the season of 1906. I have bred the Light Brahmas ever since and like them better than ever. But my story does not end here.

I live on the main road between Seward and Milford, and the main road between Seward and Lincoln. My Light Brahma chickens attracted a great deal of attention. People began to stop and inquire: "Are your chickens pure-bred?" and, "What is your price?" As I only asked the market price, I sold and exchanged all the eggs that I gathered. But the exchanging of eggs was lots of bother, and I decided that if people wanted my eggs because I had better chickens than they had, they ought to pay for them, so in the spring of 1908 I put an advertisement in our local paper, "Light Brahma eggs at 2½c each," and there was a good demand for my eggs. Then it was that hubby and I disagreed; I wanted to advertise as a breeder of pure-bred Light Brahmas, and he said, "It is no use."

In the spring of 1909 I began to advertise. That fall I took some of my chickens to the Seward county fair and brought home the first prize money. It was not till the fall of 1912 that I exhibited at the State fair at Lincoln, and on six entries I won three firsts, one third and one fourth premium. I have never attended a poultry show, but intend to do so.

In the four years that I have advertised I have sold lots of eggs and stock, and find that honesty is the best policy.

There is good money in pure-bred poultry, but let me say to the one who wants to start, don't try to start too quick; take time to learn your breed and the chicken business.

Raising chickens is more than hatching them; selecting and mating chickens is more than paying for them and turning them out and letting them run; care and judgment are necessary.

SARAH M. BENNETT.

Air Treatment for Milk Fever

W. T., Jameson, Wash.: Will you please answer through your paper the following: What can I do for a cow with the milk fever? How can I stop calves' horns from growing, and at what age?

Answer—The air treatment for milk fever, which has been used for about ten years, consists of pumping air into each quarter until the quarter becomes tense and firm under the hand. On account of the danger of infection being carried into the udder, the air should be passed through either sterilized cotton or through some liquid antiseptic; the latter is preferable on account of taking out all dust. To keep calves' horns from forming, the skin over the button should be moistened and the button well rubbed with stick caustic potash. This should be done within the first two weeks.

uccess of Co-operation in the West

(CONTINUED FROM PAGE SEVEN.)

Ground is So Valuable, Garden Crops Are Grown Between Trees

rowers, whether they are members the association or not, may mar- et their fruit through the apple nops, but their association permits e grower many advantages over e individual working alone. Each ember may use his growing crop a bank account to draw upon. he manager looks over his crop nd advances whatever sum he eems it worth—advances are even- ally deducted from the sum ob- ined from the sale of fruit. The ssociation also runs a co-operative ore, where the fruit grower is rivileged to buy all his supplies. The grower produces and packs e fruit; he has nothing to do with e selling end. Grading is very gid, and the first time a farmer is ught putting "choice" apples in a x of "extra fancy" pack he is ex- lled from the association. All uit is examined before being ipped. If found all right, they e put aboard the cars with others like grade. The growers' asso- ation number is stamped on every x he ships and each box is credited him. Expenses of handling, ship- ng, marketing, etc., is charged gainst him, and 5 per cent of the t proceeds is withheld to pay for nning the association. It is a cash business throughout, fruit being delivered to commis- on agents C. O. D. Some idea of s size may be had from the fact that in season the association em- ploys forty clerks and stenographers and ships somewhere about $6,500,- 000 worth of berries, melons and fruit every year.

The portion of the valley that is already under cultivation is watered by private irrigation plants. Most of the farms are small and every foot of space is cultivated, crops being grown under and between the rows of trees.

The Grand Valley Fruit Growers' association was organized in re- sponse to an urgent need. Railroad companies were robbing the growers, commission men were taking all the profits and the pickers and packers were simply holding them up. They could not keep in touch with the markets and it was the usual thing for the commission man to wire, "Car badly damaged, fruit poor; cannot use except at big reduction." When this happens now there is an agent of the association there within a very short time to look into the matter. The crooked dealer cannot do business with the association. The association is also showing the grower how to grow wonderful ber- ries, peaches and apples. They are grown, packed and shipped as they should be. The consumer gets bet- ter fruit for his money. In service to the grower and consumer there is but one organization in the country that compares with it—the Cali- fornia Fruit exchange.

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Is Oleomargarine As Good As Butter?

Because oleomargarine is colored like butter and looks like butter and even tastes like butter, is it as good as butter.

The makers CLAIM it is.

We KNOW it is not.

Now similar conditions prevail in the separator business.

The DE LAVAL is everywhere recognized by creamerymen, prominent dairymen and buttermakers as being by far the best cream separator on the market.

98% of the world's creamerymen use the DE LAVAL separators exclusively. That looks like pretty conclusive evidence that the men who make a BUSINESS of the separation of cream and the making of butter, the men who know, are not in any doubt as to which is the best cream separator.

The makers of inferior separators acknowledge that the DE LAVAL is the best when they say to you "Our separator looks like the DE LAVAL" or "it's just as good as the DE LAVAL, but we will sell it to you for a little less money."

Why do they offer to sell their machines cheaper? For the very same reason that the makers of oleomargarine sell their product cheaper than butter—because they COST less to MAKE and are WORTH less to use.

The DE LAVAL has many imitators but no equal.

There is no substitute for the DE LAVAL any more than there can be a substitute for butter.

If you need a cream separator, why experiment with "near" or "just as good" imitations or substitutes? You will save yourself time, money and trouble by getting the genuine DE LAVAL and taking no chances with anything else.

For catalogue and any desired information write to the nearest office of THE DE LAVAL SEPARATOR CO., 165 Broadway, New York; 29 East Madison Street, Chicago; 101 Drumm Street, San Francisco; 1016 Western Avenue, Seattle.

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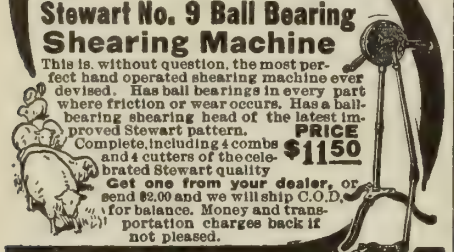

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Review of Live Stock Market

By A. C. Davenport

HOLY week, owing to the abstinence practiced by many people, is never a very good time for the selling of cattle, and last week furnished no exception to the rule. Receipts were not very large, some points, in fact, being moderately supplied, but the buying demand lacked urgency, and there was in consequence a downward movement in prices on heavy and long-fed beeves. At present writing it is safe to say that plain, weighty steers are back to a price basis no better than prevailed at the low point several weeks ago; in other words, recent advances have been pretty well wiped out. The country is making beef rapidly and as the season advances the proportion of heavy cattle coming to market is largely increased. At the same time there is a corresponding decrease of light and medium weight steers. Under such conditions a decrease in the consuming demand such as took place last week must of necessity be reflected almost immediately in the market for the high-priced cattle. This will explain the cause for heavy cattle having declined 15@20c at leading market points last week, in some cases, in fact, breaking as much as 25c. Another feature of the cattle market is the increased demand for lighter and cheaper grades of cattle. This is only the natural result of an attempt on the part of buyers to cheapen up the cost of their purchases by buying a cheaper grade of cattle. This increased demand for lightweights at all points has caused the market on that class of cattle to remain steady in the face of the break noted before in the case of heavy and higher-priced beeves.

Another feature of the cattle trade worthy of special mention is the splendid buying demand for cows, heifers and, in fact, all kinds of butchers' stock. The explanation is the same as that offered in the case of light beeves—that is, the desire on the part of buyers to tempt consumers with lower-priced beef. In consequence of this cows and heifers sold at very high prices last week, nice, light heifers especially being very high—in fact, at the highest point of the year.

The immediate future of the market is rather uncertain. The severe storms have interfered with shipments to some extent and it is possible that the forwarding of storm-delayed cattle may swell receipts very materially in the near future. At the same time it is very questionable as to what the demand will be if consumers shall continue to fight shy of high-priced beef, as some fear they will. It might prove a difficult matter to maintain values on fat cattle unless receipts should prove very moderate. There is only one safe policy for shippers to pursue, and that is to limit shipments on every indication of a breaking market and to bear in mind all the while that supplies of cattle the country over are very far from large and that sooner or later every fat steer available will be needed. There is not the slightest reason for the country being in a hurry to unload its cattle. For the year to date five markets show a loss in receipts of 37,000 head. While this number is not sufficently large to cut much figure in the beef supply of the country, it is large enough to prove the contention of the best informed cattlemen that there is a shrinkage in the number of cattle available, even when comparisons are made with the short supply of a year ago. There is also no question but that recent severe storms in the west have wiped out many thousands of head of cattle, thus still more reducing the already short supply.

Hogs have continued to advance in spite of all opposition that packers have been able to bring to bear against the market. For the year to date the five leading markets show a shortage of 900,000 head as compared with the corresponding period of last year. To make a still broader comparison, eleven markets show a shortage for the year to date as compared with last year of 1,100,000 head. For the first half of March there was a shortage of 130,000 in the number of hogs packed as compared with a year ago. Can anyone ask for a stronger array of bull figures than these?

In the face of light receipts eastern packers have been drawing very heavily upon western markets, thus creating a splendid shipping demand. The existence of this shipping demand really explains why packers have had such poor success in their efforts to hold the market down. It is not surprising under such conditions that prices have steadily worked higher and are now at the highest point of any month since October of last year, and it will be remembered that October was the high month of 1912. There was no time during 1911 when hogs sold as high as they are at present writing. One must, in fact, go back to 1910 to find a better market. How much higher prices will go is, as a matter of course, impossible to say, but all conditions look bullish and the bulls are still confident that the top has not yet been reached.

No great change has taken place in the sheep situation of late. The demand for sheep of all kinds was as good last week as could reasonably be expected during Holy week. Prices fluctuated somewhat, but in the main there was no very decisive change. The prices paid have in the main been satisfactory to the selling interest and there is every reason for believing that they will continue that way. Colorado shippers, who really hold the key to the situation, are acting in a very conservative manner, sending their sheep forward only about as fast as the consuming demand can take care of them, and they are thus avoiding the overloading of the market. Sheepmen seem to feel that there are no more sheep and lambs on feed than the country will be able to consume between now and the coming of grassers. The whole problem, therefore, reduces itself to the simple question of judicious marketing. The Colorado people have had lots of experience along that line and no one anticipates that they will overload the market.

Spring Style in Wall Paper

Fashions in wall papers are largely the outcome of common sense, or the multiplied expression of experience of the decorators and the home owners. For this reason red has dropped out of usage, because it has been found impractical, sight destroying and tiring, instead of bright and restful. Everything in the newest papers runs to neutral tints and soft tones. Lavender is coming up again as a tone for bedrooms and drawing rooms, for the former the light, and for the latter the dark. But no purple is used. It must be lavender. Also grays are in favor, and particularly are they chosen for halls in country houses. The popular design in it for the hall is the foliage or tree pattern, but the leaf design in foliage papers is no longer used.

Dining rooms with white woodwork are done in Chinese blues or delft blues with white relief, but not in the delft designs. The papers with small or medium patterns are most in demand. Quite the latest notion is the "Futurist" papers. These are but lately imported from France and are done in the strongest colors; the designs are medium in size. Chintzes, or, rather, print linens hand blocked, are to be had to go with them. One paper shows apples or pears (?) with three leaves in "old blue" on a mustard ground. Another delineates eight-inch stemless daisies in yellow and white on a sage-green ground.

Vying for first place with these papers are decorations in black and gold. The walls are usually covered in gold. The and the furniture in black velvet. Or the wall covering is a gold-on-black effect; with this is an identical drapery. For the summer home, or a bedroom, black and white chintzes and cretonnes may be had which much resemble a pirate's flag. To the dubious and hesitating when confronted with this latest style the decorator offers the consolation that it will wear so well! Very likely it will if one is able to endure its somber hues until it wears out without having it changed. If one is not equal to this coloring he is promptly assured that at least one chair done in black velvet is necessary to the correctly decorated library or drawing room of the present hour. This is a London idea.

Striped papers are a standard and not a specialty, so for bedrooms they will be used because they always are demanded. But the cut-out borders are no longer accepted by those who are up-to-date. Old chintz designs are more and more seen; and birds in everything as a natural sequence. The merely floral patterns have gone the way of the cut-out borders. Binders are used in panel effect or in replacing the old-fashioned wide borders. Binders measure from one inch to five inches, depending on the size of the panels. Panels are often used without an upper border. And small designs predominate for bedroom papers.

To some extent plain walls, tinted, are chosen, or plain English silk fiber papers. With the former are placed cretonne draperies. New York has a plan of its own for apartment house rooms, which are so often dark. This is to paper the rooms entirely in white, giving the effect of space. Of course it is not suited to the country house.

In some rooms drop ceilings are still used, for it gives the sense of largeness. As the decorators say, "it spreads the room." But in this, as in other items, no absolute rule can be given, for imitation or copying is not a feature of the American furnishers' work. Everything is done on individual lines, developed according to the needs of the situation—in fact, some decorators make a specialty of never furnishing two rooms alike, sometimes, in fact, it would be harder to duplicate than to originate, as light is the governing quantity, and no two rooms have the same lighting.

In doing the nursery walls the nursery-rhyme papers, or cut-outs, are almost exclusively used. Sometimes these groups of cut-outs are applied to the plain, tinted walls, but not often. People who have their children's nursery done in all white should consider the eye strain this means to the child, and on the same basis the cut-outs should never be placed at a height. Moreover, children like to have things where they can touch them, so a low border or grouping gives much more pleasure to the child, and this is the purpose for which the rooms are supposed to be planned.

Tiffany blends, the Shand Kydd papers with their soft tones, and the Japanese printed glass cloths, printed, by the way, in France, excel for country homes and summer rooms. A charming dining room may be made with the Bird of Paradise pattern on the tan grass cloth, for instance, and the dull pink tinge of a small cretonne design, the chief tone of which is gray, is possible for almost any room, and is one of the best of the Kydd designs. The Tiffany blends, with their browns and rose, have an autumn appearance, but despite it are much chosen. No set figures are seen any more and no spot figures. The all-over effect is the accepted style, whether the make of the paper is one or another; this is the gauge of its vogue.—New York Times.

The Limit

The bracing western air fanned his bronzed cheek as he waited for the train. He was in cowhide boots, a wide sombrero and a peculiar predicament.

The girl he was to marry was on that speeding train.

And he had never seen her!

He had never even seen her picture!

They had been bethrothed through a matrimonial agent that gave no guarantees, and, though her letters had been perfectly sweet, the man in the sombrero had no knowledge of her personal attractions.

Toot! Toot! Two toots.

The train pulled into the station. Two passengers alighted. One was a peach; a dream. The other was the limit. Her clothes didn't even fit her. The cowboy trembled. What should he do, run for his life or take a chance. Slowly he approached the waiting young women.

Brave? Ah, yes. Alas!—Detroit Free Press.

Live Stock Notes

Ashbourne Shorthorns at Auction

This is the last call for the sale of shorthorn cattle to be held at Alma, Neb., on April 10 by Hon. A. C. Shallenberger of that place. This offering is one that should receive the attention of breeders and farmers in general, because it contains a class of cattle that for breeding and general make-up are the equal of any that will be sold in the state this season. They are not in show-yard condition, but are carrying enough flesh and will certainly go out and make good in the hands of those who buy them. It is seldom a better lot of cattle is offered in any one sale. We do not mean particularly by this that they are all outstanding individuals, but we do mean that every one of them has been carefully selected and for general usefulness we cannot recommend them too strongly to the man that is starting in the business or to anyone wishing to replenish a herd already established. The offering will consist of thirty-five head of females and ten bulls of serviceable age. There will be ten cows, with calves at foot, sired by imported Scottish Sentinel, His Highness, by Victor's Roan Duke, and Red Sultan, by Whitehall Sultan. These cows are also bred again to His Highness and Royal Peer, also a son of Victor's Roan Duke. Several of these calves afoot are splendid herd bull prospects. There will be twenty head of cows and heifers bred to His Highness and Royal Peer, and due to calve during the coming spring. Will also be five very attractive yearling heifer calves. The bull end of the offering is a strong one and contains several of herd heading character. Among these is Royal Peer by Victor's Roan Duke and out of Iolde by Coming Star. This bull is a Cruickshank-Lancaster-bred bull, and ex-Governor Shallenberger considered him good enough to use on his own herd. Another attraction in the sale is Star Attraction by Imported Scotch Bank and out of Imported Maud 4th, one of the greatest breeding cows of the breed. This bull is a red roan coming 2 years old in May, [illegible] smooth, well-balanced, low-down fellow, and will make a great herd bull. Another coming yearling fellow is Watchword by Imported Scottish Sentinel, and also out of Imported Maud 4th. He is a year younger than the bull previously mentioned and is a good prospect. Thirty head of this offering are of straight Scotch breeding and the balance are highly Scotch-topped. Write ex-Governor Shallenberger for his catalogue and arrange to attend this sale. You will find the cattle to be absolutely right in every respect. Colonel F. M. Woods will do the selling and G. E. Hall will represent The Twentieth Century Farmer. If you cannot attend in person, send your business to either, and it will receive careful attention. Kindly mention this paper when writing.

Benjamin's O. I. C's.

Very few men in the breeding business today have made a greater success in their chosen line of business than has H. S. Benjamin, breeder of O. I. C. hogs at Portland, Mich. Mr. Benjamin's reputation for integrity and the high character of the hogs he has been producing have caused his business to extend all over the United States, and even to foreign countries. Mr. Benjamin started in the breeding business in an humble way. He has always had a particular type in mind and has conducted his breeding operations along lines calculated to bring his particular type to a greater degree of perfection. That he has succeeded and that his efforts and labor have been appreciated by breeders and farmers in general, it is only necessary for us to say that the volume of mail he has received has been large enough to raise a postoffice at Portland, Mich., from a third class to a second class office. Mr. Benjamin has probably started more men in the breeding business than any other single man in the country. He is in a position to supply his trade with almost anything desired, either in breeding animals or something in the line of show live stock. We would advise any of our readers who are in the market for anything in his line to write him, mentioning The Twentieth Centry Farmer.

Acclimated Percherons

We desire to call the attention of anyone wanting a first-class stallion to Rhea Bros. of Arlington, Neb. This well known firm has a choice lot of home-bred Percheron stallions on hand at this time, and they are certainly pricing them worth the money. These stallions are raised right out in the open and are thoroughly acclimated, are of the big-boned, heavy, drafty kind, and will go out and make good under ordinary conditions. These horses are being priced well worth the money and we trust that any of our readers who are interested will write them for further paticulars, mentioning this paper.

Percherons, Belgians and Shires

Notice the change of advertisement of Watson, Woods Bros. & Kelly Co. of Lincoln, Neb. This well known firm is offering imported stallions from $600 to $1,500; home-bred stallions, $300 to $600, and mares safe in foal, $350 to $500. This is one of the oldest breeding and importing firms in America, and the class of horses they are offering are second to none. If you are in the market for anything of this kind, better write them for further particulars, or, better still, visit Lincoln and go through their barns and see for yourself just what they have to offer. When writing them kindly mention The Twentieth Century Farmer.

Stallions, Jacks and Jennets

Henry Beck, proprietor of Fairview farm at Litchfield, Neb., is offering a choice lot of Percheron, Belgian and Shire mares and thirty head of jennets in lots to suit purchaser. Mr. Beck has one of the best appointed stock farms in Nebraska and is in a position to give to the purchaser something well worth the money. His prices are right and he guarantees everything sold with a guarantee that means something. Write him for further particulars, mentioning this paper.

Needed Explaining

Supper was in progress and the father was telling about a row which took place in front of his store that morning: "The first thing I saw was one man deal the other a sounding blow and then a crowd gathered. The man who was struck ran and grabbed a large shovel he had been using on the street and rushed back, his eyes blazing fiercely. I thought he'd surely knock the other man's brains out and I stepped right in between them."

The young son of the family had become so hugely interested in the narrative as it proceeded that he had stopped eating his pudding. So proud was he of his father's valor, his eyes fairly shone, and he cried:

"He couldn't knock any brains out of you, could he, father?"

Father looked at him long and earnestly, but the lad's countenance was frank and open.

Father gasped slightly and resumed his supper.—Lippincott's Magazine.

Few Definitions

Society—Snubbers and the snubbed.

Plagiarist—One who writes with a steel pen.

Proposal—A short sentence that generally leads to a long one.

Civil Service—What you don't get in many hotels if you fail to tip.

Impressionist—One who arrarently lays his canvas on his palette full of colors and takes an impression.—Boston Transcript.

Butter Profits

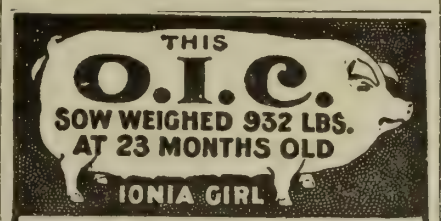
You ought to get more butter profits. Jersey Cattle mean more butter profits, because they yield more butter fat at less net cost of keep than any other breed.

THE JERSEY

excels in beauty of dairy type. She is a persistent milker. Jerseys are easily acclimated. They live long and keep healthy. They mean *steady* butter profits. Write now for Jersey facts. Free for the asking.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

O. I. C. HOGS



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." G. S. BENJAMIN RFD 79 Portland, Mich.

HORSES

PERCHERONS

8 home-grown stallions. The big type, 2 to 5 years old, ready for heavy service. Bargains. Also weanlings and yearlings. Just east of Omaha. Fred Chandler, R. 7, Charlton, Ia.

JERSEY CATTLE

WINELAND FARM JERSEYS The Wineland Farm herd of Jerseys contains some of the most noted animals of the breed and has the greatest number of Register of Merit cows of any herd in the west. Some choice young stock for sale. Address, H. C. YOUNG, Lincoln, Neb.

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed.
Send for FREE Illustrated Booklets.
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RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

CALVES Raise Them Without Milk
Booklet Free.
The Nebraska Seed Co., Omaha, Neb

HOLSTEIN-FRIESIAN

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers
50 1½-year-old heifers
} Just being bred to a son of a 24-pound dam.

100 2 to 2½-year-old heifers
100 2½ to 3-year-old heifers
} Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.

250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

HORSES AND MULES

RHEA BROS.' ACCLIMATED PECHERONS

We have 40 Stallions on hand today that we are selling at very reasonable prices. If you are interested write us or come and see them.

Reference—Packers Nat'l Bank, So. Omaha; Arlington State Bank, and First Nat'l Bank of Arlington, Neb. On main line of C. & N. W. R. R., 34 miles N. W. of Omaha, 55 miles north of Lincoln and 8 miles east of Fremont, Neb.

RHEA BROS., - - ARLINGTON, NEB.

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SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets—in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them; or write.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS, STALLIONS AND MARES.

I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. W. L. DeCLOW, Cedar Rapids, Iowa.

ASHBOURNE SHORTHORNS

35 FEMALES **AT AUCTION** 10 BULLS

At Alma, Neb. **April 10, 1913**

This will be one of the choicest drafts of highly useful, richly bred cattle ever offered from Ashbourne herd. There will be **10 cows with calves at foot** sired by Imp. Scottish Sentinel, His Highness and Red Sultan; **20 cows and heifers** are well along in calf to His Highness and Royal Peer, by Victor's Roan Duke, 5 yearling heifer calves and **10 bulls** of serviceable age. **30 Head** of these are of straight Scotch breeding and the balance are highly Scotch topped. The cows with calves at foot and those well along in calf afford an exceptional opportunity for anyone starting in the business, or wanting to strengthen a herd already established. The Bulls are an exceptionally strong lot, several of them being of high classed herd heading character. Among these is **Royal Peer** by Victor's Roan Duke and out of Iole by Coming Star. He is coming three years old and was considered good enough to use in that herd. Another good one is **Star Attraction** by Imported Scotch Bank and out of Imp. Maude 11. He is a red roan of the deep, smooth, low down, well balanced kind and will make a great herd bull. Two other good bull prospects are **Watchword** by Imp. Scottish Sentinel, and Pavmaster by Imp. Scottish Baud. Get a catalogue and arrange to attend this sale. You will certainly not be disappointed in the cattle to be sold.

THE HEAD OF THE HERD

A. C. SHALLENBERGER,
ALMA, NEB.

Auct., Col. Woods.
Fieldman, G. E. Hall.

YOUR OPPORTUNITY
Is NOW In the Province of
SASKATCHEWAN
Western Canada

160 ACRE FARMS IN WESTERN CANADA FREE

Do you desire to get a Free Homestead of 160 Acres of that well known Wheat Land? The area is becoming more limited but no less valuable.

New Districts have recently been opened up for settlement, and into these railroads are now being built. The day will soon come when there will be no Free Homesteading land left.

A Swift Current, Saskatchewan farmer writes:—"I came here on my homestead, March, 1906, with about $1000 worth of horses and machinery, and just $35 in cash. Today I have 900 acres of wheat, 300 acres of oats, and 60 acres of flax." Not bad for six years, but only an instance of what may be done in Western Canada, in Manitoba, Saskatchewan or Alberta.

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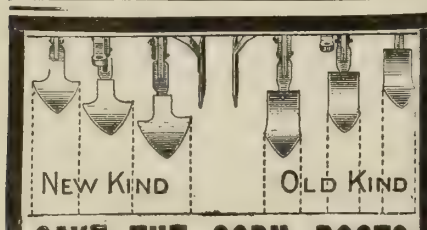

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With my surface and deep cultivator shovels. They scour when others wont, leave ground smooth. Very easy for boys and horses to handle and run. Your money will be returned if shovels don't please. Send for FREE booklet.

Chas. Burmeister, Sutherland, Iowa.

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For Cement Blocks, Stucco, Brick, Cisterns, Shingles, Floors, Buggy Tops, Tents or other porous material. Becomes part of the substance treated. Indestructible. Used by U. S. Government. Low cost. High quality. Saves you paint money. Write for prices and FREE SAMPLES. Address

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about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

Land Information Bureau

Twentieth Century Farmer

Omaha, Nebraska.

Over 100,000 farm families read it.

Be sure to mention The Twentieth Century Farmer when writing.

New-Born Lamb : Safe Method of Handling Breeding Ewe Flock

THIS is the time of year that the new born lamb appears in the general farm flock over the country. It is a little too early for the average flockmaster, because he is not prepared with sufficiently warm stables to ward off the very chilly atmosphere that sometimes prevails when the new born lamb first makes its appearance in the world.

There are so many conditions that influence in the success or failure of this new born lamb. If it is well born—that is, has a robust, strong, healthy mother that is supplied with an udder full of milk, ready for this youngster as soon as it is ready to nurse, then the success is almost assured. The mother sheep should be equipped with two good teats; this is the natural qualification, and this is a part of the first duty of the shepherd, or person in charge of the flock, to examine into as soon as the lamb is born, and test the milk flow by milking out just enough to open up the milk duct.

It is not an uncommon occurrence to find one, or both, teats closed or clogged up with a heavy wax that is hard for the lamb to dislodge, usually, the lamb is able to start the milk and will succeed in its supply of milk. With the old ewe there is not so much liability of trouble, but with the young ewe and her first lamb she frequently will not stand for the lamb to tug away in getting the milk started, the result being a caked udder, or garget condition, often resulting in the loss of one side of the udder and possibly a starved lamb, owing to the soreness.

There is but one safe method of handling the breeding ewe flock, and that is to catch each ewe within a few hours after the lamb is born and examine the udder and teats to see that the lamb has sucked and that everything is all right. Each case must, however, be kept under the observation of the critical eye of the shepherd for a week or more to see that the lambs are all doing well and that the ewes are all in normal condition. Some ewes give more milk than the lambs can take and should be held while some stinted lamb gets this oversupply. This may last only for a few days or a few weeks, until the lamb is able to keep the udder from being extended and causing inflammation.

The usual trouble with ewes before the green grass season is not having enough milk. Dry feed is not conducive to heavy milk flow, unless a very good quality of alfalfa is being fed or a good quality silage, either with grain, should keep the ewes in a good milk flow. The lambs in order to help out should be provided in an adjoining pen with bran, meal and shorts to nibble at whenever they are inclined. This can be arranged so they can slip through creeps in the division fence.

There is possibly no better paying appliance in the lambing stable than two or three store boxes, size about 3x4 feet, as the case demands, in which to place the ewe and her new born lamb, or the ewe just prior to lambing. Cover the box over the top with an old horse blanket or some similar covering to shut out the cold air. Give the pair just air sufficient to keep them from getting uncomfortably warm. The ewe will own her lamb, has nothing to attract her attention but the lamb, nothing to fear and is soon all attention to her offspring.

In case a ewe refuses to own her lamb, there cannot be a more certain means of bringing her around to her natural motherly instincts than to be thus closed up with her lamb in a perfectly tight box covered over so as to exclude the outside air. Stay near by so as to relieve her when she gets very hot and commences to make a bleating and anxious noise over her lamb, which she will surely do in a very short time—ten or twenty minutes—if all air is shut off; have in this way caused ewes to own lambs that had persistently refused them for days. Gradually change the temperature when you find the ewe is smelling and caressing her lamb. Keep them in the box for a day or two and from other sheep until they are perfectly made up and she is reconciled to her charge.

Great care should be observed in handling ewes with lamb and those recently having dropped lambs. The handling of the sheep is something easier learned by observation than by being told. Get your first lessons by practicing on a dry ewe or wether. A sheep is easily turned onto its rump from a standing position by the one holding the animal standing directly in front of the sheep, drawing the sheep up to him, putting one arm around its neck and with the other arm reaching under the sheep and back to the opposite hind leg, catching this leg between the foot and knee, or hock, and pulling it directly toward him, pushing back at the same time, the sheep is with a slight twist put on its rump and completely turned with its back between the operator's legs, or knees. This is the easiest process and safest that can be learned and used in putting a ewe down for any purpose. It often becomes necessary to put a ewe on her rump in handling a new born lamb, that from some reason will not take hold of the teat in its first lessons in sucking. There is no way that the ewe can be so readily examined for any udder or teat ailment as to put her on her rump, as this disarms her from all effort to kick, struggle or escape while you are treating her.

This is the time that pays with the care of the flock. It pays to keep the lantern ready to light up and go to the sheep barn the last thing before going to bed, and the first thing in the morning, before daylight, to see that there are no lambs that need your attention. It only takes a little time to lose or to save a lamb, and a lamb lost is practically just what the lamb would be worth at weaning time. It does not cost much—practically nothing—to keep this lamb through the summer. You are keeping its mother, anyway, and she might as well be raising this lamb as doing nothing. Put a price on every lamb you save at what it will sell for in September and you will appreciate more the loss of the new born lamb. You will try to see how many you can save and you will feel that every lamb that is found dead represents so many dollars, instead of being "only a lamb, not much loss."

Just here let me make this suggestion. This is the time to dock the lambs. It will not hurt them nearly so much to have their tails cut off now as later. When the lamb gets fairly well started to sucking by its own help, then is the time to use a sharp knife in the docking process, holding the lamb on its rump on a block or solid plank, and cut the tail from the underside, leaving the stub not more than an inch in length. This makes a neater hindquartered sheep than where two or three inches of tail is left on the lamb, and is no greater in pain or bleeding than if half of the tail is removed. A close-cut docking makes a better-looking old sheep. Take these lambs when 1 or 2 days old and there will be practically no bleeding, and no trouble from flies; smear a little pine tar and oil, or lard mixture, on the cut as a precaution against the fly and aid in quick healing.

Pointed Paragraphs

Put off until tomorrow the worrying you might do today.

Don't flag the busy little bee when he is going straight ahead.

Beware of a suspicious man; he is apt to judge you by himself.

A woman plays the game of love to win, a man plays it for pastime.

How many people do you know who would not impose on you if they could?

No, Cordelia, the language of flowers and flowery language are not the same.

While it is well to make things go as far as possible, we cannot advise stretching the truth.

Even the girl who has a steak-and-onions appetite can rave over the way the stage hero kisses the heroine's hand. —Chicago News.

The Market Place

SEEDS

HOW DOES MORE CORN PER ACRE appeal to you? 1,000 bu. of choice-bred seed corn picked before October 15 will plant 7,000 acres of land. At a safe estimate will raise ten bushels more corn per acre than the average seed planted. This would be 70,000 bushels of corn. If sold at 40c per bushel, would make $28,000; if you want your share of this amount, you can get it by using this seed. This is just what some of our best farmers are saying. To anyone who will visit my seed house and after inspecting my corn you do not find more early-picked, pure-bred seed corn than you have ever seen in one house in Iowa, I will pay your railroad fare and all expenses of the trip. Remember, I am talking for you when I talk planting my seed. What others have done you can do. J. H. Petty, Elliott, Ia.

ALFALFA SEED, NEBRASKA-grown, for sale by S. Hunziker, Sutton, Neb.

SEEDS—ALFALFA, $6; TIMOTHY, blue grass and cane, $2; sweet clover, $5. Farms for sale and rent on crop payments. J. Mulhall, Soo City, Ia.

DUNLAP STRAWBERRY PLANTS, $1 per 1,000, 50c per 100, prepaid anywhere. W. C. Hebdon, Blair, Neb.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Hagglund, Essex, Ia.

ALFALFA SEED, BEST NORTHwestern Nebraska Seed, graded. Prices and samples free. Schwabe Bros., Chadron, Neb.

TREES

$3 PER THOUSAND FOR COTTONwood trees. James Cassell, Route 3, Fremont, Neb.

HONEY

CALIFORNIA HONEY, FINEST FLAvor and quality; freight prepaid anywhere and examination allowed before paying; per lb., 10-lb. can, 15c; 60-lb. can, 13c; case, two 60-lb. cans, 11½c; pound sample pkg., 20c; leaflet free; liberal discount to agents. Hustlers make big profits; experience unnecessary; permanent business; steady orders and protected territory. Spencer Apiaries Co., 162 Hill, Nordhoff, Cal.

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WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

YOUNG MAN, WOULD YOU ACCEPT and wear a fine tailor-made suit just for showing it to your friends? Or a Slip-On raincoat free? Could you use $5 a day for a little spare time? Perhaps we can offer you a steady job. Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Co., Dept. 206, Chicago.

NEW EXCLUSIVE PRINCIPLE creating most powerful continuous suction, with minimum of mechanical friction and labor, makes Feeny Vacuum Cleaners real money-makers for live agents. It's worth investigating; exclusive territory. Write for attractive proposition. Feeny Mfg. Co., F-109, Muncie, Ind.

SCHOOLS AND COLLEGES

WE TEACH YOU TO OPERATE AND repair automobiles; training on vulcanizers, drill presses, lathes; pattern making, moulding, brazing and driving. Free catalogue. Lincoln Auto School, 2352 O St., Lincoln, Neb.

SHORTHAND—UNIGRAPH IS quickly learned, rapid and readable; excels all others; pays best; beginner's booklet, 10c. Unigraph Co., Omaha, Neb

TYPEWRITERS

OLIVER VISIBLE TYPEWRITER for sale cheap; sent on trial. Charley Rickart, Route 5, Rosedale, Kan.

$15 CASH WITH ORDER BUYS REMington or Smith Premier, guaranteed one year. Central Typewriter Exchange, 1620 Farnam St., Omaha, Neb.

PATENTS

PATENT YOUR IDEAS; THEY MAY bring you wealth; 64-page Patent Book free. Fitzgerald & Co., Dept. L, Washington, D. C. Established 1880.

COMMISSION MERCHANTS

POULTRY, EGGS AND BUTTER wanted, highest market price; egg cases furnished free. Perry & Co., Omaha.

LIVE STOCK

4 HIGH-GRADE HOLSTEIN BULLS, 8 months old. Bargain. Peter Brehm, Harvard, Neb.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, April 5, 1913 | Number 643

When Dreams Come True

Dreams of a better, bigger home!
Dreams of more comforts, more luxuries!
Dreams of more of those things that make life worth living!
Dreams of—

But why dream?

Why not put Montgomery Ward & Co.'s new 1000 page catalogue back of your dreams and turn dreams into realities.

Why not harness every one of your hard earned dollars and make them yield for you more value in the future than in the past—and *then* your dreams will come true.

The conservation of the dollar is the vital issue in these days of high cost of living.

And the Montgomery Ward & Co.'s catalogue is the great text book that will help more than any other book to solve that problem.

It tells how to purchase your foods, furniture, clothing, farm implements, luxuries, everything for the home, farm or field at the lowest possible prices, with all the useless middleman's profit left out.

It has a thousand pages, with a hundred thousand opportunities for saving.

This great text book is free for the asking. All you need do is to write us a note today saying: "Send your new 1000 page book without cost or obligation to me"—and it will come by return mail.

You have had the dream of better living, of getting more comforts for all the family than you have had in the past. Why not let this dream come true. Why not send for the book today—Now, while you think of it.

MONTGOMERY WARD & CO. Dept. T-6

Chicago Kansas City Ft. Worth, Texas

Prattle of the Youngsters

Less Formidable

Edith—Pa is immensely pleased to hear you are a poet.

Ferdie—Is he?

Edith—Oh, very. The last of my lovers he tried to kick was a foot ball player.

Applied Christianity

Because he had been a naughty little boy—a very naughty little boy—he was sent to bed without any pudding. But in the evening, when his brothers and sisters all were fast asleep, he crept downstairs, a tearful little white-robed figure, and, going into the library, said to his mother:

"Mummy, you told me never to go to sleep till I'd made peace with my enemies, so I've come down to forgive you and daddy for being so rude to me at dinner tonight."

The Thing for Him

A beginner at golf was on one occasion taking an unconscionable time to get round a seaside course near Edinburgh. Several holes had been "played" in a manner which produced a look of disgust in the face of the caddy. Getting badly bunkered, the man tried several clubs, one after the other, without success. Turning to his caddy, he inquired:

"What should I take now, boy?"

To this the caddy promptly responded:

"Ye should ta' the 4:25 back to Edinburgh."

A Question of Growth

Little Sarah was shooting upward at a rate that almost alarmed her relatives, and between the annoyance of perpetually outgrowing her clothes and being perpetually talked about in the family circle the child's usually serene temper suffered. It took the family seamstress, a very tall, thin person, to add the last straw.

"It's really terrible the way the children grow up nowadays," the woman mourned, bending from her great height to measure Sarah's new garments. "I declare, they just grow up like weeds, and it seems a real pity. I never think it's pleasing to see a very tall child."

"Why didn't you stay ungrown, then?" cried the provoked little girl.

The Caddy's Rebuke

Mrs. R. H. Barlow, the golf champion, was telling golf stories at a luncheon in Philadelphia.

"I once attended a feast," she said, "that a golf club gave in honor of its caddies. The caddies enjoyed the feast, and most of them displayed excellent table manners, but there was one lad, Charlie, who fed himself exclusively with his knife.

"Fish, peas, chicken, mashed potatoes, sauce—everything was conveyed to Charlie's young mouth on a knife blade. But when the ice cream came on, and the lad actually began to shovel in ice cream upon a knife, a caddy at the other end of the table shouted in amazement:

"'Holy smoke! Look at Charlie. I'sin' his iron all the way round'"

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Practical Series of Sheep Articles

NEXT week we will have a brief historical sketch of the merino sheep, its origin, its importations and its development for one hundred years in America. This is the first of a series of sheep articles by G. W. Hervey, associate editor of The Twentieth Century Farmer.

Mr. Hervey was born and raised on an Ohio sheep farm, was one of the organizers of one of the first sheep associations formed in the United States and has judged sheep at many of the leading state fairs. He is recognized by the leading sheep men of the country as an authority.

This series of articles will not only deal with the different sheep breeds, but will give personal character sketches of men who have played important parts in the development of the sheep industry.

In connection with the historical and informational matter the practical side of sheep raising will be handled in such a way as to make these articles of great value to the man who is about to engage in the sheep business, or is already a sheep owner.

Bright and Breezy

In Nautical Terms

Jack—Once more, Molly, will you marry me?

Molly—For the twelfth time this hour I tell you I will not.

Jack (of the navy)—Well, twelve knots an hour is not bad speed for a little craft like you.

The Milkmaid

"Bridget, didn't I hear you quarreling with the milkman this morning?"

"Sure not. His hired girl's sick, an' I was inquiring after her. But he's an impolite fellow."

"How's that?"

"Says I, 'How's your milkmaid?' An' he looked mad an' says:

" 'That's a thrade secret.' "

A Tough Proposition

A man who was dining in a village hotel gazed at the second course for a moment, and then asked the waiter:

"What is this leathery stuff?"

"That is a fillet of sole, sir," replied the waiter.

"Well, you may take it away," said the diner, after attacking it with his fork, "and see if you can't get me a nice, tender piece of the upper, with the buttons removed."—Judge.

The Only Way

The late Wilbur Wright put safety above all else in aeroplane construction. Mr. Wright was once watching with critical eye the flight of a very swift, very cranky aeroplane, when a little girl said to him:

" 'Uncle Wilbur, can you get to heaven in one of those machines?'

" 'Not 'y going up,' replied the great airman; 'but if you have lived a very good life, you may do so by coming down.' "

Their Excuses

"The failure will always fail, no matter what his environment; and in like manner he will have a ready excuse for his downfall."

The speaker, Mayor Taylor of Little Rock, smiled and resumed:

"Two failures, seated on a park bench, were talking. The first, born poor, growled:

" 'It takes money to make money.'

"To this the other failure, who had been born rich, growled back:

" 'And it takes money to lose money.' "

A Question of Names

In some of the country districts of Ireland it is not an uncommon thing to see carts with the owners' names chalked on to save the expense of painting. Practical jokers delight in rubbing out these signs to annoy the owners. A constabulary sergeant one day accosted a countryman whose name had been thus wiped out unknown to him.

"Is this your cart, my good man?"

"Of course it is!'" was the reply. "Do you see anything the matter wid it?"

"I obsarve," said the pompous policeman, "that your name is o blitherated."

"Then ye're wrong," quoth the countryman, who had never come across the long word before, "for me name's O'Flaherty, and I don't care who knows it."

House Cleaning Time

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Cream Production in the Missouri Valley

Conditions that Prevail There as Compared with Those in Dairy States

A WISE precaution for any person, either a private individual or a correspondent of a publication, before he talks very much, is to know what he is talking about. Some people assume that the conditions that prevail in their immediate neighborhood prevail everywhere, and that what succeeds admirably with them in their environment would succeed with others in other environment. Of course, this is all foolishness. Because a Cuban can grow pineapples successfully is no reason for his thinking that pineapples would do well in the Missouri valley. He probably would not think so; he is too wise for that. These thoughts are prompted by the fact that certain enthusiasts for co-operative creameries in states where dairying is the principal business, and certain dairy publications in these states, have attempted to push their propaganda in the Missouri valley territory, where conditions are entirely different and where the success of co-operative creameries in most localities is, to say the least, problematical. This paper allows precedence to no one in its enthusiasm for co-operation in all forms of farm industry. It is too true to the co-operative idea to favor attempts at co-operation where they are certain to fail, because such failure will put back the final triumph of co-operation a number of years and prove disastrous to all forms of co-operative effort. This paper believes in co-operation, and will do everything within its power to make co-operation successful. But it protests against attempting to force the establishment of co-operative industry under conditions that are certain to result in failure.

Properly speaking, it is a misnomer to speak of the Missouri valley territory as a dairy region. To speak of the dairy industry in this territory is to use words without reference to their meaning. Properly speaking, there is no dairy industry here, with the exception of a few dairies located near large centers of population with the purpose of supplying cities with milk and cream. A dairy farm is one on which the principal business conducted is dairying. There are very few such farms in the Missouri valley territory. The farmers here are grain growers and live stock raisers. Most of them milk a few cows, but this is entirely a business on the side. For the most part, they milk as many cows as, under the circumstances, they are obliged to milk. Their principal attention is given to other forms of agricultural industry, and the cows and milk receive no thought at all until after everything else has been attended to, and then very little intelligent thought is given to them. In the dairy states upon the farms where dairying is the principal industry the dairy is always uppermost in the minds of the farmer. He thinks cows, studies cows, talks cows and dreams cows; all his efforts are devoted to the cows. He exerts himself to secure the best breeds and the greatest production from individuals; he makes the business a study. The care, the shelter and the food of cows are matters of daily thought and constant experimentation. With natural conditions favorable to such an industry, it is not surprising that in these localities where grasses and forage are abundant almost any form of dairy industry should be successful and profitable. The fact is that wherever a man devotes his energy to the accomplishment of a single purpose, and natural conditions are not unfavorable, he will succeed, provided he has intelligence and stick-to-it-iveness enough.

First of a Series of Articles

THIS is the first of a series of articles regarding cream production and its manufacture into butter in the Missouri valley.

There has been here a great deal of unscrupulous promotion of small creameries from which business men and farmers alike have suffered.

There has been in this section a great deal of unscrupulous promotion of small creameries from which business men and farmers alike have suffered.

It is the intention, in a series of articles which are to follow, to go over the whole matter thoroughly with a view to advising cream producers in such a way as to promote their best interests.

A thorough investigation of the whole matter is now under way, and these articles will state facts and draw conclusions only from well established facts.

In the Missouri valley territory an entirely different condition prevails. Here the farmer gives his thought, his study, his principal attention to other things than dairying. What cream he produces is produced as a side industry, and he gives to it only the energy and the thought and the study that are left after his other forms of industry have received due care. This is not a dairy country at present. Agriculture here has developed along other lines. Some of this territory is better adapted to the dairy industry than other parts of the country which are given to it exclusively. But the development of this industry is in the future. This paper believes that the time will come when the state of Nebraska alone, for instance, will become the greatest dairy state in the union. We must not put off the time of this accomplishment by premature exploitation that results in failure. The grain farmer, when the co-operative creamery fails, stops milking and turns his calves back with the cows. There must be no failures here if the dairy industry is to be developed.

One result of this condition of affairs is that the milch cows in this territory are not, on the average, good milk producers. It is estimated that 65 per cent of the milch cows of Nebraska do not pay for their board, and this estimate is true in a greater or less degree all over the Missouri valley states. When dairying becomes an industry here, when it becomes proper to speak of this country as a dairy country, rather than as a cream-producing country, the farmers will have improved their dairy stock until every cow is a profit-producer. He will have learned to care for his cows so as to get the greatest profit at the least expense. But this time is in the indefinite future. We are growing toward it, but it is not yet here, and writers or talkers on dairy matters should keep this fact clearly before their minds while giving advice to the farmers throughout this section.

There are isolated localities in this territory where a co-operative creamery may, under present conditions, succeed. But there are wide reaches of country here where such success, under present conditions, would be impossible. Wise promoters of co-operative effort will take this fact into consideration and let it govern their activities.

There is, on the part of co-operative creameries and advocates of co-operative creameries, an intense prejudice against centralized creameries and their methods of operation. This prejudice is, in some measure, justified by the action of centralizers in times past. Whether it is justified or not, however, is beside the question. The fact remains clearly indisputable that, through wide reaches of this territory, the centralizers, no matter what their methods may be or may have been, serve the cream producers better than it is possible for any other agency to serve them at present, under present conditions.

Wherever it is possible for a co-operative creamery to succeed, this paper will advocate the establishing of such a creamery, and will render it all the aid within its power. But this paper will oppose to the utmost any attempt to establish such a form of industry under conditions that make its failure probable. All that it asks of enthusiasts for co-operation or of contemporary publications is that they be fair to this territory, that they learn the truth about it and, having learned the truth, govern their activities with common ordinary intelligence applied to conditions as they exist here. All that this paper is trying to do is to promote successful co-operation in all forms of farm activity, and to conserve and protect the best interests of the farmers, whether they be grain growers or cream producers.

Mrs. Wilson at Her Best as a Homemaker

Mistress of the White House is Especially Skillful with the Needle and Paint Brush

By Lucy Stevens

MRS. WOODROW WILSON has many accomplishments and is a rarely gifted woman She possesses all the domestic virtues and the social graces. She is at her best as a homemaker, however, and loves her home and family life. She makes everything about her "homey" and inviting and has a perfect genius for making any place charming in which she may live. She is very talented and paints beautifully, as well as playing the piano and doing all manner of lovely needlework. Her skill with the needle she inherits from her fine old southern ancestors, for all southern women were accomplished with the needle.

Mrs. Wilson was born in Savannah, Ga., and spent her life there and at Rome, Ga., until she was married to the young history professor in 1885, who was destined to become a president of the United States, and she the first lady of the land, a rosy future which she little anticipated when, as Helen Louise Axon, she studied music and painting and was a dreamy, poetic girl in her southern home.

Mrs. Woodrow Wilson at Her Fancy Work

It is with Mrs. Wilson's skill as a needlewoman that this article is to deal, for Mrs. Wilson makes all manner of charming things with her needle, never useless things, but always objects that are practical and useful, as well as beautiful. She invents pretty designs and carries them out and she delights in creating something truly beautiful at small expense; for Mrs. Wilson is thrifty and never extravagant. She can make charming things from a few bits of pretty-figured chintz and some pieces of cardboard, and as the stores are full of wonderful chintzes now, copied from the antique in scenic and flower designs, she can revel in such fancy work.

Here are some models of the chintz fancy work that she delights to do. Figure 1 shows a sexagonal work bag with six panels, made of chintz over cardboard. It is also shown again in the photograph beside Mrs. Wilson on the table. The panels are oval at the top and square at the bottom, and the base of the bag is sexagonal in shape.

The six side panels and the base are made over pieces of cardboard. Each panel requires two pieces of the cardboard and the base two pieces. Six pieces of cardboard are covered with chintz, basted over smoothly, and six are covered with plain linen; then one of the plain linen panels is sewed to one of the chintz-covered panels, over and over fashion, at the edge. These six completed panels are sewed together at the edges. The base is made in the same fashion as the panels, but both pieces of cardboard are covered with plain linen and then fastened together at the edge, over and over fashion. The inner bag is of plain linen, and is a straight bag gathered to the base before the six side panels are attached to it; then each panel at the top is caught to the bag with invisible stitches. The bag is drawn up with wide satin ribbons.

Figure 2 is a linen and chintz-covered box,

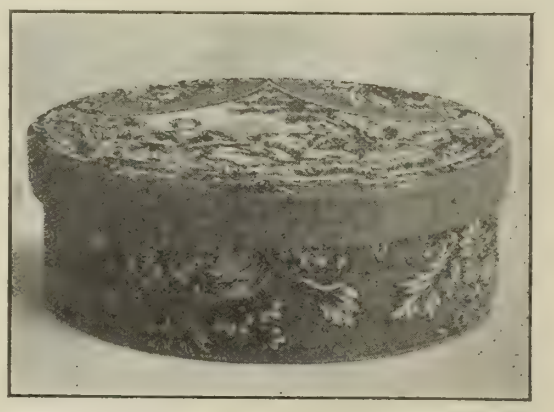

Fig. 2—Linen and Chintz-Covered Box

useful for many purposes, to be used for a work box, or for a bureau in a bed room, for ribbons, etc. The box is made over a cardboard foundation consisting of four parts, and each part is made up of two sections, so there are eight sections of cardboard in all. Four ovals, two for the top of the cover and two for the base of the box. For the cover one of these ovals is covered smoothly with chintz and one of plain linen; then the two are stitched together over and over at the edges; then the rim is made of two straight strips of cardboard about an inch wide and long enough to surround the oval of the cover. Each of these strips is covered with plain linen, and the two covered pieces are then sewed together over and over, fastened together at the end and sewed to the oval of the cover, thus completing the cover. The main box is fashioned exactly as the cover is.

Figure 3 is a pretty three-cornered box covered with quaintly-patterned chintz, showing splendid peacocks in brilliant colors, with old-fashioned flowers as a background. This box is made over cardboard in the same fashion as described for other things. The inside of the box is of peacock blue sateen, making it very effective. The cover has no rim and so is caught to the back of the box with two ribbon hinges.

Figure 4 is a very attractive round box in a combination of two colors of plain linen and a rich chintz design. The main part of the box is made of plain ecru linen, fashioned exactly as the box in Figure 2 is made, save that it is round in shape instead of oval, and the top of the cover and the base are made over perfectly round pieces of cardboard. The top of the cover is of ecru chintz, with the design of a basket of fruit in rich tones in the center. The edge, or rim, of the box is of plain linen in a deep reseda green, which matches the deep, dull green of the leaves among the fruit.

Figure 5 is another round box made quite as Figure 4 is made, save that the cover has no rim and is fastened to the box at the back by a hinge of folded ribbon. This box is made of very gay, richly-colored, flowered chintz, a mass of old-fashioned flowers covering the top of the cover completely.

Figure 6 is a very useful bag made in quite an original manner, but very simple to construct. There are two oval pieces, one on each side of the bag, stiffened with cardboard, two sections to each side. After these have been finished in the fashion previously described they have the bag attached to them. This bag consists of a perfectly straight strip of plain linen, about eight inches wide and a yard long. This

Fig. 1—Sexagonal Work Bag

Fig. 3—Three-Cornered Box

Fig. 4—Attractive Round Box

Fig. 5—Round Box of Flowered Chintz

is gathered on each side and then stitched to the stiffened oval pieces covered with chintz. The top is left open, hemmed and run through with ribbon draw-strings, and the bag is complete.

Figure 7 is a very pretty and unusual bag of figured chintz and plain linen. First a square base is made of plain linen over cardboard, in the fashion previously described; to this is

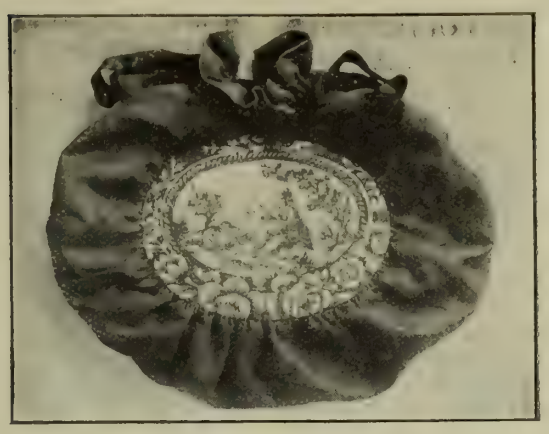

Fig. 6—Useful Work Bag

sewed a straight bag of plain linen drawn up at the top with wide satin ribbons. Then the four side pieces are made and attached. These are perfect circles cut from cardboard, two sections to each round, making eight rounds of cardboard in all. The outer sections are covered with figured chintz in a quaint design and the inner ones with plain linen. When com-

Fig. 7—Odd Work Bag

pleted these four sides are caught together at the sides and caught to the square base. The bag is then attached along the upper edges of the rounds with invisible, or blind, stitches.

Where Farmers Are Setting Fine Example

By George F. Stratton

IT IS curious that, although the splendid results and benefits of co-operation in buying supplies for individual use were first and fully demonstrated in England by English mill operatives, that example has not, to any appreciable extent, been followed in this country by men of that class. It has been the farmers who have adopted the system sufficiently to show that its great benefits may be secured as easily and as fully on one side of the Atlantic as on the other.

The farmers' granges were probably the first associations to adopt co-operative methods: but today they do not stand out so prominently as other distinct branches of the agricultural industries. The fruit growers of the west and middle west were the first to show really fine results from co-operation. Their associations were at first formed solely to co-operate in selling, but the advantage of extending that co-operation to buying both farm supplies and household supplies was quickly seen. Today every fruit association of any size has its co-operative store. In California alone there are nearly fifty associations of this nature, doing a total business of over $20,000,000 yearly. And all those small local associations have formed themselves into a great wholesale society in San Francisco for the purpose of making purchases at bottom wholesale figures in carload lots.

Successes in Nearly Every State

So it is all over the country. In the state of Washington there are a score of highly successful farmers' co-operative societies; in Kansas nearly two-score. In every state they are found, although in New England and the south they are scarce. In Rockwell, Ia., a farmers' society, operating creameries and buying supplies, does a total business of over $600,000 per year, at a cost of about 1 per cent.

The farmers of Albert Lea, Minn., have a co-operative store; also those of Manitowoc, Wis.; Syracuse, N. Y., and Herkimer, Little Falls and other places in the same state. These have declared dividends ranging from 7 to 25 per cent, and are largely increasing their operations every year. In many articles the saving on co-operative purchase is very large, particularly so in the case of building materials and farm equipment. It must be remembered that as co-operative trading is usually spot-cash, the added cost to the regular retailer of yearly accounts and business losses and risks is eliminated.

The system upon which most of these stores are established is some modification of the Rochdale system, which was the pioneer of all co-operative systems in England. Membership is secured by purchase of shares at $5 or $10 each, which produces a fund to buy supplies in quantity, and the profits made out of that saving are divided among the members according to the amount they buy. If a dividend is declared of 15 per cent, the member whose yearly purchases run to $200 receives $30 rebate.

Division of the Profits

There are a few societies, however, organized on the plan of the great Civil Service Co-Operative association of London. They sell very close to cost prices, and a membership is the same as a partnership in the business, and looked upon as an investment which receives the profits over the cost of running the store and the low price charged the members for their supplies. Co-operative societies often sell to outsiders, but, of course, it is in the interest of such outsiders to become members so as to get the full extent of the rebates.

The success of farmers' associations has led to the establishment of a great many other associations of other trades, and the fine results attained by them are, in their turn, again encouraging still more farmers to co-operate. The miners of Montana have a co-operative store, with 600 subscribers. Employes of the Chicago & Alton railroad have a big store at Bloomington, Ill. The labor unions of South Omaha have a co-operative store; the miners at Cripple Creek, Colo., have a store, as also the millmen at Monesson, Pa.; the labor unions of Denver, the shipyard employes at Newport News, the railway men at Parsons, Kan.; the unions of the Black Hills district in South Dakota; the citizens of Elwood, Ind.; Deposit, Delphi and Port Jarvis, N. Y.; Milwaukee, Wis., and Lansing, Mich.

Co-operation in England

In an article intended for encouragement, as well as information, the magnificent successes and rewards of co-operation in England may be pointed to. Started in Rochdale forty years ago by a band of cotton spinners and weavers—the poorest paid of England's factory operatives, and probably the poorest trained in business methods—it has grown to enormous proportions. Henry George, the people's statesman of that country, recently said that the savings to wage and salary-earning members of the two great co-operative branches in the United Kingdom, the Rochdale Societies, and the great Civil Service Co-Operative association, amount to over $150,000,000 yearly. That stupendous saving has resulted from organization which eliminated many middlemen and put the consumer in direct close touch with the manufacturer, the producer and the importer.

The business done by those two associations totals nearly $750,000,000 yearly. Shares today in the Civil Service association, which were issued at $2.50 each, are now valued at $1,000 each. In the Rochdale associations no definite statement of present value can be given, as they vary according to the particular society issuing them, but in most cases the shares are held at many times their original price. Many of the Rochdale societies are members of the Co-Operative union of London, which is their collective wholesale agency. In the last available report of that union we find the following wonderful statement:

Professional Capitalist Not in It

Its annual turnover was $92,000,000 on a capital of $5,034,000, returning net profits of $1,681,000, after allowing for various contingent funds, subscriptions to hospitals, aid to striking union men and various educational and philanthropic works. It owns its own plantations in Ceylon; it has large manufacturing establishments in the British Isles, and employs 13,000 people. It is a member of the Chicago Board of Trade and of the New York Produce exchange, and owns freight steamships running to distant ports. From start to finish it is run by the army of workers of the country, because it is owned by them. They, and they alone, are the shareholders of the co-operative retail societies, and delegates from those societies are the managing board of the great wholesale organization. The professional capitalist is not in it.

The net profits of the Wholesale union do not look large, but that is because it is not established for profit. The numerous retail associations which form that union secure their merchandise through it at absolute first cost, plus its own distributing expense, and their real profits come in that shape.

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The storm conditions that prevail throughout the country have one redeeming feature, that of moisture supply. The country has never been in a better condition at this season of the year for a rapid development of vegetation.

The Farmers' union advocates building warehouses for storing farm products so that by intelligent co-operation the markets may be slowly fed in such a way as to prevent slumps in prices. They have set themselves to the task of perfecting, extending and adjusting this market system to all kinds of agricultural products and invites the cooperation of everyone. Such products, when stored in the warehouses may be used as the basis for farm loans. This would relieve the many needs of those farmers who are now forced to sell on a low market because they must have the money.

Purchasers of alfalfa seed, if they are wise, will ascertain with certainty where their seed was grown and, if possible, will secure it from a territory where conditions are more severe than those under which they propose to sow it. A plant that thrives under severe conditions produces seed that would grow luxuriantly under more favorable conditions. It is said that one Milwaukee firm, after the purchase of one carload of Montana-grown alfalfa seed, has already sold seven carloads of seed with the Montana brand. It is said that there are ten bushels of Grimm alfalfa seed sold to every one that is grown.

George Allen of Nebraska

The death of George Allen of Lexington, Neb., marks the close of a life of great activity in the breeding of Shorthorn cattle and pure-bred sheep. Mr. Allen was a born stockman, trained from his earliest boyhood in the care and handling of pure-bred stock. As a breeder and exhibitor he is known throughout the country, having been engaged in importing and exhibiting sheep in large numbers in Ohio, Indiana, Illinois and Missouri as early as 1871, eight years before he came to America to make this his home.

He first located in Vermilion county, Illinois, with a herd of Shorthorn cattle and a flock of 100 Shropshire sheep. His Shorthorns were of the Bates family, or strain, and from these grew many of the great show cattle of thirty years ago. Mr. Allen was a steadfast advocate and champion of this family of Shorthorns. He was a persistent exhibitor and remained so up to his last days, being personally on the circuit of state fairs and expositions during the season of 1912, with a large display of Shropshire, Hampshire and Rambouillet sheep.

About ten years ago he removed from Illinois to Dawson county, Nebraska, buying out C. H. Ballinger, a prominent sheep breeder. Mr. Allen successfully conducted his operations at this new location in breeding Shorthorn cattle and pure-bred sheep. He has left to his family one of the best improved stock farms of 640 acres in Nebraska, and a pure-bred stock industry with a reputation that is a credit to his life's work and the state of Nebraska. His sons will continue the breeding business under the firm name of George Allen & Sons.

Mr. Allen was a native of England, born at Tean Staffordshire April 15, 1848, and died March 20, 1913. He leaves a family of five boys and two girls. Mr. Allen was a man of excellent reputation as a breeder and business operator; his word was a guarantee at all times with those who knew him. His presence will be missed at the annual round-up of the fairs and shows by his scores of friends among the stockmen of the middle west.

Veal Calf Prices

How can desirable heifer calves that should be reserved for breeding purposes be saved from the demands of the veal market, when 12 cents per pound is being offered for anything showing good condition? Think of the 150-pound calf, only a few weeks old, bringing $18! This seems almost like finding money. It has been but little, if any, trouble so far, and practically no cost. It will never again show such a proportionate value, and here is where thousands of calves are turned to the veal trade that should pass on to the mature animal.

The dairy-bred calf, except the heifers from superior cows, are worth more probably for veal than to be retained. There can be no just criticism brought against the vealing of the calves from the large dairies and milk supply concerns, but these prices will influence thousands of calf owners on the farms to sell, rather than keep, realizing that the trouble and expense of high-priced feed has become a factor in the growth and development of the calf. This matter of calf price in the veal market is the greatest obstacle in the way of restoring beef supply, upon a basis of old-time beef prices. Cheap beef is so far off that no magnifying glass will be able to discern it for years to come. People will eventually become used to the high prices and will accommodate themselves to the existing conditions, and they will forget that they once lived on a low price beef schedule.

Success and Failure

In no line of business or industry are there more failures than in those associated with land, soil, crop-growing, live stock, production, etc. The public mind is now filled with the idea that land ownership means success—money-making in its operation. It is true that there have been fortunes made in recent years in the advancement of land values, whether improved or unimproved, and whether operated intelligently, skillfully, economically or without system and method. This, however, is a condition that will pass away after a while; land values will come to a standstill sooner or later and the land owner will have an investment that means something more definite than at present. The owner who cannot make the land pay expenses, keep up repairs, pay a reasonable interest on the investment or its appraised value, will not be called a success, nor the land under his management a successful business venture. There are hundreds of such examples to be found now all over the country.

Thousands of persons are each year becoming land owners, some on a large scale and some on a small scale. A large per cent of these new land owners are not practical or skilled operators in land management, in the economical use of land for its best results in crop production. Many of them became land owners through speculative influences; others through the belief that they could follow in the footsteps of the successful farmer, fruit grower or gardener, and produce the large yields and fine crops that seem to be the unaided work of the hand of Providence. It is not an uncommon thing to hear of some suburban fruit grower or gardener on a five or ten-acre tract of land producing $500 worth of crop per acre. To the unskilled, the person of little or no real knowledge of the industry, this seems easy, only the matter of placing himself, or herself, in the other man's position. "What man has done, man can do," is the ambition that too frequently prompts young manhood to efforts that are only attained after years of study and diligent labor.

The Department of Agriculture at Washington has been testing butter supplied for the navy with regard to the effect produced upon it by cold storage. It has found that butter made from pasteurized sweet cream, after several months in cold storage, is classed in the highest market grade. Amateur legislators might bear this fact in mind when they attempt to regulate the matter of cold storage.

Keep Up the Sheep Industry

The wool tariff is the big scarecrow in the sheep business in the United States, and always has been. Whenever there is a prospect of a fight on the tariff for the reduction of the duty on wool, the sheep-growing interests of the country get frightened and give up the business. There was a time when the sheep business meant wool almost exclusively; it does not mean that now. It means mutton more particularly now than wool. The fleece, of course, is an important factor along with the carcass, but if the worst comes to worse, and the tariff is taken off, there will still be sheep kept in the United States, because we need the mutton and must have it, and wool would still have a value that would help some in paying expenses.

We are going to keep sheep and raise sheep in this country. We have large districts of grazing lands that can be utilized to better advantage in sheep-growing than in any other way. Sheep are the most economical grazers on rough lands than we can use. They beat cattle or horses, and they are adapted to a convenience that no other animal is; they flock together, do not stray away and get lost; they need a guide and a protector and they are willing to go onto the mountain tops, into the forest, onto the desert or any place the shepherd directs.

No, we cannot give up the sheep business in the United States, because the tariff tinkers are busy agitating less tariff or no tariff. It would seem to one who has passed through repeated wool tariff agitation that the wisdom of the past lawmakers might be given some consideration, and a subject that arouses so much opposition in the honest sentiment of the people be settled upon a basis of revision rather than absolute revocation. The tariff at the present time, and under the present status of legislation and agitation, is of no value to the sheep raiser or wool grower, and has not been for the last year. It has simply been operating as a price-depressing influence; it is the means of unrest and inactivity among the big sheep growers and wool producers; everything is on a free trade basis, so far as wool prices and wool prospects are concerned.

The sheep business of the United States deserves a great revival instead of a present serious depression. The farm flock industry should represent many millions of dollars increase in mutton and wool in practically every state in the union, from a business and economic point of view. Sheep are adapted to farm conditions and should be kept in order to help supply the present great deficiency in our food products, as well as to clothe our people. Our meat-producing animals are below the demand to supply our people with this feature of food necessities, and we should not feel obliged to resort to the shipped-in product as long as our producing ability can be made to feed our own population.

The loss by fires in the national forests during 1912 was less than for a number of recent years. Less than one acre to every thousand was so destroyed.

Alfalfa Seed Growers

The prices paid for alfalfa seed during the last ten or a dozen years seem extravagant and useless, when one considers that it is within the ability and control of any alfalfa grower, who produces an acre of this crop, to provide himself with seed, if he is so determined. There are very few years that are not suited for seed development at some period of the harvesting season. The price of alfalfa seed has been from $10 to $15 per bushel to the user, and seed raisers have grown rich in devoting their attention to this feature of the crop.

Occasionally there is published some extraordinary yield of seed, but generally there is not much said about it, the seed raisers seemingly not caring to stir up the seed-raising inclination among their neighbors. Possibly, the uncertainty of getting a satisfactory yield of seed has kept some from becoming enthusiastic over the seed feature of production. The desirability of the hay crop has influenced many to view it in its quick feed-making tendencies as too valuable to take any chances in seed production and, therefore, take it in its hay crop condition and rush it into mow or stack. Too valuable to risk for seed is the estimation of some.

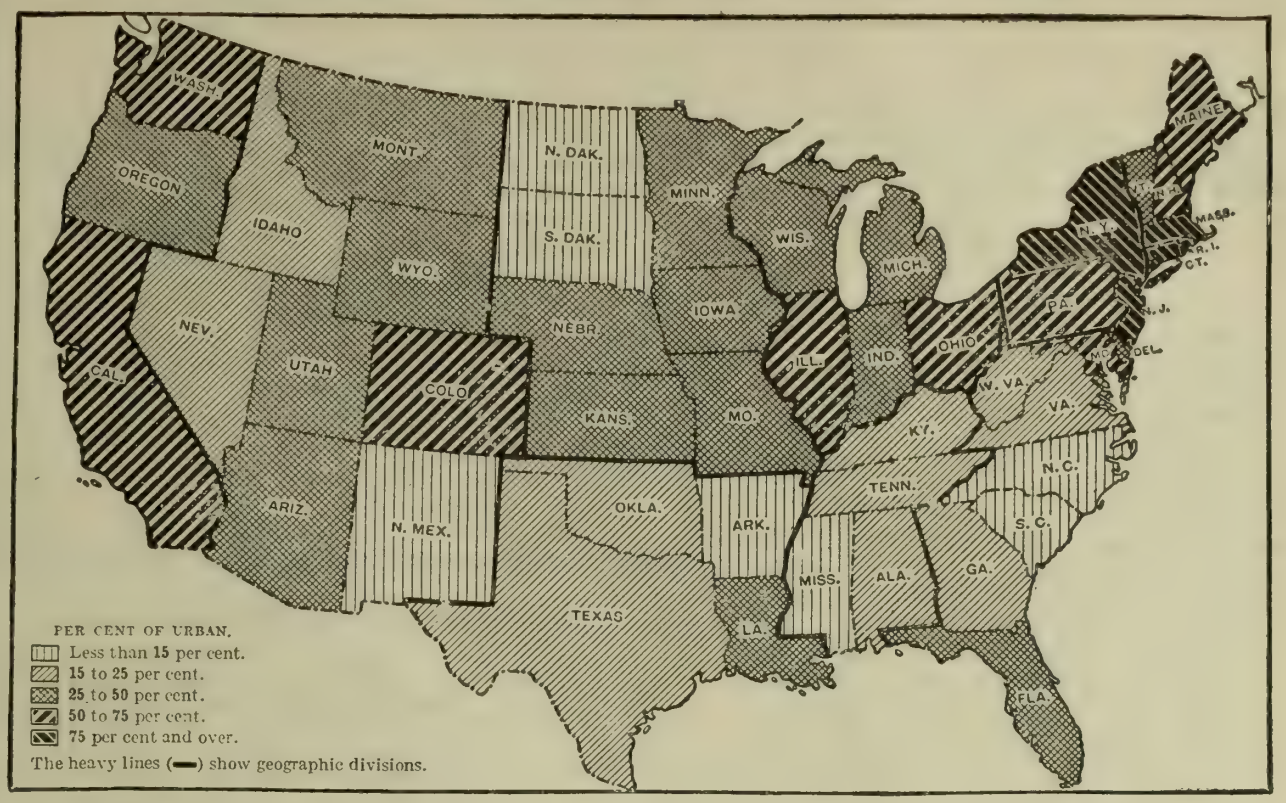
We have recently come into communication with Wiley Alcorn of Jewell county, Kansas, who has had some very remarkable experiences in alfalfa seed-raising and alfalfa crop production. Mr. Alcorn on an eleven-acre field of alfalfa secured for his 1912 crop as follows: Three cuttings, or three crops, were taken off this ground last year. The first was a hay crop, which made twenty-four tons; the second cutting was a seed crop, which yielded sixteen bushels per acre, or 176 bushels for the eleven acres. The third crop yielded nine tons of hay. The first and third cuttings were sold at $14 per ton—thirty-three tons—$462. The straw from the seed threshing was sold for $10, and the seed, sixteen bushels per acre on the eleven acres, 176 bushels, was sold at $9 per bushel—$1,584; thus the total proceeds of the crop was: Seed, $1,584; hay, $462, and straw, $10, making a total of $2,056, or $186.90 per acre.

This field had been in alfalfa fourteen years, producing four crops per year. This was the first seed crop ever taken from it. The extraordinary yield was attributed to the very dry period during the development of the second crop, favorable for seed production. In wet seasons, Mr. Alcorn says, he is able to get four big crops of hay, but no seed. This is the usual experience with alfalfa raisers over the Missouri valley alfalfa districts.

It might be a good precaution for alfalfa raisers to keep a sharp lookout for the dry periods in the development of the crop, and when there is a good seed prospect in sight let the crop stand for seed. A number of Twentieth Century Farmer readers reported their mistakes in cutting alfalfa that would have produced large seed yields if they had been thoughtful in this respect.

One eastern Nebraska farmer in 1911 had his attention called to the seed formation by his little girl, who brought him a drink of water to where he was mowing down a field of alfalfa. He concluded he would profit by the suggestion that it was developing seed, and left three acres uncut, which yielded thirty-three bushels of fine seed and which he sold at $12 per bushel. This illustrates the value of the girl on the farm, and if he had had one or two more observing girls he might have had a thousand bushels more alfalfa seed to sell.

Per Cent Urban in Total Population



This map shows that the largest per cent of people live in cities instead of upon the farms and in the small towns. New York, Massachusetts, Connecticut and New Jersey easily take the lead. Minnesota, New Hampshire, Ohio, Pennsylvania, Illinois, Colorado, California and Washington show the next highest percentage of city dwellers. This map is instructive, as it casts an important side light on commercial industry and agricultural development.

Kansas State Fair

Kansas has at last recognized the importance of a state fair above the mere feature of location. Kansas has for several years been embarrassed by rival points for state fair location. This has been one of the hard things to overcome, and can only be mastered in a general way by contest, as there are always several locations in a state prepared to handle the fair, and all centrally located towns or cities believe they can make a good showing. Kansas has had two very good fairs, each claiming the name of state fair—one at Hutchinson and one at Topeka.

The legislature has repeatedly been asked to recognize one or the other of these organizations, as the legally established state fair, and put it under the care and supervision of a state fair commission or board of directors. This contention has recently been decided by the law-making bodies at the Kansas legislature. The Hutchinson location has been selected and the management will be composed of five state fair managers, four of whom will be members of the State Board of Agriculture and the fifth the secretary of the State Horticultural society.

A former state fair official, speaking in reference to the new venture, says: "The law governing the newly organized State Fair association is very broad and gives the board of state fair managers unhampered authority. It is one of the best state fair bills enacted by the legislature of any state, and under such authority, together with good management, the state fair of Kansas will be a success."

It is not anticipated that a very large appropriation will be made, if any. These fairs have so far both been getting along without state appropriation, and the legislature may give them a chance to demonstrate what they can continue to do for themselves when the state is lending its name as backing to one located at Hutchinson. Kansas should come forward now with increased earnestness in its exhibition, and the state should assist with improvements and premiums as liberally as is consistent, realizing that this is one of the great educational enterprises of the state. It goes hand in hand with agricultural education on the farm; it backs up the very best the state is doing by its exploitation of improvements in crops, live stock and every feature of farm and home improvement and betterment.

Kansas should now unite to give one of the best state fairs held in the central west. It has the products, it has the men of public spirit and it can very soon gather good, practical fair men from within its own borders to supervise and manage the exhibition.

The Lovell State bank in the Big Horn Basin has taken the initiative in supplying farmers with dairy stock. A trainload of such stock will be shipped into the Big Horn Basin. Other banks in the basin will follow their example. The cows will be turned over to the farmer at cost and the purchaser will be given one or two years' time at 10 per cent interest in which to pay for them. This is good enough for that territory.

Activity in Breeding

There has never been a more active demand for all classes and kinds of farm breeding stock. In horses there seems to be a disposition among farmers east, as well as west, to go more extensively into raising of colts. Ohio and other states east are buying good western range mares to raise mule and horse colts, as the owner may fancy. The demand is for mares on the farm, rather than geldings. The farms are short of stock and generally pretty well supplied with good crops of grain and hay from last year.

The breeding cow demand is at a high stage all over the country. The milk cow prices are almost double that of five years ago. Good milkers are selling at from $75 to $100 for city dairy purposes. There is a farm demand for a good grade of young cows and heifers that cannot be filled at any price. This kind of stock is generally located where needed for breeding purposes and is not for sale.

There is a constant farm demand for breeding ewes, in small lots. The beginner is advised that the best kind to start with is a few young ewes, and this is creating a breeding ewe inquiry.

The old brood sow is always in good luck, and so is the man who is fortunate enough now to own her. She is needed on the farm where the corncribs are yet full, and likely to remain full until the next crop is well on the way. This breeding tendency is a healthy indication for a good trade in live stock for the coming year at least. A big general crop, which is the forecast for 1913, will see live stock prices soaring still higher.

Recent terrible experiences in the Missouri valley will convince farmers that tornado insurance is a good investment.

Queer Stores and Trades of Mexican Capital

By Frank G. Carpenter

MEXICO CITY—Come, take a walk with me through the business sections of Mexico City and see how our lively sister republic buys, sells and gets gains. It is now 2 p. m. and we are on the Avenue de San Francisco, in the heart of the capital. It is the busiest hour of the day in Washington, Berlin, Paris and London. Here the streets are deserted, the stores are closed and their show windows are covered with blinds of corrugated iron. The front doors of the chief business establishments are locked with great bolts, and the town makes one think of the dead city of Nijni-Novgorod, on the Volga, when the fair is not on.

What is the matter?

Has the revolution again broken loose and have the people fled for their lives?

Nothing of the kind. These are the business conditions at 2 o'clock every week day all the year through. The stores have been open from 8 until 1, and they will open again from 3 until 7. They are closed now for breakfast, and the whole city, merchants and clerks, drummers and customers, have gone home for their breakfast, or midday siesta. The average Mexican family has only coffee and bread upon rising, and its first real meal of the day is now serving. The city will take two hours to eat and start it on the road to digestion, and will then go back to work.

Take your stand on the corner and look up the street. An hour ago it was black with people, and the automobiles and carriages flew back and forth so that you could not cross without the risk of your life. Now there is not a car nor horse to be seen, and the only men are the policemen, who stand and mope at the corners.

Transportation in Mexico City

But let us go down to the Plaza, and wait till the street cars bring the crowds back from their breakfast. The Plaza is the street car center to which nearly every electric line comes. They run in trains, a dozen often being nose to tail on the same track, and the midday traffic forming a big part of the receipts of the road. Our tramway companies get only one trip out of the business man every day; that is, his fares, morning and evening. Here there are two more fares at midday, for almost all go home to their meals. The cars wait for the stores to knock off and run in long processions when bringing them back.

The service is good and the average fare is equal to 3 cents of our money; or, if you go second class, they are cheaper. All kinds of traffic here are lower than ours. Cabs cost 50 cents gold per hour, and you can have an automobile taxi at 15 cents for the first three-quarters of a mile and at 5 cents for every additional quarter thereafter. Waits are charged for at $1.25 per hour. This is so, notwithstanding the cabs are as good as our own, and they go quite as fast.

But it is now 3:30. The cars have emptied the clerks and customers into the stores, and business is well under way. Let us cross the Plaza and stroll through the arcades which run along its west side, with stores at the back. Between the pillars are booths, where peddlers are selling all sorts of notions. The stores have goods of many descriptions behind their old-fashioned glass windows. The most interesting of all are the hat stores; they contain headgear of all sorts, from the most modern men's shapes of New York and London to the gigantic sombreros of plush and felt which the old-time Mexicans wear. These sombreros are loaded with silver and gold in the shape of embroidery, and most of them have heavy bands of gold braid round their crowns.

Let us stop and look at some of them. Here is a hat as big around as the tire of a limousine; it is of bright red, trimmed with silver; the embroidery runs round the crown, and it has eight strands of silver wire as a hatband. That hat which hangs above it is gray; it is embroidered with leather, and at the right and the left are two sombreros of black, laced back and forth with great bands of silver. There are hats as green as the wing of that parrot which the peddler has thrust into our eyes, and hats of plush as white as snow, with golden embroidery woven about them. I take up one of these sombreros and put on a blanket to make myself look like a Mexican, and am photographed to show how they look. My hat weighs several pounds, and it is worth $40.

Other clothing costs almost as much. I go into a tailoring establishment further on up the street and look at some riding trousers of buckskin, with solid silver buttons lining the seams. A fine pair costs $20, and the short roundabout jackets embroidered with silver are likewise as high. I enter a saddle establish-

No-Rim-Cut Tires
10% Oversize

Not Built Like Old-Time Tires

Goodyear tires of today are not built as they once were, nor as others build tires now.

Goodyear success is due to ceaseless advancement. Every increase in sales came through increasing mileage.

And now, after fourteen years of betterments, scores of our experts spend all their time on research and experiment.

How They Work

These men wear out, on a metered machine, hundreds of Goodyear tires.

To get our tread as we make it today, 40 formulas were compared—by actual metered mileage.

To get a fabric which would stand all strains, 200 fabrics were tested out, and mileage results recorded.

These comparisons have gone on for years and years. And they still go on night and day. For we know that no tire can lead in sales unless it also leads in mileage.

What They've Done

This research department cost us about $100,000 per year. On this year's output that's about five cents per tire.

But note the result:

All the remarkable mileage you get from Goodyear tires is due to this ceaseless improvement.

No-Rim-Cut tires—the tires that end rim-cutting—were developed in this shop. With the old-type tires, 23 per cent met with rim-cut ruin.

And from this shop came the 10 per cent oversize, which adds one-fourth to the average tire mileage.

Men Not Misled

In these days of odometers, men know which tire serves best. And that tire alone can outsell all others.

Under this test Goodyear tires have outsold every other tire in existence.

And the sales have doubled over and over, as the tires became better known. Last year's sale by far exceeded our previous 12 years put together.

That's the result on actual use, on hundreds of thousands of cars. And you'll adopt them, like the rest, when you once try them out.

Average Profit $2.90 Per Tire

Here's another reason why you get so much in a Goodyear tire. Our average profit last year was but $2.90 per tire.

Goodyear tires cost all the way from $15.55 to $104.95, according to size and type. The most popular size—34x4—costs from $32.95 to $37.90, differing with type and treads. And our average profit on all these tires was exactly $2.90 per tire.

That's why you get at the Goodyear price tires with so much mileage. Tires that can't rim-cut—oversize tires. This is due to the fact that so much of the cost goes into things that count.

No other tire in all the world offers you equal value.

GOODYEAR
AKRON, OHIO
No-Rim-Cut Tires
With or Without Non-Skid Treads

Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO
Branches and Agencies in 103 Principal Cities . More Service Stations Than Any Other Tire
We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits
Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

ment next door, which has saddles and bridles with trappings of silver, and am told that the haciendado often spends several hundred dollars on his equestrian outfit in addition to the cost of his horse.

This land is one of the rich and the poor. The rich have so much that they squander their money, and the poor are so desperately so that they do not realize how poor they are. The most of them dress in cotton, with a blanket which costs not more than a dollar. They have leather sandals which are nothing more than two strips of thick cowhide large enough to cover the sole of the foot and tied on with strings. Such footgear costs about 25 cents a pair.

Some Queer Signs

But let us go on with our walk. Look at the sign over the store in front of which we are standing. You might think those letters spell "Hats and Sombreros." They do not. They read, "Puerto del Sol," or "Gate of the Sun." A little further on is a barber shop called "La Perla," or "The Pearl," and around the way a tobacconist sells cigars and cigarettes under the sign of "The White Cat." I know of a pulque saloon—pulque is the beer of the peasant—which goes by the title of "The Sanctuary," and in the Street of the Holy Ghost there is another called "The Hang-Out of John the Baptist." Some stores have such names as "Vesuvius," "The Violets," "The Pearl of the Occident," "The White Rose," "La Perfumista" and "The Drinking Place to Hidalgo." The old-time merchant never puts his own name over the store, but, like the Chinese, chooses instead some fancy title which gives no indication of who he is or what he is selling.

Old Business Methods

The customs inside the stores are as strange as the signs; it is only the department stores and principal shops which have any fixed prices, and you are usually asked three times what the merchant thinks you will pay. This is especially so as to foreigners, whom the clerks are sometimes allowed to charge what they please, in which case they may receive a percentage of all over the regular price.

There is but little cutting of prices. Our motto is quick sales and small profits. The motto of the Mexican merchant is big profits, no matter how slow the sales, and he keeps his goods on the shelves until the price is paid. He buys on long time, and one and two years' credit is not uncommon. He sells largely for cash and he often gives credit. But I am told he will not pay cash, even if he has idle money, when buying new stock.

I find that mercantile credits here are as good as those of the United States, although many men charge that the Mexicans are tricky in dealing. They are said, however, to meet their bills, and it is claimed that 90 per cent of these long credit sales are paid in full. The English and Germans understand this and take advantage of it, whereas the American more often demands cash with the order, thereby losing a sale.

Fine Stores in Mexico City

There are now many American stores in the Mexican capital, and most of them have fixed prices marked in plain figures, but, even so, you can get some reduction in these days of hard times. About the finest establishments are the jewelry stores; they are filled with gold and silver trinkets from Paris and with precious stones of all kinds. I find such places in almost every block, and along the Avenida San Francisco are many which would be a credit to Boston or New York. There are also big groceries, dry goods stores and hardware establishments. The curio stores are interesting; they sell Mexican drawn work, stamped leathers in the shape of pocketbooks and purses and Spanish fans, laces and mantillas. Nearly every such shop has a half-peck or so of opals, which it sells by the piece or the handful, according to quality. Some of these stones are beautiful, and an especially fine one will bring $100 and upward; others, which may reflect all the colors of the rainbow, are bunched together and sold at a few dollars a pint.

There are cigar stores everywhere. Everyone in Mexico, from the lately weaned baby to the gray-haired old grown-up on the edge of the grave, smokes cigars or cigarettes; this is so of male and female. Mexico makes excellent brands of tobacco, and that about twice as cheap as in the states. You can get a fairly good cigar for a nickel, and one that costs 10 cents here would be worth 25 cents in the United States. The cigarettes, which are often put up in black paper, look deadly, but the tobacco in them is mild, and I am told they are good.

American Shops

As to the men who are doing the business, Americans own most of the stores selling curios, hardware and drugs. The French have the fine dry goods business, and the Germans have big establishments of various kinds. Many of the latter are bankers and others are wholesalers. The German merchants as a rule speak Spanish and not a few of them have Mexican wives. As to the Spaniards, they hold somewhat the same place that the Italians do in the United States; they have the corner groceries, and they also peddle goods all over the country; some of them stay here only a short time and then go back to Spain to spend what they have made.

A Land of Small Business

Mexico has many house industries and there are towns that make certain kinds of ware which are peddled about over the country or sold in small shops by the natives. About every city market you will find booths devoted to fancy work, pottery, shoes or cheap dry goods and notions. Every town has its plaza or public square, and around this are arcades upheld by pillars which run along in front of the stores; these arcades are filled with petty merchants, whose establishments consist of a cupboard and counter set against one of the pillars. These peddlers sell all sorts of things and they are of all ages and of both sexes. Here the wife of a shoemaker stands with her back against the wall and a half dozen pairs of sharp-toed children's shoes on the flags before her. Next her is a black-bearded man peddling bridle bits and ornamental Mexican spurs, while near him, perhaps, is a cane peddler who has carved sticks to catch the eye of the tourist.

In all the villages there are little stores run by Indians, and here there are street peddlers and market men who do not average more than $5 or $10 a day in the amounts of their sales.

Mexico City is full of peddlers, and they accost you on every block. There are hundreds of men and women selling lottery tickets. I meet one such every time I go outside my hotel; he is a native Mexican, six feet tall and as heavy as former President Taft; he has a bright-colored blanket over his shoulders and on his head a sombrero as big as an umbrella; he also wears a red shirt and trousers and a brown jacket, gayly emboidered. This representative of Dame Fortune walks up and down Sixteenth of September street all day long asking everyone to buy his lottery wares. I photographed him today and he insisted on having a copy of the picture the moment I snapped it. There are many lottery ticket sellers about the cathedral and in front of the national pawnshop, and also at the entrance to the ring where the bull fights are held.

Vegetables and Fruits

You must not think, however, that the market business is made up of small trading; it is one of the finest markets on the continent, and I doubt whether better fruits and vegetables are anywhere sold. The celery and lettuce are especially delicious. Nearly every vegetable can be bought all the year round, and the great variety of climates gives you apples, peaches and pears, and also oranges, bananas, pineapples and lemons. You can have strawberries for breakfast from January to December; you can buy a pineapple as big as your head for 10 cents, and fairly good oranges cost a half-cent apiece.

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O. I. C. LINES ARE AS GOOD AS EVERY CLAIM MADE FOR THEM

OH I SEE AND FLYING SWEDE

THE FLYING SWEDE SOARS HIGH ABOVE EVERY COMPETITOR

LINES DIRECT FROM FACTORY

You Pay Oct. or Jan. 1st.

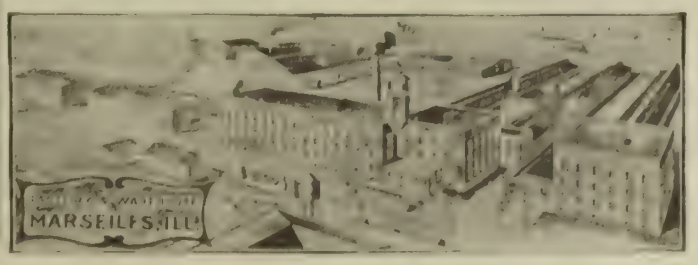
and save the following amounts on each article:

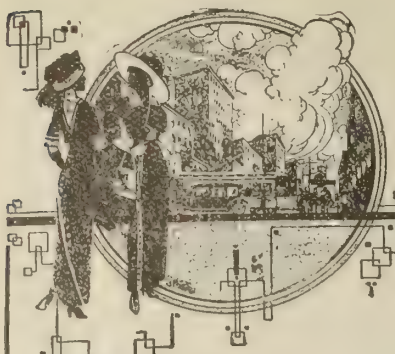
14-inch Gang Plow	$15.00
16-inch Sulky Plow	$10.00
2-Row Cultivator	$15.00
5-foot Mower	$ 8.00
Twine, per lb	$ .02
Grain Elevators	$40.00
Hay Stackers	$15.00
Triple Auto Seat Buggy	$25.00

By ordering from us direct, instead of paying BIG TRUST PRICES to their AGENTS for OLD LINE STYLE MACHINES.

We guarantee our goods to be superior to OLD LINE TRUST MADE, or at least to satisfy you or you don't settle for them, you can order now and pay October or January 1st. We can supply about $800,000.00 worth of goods this year if you send your order in early. We don't charge interest on machines ordered before July 1st. Stocks carried at La Salle, Marseilles, Kansas City, Wichita, Council Bluffs and Minneapolis. We want a good farmer in each vicinity to write to us at once for net prices and Catalog No. 12.

O'NEIL IMPLEMENT CO., La Salle, Ill.





Style, Comfort and Service

Get This Nobby Pump

"SOCIETY" shoes are now worn and approved by discriminating women everywhere. The pump here shown is one of the finest models our designers have produced—Ask for style 5338.

It is made of the finest quality gun metal leather over the new "Vogue" last. The heels are one inch high, which is a happy medium between extreme high and low. The same style is also made in tan leather.

The "Society" is made in many styles at $3.50 to $4.00, according to style and leather. Shoes of the same quality produced by a small manufacturer are sold for about a dollar more.

Our 23 big "Star Brand" factories employ over 10,000 expert shoemakers and produce over 15,000,000 pairs a year. The more we make, the less it costs to make them, You get the benefit of the saving.

Most of the medium-priced shoes for women contain paper and other substitutes for leather, but the "Society" is honestly made of finest leather. No substitutes are ever used.

"Society" and other "Star Brand" shoes are sold by 20,000 good merchants. Don't just go into ANY store and ask for them, but hunt up the "Star Brand" dealer or write to us for name of nearest merchant who sells them.

Always insist upon having the "Society" shoe with our name on the sole and our "Star" on the heel.

"Star Brand Shoes Are Better"

ROBERTS, JOHNSON & RAND
MANUFACTURERS Branch of International Shoe Co. ST. LOUIS

Strong, Lasting CULVERTS

are assured if you demand that they be made only from the well known

APOLLO

BEST BLOOM GALVANIZED SHEETS

"A product without a peer"

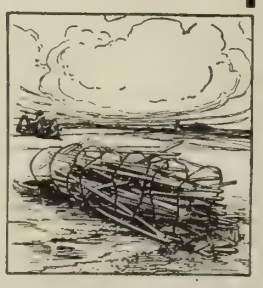
Satisfied users for more than a quarter of a century testify to the superiority of Apollo Sheets for Culverts, Tanks, Cisterns, Roofing and Siding. Insure lasting satisfaction and durability from Culverts on your farm and public highways by demanding only APOLLO. Accept no substitute.

AMERICAN SHEET AND TIN PLATE COMPANY
General Offices Frick Building Pittsburgh, Pa.

A Loss of $1,200.00

This farmer waited until it was too late—are you doing the same?

Less than ten dollars would have saved his silo, mill, etc.



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Missouri Valley Fruit Growing

VII---The Production of Apples

THERE is scarcely any dispute or contention now as to the ability of the Missouri valley being able to produce apples, and of the finest quality. The last few years have been great demonstration years in the matter of correcting the wrong impressions that got into the minds of some uninformed persons in relation to this district as a fruit-growing section. The rehearsal of a few features of production of the four big fruit-producing states we call the Missouri valley states will help clear away the wrong impressions, if there are any existing in the minds of our readers.

In 1910 Nebraska reported 3,708,-2[illegible] apple trees of all ages, 161,591 pear trees, 1,397,117 peach trees, 647,377 plum trees and 736,460 cherry trees, a total of 6,650,768 trees of the five principal standard varieties of fruits successfully grown in Nebraska. In 1912 the report gave only those of bearing age, which showed 2,694,250 apple, 91,-362 pear, 744,121 peach, 411,884 plum and 55,860 cherry trees, a total of 4,523,477 trees of bearing age, representing an orchard acreage of 54,000 apple, 13,500 peach, pear and cherry trees, a total orchard acreage of 67,500.

The production of the Nebraska apple orchard for 1912 is reported at 7,378,899 bushels, with an orchard, or farm value, of $1 per bushel. This price was taken during the apple-picking season, when many sales were being made at this price for good quality of barreled apples. Nebraska's 1911 crop of apples was practically 10,000,000 bushels, thus showing that it is not just a happen-so circumstance, but a usual thing, to get a crop of apples. Many orchards have reported average annual yields for the last five years that have netted their owners from $2,500 to $5,000. Since the orchard is being looked after in matter of attention to protect it from insects, frosts, etc., the results are as reliable in an every-year yield as they are in any locality in the United States.

Nebraska in 1910 reported 57,403 farms with 2,937,000 apple trees of bearing age and 29,920 farms with 967,000 apple trees not of bearing age.

Iowa had in 1910 148,759 farm reporting 5,847,000 bearing apple trees and 74,687 farms with 1,914,-000 apple trees not yet of bearing age. Iowa's apple crop of same year was 6,747,000 bushels.

Missouri had in 1910, 181,396 farms reporting 14,360,000 apple trees of bearing age and 75,035 farms with 3,625,000 apple trees not of bearing age. The apple crop for that year was 9,969,000 bushels.

Kansas in 1910 had 1[illegible],920 farms reporting 6,930,000 apple trees of bearing age and 36,371 farms with 1,116,000 trees not yet of bearing age; the apple crop was 1,356,000 bushels. The apple orchard that this represents, allowing fifty trees to the acre, gives this Missouri valley district of four states an acreage of 773,920.

As a matter of mathematical diversion, these figures may be made to show some very interesting comparisons that will assist in giving a comprehensive view of the present extent of apple culture in this district of country. The aggregate of apple orchard in these four states is represented by 38,696,000 trees, at three bushels per tree yield of fruit, which is practically that of the Nebraska orchards for the years 1911 and 1912, we have 116,088,000 bushels. This estimate by barrels would put the figures back to 38,-696,000 barrels, which, in carlots, at 150 barrels per car, would require 257,973 cars to transport to market. These cars, at thirty feet in length, would represent a train 1,466 miles long, a distance greater than the combined width of all these states by 570 miles.

Can it be said, after going over the above figures, applied to these four states in their apple production, that they are not in the apple belt,

Smudge Pots Going on Frosty Nights

or that they have not made a pretty creditable start in the matter of fruit production? States that have been lying here in this Missouri valley country for the last fifty years, not doing much but raising corn and hogs, wheat and cattle, oats and horses, barley and sheep, and the other little side issues that go to make a great agricultural, live stock and grain-growing country. And now they are experimenting in the apple and general fruit industry, with some pretty strong evidences that they may take a notion to furnish the world with apples, just as a side line.

This feature of orchard improvement has been in use all over the mountain and Pacific fruit-growing districts for years and is a recognized necessity there. Its importance here in the Missouri valley and in the farther eastern states will be appreciated just as rapidly as fruit growers become converted to the commercial fruit industry. When a man makes up his mind to pursue a certain line of work, as a business, he then plans to make it a success by introducing all the essential appliances, and the frost controller is the one above all others that must be secured.

The matter of organization has been discussed and co-operative handling of the fruit crops has been one of the greatest sources of satisfaction to the grower, both in point of disposing of the produce and in securing better prices than the single shipper and unskilled dealer.

The possibility of late spring frosts has been a matter of considerable concern to the Missouri valley orchardist, just as last spring, with its storm and freezing, demonstrated to the whole country—north, south, east and west—that we have no district of country exempt from frost damage. Florida and other southern states have lost their crops under these adverse conditions. California and other Pacific states have lost their crops under similar circumstances. The climatic governing conditions cannot be relied upon implicitly in North America in the matter of fruit security.

The ingenuity of man must be called into operation and artificial heat used to fight off the frost by tempering the atmosphere in the orchard. This is quite successfully accomplished by the use of the orchard heater, a cheaply constructed sheet iron pot into which is put crude ground oil of the cheapest quality. These are lighted and left burning from about 2:30 a. m. to daylight, on the mornings that frost is feared. There are used from fifty to eighty of these smudge pots, or orchard heaters, to the acre.

There are dozens of large orchards in Nebraska installing this system of frost protection. One crop saved would pay for the heaters and oil used to last a lifetime. The noted orchard of Isaac Pollard & Son, at Nehawka (Cass county), Nebraska, of 170 acres, has installed an orchard heater plant of 5,000 heaters, and an oil reservoir that holds 27,000 gallons of oil. This firm has sucessfully combated the elements and saved their apple crop by the use of the heaters.

In a large orchard like this one it requires plenty of help that can be gotten out and at work in the orchard upon short notice. The temperature is closely watched and pots filled, when the evidences point toward the danger line. All the force is ready to apply the torch when the command is given. Each man is equipped with a torch, which he carries in one hand, and a small can of gasoline in the other, from which, by pressure on the bottom, a squirt of gasoline goes into the open pot of oil and, with a quick movement, the torch is applied and, without stopping, the man with the torch and can of gasoline walks rapidly through the orchard from one heater to another, spreading fire as he goes, and as rapidly sending a great volume of smoke heavenward.

One hundred and seventy acres is a large body of land when divided off into strips thirty feet wide, and requires many steps to cover it; consequently, there must be several operators and quick work done, as the frost makes no allowance for lack of preparation; nothing but a smudge pot, throwing off its great cloud of black, bad-smelling smoke, has ever been able to hold the frost at a safe distance and defy its blighting influence.

Wyoming Horticultural Report

The Wyoming State Board of Horticulture has issued its fourth biennial report, which has been prepared by its secretary, Aven N. Nelson of Laramie. This very tastefully prepared book contains seventy-two pages, giving accurately defined information of what has been done by the state horticultural bureau along the numerous lines of experimentation and demonstration work carried on by this department. It is profusely illustrated, showing great growth of fruit and trees. It is certainly a good text book for all persons who wish to get accurate and reliable information about Wyoming's fruit-growing capabilities.

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Make All Your Fields Pig Tight

No matter how good your fence, unless you have gates to match, pigs and other small animals go through, losing forage—profit—you might just as well have.

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BROWN FENCE BIG BARGAINS in Fence. 150 styles—13 cents per rod up. We pay freight. Send for bargain fence book and sample to test—ALL FREE. THE BROWN FENCE & WIRE COMPANY DEPT. 69 CLEVELAND, OHIO

Dealer's Estimate $1400 - Ours $700

This is a true story—the name only is changed. Bill Jones, a Dakota farmer, sent the bill of materials for his new house to three nearby lumbermen. Their estimates were $1400, $1672 and $1382. Jones thought them high, yet knew not how to avoid being held up. Fortunately, he saw our advertisement in his farm paper. At once he sent his bill of materials to us. A week later he had our estimate of $700. Needless to say he sent us his order. He saved $700, and was more than delighted with his lumber. We can save you money just as we did "Bill Jones."

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We carry immense stocks. Can ship you anything you want in the way of lumber and materials. Make all shipments within an average of 24 to 48 hours. Seven great transcontinental railways hurry our shipments to destination—reach points west of Mississippi within an average of two weeks. Deliver our shipments at your station at 40¢ to 60¢ saving over prices of every competitor, local or otherwise.

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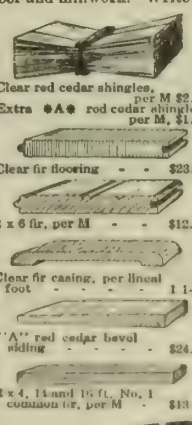

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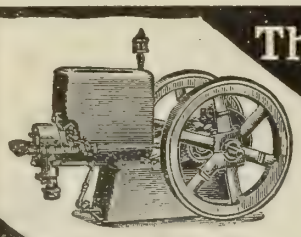

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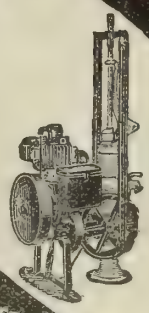
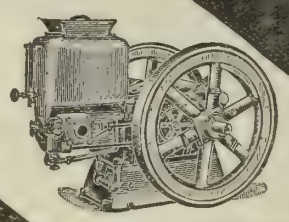


Farm Pump Engine



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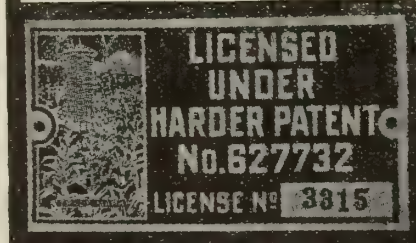


Another Victory for Licensed Silo Manufacturers

Judge Ray of the United States District Court, in December, 1912, holds Silo Construction with Continuous Door Opening from top to bottom and with braces and reinforcing strips for the door sections, whether "applied to the walls of the silo perpendicularly or horizontally or whether applied independently or in combination with the braces," is an infringement of the Harder patent.

This decision is sweeping and all purchasers of silos should now insist on only those silos which have the above license plate.

Only the best and most reliable silo manufacturers in the country have been licensed under the Harder patent and have the right to use the license plate like the above.

Be sure to compare the above license plate with the one put on the silo when you purchase it and thus insure Safety. All our licensees supply this plate free to their customers.

UNITED STATES SILO COMPANY, Dept. 34, Anderson, Indiana

Mention The Twentieth Century Farmer.

Is Sweet Clover a Hog Forage?

By John W. Evvard, Iowa Experiment Station

THAT the so-called weed, sweet clover, should have any merit as a hog forage is quite a surprise to some of us. When we realize, however, that sweet clover in the first year of its growth was superior to a good stand of red clover in 1910 at the Iowa experiment station we are somewhat willing to listen to a sweet clover story. This story of sweet clover as a hog pasture appears in a bulletin entitled, "Forage Crops for Swine," just published by the animal husbandry section of the Iowa experiment station. The details of the trial, as well as that of other forages, such as rape, red clover, alfalfa, blue grass, field peas, oats, etc., are included. A postal to the Bulletin section, Iowa experiment station, will bring the bulletin to you.

A comparison of sweet and medium red clover in 1910 at Ames showed that the gains upon medium red, corn costing 60 cents a bushel, were $4.29 a hundred as compared to $4.26 on sweet clover. The net profits per acre, however, were in favor of the sweet clover. When corn cost 50 cents and hogs sold for $5, the profits on the sweet was $42.07 as compared to $36.44 on the red. When the hogs sold for $7 the profits were $105.93 on sweet and $94 on the red. The profits in the first case are $5.63 in favor of the sweet clover and $11.93 where the hogs sold for $2 higher, or $7 as compared to $5.

The second year's growth of sweet clover, however, is not very valuable for hogs simply because it tends to grow too rank and woody. The only remedy, of course, is to pasture quite closely, thus keeping tender growth always before the stock. One big advantage, however, the second year is the early pasture furnished, the sweet clover running a race with rye and wheat for first honors.

Sweet clover is a legume or nitrogen gatherer, belonging to that great family of plants to which red clover, alfalfa and soy beans belong. The quick-growing tendency of sweet clover, combined with its heavy yielding ability, make it a superior soil enricher.

The protein content of the dry matter in sweet clover is exceptionally high. One of our samples of yellow variety ran 22.8 per cent, while the white sample ran 29 per cent. This was the entire plant of the first year's growth; the yellow was somewhat more mature than the white, which probably accounts somewhat for the big difference. This same sweet clover ran especially high in calcium, one of the premier bone-forming elements, of which there is in the body two-thirds as much as of nitrogen. We must remember that 40 per cent of the dry matter of bone is calcium, and that in this element corn is especially deficient, hence we notice that sweet clover is rich in both calcium and protein, which means that it will help balance the corn.

That sweet clover should run as high in protein as alfalfa did not surprise us, an edible of which, taken as the hogs gather it, showed the sweet clover to run 30.33 per cent protein, while the alfalfa ran 30.69 per cent. The sweet clover ran 16.84 per cent mineral elements, while the alfalfa ran 11.03 per cent. The two plants growing side by side the first year show much similarity, but to distinguish between them one needs only to eat of the sweet clover, its bitter taste being an unfailing means of detection.

It is said that live stock will not bloat on sweet clover. We know our hogs do not.

That this bitter principle scientifically called cumarin should be responsible for the nonbloating qualities is probably the case. When we

Twelve-year-old Carleton Quisenberry working the pump for spraying the fruit trees at the Missouri Poultry Experiment Station, one of the men holding spray nozzle just beyond the cart. Wheat was sown in the orchard and is shown about ready to harvest, but the small chickens did the harvesting, as the hens with chickens were placed in their individual houses in the orchard, where hawks could not see the small chickens scratching around the roots of the wheat stalks.

know that cumarin was in olden times often used in medicine as a digestive stimulant, we can see it would be of considerable value to the plant, hence why breed out the bitter principle, as some have suggested? Press rumors have it that the noted Burbank has been working on this problem.

That the bitter principle is not objectionable live stock men affirm. Our cattle, hogs and sheep, once accustomed to the sweet clover, have eaten it without further coaxing, and that the pasture gave results with hogs in the first year of its growth the figures given show.

The Iowa Experiment station would not care at this time to recommend the growth of sweet clover as a hog pasture upon those soils in the state that are well adapted to alfalfa. Alfalfa and red clover should be the standard leguminous crops of the state. Sweet clover, however, has its place and may be used to advantage in certain locations. There are certain types of clay soils upon which sweet clover may fill the niches of need. The hog grower will not make any serious mistake in pasturing fresh growth of sweet clover, as it gives economical gains.

Tools a Farmer Needs

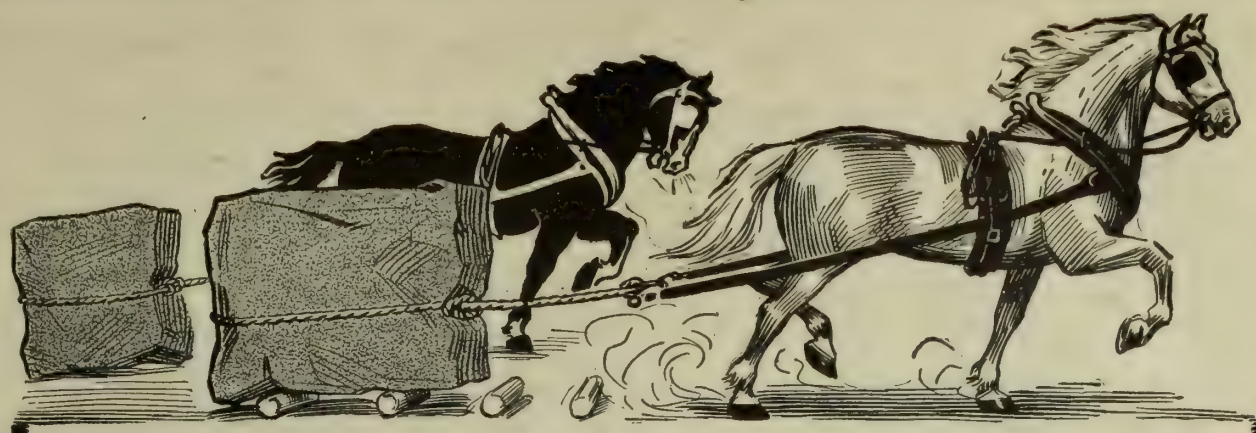
If a farmer has the tools with which to work, he can repair the wagons and the different farm implements during rainy weather. He can replace worn parts, tighten a loose bolt here and another there, and not give the vehicle or implement a chance to break.

If the farm is small, a shop 8x10 feet is large enough for a small, portable forge and a few tools. An earth or concrete floor should be used. When space is needed for your buggy or the lumber wagon, make the shop 16x16 feet; this will be an ideal vehicle shed when the shop is not in use.

The expense of the tools needed on a farm of 160 acres should not exceed from $40 to $50. The wood tools will cost $20 and the forge tools $30. At a cost of $2 or $3 a set of leather punches, awls, rivets, riveter, wax and thread may be bought; this will enable one to do all the harness repairing. Here is a list of tools every farmer should have:

One pocket level, one drawing knife, one rip saw, five-point; one panel saw, ten-point; one half-inch compass, saw, one steel square, one eight-inch sliding tee bevel, one set bits, one each ¼, ⅜, ⅝, and one-inch socket firmer chisels; one expansive bit, one twenty-inch fore plane, one eight-inch try square, one 4x6 lignum-vitae mallet, one eight-inch screwdriver, one eight-inch smooth plane, one ratchet brace, ten-inch sweep; one marking gauge, one three-eighths-inch socket firmer gauge, one 2x1x8-inch oil stone, one ⅛x15-inch bench screw, one pair twelve-inch carpenter's pinchers.

The forge tools are: One forge, one pair twenty-inch straight-lipped blacksmith tongs, one eighty-pound cast iron anvil, with steel face; one one and seven-eights-pound ball peen hammer, one hardie-to-fit anvil, one twelve-pound steel sledge, with handle; one fifty-five-pound solid box vise, one champion post drill, one set dies and taps.



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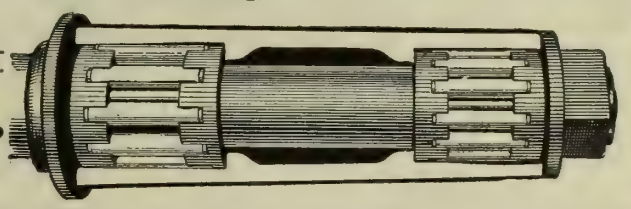

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Omaha Tornado Photographs

The Omaha Bee has prepared a booklet containing thirty views of the tornado that wrought destruction in Omaha Sunday night, eating up 200 lives and destroying $5,000,000 worth of property. This booklet with 7x9 inch pages is now ready. It is priced at 12 cents. Use the coupon below and order now.

The Bee, Omaha, Neb., Tornado Picture Dept.

Send me.....copies of booklet containing pictures of the Omaha tornado.

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Each Booklet is Priced at 12 cents.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do just as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention the Twentieth Century Farmer when writing advertisers.

The Men Who Make Big Ben

About 26 years ago a German clockmaker came from the East to La Salle, Illinois.

His only baggage was an idea—the plan of an automatic process he had invented, and which would make more alarm clocks and better alarm clocks than hand labor could ever hope to turn out.

With the backing of some local merchants and with a handful of clockmakers, a small factory was started on the edge of the town. —Beginnings were hard, competition intense. They weathered storms that would have knocked the fight out of weaker hearted men.

But when success at last came in sight they had built one of the best equipped clock plants in the world and one of the greatest names in the American clock industry—*Westclox, La Salle, Illinois.*

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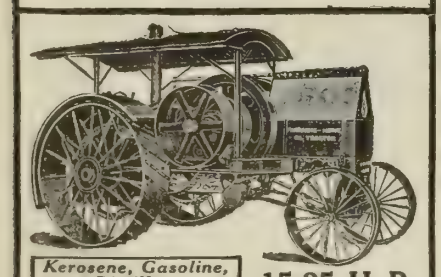

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Stories by Our Young People

April! April! Are You Here?

April! April! Are you here?
Oh, how fresh the wind is blowing!
See! the sky is bright and clear,
Oh, how green the grass is growing!
April! April! Are you here?

April! April! is it you?
See how fair the flowers are springing!
Sun is warm and brooks are clear,
Oh, how glad the birds are singing!
April! April! is it you?

April! April! you are here!
Though your smiling turns to weeping,
Though your skies grow cold and drear,
Though your gentle winds are sleeping,
April! April! you are here!

—Dora Read Goodale.

The Editor's Corner

Beginning with this issue is a new contest, to see which side will have the larger number of prize stories during the next three months. You may write for either side you choose. The boy or girl writing the best story each week receives a very nice book. You will notice that you have new captains also, Walter Stichler, Ord, Neb., for the Red side, and Audrey Akerman, Tompsonville, Mich., for the Blue side. Let us start out and make this a very good contest by sending in well-thought-out and neatly written stories. Let them be your own stories, not a reproduction of something you have read. THE EDITOR.

(Prize Story.)

On the Wrong Side

By Basil Baldridge, Aged 14, Lamar, Mo. Original. Red.

I am a little tan dog and have two masters. One is good and kind and never scolds me or hurts me; the other little master is naughty and runs me nearly to death; he sicks me on the cat when he knows I'll get whipped, and throws me in the creek. But when he sees I am nearly frozen he wraps me in his coat and hugs me until I am nearly smothered. When the good little master gets hold of him and begins "wollering" him for being mean to me, why is it that I fly at him and bite him and tear his clothes? I ought to be grateful unless my heart is on the wrong side.

When my bad little master gets into trouble, which is often, we go out behind the house and cuddle up and love each other and forget our troubles, but when my good master is in trouble and I want to sympathize with him, he says:

"Get out, pup, your feet are muddy."

I'd rather be smashed than not be loved or understood, wouldn't you?

(Honorable Mention.)

Book Fairies

By Adelaide Taylor, Aged 11, Grandfield, Okl. Original. Blue.

Once there was an old dictionary. This was the home of the book fairies. These fairies could talk to people, but they never talked to anyone but a little girl whose name was Ruth. She often came there to find a word in the dictionary. One day when Ruth came into the room she found the fairies very sad. She asked them what was the matter, and one of the fairies said:

"A man came into this room today and was looking for a word. When he found it he turned down a leaf and—"

"Broke my little girl's arm," put in another fairy, "but as we had a good doctor, I think she will recover."

"Why, I didn't think that would hurt anyone," said Ruth, for she was in the habit of turning down the pages in her books.

"Don't turn down another page, for it is very likely to hurt somebody," said a fairy.

"I'll never, never turn down any more pages," said Ruth, and she didn't.

Caught in the Storm

By Nellie Snyder, Aged 15, Provo, Utah. Blue.

Earl and Glen Hutt lived in the village of Fairmont and enjoyed all the pleasures of their many friends, so during the month of January, when there was splendid skating in "Forest Thicket," of course they were among the first to trudge to the pond, which was two miles from their home.

One Saturday the boys left home, with a warning from their mother to be home before dark, but in their sport they forgot, until large flakes of snow were falling from the dark sky. By the time they reached the center of the woods it was too dark to see their way. How their hearts throbbed when they remembered the bear that had been caught in the woods just a month before. So both boys climbed a tree to await their fate.

When they were safely settled on some branches Earl, who was higher in the tree than Glen, gave a dreadful scream; then there was a flutter of wings, and away flew an owl, the cause of Earl's fright. Just then several men came to the boys' aid, one being their father, who was worried when they did not return home when the snow started, and so, to Earl and Glen's joy, found them in time to save them from another scare.

Result of Fred's Fun

By Frank Klein, Aged 12, Pleasanton, Neb. Original. Blue.

Once a farmer left his wagon and team in front of a grocery, near which was standing a crowd of boys. One of the boys, named Fred, threw a stone at the team and it ran away. Before they could be stopped a lady had been run over. She was taken to a hospital. Fred knew nothing of this and went home happy. Here his brother told him it was his mother who had been hurt. It was several weeks before she could come home, and then she went on

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

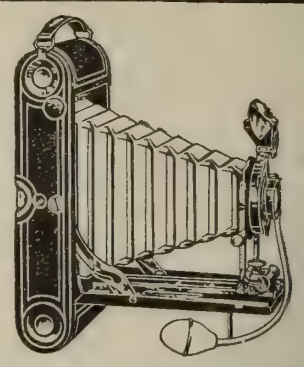
No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Walter Stichler, Ord, Neb.

BLUE—Audrey Akerman, Thompsonville, Mich.



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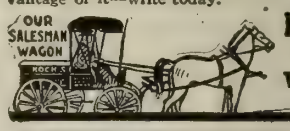

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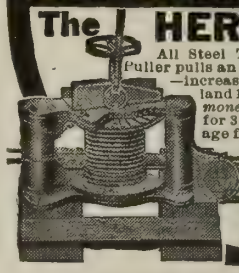

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crutches. Whenever Fred heard her footsteps it brought tears to his eyes, for he knew he had been to blame.

Additional Stories

Blue—Elsie Robson, Scranton, Ia.; Ruby Anderson, Valley, Neb.; Margaret Burlingham, Richmond, Kan.; Lois Hanscom, St. Maries, Idaho; Esther Douglas. Elkhorn, Neb.; Albertina Mullendore, Holton, Kan.; Alice Claytor, Split Rock, Wyo.; Jennie Cruse, Laws, Cal.; Eileen Cruse, Laws, Cal.; Ruth Lyon, Logan, Ia.; Vera Owens, Oklahoma City, Okl.; Alice Waters, Logan, Ia.; Lula Lichenberger, Bradshaw, Neb.; Neb.—The Steamboat Springs a leak. Sioux Falls overboard. Does the Great American Desert? No, he helps Mississ-ippi, Missouri and Mary-land. Did the Dead sea it? No, but War-saw, so Port Said.

Nina Huetke, Wakonda, S. D.—If Henrietta pie, what would Marguerite?

If the editor of the Youth's department wrote a story about a pickel, would it be a "daffy" dill?

Harvey Krogh, Jr., Blair, Neb., Eighteen Months Old

Anna Pillard, Princeton, Neb.; Dena Foster, Cambridge, Neb.; Emma Foster, Cambridge, Neb.; Helen Dill, Tekamah, Neb.; Maria Rathjen, Garrison, Neb.; Luella Asfahl, Riceville, Ia.

Red—Emma Jensen, Minden, Neb.; Mary Hains, Claud Phillips, Winslow, Ariz.; Ruth Rickard, Cairo, Neb.; Lonhart Anduser, Dixon, Neb.; Helen Hindley, Blair, Neb.; Erna Miller, Wakefield, Neb.; Ruth Owens, Oklahoma City, Okl.; Marie Oak, Wakefield, Neb.; Winnie Logan, Logan, Ia.; Rex Miller, Lexington, Neb.; Vernon Gray, Bristol, Wis.; Donald Myers, Hamlin, Ia.

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FIRST PRIZE—Arthur Lamp, Emerson, Neb.: If a thief is crooked, is a magi-strate?

If a man is a pa, is a Pan-a-ma?

SECOND PRIZE—Hattie J. Brakeman, Lancaster, Cal.: When you cauliflower snowball, does it make it chilli?

If the pump-kin water-melons, can rosemary milk-weeds?

G. S. MacLarman, Glade Park, Colo.—

If Jack-in-the-pulpit
Should kiss prim-rose,
And the blue bells toled,
Would the tu-lips close?

Donald Mitchell, Tobias, Neb.—At a dance in the sky, would Neptune the fiddle, Sa-turn the money and Jupiter com-et eight?

Sterling Carter, Gainesville, Tex.—Was Cicero, Ill., when LaFayette, La., in the New Castle, Penn.?

Alvin A. McReynolds, Nehawka,

FLY TO PIECES

The Effect of Coffee on Highly Organized People

"I have been a coffee user for years, and about two years ago got into a very serious condition of dyspepsia and indigestion. It seemed to me I would fly to pieces. I was so nervous that at the least noise I was distressed, and many times could not straighten myself up because of the pain. (Tea is just as injurious, because it contains caffeine, the same drug found in coffee).

"My physician told me I must not eat any heavy or strong food and ordered a diet, giving me some medicine. I followed directions carefully, but kept on using coffee and did not get any better.

"Last winter my husband, who was away on business, had Postum served to him in the family where he boarded. He liked it so well that when he came home he brought some with him. We began using it and I found it most excellent.

"While I drank it my stomach never bothered me in the least, and I got over my nervous troubles. When the Postum was gone we returned to coffee; then my stomach began to hurt me as before and the nervous conditions came on again.

"That showed me exactly what was the cause of the whole trouble, so I quit drinking coffee altogether and kept on using Postum. The old troubles left again and have never returned."

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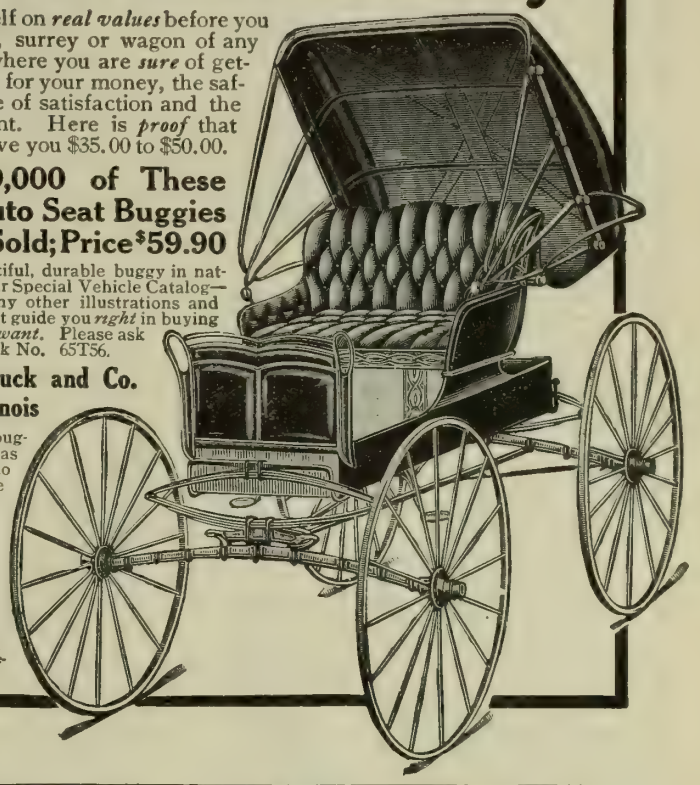

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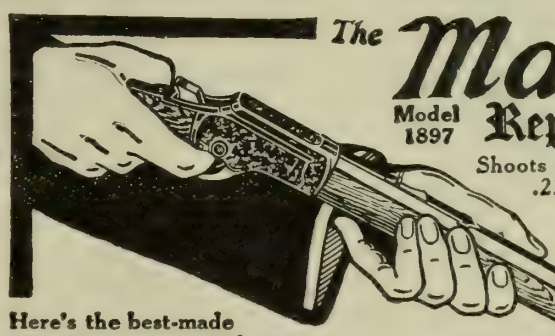

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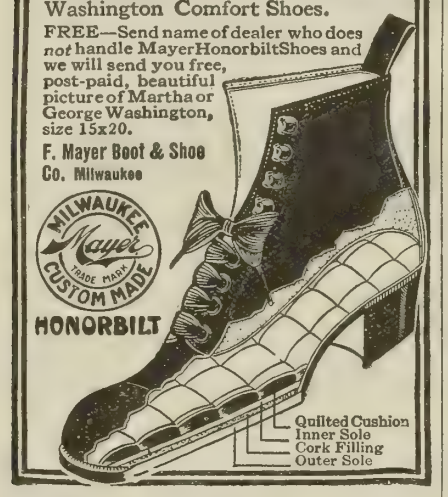

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Of Interest to Our Women Readers

Memory's Mansion

In Memory's Mansion are wonderful rooms,
And I wander about them at will;
And I pause at the casements, where boxes of blooms
Are sending sweet scents o'er the sill.
I lean from a window that looks on the wave,
But I draw down the shade when I see in some glade
A stone standing guard by a grave.

To Memory's attic I climbed one day,
When the roof was resounding with rain,
And there, among relics long hidden away,
I rummaged with heartache and pain.
A hope long surrendered and covered with dust,
A pastime, outgrown and forgot,
And a fragment of love, all corroded with rust,
Were lying heaped up in one spot.

And there, on the floor of the garret, was tossed
A friendship too fragile to last;
With pieces of dearly bought pleasures that cost
Vast fortunes of pain in the past.
A fabric of passion, once vivid and bright
As the breast of a robin in Spring,
Was spread out before me—a terrible sight—
A moth-eaten, rag of a thing.

Then down the steep stairway I hurriedly went,
And far into chambers below,
But the mansion seemed filled with the old attic scent
Wherever my footsteps would go.
Though in Memory's House I still wander full oft,
No more to the garret I climb,
And I leave all the rubbish heaped there in the loft
To the hands of the Housekeeper, Time.

—Ella Wheeler Wilcox.

Our Home Chat

Every age has had its problems; the preceding age had that of slavery. Ours is a problem of peace, but it is none the less vital. There are social problems arising from our complex life, our commercial and industrial conditions that are not confined to the cities, but which obtain in the country as well.

Those who are devoting their lives to the study of these questions are turning their thoughts to the home for the solution. Many are making the charge that even with the conveniences and advantages of the houses, which were not thought of a generation or two back, we are losing our home life. The young people are spending little time in the home and are finding their pleasure in places of amusement.

The automobile and better roads have made it possible for the youth of the country to enjoy the privileges of entertainment and culture which the cities afford, and it also opened up its dangers. It is not surprising that young people are overdoing it in seeking entertainment, and many use poor judgment in their choice of amusements. The home, to hold its rightful place, must offer some substitute. It is not enough to say, "Thou shalt not;" something must be given the young people in way of good times instead.

Under right conditions the home can be the best place for good times, the center of social life, and this is more easily possible in the country. With the prosperity farmers are generally enjoying and the facilities for making the home attractive, this should not be hard, when it is undertaken in the right way. The farm home can now easily have good music; it can be well heated, well lighted, attractively equipped and furnished, at reasonable outlay. But this is not enough; it must have the home spirit. Make it attractive and throw it open to the young people and they will not be slow to discover their welcome.

The farm women are coming more and more to indulge themselves in means of freeing their time from the drudgery of housework and giving themselves opportunity to enjoy their children and assist in directing their social inclinations. The women are beginning to operate the household machinery by motor power; they are beginning to save time and energy by use of fireless cookers, bread mixers, vacuum cleaners, carpet sweepers, powe· washers, etc.

When the mother has time to enter into the social life of the young people, and has the time and energy left after her work is done to really enjoy it, then the home will have its proper place. Young folks have a right to good times and to social gatherings. There is no better place than the home, where innocent fun and entertainment is encouraged by wise and interested parents.

THE EDITOR.

A Busy Day

Well, sisters, I arose this morning at half past 4 o'clock, and after cooking breakfast and putting up a lunch for my husband, who is sawing logs about three miles from home, I wrote a letter. Then I awakened the children and rebuilt the fire in the range and cooked breakfast for the nine of us, including a hired man, and prepared lunch for the four older children to take to school. While breakfast was under way I went out and milked the cow. It was then time for the children to get ready for school, as they have a mile and a half to walk. So I brushed, braided hair, hunted up headgear and mislaid books, cautioned and kissed them all around, and they are off for the day.

But every room is in a tumble and all the floors unswept. Our man was told to cut brush and stick the garden peas. He, having lived fifty years on the treeless, western plains, knew no more about brushing peas than he did about reading Sanscrit, so I must needs tell him, and tell him again, and make several trips to the garden.

Back to the house I come, for I dare not leave baby many minutes at once. I try for a while to bring "order out of chaos" indoors, but time is so precious I leave an unsatfactory job to pick up the week's washing, which is always large. By the time the washing is well under way I find myself going at a steady trot, and no time to look to the right or left, really begrudging the time it takes to attend to the batch of lightbread I am making. Besides, as soon as our man finishes the peasticking he is to prepare several large garden beds, and I must be on hand with "shubble and hoe" to assist in the work rather than to boss, for there is just one way to plant everything, especially so in early plantings. But the clock warns me it is nearly time to stop and cook that hot dinner.

All at once I stop my hurrying. I ask myself the question, "Is it worth while?" I fear the answer is "No." We are not getting so much out of this life that we must kill ourselves just for our board and keep, unless we want to hurry through and be rid of it all. For this rush and hurry will only make wrinkles and stooped shoulders and hustle us off to the graveyard, leaving a lot of work still undone.

I will try to keep this question impressed upon my brain, more for the sake of my loved ones than for myself. So I left my large kettle of clothes boiling, and a tubful soaking, and took my hands out of the suds and am resting while I write, for if I don't finish today, I will tomorrow. This is such a beautiful old world, and has always treated me fairly well, so I'm in no hurry. The soft breezes bring the sweet smell of roses and daffodils from the front yard; the sun shines softly and warmly; the birds are singing so sweetly; it is spring in the south.

NANEY J HAVENS.

Louisiana.

Reliable Recipes

I am very much interested in The Twentieth Century Farmer, and love to read the home department. I send some recipes which I have never known to fail, when the directions are carefully followed. The following is good either as a loaf or layer cake: Four eggs, two cups sugar, one cup butter, one cup sweet milk, one teaspoonful baking powder, well mixed with three cups flour, and a teaspoonful lemon or vanilla flavoring.

I have also found a chocolate icing which never fails to harden: Five tablespoonsful grated chocolate, enough sweet milk to wet it, one cup sugar, one egg and one teaspoonful flavoring. Stir over the fire until mixed well. Beat the egg well before adding it. Add the flavoring after taken off the fire.

MRS. LELA MADSEN.

Some Uses for Old Linen

An old sheet makes an excellent ironing cloth.

In the sick room it may be folded in two and placed under the invalid, protecting the under sheet and saving the washing bill.

When the sheet is much worn it should be cut up, and the best pieces should be laid away in the medicine chest that they may serve for poulticing and bandages.

Table napkins that are considerably the worse for wear will still make capital glass and china towels.

Sheets invariably give way in the center before they are worn at the edges. When they show signs of breaking down in this way they should be cut up the middle, the two sides should be joined together, and a good, strong undersheet is then ready for use, and will wear again for years. When past even this service the sheets may be utilized as dust covers.

Old sheeting may also be sewn up into useful bags for enclosing dreses while they are in the wardrobe or into cushion slips, which can be filled with down or feathers.

Practical Styles for the Home Dressmaker

All the Patterns on This Page Ten Cents Each

ILLUSTRATED here are a few p actical designs, all of which can be very easily made up by the home ressmaker. These patterns allow or all seams and are perfect fitting. ull instructions and a chart accom- any each pattern. All patterns 10 nts each; no extra charge for ostage.

When ordering be very sure to rite your name and address in full nd to give the number and size of ch pattern you want, enclosing 10 nts for each pattern.

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Description of Patterns

4830—Ladies' One-Piece Kitchen pron. The busy woman will no oubt appreciate this apron design, it is one of the simplest ever of- red, besides being neat looking and actical. The apron is cut in one ece and fastens by a single button. he pattern 4830 is cut in sizes 32, , 40 and 44 inches bust measure. ze 36 requires 4¼ yards of 27-inch oods. Price of pattern, 10 cents.

4635—Boys' Shirtwaist Suit. The irtwaist suit is a favorite with all ys. The blouse is made with a ck yoke and with removable collar. he trousers can be finished with or ithout a fly and with leg bands or astics. Serge, cheviot or linen can used to make this suit. The pat- rn 4635 is cut in sizes 4 to 12 ars. Medium size requires 2¾ rds of 36-inch material. Price of ttern, 10 cents.

5658—Ladies' Empire Dress. An ttractive model for an Empire dress here shown. The garment closes the front and is made with the shionable new revers. Serge or shmere can be used to make this ess. The pattern 5658 is cut in zes 32 to 42 inches bust measure. edium size requires 5⅞ yards of -inch material. Price of pattern, cents.

4091—Ladies' One-Piece Corset over. This one-piece corset cover especially desirable for flouncing d is suitable for stout ladies. Its nstruction is quite simple, as there no seam at the back and the gar- ent closes at the front through a x plait. The pattern 4091 is cut sizes 32 to 48 inches bust meas- re. Medium size requires 1¾ rds of 17-inch flouncing, 1⅜ rds of edging, 1¼ yards of bead- g and 3¾ yards of ribbon. Price pattern, 10 cents.

4614 Child's Dress. The sim- lest frock imaginable, cut with a raight lower edge, the material be- g plaited under the arm. It can e made of gingham, challis and milar materials. The pattern 4614 cut in sizes 1, 3 and 5 years. Me- ium size requires 3 yards of 24-inch aterial. Price of pattern, 10 cents.

The Little Seamstress

If mothers would only remember heir own childhood and how they disliked certain tasks, they would be a little more tactful in dealing with heir children. Somehow, the idea in maternal minds seems to be that things must be disagreeable in order to discipline the child. This is true in a measure, yet the mother who wants her daughter to like womanly work will take pains to make the first tasks easy and pleasant, and let the harder ones come later. Too many little girls are put to work making buttonholes in a piece of old goods, or sewing carpet rags or making quilt blocks that never are to be used, and so they hate the otherwise delightful task of sewing most heartily, says a contributor to Farm and Home.

It is so easy to plan the first sewing lessons to make them pleasant. I know of one little girl who was delighted to make a silk bag for her little brother's marbles for her first lesson, though, of course, she had sewed, after a fashion, on doll clothes and bits of bright goods for some months. The wise mother allowed her to sew or not sew, as the notion struck her, and one day the little girl announced her desire to "make something," without any urging. The good ends of a worn-out necktie furnished the material, and the little girl pressed it with her own little iron; then the simple seams were sewed up and the cord run in the top—the bright tinsel from a box of Christmas candy—and the bag was complete. The child was charmed to know that she could make something that did not require weeks of work, and so she wanted to do more.

Often patchwork will be easy and fascinating, if the blocks are large and the work is used immediately for a quilt for the baby or for a small bed or lounge. The mother may help by running some seams occasionally, or some member of the family may lend a hand, so the work will not lag, and in due time the patchwork appears in all its glory on grandma's bed or in daily use.

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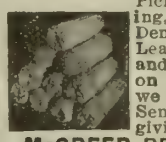

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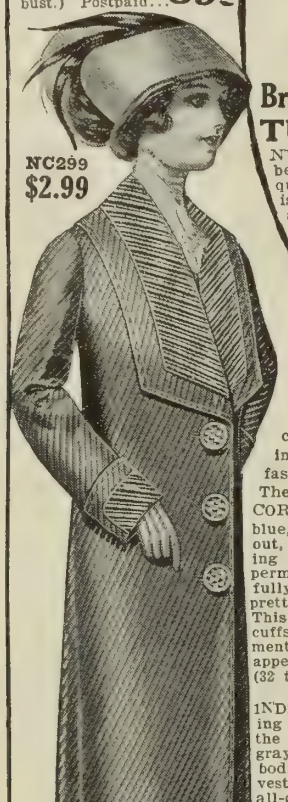

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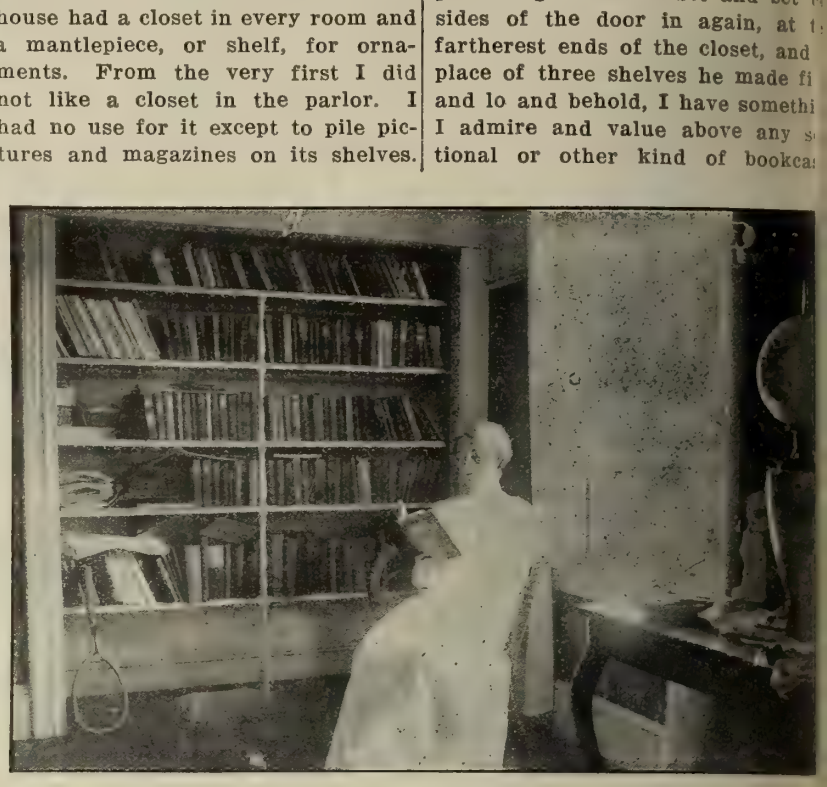
Closet Doors and Mantelpiece

By Cora June Sheppard

Because you did not have the planning of the house in which you live is no reason why you cannot have it somewhat to your taste. Our house had a closet in every room and a mantlepiece, or shelf, for ornaments. From the very first I did not like a closet in the parlor. I had no use for it except to pile pictures and magazines on its shelves. I didn't like the looks of the door, so it was speedily unhinged and carried away, and some pretty silk-striped curtains took its place. Still, I didn't like the closet back of them. When just on the point of buying a sectional bookcase a friend suggested a built-in bookcase in place of the closet. Thrice welcome the ide no sooner said than done. My h band tore out the door and the fr plastering of the closet and set i sides of the door in again, at t fartherest ends of the closet, and place of three shelves he made fi and lo and behold, I have somethi I admire and value above any s tional or other kind of bookca



Cora June Sheppard's Built-in Bookcase Made from a Closet. A Farmer's Daughter and a Farmer's Wife

This book space is sufficiently p tentious for me to discard the wor out word parlor and I call the roo my library.

The bedroom over the library h two closets I did not like the effe of so many large doors, so the clos doors were unhung and taken to t third story, and portieres (ligh weight) to match the color sche of the room were hung at ea closet. It makes more room for fu niture, and I believe in having sor light and air in the closet. T door sills were taken out and t floors of the closets stained to mat the border of the room. In the d the closet door was unhung a shelves arranged for the magazine which are constantly accumulatin The door of the closet in my b room has also gone to the do heaven. Pretty curtains, with pi silk stripe to match the pink poppi in the wall paper, have been hung its place.

Now as to mantels, I had no u for the one in the library, so wh we papered it was taken down. four rooms upstairs I have had t shelves taken out before paperi the rooms. The kitchen is the on room with a shelf for ornamen The small one back of the stove w taken down and a larger one fro another room put up in anoth place; this contains a clock and number of pieces of blue china.

Keeping Food Cool

The accompanying picture illustrates a clever arrangement for keeping food cool without ice. Within this boxlike casing is an inner cupboard, which can be raised and lowered by means of the crank. Food is placed upon the shelves of this cupboard and it is lowered into the cistern, not far enough to touch the water. This device might be duplicated on many farms, where ice is not available.

A Compound Fracture

"I just saw Hunter and he loo pretty bad. What's the matter wi him, do you know?"

"Compound fracture."

"What sort of compound fra ture?"

"He's broke, and Miss Richl discovering the fact, broke her e gagement to him."

Arranging a Boy's Own Room

By Lulu G. Parker

WHEN his sister Bessie was 8 years old her mother furnished one of the little sloping-roofed bed rooms the ell for her birthday present. was a pink and white fairy land hen it was finished, albeit the cost ıd been only a can of paint, a few ırds of white swiss and some lov- g labor. Bessie was properly en- usiastic, but Bob eyed it askance. hen called upon for expressions of pproval his only audible remark as, "Huh!" But that spoke vol- mns.

"You're just jealous!" said Bessie armly. And we wondered if that ere not the case. There was an- her bed room of the same size, id Bob's tenth birthday was draw- g near.

"I don't know quite how to be- n," his mother confessed. "I am re Bob doesn't approve of swiss id ribbons."

For Bob is a real boy; he hates ap. Water in a swimming hole, ep enough to drown him, he revels , but water in a bathtub or basin ignores, except when his mother sists. Bob's pockets bulge with l shells, snakeskins, craw-fish ws and queer stones, until we onder whether he may not grow to a great Darwin; but the scrap n and old bones for which he ours the neighborhood make us ır that he will be a junkman."

"Now a tasteful room, with a few od pictures, might develop his es- etic side," was his mother's de- ion.

When Bob was consulted he oved noncommittal. He had never en a boy's room. There are not many.

"Can I take the 'fellers' there?" finally wanted to know, with the st gleam of interest.

So we set to work to make a boy's om—a room without anything at the boy could call "Sissy" in it, d a place in which he could enter- in his friends. A can of silvery- ay, not drab, paint transformed e woodwork of the room, a much- ratched wooden bed and a little ash stand. A little white lead as added to the same paint to make lighter for the side walls to within ree feet of the ceiling, and for the iling itself. From the ceiling wn to the painted part of the wall e put on an inexpensive paper, of hich the principal colors were blue d silver. The paper was put on ound the room as a border, instead up and down. It took away the ll effect of the paint, and as there so little of it, it can be torn off d replaced when it becomes faded d unsanitary. Where the paper d the painted wall meet we tacked flat, wooden moulding (lattice rips painted like the woodwork be- re being put up). The floor we inted also, using the gray floor int, which is made especially for orch floors, and will stand much rd wear. Several chairs were so painted.

Since it was the draperies which ob considered unmanly, we resolved to dispense with them as far as possible. But a few cushions we must have; for these we thought first of denim, but this seemed too heavy and difficult to launder for a sleeping room. Heavy crash we would have liked, but could not afford, even if it had harmonized in color with our color scheme. So we chose a 10-cent print in a wide blue and gray stripe; of this covers were made to button over the pillows, a cushion for the arm chair and curtains for the row of shelves, which we fitted into a corner. These shelves were put in with the understanding that they were to hold only his books, games and such of his curiosities as were not "smelly" or "spoilable."

A blue army blanket was used for a bed spread, a bright rag rug was made for the middle of the floor; a small mirror hung above the gray stand had a nickel-plated towel rack beneath it, upon which to hang neckties. A plain muslin stand cover, bound with bias bands of the striped print, satisfied Bob's masculine heart, and had no frills to entangle his clumsy fingers. On the stand was a blue jar for collar buttons and pins—and his much-prized military brushes. In the top drawer of the stand several compartments were made with cardboard for neckties, handkerchiefs, collars, etc., and most of the time Bob keeps things where they belong. In an opposite corner of the room a triangular shelf was fitted and covered with oilcloth; this to hold a white enameled washbowl and pitcher, which even a pillow fight cannot harm. Copies of the two well known pictures, "Sir Galahad" and "Christ in the Temple," in plain black frames, were hung on the wall. On stout hooks opposite Bob hung his fishing tackle, some of his base ball regalia, his big brother's discarded school pennants and other boyish spoils.

Here, on rainy Saturdays, he brings his friends. Just live boys like himself, but they wipe their feet out at the door and tip-toe through the living room, caps in hands; that is one of the rules. Inside of the room are games, often a great deal of noise, but no tobacco smoke, no harmful mischief.

Since he has discovered that his best friend's big brother, who goes to a military school, has to take care of his own room, Bob takes care of his "den," with his mother for inspector. At first he missed the dust in the corners, and inclined to keep his Sunday boots under the bed, but the military big brother was prevailed upon to give him a few pointers, and now he is improving wonderfully; indeed, he bids fair to surpass his sister at the housewifely game. But we wouldn't tell him so.

The little room, den if you please, has paid for itself many times over in satisfaction to a busy mother who knows where her boy is a little more of the time, and who has a little more idea of what he is doing than she might if he were out in somebody's barn. Try it for your boy, and see. LULU G. PARKER.

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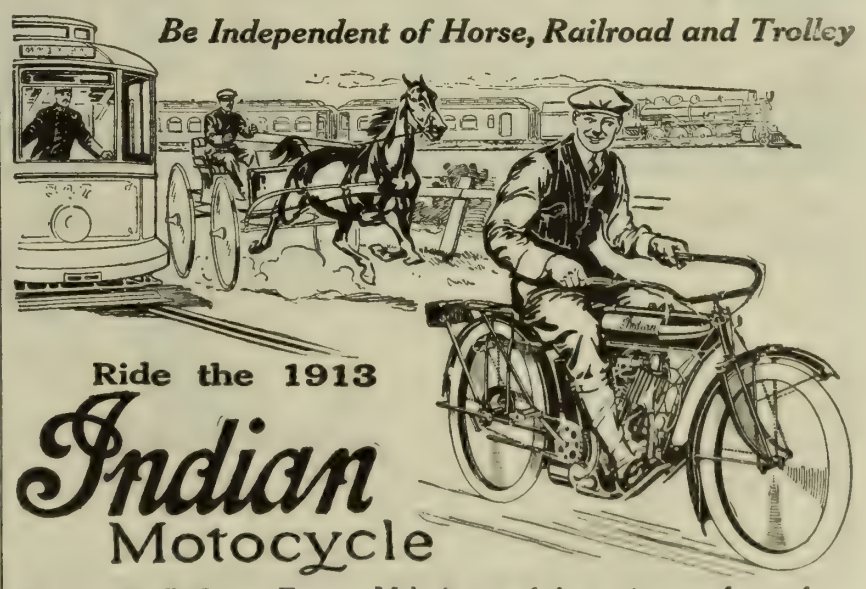

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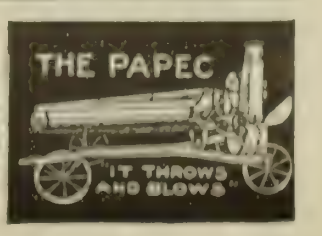

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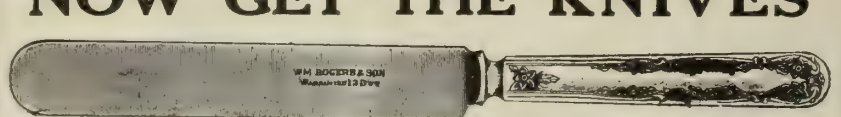

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Furnishing the Farm Kitcher

By Alice M. Ashton

THE multitude of purposes to which the room is put makes the average farm kitchen difficult to care for. The men look upon this room as their special sanctum. Here is the sink where they wash, with shelf for comb and brush and mirror, and in the case of there being no drain, a pail for the slop water. Here behind the stove is their array of boots and shoes—a goodly collection when each man has four or five sets of foot coverings. On hooks along the wall they hang a variety of coats, hats and overalls. Wet mittens are supposed to be always welcome on the stove shelf. And there must be chairs and a table for papers, where they spend odd hours during the evening, at meal time or on rainy days. In addition to this there is very often a table where the family ordinarily take their meals. And the housewife willingly takes the extra steps to a distant pantry for the sake of getting a little out of the center of confusion.

So many of those wearying steps can be saved by a simple "hitching of the horse" where it belongs—before the cart. The kitchen was primarily intended for the performance of culinary duties; let nothing else come before that. Nearly all of the things generally kept in the pantry keep just as well in the kitchen, at a saving of uncountable steps every day. Dishes, either for cooking or for the table, should be kept as near as possible to the place where they will be used. All dry ingredients keep well in the kitchen and are so much handier; so will such supplies as the vinegar and molasses, the pitcher of sour milk and the bowl of "shortening."

One young country woman, after trying twelve months in the big old-fashioned kitchen and pantry where her husband's mother had worked for years, determined on reform. The cupboards were taken out of the pantry and put up in the kitchen; the work table was placed between the cupboards and the stove, and had shelves and hooks over it for holding small utensils and cans and jars of ingredients. She can now stir up a cake or bake a pan of biscuits without stirring ten steps from her molding board. It is only a step, too, from the sink to the cupboard after the dishwashing, while the dishes are equally handy at meal time.

Since the cupboards now occupy the wall space once devoted to a variety of wearing apparel, she placed hooks along the wall of the one-time pantry for them instead. A door was cut from this room into the woodhouse, and the men can now go into the smaller room and prepare for the meals without entering the kitchen except for getting a pail of warm water if required. Some shelves placed in the cellarway accommodate butter, milk and left-overs from one meal to the next. And, last of all, she put up a shelf back of the stove about on a level with the stove top, where wet shoes, mittens and caps could be dried with out interfering in any way with he work.

Another woman, tired of the use less running across a large kitche to an unhandy pantry, but not s

Convenient Kitchen Table

fortunate as her sister in having th co-operation of her husband, took matters in her own hands in a sur prisingly simple but satisfactory manner. She moved the work tabl near the stove; she set two soa boxes on end, fitted them wit shelves and placed one at each end o the table. On the wall above th table she placed three shelves an beneath them plenty of hooks an nails. She then found a box whic would go under the table conveni ently; under the box she fastene four small wooden wheels which sh found in the shop and made a tigh cover to fit over the top. Tw leather strips nailed to the front en abled her to move the box in an out with comparative ease, and in i she kept sacks containing flour, mea and similar supplies. A coat o paint and simple calico curtains com pleted the neat arrangement, whic saves her hours of unnecessary wor every week. Sometimes the pantry is conveniently located and is th best possible solution of the prob lem; the main thing to be considere being the number of steps necessar to accomplish each task.

The question of eating in th kitchen is a frequently discussed one Very often it is the best plan an ought not to be objectionable. I the majority of cases the "help" ea with the farmer's family; this doe very well when the family are alone but is very seldom agreeable whe guests are present. It is a simpl matter for the family to have thei meals in the dining room while en tertaining guests, leaving the help a their accustomed table in th kitchen; it is quite another matte to attempt banishing that same hel from the dining room on state occa sions. If the kitchen is neat an comfortable there can be no objec tion to eating in it, and it certainl saves many, many steps.

The color of the kitchen walls ha

much to do with its attractiveness. A soft, warm buff is usually a good choice and may be used with light blue or grey. One very attractive kitchen has the woodwork painted a moderately light blue, the floor a darker blue-grey, and the plastered walls a light buff. These colors are as easily kept clean as the dull, dreary drabs and browns so often considered necessary for the kitchen. Curtains of cotton crepe are neat and dainty and need no ironing beyond a possible pressing with a warm iron, when dry.

There should always be a comfortable chair, or lounge, if there is room, for there are moments every day when a short rest can be taken, though one's presence in the kitchen is imperative. And there should be a high stool and a thick rug for tired feet if one's strength is to be considered.

The furnishings of the kitchen may not be new or modern or beautiful, but they should be convenient and cheerful. Study first to so arrange the room that each task is done with a minimum of steps, strength and time; plan as next in importance that the cleaning may be done with as little trouble as possible; this will include fixing a place for shoes, boots and whatever small objects are left on the floor that make sweeping and mopping tedious; also arranging all utensils and supplies so that the work table and stove is left free from permanent accumulations, and have everything as bright and cheerful and comfortable as will accord with the foregoing stipulations, since the family must spend long hours every day in the farm kitchen.

Vine-Covered Wind Tower

Growing Vines on the Water Pump Tower

To the many farmers who now-a-days are moving in the direction of adorning their homes the accompanying picture ought to be of interest. It shows how vines may be coaxed to climb the windmill tower and to present an attractive sight in the farm yard. All that the man whose success is shown in the picture did was to properly plant the vine and keep it well watered and sprayed with insect-killing mixture.

This picture does not represent a farm tower; it is the work of the keeper of the village tank at Maple Park, Ill., but the same result may be obtained by almost any owner of a wind tower if he is so minded. Most of the farm windmill pumps furnish an abundance of water for such purpose. J. L. GRAFF.

A Hedge-Fenced Farm Home

HERE is the picture of not only a hedged home, but a hedged farm. The photograph shows how one must traverse a labyrinth of hedged lanes and passages to reach the attractive home, but the meadows and the fields are enclosed in the same way. Fields are so separated and the entire growth is kept well trimmed, as shown in the picture. The farm is owned by Miss Leah M. Moore and is located near Holland, Mich. It is one of the most attractive places in the Wolverine state. The hedge fence is gaining ground in many places in Illinois. It used to be that it was confined to the farm home grounds, but in many places it is seen stretched along the public road on both sides, and often forms a line fence and divides other fields. More attention is given to trimming the hedge and in keeping it sightly than formerly, and some of its friends claim that in turning cattle and in durability it beats many other kinds. J. L. GRAFF.

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Booklet Picturing 125 Styles Sent FREE

We will gladly send this booklet telling about "World's Work" Shoes, FREE, and if you enclose two 2-cent stamps we will also send a handy pocket sharpening stone. Mention your dealer's name.

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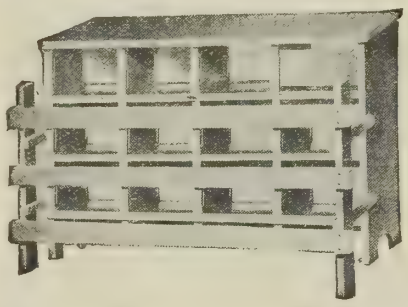
Had Enough of Incubators?

When you get tired of having high-priced eggs ruined, a hundred at a clip, go back to Nature's way — cut out the fussing, trouble and mussing —



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Get every chick that old reliable Nature knows how to produce. Don't watch thermostats, lamps, hygrometers, thermometers, oil tanks, etc., all summer. Our device handles 12 settings as well as one. Each nest removable. Can clean all in a jiffy. It's liceproof, and will last a lifetime. Gate shuts chickens out at night. It's the best way to hatch—NATURE'S WAY. Costs only a trifle, and pays for itself in no time. Write for prices.

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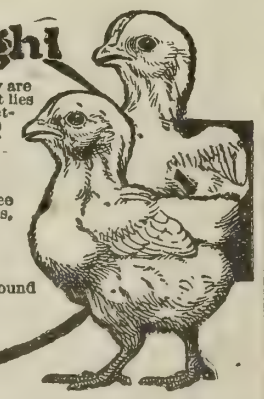
They must be furnished with the right kind of material if they are to make satisfactory growth of muscle, bone and feather. Profit lies in quick growth and early maturity. Rush those cockerels to marketable size and turn them into cash before prices fall. Get the pullets completely developed and ready to fill the nests with fall and winter eggs.



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contains just the necessary ingredients to give them during the first three weeks the best possible start, at a cost of 1c per chick. In boxes and bags, 25c, 50c, $1 up. After the third week mix

Pratts Poultry Regulator

in the ration to aid digestion and make the greatest gain for every pound of feed consumed. 25c, 50c, $1. 25-lb. Pail, $2.50.

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The book entitled, The History of White Diarrhoea, or why incubator chicks die, will be sent absolutely free by return mail, to anyone sending us the names of 7 to 10 of their friends that use incubators. The book can save you $100 this summer. It describes white diarrhoea or bowel trouble. The cause and tells of a cure. **Book absolutely free for the names.**

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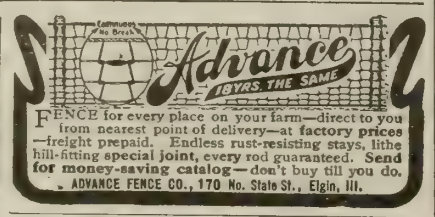

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Development of the Chick

General Poultry Information

PARTIES selling eggs for hatching purposes, whether from pens or flock on range, should make tests weekly of all lots of eggs for sale in this line. Haven't you often noticed that the eggs you set in one week may be strongly fertile to the setting, while those set next week will show under the candling test many clear eggs? The reason for this is not always to be found. A day after incubation begins life begins to show in the egg. Blood begins to appear the second day, so that by the third day, if you have learned the business of testing aright, you can be quite sure of the fertility or sterility of the eggs you are incubating for proof of strong fertility in eggs you are selling for breeding purposes. It is neither fair to your customer or yourself to send out batches of untested eggs; it causes you trouble all around, complaint from your customer, and sure loss of that customer finally from your list of patrons.

It is wonderful that, lying hidden in the egg, is a perfect animal waiting full development by only the outside means of a certain heat. Out of the albuminous part of the egg it comes, drawing nourishment as it grows from the yelk, heavier quite sooner than the egg from which it is evolving. The heart shows first on the third day, although there are no arteries showing until about the eleventh day. The eye can be seen partially on the fourth day, and on the sixth day the gall bladder. A few hours later you can distinguish the bill, and another day later the brain, wings, thighs and legs; the muscles and bones take form the next day. The lungs appear on the fifth day, but are not perfected until later. The white membrane surrounding the chick, which you will notice up to the last minute, almost before hatching, is full of blood, both venous and arterial, and herein is found the strangest system of lung and bodily circulation of blood found on earth, the blood in this membrane feeding the lungs with air, and body with food from the outside, as later will be done from the inside when the last bit of this blood has been absorbed and disappeared within the chick. IDA M. SHEPLER.

The Goose Question

A certain poultry paper, some months ago, furnished its readers a picture of a collection of geese which it labeled the Embden. In this picture the geese were in color mixed white and gray, the latter nearly black. Now these could not have been Embden geese, as the standard pure-bred Embden goose must be pure white; even one dark feather will disqualify these geese in the show ring. The geese simply had to be a cross between the Embden and African, and not pure Embden at all.

We have six kinds of geese that are standard. Toulouse, Embden, African, the Wild or Canadian, Chinese and Egyptian. The Toulouse is a dark gray, shading to a lighter gray on the breast, and pure white in the heavy fluff. Goose and gander are marked alike. A standard gander must weigh twenty-five pounds as the limit in weight when adult. The Embden is next largest, and is a very large goose. Both sexes are pure white. Cross the Embden and Toulouse and you get a large goose that will show a difference in color of the sexes; the goose will be white, as a rule; the gander will be white of body and dark of wing.

The African is nearly, if not in most instances, as large as the Embden. For crossing it is a favorite. It is a very dark gray in most parts of the body, blending to a lighter gray; it shows a decidedly dark streak down the full outside length of its neck, and has heavy dewlaps under its bill, and a cap of horn between the eyes. When you find a flock of geese called Dryland, with heavy dewlaps on the underside of the head, but no cap, you may conclude that this is a far-out cross with the African and some other breed.

The Canadian, commonly called the Wild goose, is a large, dark gray goose, with a streak of white about its upper throat; its neck is long and snakelike. For crossing it has no superior if the health and strength of another breed has run down. Both sexes are marked alike.

In the Chinese we have two kinds, brown and pure white. From ten to twelve pounds is the weight of the Chinese; they carry a queer-looking cap of horn between the eyes; they lay plenty of eggs. The Egyptian is a beautifully colored bird. All colors of the rainbow make up its coat; it is simply an ornamental bird; it is really not a goose, though its head, neck and bill give it that name. Now take your choice.

IDA M. SHEPLER.

Green-Cut Bone

A subscriber says that a few years ago all poultry pages and journals were running over with advice and orders to feed green-cut bone. Now, who hears of it? Was it simply a fad? It certainly did get extra emphasis at one time, and this had its due effect. All that was said in its praise as a help to egg-laying and, if fed with good judgment, as food for growing chicks, was all true. Green bone is excellent if you can get it fresh, and keep it fresh. Green-cut bone requires a machine to cut it, or shave meat bone with adhering bits of meat to the right size for the hens to swallow it. Fed fresh and in regular quantities each day, hens certainly do lay better than hens deprived of it, and pullets come into earlier laying, and yet it has its drawbacks. Those who feed it only too often make the mistake of feeding too much of it, or risk keeping it over until tainted. Many flocks fed green bone showed a tendency to become wormy; others developed chronic diarrhea; some again were continually losing members with the so-called limberneck, merely ptomaine poisoning caused by both meat and bone spoiling. The poultry keeper whose flocks were so afflicted

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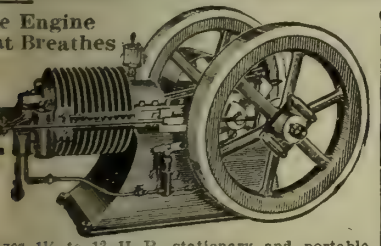

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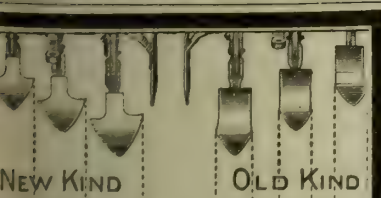

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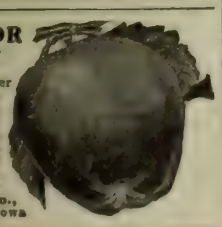

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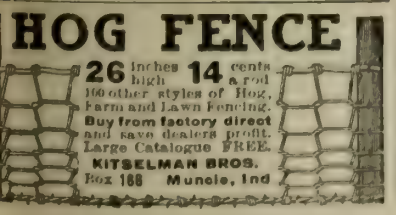

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either learned to feed it in safe quantities and kind, or, seeing that his neighbor's flock did nearly as well as his own on good green stuff, grain and but a scanty supply of animal food through the winter, gave up bothering with it. However, when it is close at hand and cheap, if not exactly a prime necessity, as some used to think, yet it is worth while to give the chicks and other fowls some green bone two or three times a week. IDA M. SHEPLER.

Pigeons

A question has lately been handed in, asking some questions relative to pigeons, especially the homer, and if it is the real carrier or homing pigeon, and what relation is it to the tippler pigeon shown at some pet and poultry shows? The homer pigeon, bred so extensively for the squab market, is certainly the old homing pigeon, although, quite likely, used so long as a domestic bird, has made some changes in its size and habits.

The homing pigeon of today is not exactly the old-time carrier pigeon. Crossing it with other varieties has made some change in its looks and shape. There are over 200 varieties of pigeon, but all date back to one ancestor—the wild blue rock pigeon. It is wonderful to note the difference in shape and habits of these many varieties.

The tippler is the last evolution, so far, from the old blue rock. It was made in England a few years ago, and homing blood mingles with that of tumbler, and perhaps other crossings in—these things are usually kept secret. The tumbler has the motion of tumbling while in the air, and great endurance to remain at certain heights, and the homing pigeons make long flights. This new pigeon, the tippler, can do greater feats than either. It has been known to rise on the wing far above storm clouds and remain in the air above its home from eleven to eighteen hours. Sportsmen clubs give good prizes and pay large sums of money for birds that show wonderful feats of endurance.

Poultry Paragraphs

Did you ever notice that the woman who knows the instruction book of her incubator by heart, and follows its precepts, is the woman who hatches more chicks from that incubator than any of her neighbors do from hens?

As we go about we find that about eight women out of ten mislay, or entirely lose, the book that comes with their incubator in about three days after the incubator is set up, or, anyway, before the first season's hatch is over. Always, about as soon as lost, it is badly needed.

Keep all that belongs to an incubator in or about that incubator. When it is in use, keep the book of instructions, the tester, the funnel—if it is a hot water meahine—right on top the machine, and when it is to be put away for the season put all these inside, with the thermometer.

***

Girls' poultry clubs are coming. Get ready, girls. When they come, the girls who can show most proficiency in hatching, raising chickens, etc., will be given free trips, as well as other prizes. You know how wild the boys have grown over their corn clubs, and this is everywhere corn is grown. Then, there are the canning clubs of the south, and the bread-baking contests, etc. There is such great chance for a variety of work in the poultry clubs. For instance, you can go in for producing and raising great numbers of chicks by the natural method, or the artificial system. You can take up the fancy, or general utility, the market end of the business for meat and eggs, or eggs alone. Or, again, it can be large sales for hatching purposes and breeders. One could name so many phases of the trade that competition by the farmers' daughters could develop.

Harry M. Lamon of the government animal husbandry division is putting out in Circular 208 of the bureau of animal industry excellent directions for the organization of girls' poultry clubs. The objects of these clubs is to give not only the farm girls, but the family, a better knowledge of the importance and great value of the poultry industry. For all that many farmer wives buy all the groceries and clothes for the family with eggs, yet even on these farms, because of poor methods and little knowledge of good stock and its care, the value is often far below par.

The clubs should be county clubs to which girls from all over the county, with means for raising poultry, should be eligible. Meetings of the club should be frequent, and presided over by a specialist to assist the club in solving questions relative to any phase of the work, as well as to give assistance in securing good special markets. Once a year or more exhibitions should be given and prizes offered.

***

Sprinkling the runs of young chicks thick with lime, under boards and above, will destroy large numbers of the gapeworms. Some poultrymen prefer to lay the lime on thick before a rain, as this washes the lime in the soil and the chicks will not pick it up to their hurt; others, again, risk all the hurt it might do the chicks.

IDA M. SHEPLER

White Wyandotte Cockerel, 7 Months Old, 7½ Pounds. An Excellent Specimen of This Breed, Owned by Oscar L. Bock, Council Bluffs, Ia.

Chicks Won't Die

from bowel trouble or white diarrhoea, and they'll feather earlier, develop quicker and grow strong and vigorous—if you will use

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Roup and Cholera Remedy

Incubator chicks die merely from want of proper treatment. You can save the little fellows if you give them this safe and sure remedy as a preventive and tonic. It's a little chick saver. Don't wait till your chicks are dying. Order a box now—today.

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Don't hesitate. This paper accepts only reliable advertisements—you run no risk. Send 50c M. O. for a package, postpaid. **If you don't find it the greatest little chick saver you ever used, your money back.** Free booklet, "Poultry Troubles." Address

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All Steel Triple Wall Double Air Space Incubator.

It bears the label of the Fire Underwriters, which insures durability and protection. It is built entirely of metal, with the exception of the pressed fibre inner lining. Double air space on all sides, top and bottom. Send for our catalog showing the most complete line of Poultry Supplies in the United States.

MACOMB POULTRY SUPPLY CO., Box D, Macomb, Ill.

15 Years on The Market

GERMOZONE

GEO. H. LEE'S Great Poultry Remedy

It tones the system, regulates the bowels, keeps chicks and fowls in fine condition. The best remedy for *Roup, Colds, Canker, Swelled Head, Cholera, Bowel Complaint, etc.* Actual figures show it reduces chick losses 90 per cent. Given in drinking water—no trouble. Price 50 cts. Lee's Egg Maker should be used by all poultrymen. Large protein, every ounce digestible. Brings eggs, makes chicks thrive. Lee's Lice Killer is sure death to vermin. Paint on roosts; it kills by fumes. Does not harm fowls. Lee's fine poultry books (3) free. Address

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Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder, **$4.85.** Ordered together, **$11.50.** Freight Paid (E. of Rockies). No machines at any price are better. Satisfaction guaranteed. Write for book today or send price now and save time. Address

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Cut down living expenses—raise poultry for your own use and for sale to neighbors. Thousands make money this way with

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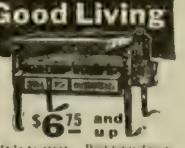

Why don't you do the same? Learn how easy it is to start. Booklet "How to Raise 48 out of 50 Chicks"—10c. Catalogue FREE. Write today. Address

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Eggs From Full Blood Stock Eggs

26 White or Brown Leghorn Eggs	$1.50
15 Barred or White Plymouth Rock Eggs	1.00
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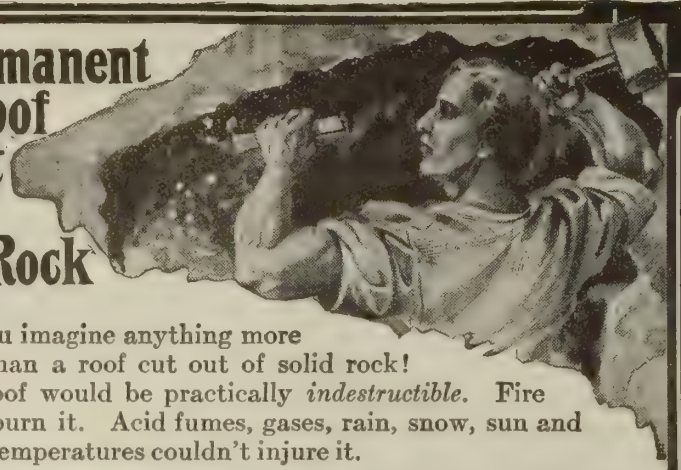

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

An Appreciated Compliment

We like The Twentieth Century Farmer, and think it deserves a place around every fireside. It is clear and pointed. We like this exchange, also the editor's notes. We are glad to see the farmers lining up and writing articles from actual experience. This is more beneficial to the farmers than the experimental station. E. L. H.

Tecumseh, Neb.

Dog Has Goiter

D. D. E., Moline, Ill.: My Boston bull brindle dog, a male a year old, is just commencing to get a goiter on the left side of his neck, which, as yet, is scracely noticeable, but it feels to be about the size of an egg. Please tell me what I can do to cure it?

Answer—Give this dog six grains of calcidin three times a day. This can be given in the feed by wrapping it up in a small piece of meat. Continue the treatment until the enlargement has disappeared entirely.

Not Able to Answer Fully

R. A. Y., Cedar Rapids, Neb.: I have a new black halter which took the hair off. I gave it a good soaking of needsfoot oil, but this has done it no good. Our veterinarian does not know what is in the leather that the oil would not counteract. Through your columns can you tell me what to do?

Answer—The most expert tanner here says he knows nothing that is put in leather that would produce such results. If it were a general trouble there would be more complaints about it. The probability is that the horse was in such a physical condition that the halter irritated the skin and abraded the hair. This is the only suggestion that this paper is able to offer.

How to Get Rid of Fleas

N. H., Toulon, Ill.: Would be glad to ask your knowledge of how to treat and exterminate a small insect called the flea. They are quite dark in color, some larger than a pin head. In traveling they go by hopping or jumping; they are noticed only in the warm season of the year. These pests are very annoying to a person, and once they get on your body they bite continuously, causing severe injury. I would be glad to have your idea of how to handle them.

Answer—We extend our sympathy. We have been there ourselves. They sometimes breed in sand, and then it is impossible to be rid of them. Sometimes they breed on dogs and cats, and then they may be prevented by washing the host animal with a good insecticide. They generally leave a person for water. For this reason one can get them off his body by taking a bath. They are industrious and high stimulating.

A Veterinary Inquiry

A. T. S., Albion, Neb.: I have a brown horse 8 years old, weighing 900 pounds. He has a bunch on his right front leg, just above the fetlock. This does not seem to be a wind puff, but is hard. He is not lame. This came on him about a year ago after a hard ride. Will you advise me what to do for him?

Answer—The description does not say whether this bunch is at the side, in front or behind the leg, but we assume it is on one side. It is not likely that this can be entirely removed on a horse of this age. If the animal was younger it might be taken entirely away by the application of a catharides blister once every two weeks for about three or four applications.

A Case of Lump Jaw

J. A. G., Porthill, Idaho: I have a 4-year-old Holstein cow. She has a lump the size of a goose egg back of her left jaw. Now is this lump jaw? If so, is there any cure for it, or will it kill the cow in time? Will it affect the milk, break and run, and is it contagious? I have twin calves, one bull and a heifer. Will the heifer breed?

Answer—If this lump is a part of the jaw bone, it is true lump jaw, but if it is loose so that it can be moved about from the jaw, it can be opened so that the contents will drain. Take a liberal core out of the center so that the contents can be scraped out, then swab with pure coal tar dip. If the lump is a part of the jaw, give twice a day, mixed with the feed, a heaping teaspoonful of iodide of potash. Continue this for two weeks, then stop for a week and give for another two-week period. As a usual thing the heifer of twin calves, known as a Free Martin, will not breed.

Breeding the Ewe Flock

A. E. C., Arcadia, Neb.: When is the proper time to breed the ewe flock? What is the period of gestation?

Answer—The period of gestation with the ewe is 152 days. The usual period for commencing the breeding season is November. Ewes bred in November drop their lambs in April. For lambs, to come after the ewes have the advantage of green grass, should be bred to come in May. Later lambs never do so well or get as good growth through the summer, as the weaning period, September, comes too soon for them. A lamb usually should run with its dam until 5 months old before being weaned, in ordinary farm flock management.

Early lambs, that is, where ewes are bred in September or October, and the lamb dropped in February or March, require better care, warmer stable and more feed for both ewe and lamb, or there will be loss from exposure. For the farm flock I would recommend breeding commencing November 1.

Enlarged Knee

A. A. C., Crawford, Neb.: I have a light bay mare 5 years old. She has been lame in the left hind leg for two years. She was lame all last winter, walking only on three legs. But when the summer began she got over the lameness and her

hrunken hip filled out again, but he enlargement around the knee he got lame again. I think it is oint was still there. This winter he got lame again. I think it is one spavin. Is there any cure for er? I also had a 3-year-old steer hat got sick with bowel trouble six ays before he died. He did not eat nything, but drank a little water. Ie did not chew his cud, and his owels were silent; I could not hear hem work. What would be the ure for such a case?

Answer—The only treatment that an be suggested for this hock is listering at intervals of two weeks, aking about four applications. Use cantharides blister, putting on at ight and washing off in the morn-ng. The animal's head should be ied so that he cannot lay down or et his mouth to the blistered part. Keep greased for two weeks and ash well with soap and water, and hen dry repeat the blister. The nly suggestion we can make with eference to the 3-year-old steer is nat such cases be given from one to wo quarts of raw linseed oil.

Every Farmer His Own Painter

Any man can do an average job f painting, and can thereby not only nprove the appearance of his place, ut can add greatly to the durability f the buildings.

The average farmer, if there is ich a thing, seems to think that aint is used solely for ornament, nd he is of all men most keenly ractical he eschews what he regards s an unprofitable luxury. It is per-aps the rule rather than the excep-on, in some cases, to see houses nd agricultural implements sadly in eed of repaint.

Of course, paint does improve the ppearance of property, but it is far ore useful as a protector rather an an ornament. The expenditure f a small amount of money and me in painting a valuable piece of rm machinery, or a buiding, will ld greatly to the length of its life. nother useful object accomplished y painting is the improved sanitary onditions of buildings and out-ouses. The cost of such work is nall, the necessary equipment not xpensive and with proper care will st a long time.

Getting Rid of Coyotes

A. A., Flandreau, S. D.: Reply-g to inquiry in regard to getting d of coyotes. I lived for nine ears in Washington, where coyotes ere thicker than fiddlers in South frica. I found the most effective ay to destroy them is to poison em with strychnine, which is not fficult if one takes the right ethod. The difficulty with the ethod usually used is that men oison a bit of carcass and the oison penetrates through all parts it, making the meat bitter and stasteful. It is not eaten, or, if e coyote is ravenous and eats erefrom, the poison will make him ck and he will vomit it up and re-ver. Now to poison coyotes suc-ssfully, take a piece of tallow, ch as will make a round ball or ll, about a half-inch in diameter; olit in the middle so as to open it; ke a match, dampen or grease the atch and stick it one-half its length to the strychnine bottle; draw this rough the middle of the tallow ll so as to leave the strychnine on e inside; roll and smear the pill gether so as thoroughly to seal it p, with the strychnine sealed up r-tight; cut a small, thin slice of eat—beef is handier, but pork or ny kind of meat will do; use a iece probably two inches square and cut to about to the thickness for frying; roll this around the pill. If in cold weather, set it out to freeze, otherwise tie it around with a thread. Now drop these baits whereever coyotes frequent, either beside their trails or close to a dead carcass, or any place frequented by coyotes. The coyote has a strong sense of smell and will find the bait. Even if it lies close to a carcass, the bait is fresh meat and more tasty than the carcass, and will be devoured. Being so small, the coyote will swallow it without chewing. Once in the animal's stomach, it will digest and open up, though the poison will not enter the meat. When the tallow melts the poison will get in its work. It may make the animal sick and cause vomiting, but he will vomit up the meat only. The tallow will stick to the lining of the stomach and there the poison will stick. I have gotten as high as three coyotes with four baits, and still there were plenty left.

Editor's Note—Here is one man's answer to the request printed a short time ago. Let us hear how others succeed with other methods.

Peculiar Condition of Calves

C. D. K., Scotia, Neb.: Can you tell me through your veterinary department what is the matter with my calves? At about 6 weeks old I noticed a stiffness in their front parts, and in a short time their knees get sore and scab over, making them quite lame. They also slobber and are frothy at the mouth. Their horns do not grow and they all get to be muleys. They have appetite and relish their feed and water; they grow little, but neither get worse or better. They have been fed on good, clean, fourth cutting alfalfa hay with some grain.

Answer—This is a peculiar condition, and without an opportunity of making an examination, we would suspect that there was something in the feed that was causing this trouble, although good alfalfa hay would hardly be suspected. We would suggest getting hay and grain from the outside and see if this will not make a change in their condition.

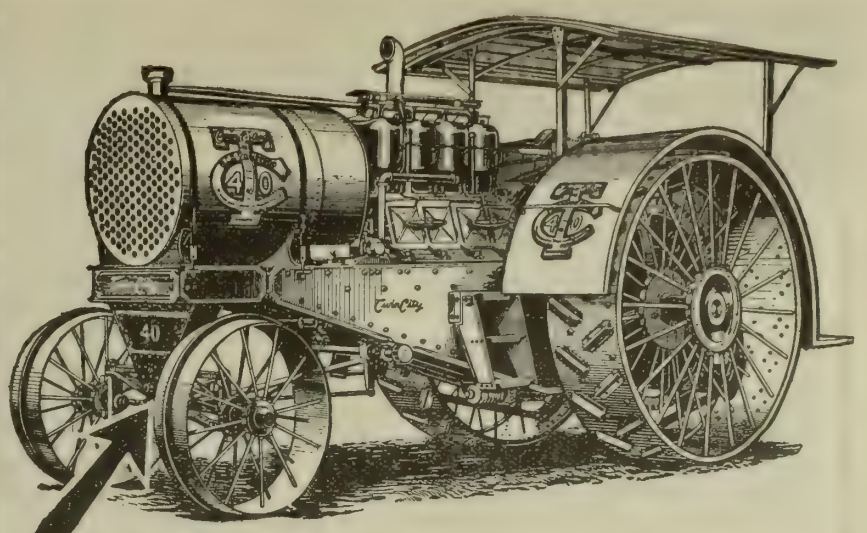
Favors Quarantine for Hog Cholera

D. M. M., Lombard, Mont.: In your paper you have several pieces about hog cholera, most of which treat of serum, and cures and preventives. You do not touch on the cause of the disease, nor the simple way to stop the spread of it. Now for my remedy. Cholera is spread and caused by contact with the disease the same as measles or smallpox, and in no other way. If there should be a law enacted, with a severe penalty for violation, compelling the railroads to disinfect the cars that hogs, or even one hog, had been in before it left their yards, and anyone that brought a hog, or hogs, into a neighborhood to quarantine and disinfect them, and on farms that had the disease to keep hogs off that ground for two years, and if a hog took the disease to kill and burn it, it would eradicate cholera and b, worth all the serum cures in existence.

Note—Read a little more carefully. Serum is not a cure; it is a preventive. Most states have such laws as are here suggested, but steadily ignore them. If cholera should be quarantined as rigidly as human epidemics are quarantined, and if, in addition, the serum should be used merely as a preventive, it would eradicate cholera. No other course will effect this result.

Rankin—What do you think of simplified spelling, old man?

Rogers—That the promoter of it ought to send missionaries to Wales.



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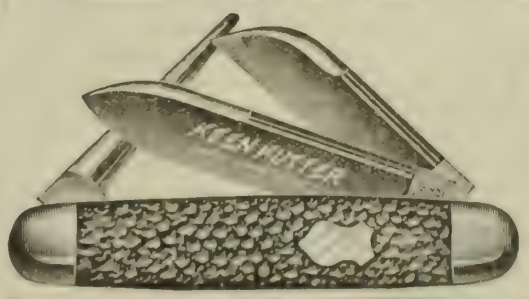

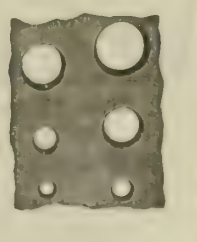

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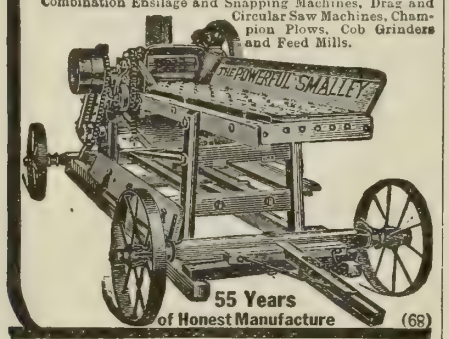

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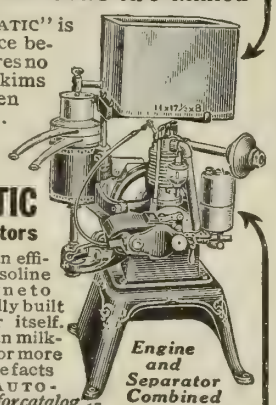

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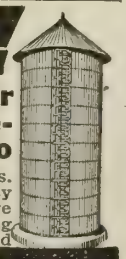

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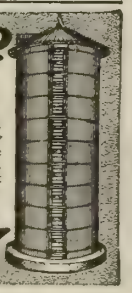

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Waking Up the Colorado Farmer to Raise and Milk More Cows

ABOUT four years ago Colorado suddenly came to a realization of the fact that there was being sent out of the state every year $4,000,000 for dairy products. Up to that time the dairy business in the state was confined principally to supplying a house-to-house demand for milk and cream in the cities. Butter was being manufactured, but a large percentage of the cream came from neighboring states, no effort having been made to enlarge the area of milk-producing territory, which was restricted to the rich valleys along the eastern slope of the Rockies. Kansas and Nebraska were drawn on to keep the butter supply up to demands.

Since then there has been a reversal of the process. The great farming territory between the Missouri river and the Rockies has become one of the nation's most reliable butter supply regions and there is strong competition in that territory for every gallon of cream that can be produced. The result is that buyers from Omaha come as far west as Flagler, Colo., 130 miles east of Denver, while Denver overlaps into Kansas and Nebraska, in an effort to get enough cream to supply the insistent demand of high-priced mountain markets, where the metal miners produce gold and silver, that they give in return for the products of the farms in the valleys below.

Condensing plants have been established in several towns in the irrigated section of northern Colorado; silos are being erected everywhere; cow-testing associations are being formed under direction of the dairy division of the United States Department of Agriculture; milk trains are being put on by the railroads and educational tours conducted by Colorado Agricultural college, in order to further the development of an industry that means millions for the farmers of the state.

The latest in the educational line was a special silo train over the Burlington railway from Denver to the Nebraska line, running from March 24 to 29, inclusive. This tour was conducted under the auspices of the Colorado Agricultural college, arrangements for it having been made by Prof. C. H. Hinman, director of extension work. Prof. Hinman is assisted in this work by Prof. George E. Morton, head of the animal husbandry department of the college, and Prof. W. A. Barr, silo expert for the dairy division of the Department of Agriculture. Miniature silos were carried on the train and their construction explained by the expert, while Prof. Morton gave instruction to the farmers in the selection of dairy cows. Director Hinman handled the commercial side of dairy farming.

Stops were scheduled at Hudson, Keenesburg, Roggen, Wiggins, Vallery, Fort Morgan, Brush, Akron, Otis, Yuma, Wray, Hillrose, Merino, Atwood, Sterling, Holyoke, Haxtun, Fleming, Willard, Raymer, Keota and Grover.

In the irrigated section around Brush, Fort Morgan, Sterling and other points the farmers were advised as to the use of beet tops for silage. Sugar factories are located in these towns and the beet crop is the farmer's main dependence for cash. One of the objects of the tour was to give the beet growers information as to profits in dairying as a side line.

In the dry land districts the lecturers have only one story to tell, and that is to the effect that the farmer who does not have dairy cows cannot look for permanent success. Many of the homesteaders are, as yet, too poor to build silos above ground, but to these the advice is that, rather than no silo, dig a pit in the ground, line it with cement plaster and draw the silage up with a pulley and bucket. This method of construction is satisfactory in the semi-arid districts, farmers having tried it for three or four seasons in some sections of eastern Colorado.

Homesteaders who have relied solely upon grain crops for success have met with disappointment. Wheat and oats and some varieties of corn yield well in certain seasons. There is no better money crop than hard winter wheat on these plains, but conditions have to be right to bring a yield of from eighteen to twenty bushels per acre. There is a full crop only about one season in five on the high plains in eastern Colorado. Hardy, frost-resistant varieties of corn are being grown, but often this does not mature grain, because of early frosts. Here the silo is an absolute necessity to save the corn for feed. Milo is the substitute for corn in the dry districts, as it matures quickly and is a heavy yielder of grain. Some Kaffir, also, is grown, principally for fodder. With these feeding crops and live stock on the farm to convert them into meat and milk, the intelligent dry land farmer is conquering the semi-arid plains. He welcomes such efforts as are being made by Colorado Agricultural college through the train now traversing the lines of the Burlington.

ALVIN T. STEINEL.

Spring Dairygrams

In buying cows, the one with cold horns is a good one—to leave alone!

* * *

The kicky cow usually has something to kick about. Try to see what it is before you kick back.

* * *

Make sure that at least one-half the dairy is high-grade by securing a pure-bred sire to head the herd.

* * *

Have a bucket of water at hand, with the chill removed, and give it to the cow as soon as she is through calving.

* * *

There is just as much reason for teaching the dairy heifer to lead and be handled as there is for training the colt to these commendable habits.

* * *

Keep special watch of the high

This Man Knows Cream Separators

Farmer Onswon's Advice to Farmers

Look at this BEATRICE. I paid $75 for it instead of the $100 to $110 usually asked for less capacity. It's the only A No. 1 separator on the market which has these two most important virtues:

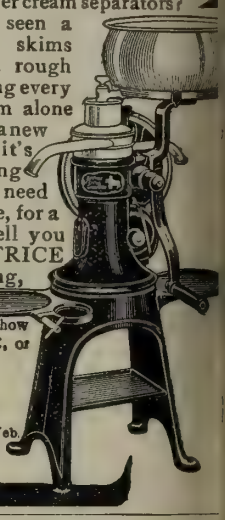
Highest quality and fair price.

1,000 lbs., $75. They have smaller machines for less money.

Twice a day I spend *less than 2 minutes* to make this

BEATRICE Cream Separator

scrupulously clean and sanitary. The patented device does the trick. How's that compared with the time it takes to clean some other cream separators? I have never seen a machine that skims closer. At a rough guess my saving every year on cream alone would buy me a new machine. But it's going to be a long time before I need a new machine, for a glance will tell you that the BEATRICE is built for long, long wear.



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THIS OFFER IS NO CATCH. It is a solid proposition to send, on trial, fully guaranteed, a new, well made, easy running separator for $15.95. Skims hot or cold milk; making heavy or light cream. Designed especially for small dairies, hotels and private families. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Gears thoroughly protected. Western orders filled from Western points. Whether your dairy is large or small, write us and obtain our handsome free catalog. Address:

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milk producers about calving time, as these are the ones most pervious to milk fever, which so often proves fatal to them.

* * *

Now is the time to make your butter contracts with the city customers, before the rush of spring dairying comes on. Deliver a high-grade product; then demand a fair price for it.

* * *

Proper temperature of the cream is imperative to best results at churning time, and a proper temperature is impossible without a dependable cream thermometer at hand to test the cream.

* * *

Surely, the last season has left all of us just a little richer in our dairy experiences. Let's apply the knowledge thus gained to the betterment of our dairy operations this year.

Scratches in Horses

Scratches often called "grease heel," or eczema, often becomes a chronic disorder, with thickening of the skin around the fetlock, leaving a decided blemish.

This trouble usually comes from excessive dampness, due to muddy roads and filthy stables. Another cause is currying off dry mud with all the strength of an athletic arm, irritating the skin. Sometimes the system is in poor condition and needs building up; and again, some horses seem predisposed to the disease.

Do not regard it as a trifling trouble, but promptly attend to the condition. It is often cheaper in the long run to consult the local veterinarian, who will advise the proper treatment.

Clipping the fetlock and applying some bland ointment is often all that is needed in a mild case.

E. T. BAKER, Veterinarian.

Judges of Guernsey Cattle

The American Guernsey Cattle Club has just announced its approved list of judges of Guernseys at the fairs as follows. The western judges are:

Charles L. Hill, Rosendale, Wis.; Charles Solveson, Nashotah, Wis.; Prof. Hugh G. Van Pelt, Waterloo, Ia.; Prof. George C. Humphrey, Madison, Wis.; Prof. George P. Grout, Duluth, Minn.; Prof. H. H. Kildee, Ames, Ia.; Prof. W. H. Pew, Ames, Ia.; Will Forbes, Waterloo, Ia.; Prof. J. H. Frandsen, University of Nebraska, Lincoln, Neb.; Prof. C. Larson, Brookings, S. D.; W. W. Marsh, Waterloo, Ia.

Handling the Colt

Colts should be thoroughly trained to the halter and taught that their feet and legs must be handled, curried and brushed, clean down to the hoofs. By this plan one breaks the colts while they are young and easily managed, which saves being yanked about by a big, stout yearling or 2-year-old.

Furthermore, the colt that is handled and petted from colthood invariably makes a more tractable and consequently valuable animal than the one which is allowed to run wild so long that undesirable and even dangerous traits are developed.

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in your old separator
on account of a new
DE LAVAL

An up-to-date De Laval Separator will, on an average, save its cost every year over any other separator.

In addition to the actual saving in more and better cream there is also the saving in time of separation and cleaning, in easier running, greater durability and fewer repairs.

Because of these savings more than 40,000 users of inferior and worn-out separators of various makes last year took advantage of the De Laval exchange allowance and traded in their machines on account of De Lavals.

USERS OF OLD DE LAVALS, on account of the many improvements in the modern De Laval over machines sold 10 to 25 years ago, including closer skimming, easier running, better oiling, etc., will also find it to their advantage to exchange their old De Laval for an up-to-date De Laval.

SEE THE NEAREST DE LAVAL AGENT. He will tell you how much he can allow on your old machine, whether a De Laval or some other make, toward the purchase of a new De Laval. If you don't know a De Laval agent, write to the nearest De Laval office giving make, number and size of your present machine, and full information will be sent you.

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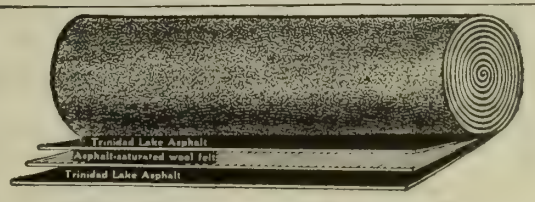

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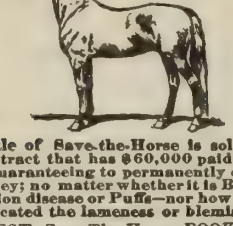

Every bottle of Save-the-Horse is sold with an iron-clad contract that has $60,000 paid-up capital back of it, guaranteeing to permanently cure or refund the money; no matter whether it is Bone or Bog Spavin, Tendon disease or Puffs—nor how aged, serious or complicated the lameness or blemish may be.

OUR LATEST Save-The-Horse BOOK—is our 17 Years' Experience and DISCOVERIES—Treating over 100,000 horses for Ringbone—Thoropin—Spavin—and ALL Lameness. It is a Mind Settler—Tells How to Test for Spavin—What to Do for a Lame Horse. Covers 58 Forms of Lameness—Illustrated. MAILED FREE.

But write, describing your case, and we will send our—BOOK—sample contract, letters from Breeders and business men the world over, on every kind of case, and advice—all free (to horse owners and managers).

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GOVERNMENT Positions are easy to get. My free booklet X78 tells how. Write today—NOW. EARL HOPKINS, Washington, D.C.

Be sure to mention The Twentieth Century Farmer when writing.

How to Disinfect the Stable

Premises Should Be Rid of Every Disease

EVERY farm is visited at some time by some contagious disease. For the protection of the stock it becomes necessary to rid the premises of every vestige of the disease. This is true both in the case of the disease spreading to other animals on the farm, as abortion in cattle or to where cows are kept in the dairy and the disease is likely to be transmitted by means of the milk. It is, therefore, a sanitary precaution, as well as an economic one, that should prompt one to rid the stable or other buildings of the disease germs and, of course, do so at as little expense and inconvenience as possible.

Before using artificial means in destroying disease germs, however, it is advisable to make use of the natural means of disinfection, and by this I refer to sunlight. Sunlight is a natural disinfectant of extreme value, all pathogenic organisms being destroyed by the direct rays of the sun in a relatively short time. Unfortunately, sunlight does not reach all parts of the stable and therefore these parts must of necessity be disinfected by artificial means. The term disinfectant as used here refers to certain drugs or chemicals capable of destroying disease germs. Since a universal disinfectant has never been found which, when used in a weak solution, will destroy all organisms, it is of importance that we know the specific disinfectant to use for the different disease germs.

Before using a disinfectant is advisable, however, that a little liminary work be done in orde add to the efficiency of the work at the same time to reduce the of material for disinfecting, w would otherwise be needed in a lot of filth had to be soaked the solution.

All surfaces, such as the cei walls, partitions and floors, of barn, should be cleaned free cobwebs, dust and filth of all ki Any decayed woodwork should replaced by new material so a avoid incomplete disinfection du germs getting into the cracks crevices where it is impossible to at them with a liquid disinfect All manure and refuse from the ble should be removed to a place accessible to live stock and the ure spread out on the land and refuse burned, if possible, or covered with water-slacked lime the stable has an earth floor an has become contaminated with urine of the diseased animals, four inches or more of the sur soil should be removed and disp of, as in the case of the manure refuse, and fresh earth, or, bet a cement floor, put in its stead.

Although many drugs and ch icals are considered of practical in disinfecting, this discussion be limited to two or three of more common disinfectants. Th are also several agents or fac which influence the power or ac ity of the disinfectant solution which should receive brief ment

First, the length of time that disinfectant is left in contact the organisms is of importa This, of course, is self-evident, perhaps not enough attention given this factor. A good disinf ant will destroy all infectious m rial in a few minutes, depend upon the concentration, those org isms producing spores requi stronger disinfectants than those producing spores.

As a rule, the more concentra the disinfectant the more act This is the second factor and is one which most of us take granted, as we do the fact that more sugar we put in our coffee sweeter the coffee will be. Creol however, is an exception to this r doing best in a 3 per cent soluti

The temperature of the disinf ing materials is the third factor importance, experiments show that the warmer the material more efficient is the disinfecti Organisms cannot endure high t peratures, this principle being u in the case of pasteurizing milk cream in the dairy in order to rid of the undesirable organi prior to inoculating these prod with desirable organisms.

One of the most common di fectants in use is freshly slac lime. It is one of the most ac disinfectants, cheap, easily appl and is used for organisms which not produce spores. It has anot valuable property in that one see just where he has applied wash and where he has not appl it. Anthrax spores and tube bacilli are not destroyed by li

Learn What You Buy

In his laboratory work of a lifetime and selling his various scientific products Dr. Hess (M.D., D.V.S.) has always taken our farmers into his fullest confidence. He believes that the farmer should know exactly what he buys. It is his belief that the more people that know what Dr. Hess Stock Tonic is made of the better. Then there is no mystery, no exaggeration—all claims that Dr. Hess Stock Tonic will increase growth and milk and relieve stock ailments can be verified by referring to the medical writings or the U. S. Dispensatory. The formula for

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Dr. Hess Stock Tonic contains:
Nux Vomica. Digestive and Nerve Tonic.
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Sulphate of Soda. Laxative and Liver Tonic.
Common Salt. Appetizer, Cleanser.
Epsom Salts. Laxative.
Nitrate of Potash. Stimulates kidneys.
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Fenugreek. Tonic and Aromatic.
The above is carefully compounded by Dr. Hess (M.D., D.V.S.), with just enough cereal meal to make a perfect mixture.

is printed in the left-hand panel here with extracts from the U. S. Dispensatory. Dr. Hess even goes further and makes this proposition: **Our Proposition:**—Feed Dr. Hess Stock Tonic to your horses, your cattle, your hogs and your sheep; especially when you are preparing for market. If you are not convinced beyond the shadow of a doubt that it has proven a paying investment by increasing digestion, improving the general condition and appearance, keeping your animals free from disease and free from worms, go to your dealer and he is under contract with us to refund your money.

Dr. Hess Stock Tonic in 25-lb. pails costs you $1.60; 100-lb. sacks $5.00. Only costs 6 cts. per month for the average hog.

Furthermore, for any condition which Dr. Hess Stock Tonic does not remedy, write us care of the Information Bureau and special prescription will be furnished you free of charge.

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Dr. Hess Poultry Pan-a-ce-a

The ingredients of this poultry tonic are also printed on the package. Your druggist will tell you what beneficial effects poultry must derive from these ingredients. We guarantee it to make your hens lay more eggs, help chicks to robust maturity, shorten the moulting period and keep your flock hardy and well. Your money back if it doesn't. If your dealer cannot supply you, we will.

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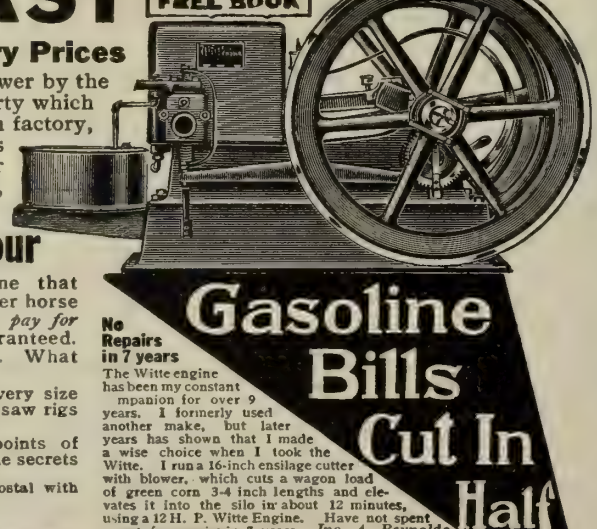
The Witte—the Engine that's been the standard for other makers for twenty-five years—the engine you've wanted so long—now sold direct at factory prices. *You* get the factory quotation in place of the dealers who can no longer sell the Witte.

Factory price cut even lower by the great gas well on our property which furnishes *free power* to run factory, *free fuel* for testing engines five days each, *free fuel* for heating, lighting, forge, foundry, etc.



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The Witte engine has been my constant mpanion for over 9 years. I formerly used another make, but later years has shown that I made a wise choice when I took the Witte. I run a 16-inch ensilage cutter with blower, which cuts a wagon load of green corn 3-4 inch lengths and elevates it into the silo in about 12 minutes, using a 12 H. P. Witte Engine. Have not spent a cent for repairs in 7 years.—*Jno. A. Reynolds*, Winchester, Kan.

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OUR HUGE GAS WELL GIVES BOTTOM PRICES

FRANK J. RIST,
President of the Nebraska Pure Grain and Seed Growers' Association.

he lime should be water slacked, bout sixty parts water to 100 parts lime, and then one part of this ixture to four parts of water. Air-acked lime has no disinfectant alue.

Some of the best known and most ffective disinfectants are coal tar roducts, among which may be men-oned cresol. It is another cheap, t very active disinfectant which ay be used for all purposes. It is tive for anthrax spores, a fact hich shows it to be a very effective gent in destroying disease produc-g organisms.

Where the strongest and most apid disinfectant for all organisms wanted, the metallic salt, bichlorid mercury, or corrosive sublimate, it is commonly called, should be sed. One part bichlorid of mercury 1,000 parts of water will destroy l pathogenic organisms with the ex-ption of the tubercle bacilli. It is lorless, cheap, easily prepared and sily carried and despite its extreme oisonous properties, its use can be regulated as to cause no danger stables. In the presence of con-derable amounts of organic matter, owever, its use is totally destroyed ecause of a chemical action making e mercury unavailable for action pon bacteria. It must also be kept mind that corrosive sublimate at-cks metal and care must be used disinfecting stables where metal anchions are used.

The common spray pump which is sed in the orchard is the simplest nd most economical apparatus to se for this work. Plenty of spray aterial should be used, together ith enough force to drive the solu-ion into all cracks and crevices. pecial attention should be given to ave the work thorough and all parts hich are likely to be contaminated hould be saturated with the disin-ecting solution. GUY S. ELLIS.

Needed Instruction

Small Stella, during a visit to the country, decided to help her grandfather milk the cows one morning.

"Grandpa," she said, after several fruitless efforts, "I wish you would come here and show me how to turn the milk on."

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¶The world's greatest prize for wheat—a $5,000 tractor outfit won by farmers in the Shield's River Valley, Montana, on the Northern Pacific Ry., last fall.
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¶An average man in Northern Pacific territory last year made a bountiful living for his family of eleven children and put $2,385 in the bank as the result of the season's yield from 40 acres of irrigated land.
¶There are 30 million acres of free Government Homestead Land adjacent to Northern Pacific and affiliated lines available to you for proving up under the revised and easy Homestead Law which requires only 3 years to acquire the land and allows 5 months leave of absence each year.
¶Tell us what state or section you are most interested in and let us send you free illustrated literature and particulars about low fares made especially so you can see these Great Prosperity States of America at small cost. ¶Ask for our Government land pamphlet. ¶Write today—get a bumper crop for yourself THIS YEAR! New 48 page book on Minnesota just out. Send for *your* copy and learn of the great possibilities for farmers and dairymen in the Bread and Butter State.

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Northern Pacific Railway

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I'll Stop Your Losses from Worms—I'll Prove It 60 Days Before You Pay

Little pigs only a few weeks old are often found loaded with worms. Hogs of all ages suffer from these deadly parasites. Then cholera, swine plague and other contagious diseases get in their destructive work. Stock troubled with worms don't thrive; they cough, have fever, act dull, and don't gain a pound. Your feed is wasted; your profits are stolen. Your animals frequently die, causing total loss of many dollars. I'll stop all this **quick** with Sal Vet, the great worm destroyer and conditioner. I have done it for thousands of others. I'll do it for you, before you pay me a penny, if you will just send me the coupon.

SAL VET

Read This Letter: "Have fed Sal Vet to my hogs and last none. Neighbor had sick lot of pigs, most and weak, have had cholera bad. One sent of me, an adjoining farm, had about forty hogs and pigs with cholera, the same and an adjoining farm, lost all he had. ... putting Sal Vet in their slop." A. J. HOLMES, Loquin, Ohio.

Send No Money—Just the Coupon

If you will fill out the coupon below telling how many head of stock you have—mail it to me, I'll ship enough Sal-Vet to last them 60 days. You simply pay the small freight charge when it arrives, and when the 60 days are up report results. If it does not rid all your stock of the deadly stomach and free intestinal worms, I'll cancel the charge—you won't owe me a cent. (72)

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60 day trial shipments are based on 1 lb. of "Sal Vet" for each hog or sheep, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular packages.

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Ship me enough Sal Vet to last my stock 60 days. I will pay the freight and report results. If it does not rid my stock of worms, I will pay for it if the same are not sold to me at the end of 60 days.
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4-5-13

Review of Live Stock Market

By A. C. Davenport

STORMS and floods have played havoc with the live stock markets of the country, as well as with the lives and properties of the people. In these columns a week ago it was noted that the severe snowstorms of the previous week had interfered very greatly with the movement of live stock, while prices had suffered depreciation owing to the narrow demand prevailing during holy week. At that time it was pointed out that the immediate future of the cattle market was rather uncertain and that a good many operators were anticipating a rather indifferent market for the week to come. The week to come, that is last week, proved to be very much worse than had been anticipated, due to abnormal and unexpected conditions consequent upon the demoralization of trade and transportation about by cyclones and floods.

The floods prevailing in Indiana and Ohio interfered with railroad traffic to such an extent that it became a very hazardous undertaking to attempt to ship meat products to the big eastern consuming centers. This had an immediate effect upon all branches of the live stock trade as will be very readily understood by everyone. The outlet for the product being in part at least cut off caused packers to buy more sparingly than usual and at the same time took shippers buying stock for eastern account out of the market. The reduction in the demand caused a steady downward movement in value. Although receipts at practically all points were very moderate, cattle at the close of the week were around 25 cents lower than at the close of the previous week.

Sheep suffered the same as cattle and from the same causes. If anything the demand was even more restricted than was the case with cattle. It might be well to understand thoroughly that the decline in both sheep and cattle is not local in any sense of the word, but general at all western markets.

The future of the market will, as a matter of course, be governed during the next week or so by the same conditions that prevail at the present time. In other words, the floods must subside and railroad traffic assume normal conditions before any material improvement can be expected in the market. This being very plainly the case, there is only one safe policy for shippers to pursue and that is to hold back shipments until packers are in a position once more to buy with their usual freedom. With cattle this will be an easy thing to do, as there is not the slighest reason for cattlemen being in any great hurry to unload and for them to sacrifice their stock on a storm-bound market would be the height of folly.

It is not quite so easy to hold back sheep and lambs, but shippers can at least keep back everything that is not suffering. Sheep men should also take notice that Colorado is unloading its sheep and lambs at a very rapid rate. In fact, stuff from that state is being dumped so rapidly that even if the consuming outlets were all open it is a question if prices could be maintained. It follows, therefore, that every man who can do so should as far as possible hold back the surplus sheep and lambs until market conditions are improved.

A considerable proportion of the hogs received are utilized at receiving points for the making of cured meats, and they do not suffer so much from the cutting off of eastern shipping facilities. Still indirectly the hog market is influenced almost as much as are the markets for sheep and cattle. It is well understood that the men who buy hogs for shipment to eastern points are the mainstay of the market, inasmuch as they prevent the packers from having everything their own way. With the shippers for eastern account unable to do business by reason of the interrupted railroad traffic the packers have been given an opportunity to pound the market, and they have not been at all slow to take advantage of the situation. Thus at present writing the advance scored at the beginning of the week is pretty much all wiped out. Still taking last week as a whole the market averaged the highest of any time since last October.

The immediate future of the hog market will unquestionably be influenced to a considerable extent by the condition of eastern transportation lines. Still hogs continue to occupy a very strong position. The number of hogs packed since the opening of the summer packing season March 1 shows a decrease of over 200,000 head. Since the first of the year there has been a decrease in the hog receipts at the five leading market points of 950,000 head. Eleven markets show a decrease in the number of hogs received to date as compared with a year ago of 1,220,000 head. These figures are certainly very bullish, but, as noted above, the immediate future of the market is liable to be dominated by storm rather than statistical influences.

First National Conference on Marketing and Farm Credits

IN THE First National Conference on Marketing and Farm Credits, which is to be held in Chicago April 8, 9 and 10, 1913, the stage is set for the greatest gathering of prominent and well known men in all lines of professional and business activity ever assembled to bring about improved economic conditions for producer and consumer. It marks the beginning of a united effort on the part of the American people to work out some solution whereby a more just and equitable division of profits may be enjoyed by producer and consumer, proportional to the services rendered by the individual.

All sessions of the conference are to be open sessions, and open to full, free and frank discussions of how to create better methods of distributing and marketing farm products. Big men of the country will present addresses and lead the discussions, but each and every man in attendance will have a chance to get into the discussion if he will.

Following is the program for the National Conference on Marketing and Farm Credits:

MORNING SESSION, APRIL 8.

10:15 a. m.—Permanent chairman's address. Colonel Frank P. Holland, Dallas, Tex., president, Associated Farm Papers.

10:30 a. m.—"Waste in Distribution." Charles R. Van Hise, Madison, Wis., president, University of Wisconsin.

11:10 a. m.—"How the Government Has Aided Distribution of Farm Products," Senator Obadiah Gardner, master, Maine State Grange.

11:25 a. m.—"Distributing Food Products," E. M. Tousley, Minneapolis, Minn., director, Right Relationship league.

11:45 a. m.—Appointment of committees.

AFTERNOON SESSION, APRIL 8.

2 p. m.—"Educational Aids to Organization," H. J. Waters, Manhattan, Kan., president, Kansas Agricultural college.

2:20 p. m.—"Educational Aids to Organization," Dr. S. E. Mezes, Austin, Tex., president University of Texas.

2:30 p. m.—"The Problem of Organization," C. S. Barrett, Union City, Ga., president National Farmers' Educational and Co-operative Union of America.

2:50 p. m.—"Fruit Growers," P. J. O'Gara, Medford, Ore., district plant pathologist, Rogue River Valley.

3 p. m.—"Grain Growers," E. G. Dunn, Mason City, Ia.

3:10 p. m.—"Beef Growers," State Senator A. L. Ames, Buckingham, Ia.

3:20 p. m.—"Dairy Farmers," Ed Webster, Fort Atkinson, Wis., associate editor Hoard's Dairyman.

3:30 p. m.—"Cotton Growers," E. W. Kirkpatrick, McKinney, Tex., former president Texas Farmers' Congress.

3:40 p. m.—"Farmers' Selling Agencies," Lloyd S. Tenny, Ithaca, N. Y., division of farm management, United States Department of Agriculture.

4 p. m.—"Cotton," W. B. Yeary, Dallas, Tex., president Texas Cotton Growers' association.

4:08 p. m.—"Beef," W. H. Tomhave, State College Pennsylvania.

4:20 p. m.—"Grains," M. R. Myers, Chicago, Ill., editor Chicago Co-operative Journal.

4:30 p. m.—"Dairy Products," N. P. Hull, Dimondale, Mich., national lecturer The Grange.

MORNING SESSION, APRIL 9.

9:30 a. m.—"How Transportation Lines Are Aiding in the Marketing of Farm Products," E. E. Betts, Chicago, Ill., general superintendent of transportation Chicago & Northwestern Railway System.

9:50 a. m.—"Relation of Agriculture, Government and Railways," B. F. Yoakum, New York City, chairman board of directors Frisco Lines.

10:20 a. m.—"Service Aids in Marketing," S. K. Hooper, Denver, Colo., assisitant traffic manager Denver & Rio Grande railway.

AFTERNOON SESSION, APRIL 9.

12:30 p. m.—Luncheon Hotel Sherman.

1 p. m.—"Why is the Farmer Not Effectively Organized?"

1:12 p. m.—(A) An Editor's Theory, Arthur Capper, Topeka, Kan., president Capper Farm Weeklies.

1:24 p. m.—(B) A University President's View, W. O. Thompson, Columbus, O., president Ohio State university.

1:36 p. m.—(C) A Congressman's Idea, Thomas L. Rubey, Lebanon, Mo., member of congress.

1:48 p. m.—(D) What an Economist Discovered, C. W. Thompson, Minneapolis, Minn., director bureau of economic research, University of Minnesota.

2 p. m.—(E) An Experiment Station Sidelight, B. Youngblood, College Station, Tex., director Texas Experimen stations.

3 p. m.—"State Aid in Marketing Farm Products," James Cox, Columbus, O. governor of Ohio.

3:30 p. m.—"What May Be Expected from the Federal Department of Agriculture," W. J. Spillman, special representative of David F. Houston, Washington D. C., secretary United States Department of Agriculture.

4 p. m.—"What the Federal Government Should Do," Hatton W. Sumners Dallas, Tex., member of congress.

4:20 p. m.—Business session.

MORNING SESSION, APRIL 10.

9:30 a. m.—"Co-operative Finance." Herbert Myrick, Springfield, Mass., president Orange-Judd Weeklies.

10 a. m.—"European Systems of Farm Credits," George Woodruff, Joliet, Ill president First National bank Joliet.

AFTERNOON SESSION, APRIL 10.

1:30 p. m.—"Improving Farm Credits in America," B. F. Harris, Champaign, Ill., former president Illinois Bankers' association.

2 p. m.—Homer C. Price, Columbus, O., dean of agriculture, Ohio State university.

2:20 p. m.—Dr. C. J. Owen, Washington D. C, managing director Southern Commercial Congress.

Business session

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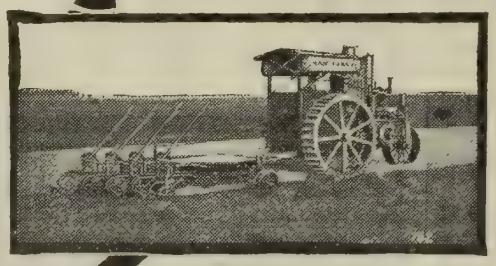
YOU will not sink and mire in soft soil with a Hart-Parr Small Tractor and "Self-Lift" Plow. The tractor is built mostly of **steel,** thus insuring greatest strength, yet lightest weight, with no dead weight to drag around and waste power. The Hart-Parr "Self-Lift" easily weighs one-third less than any other. In combination, they form a strictly One-Man Outfit, built strong to stand up under heavy plowing but so light it stays on top of the ground. The wonderful wave form driver lugs also prevent miring and do not injuriously pack the soil.



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The tractor will easily replace 12 sturdy horses, and do all your work better and cheaper. It has two speeds, is throttle governed, uses cheapest **kerosene** at all loads, and is oil cooled. For every kind of farm work—plowing, discing, seeding, harrowing, harvesting, threshing, hauling, shelling corn, husking, grinding feed and countless other jobs, it furnishes the handiest power imaginable. The price is within reach of every farmer of modest means.

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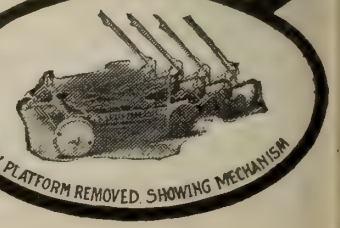

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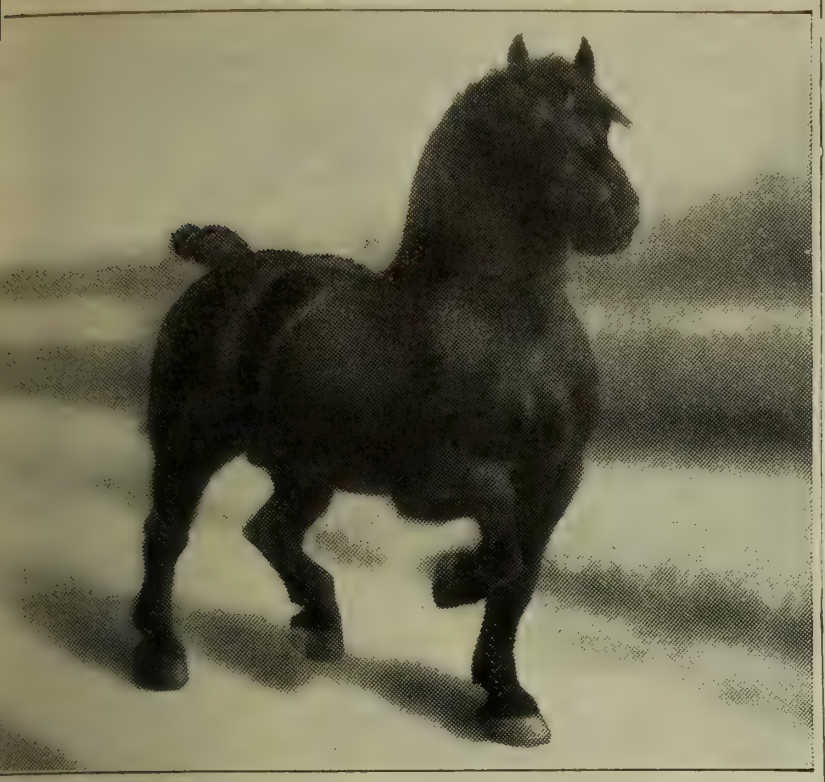

The above picture is a good illustration of the type of stallion being fered for sale by Watson, Wood Bros. & Kelly Co. of Lincoln, Neb. ey have a choice lot of Percherons, Belgians and Shires, and are pricing em worth the money.

Veterinary Notes

hen treating cattle or other domestic nals for lice, bear in mind that it is as necessary to clean up and disin- the stables as to treat the affected nals.

* * *

ere is an unnecessary prejudice inst lumpy-jaw cattle. A considera- percentage of these cases are passed government inspectors as fit for food pose. Only the very bad cases, es- ally those where the disease affects eral organs, or parts of the body, are demned.

* * *

or worms or other parasites living in the stomach or intestines, ap- ently careful experimental work has wn good results by the use of low- de tobacco leaves sometimes called bacco trash." This should be chopped fine, mixed with an equal amount of and kept constantly before the ep

* * *

e large swelling that occasionally ears in front of the knees of cattle, pecially old cows, is properly known hygroma. It is usually filled with a ery or straw-colored fluid. Opening other surgical operation is not advisa- except by a competent veterinarian. e swellings usually do no harm and t of the cases are most wisely left e.

* * *

ough among the hogs may be due to dusty quarters. With young hogs is frequently due to minute thread- worms in the bronchial tubes. A king cough is a very common mptom of hog cholera. Hogs also have common forms of bronchitis and umonia, just like other animals, and ate. With hogs, coughs and lung ubles aside from cholera, are fre- ntly due to sleeping in warm quar- possibly piled up, and then going into cold places to feed.

* * *

nfectious abortion among cattle has come one of the most serious problems cattle owners so far as infectious ases are concerned. It is well enti- d to rank in importance with tuber- osis, hog cholera and Texas fever. o new medical treatments have re- ntly appeared, either one of which y possibly prove to be of very great portance. One abortion is used like ercolin, as a diagnostic, and the other a vaccine, which, it is hoped, will im- nize heifers against the infection ete is not sufficient reliable informa- tion available, as yet, upon which to justify any definite statement. Breeders should keep these things in mind and watch for future development.

Ringworm in Calves

This is a skin disease that appears most frequently during the late winter and early spring. Its presence is shown by the appearance of scabby areas that vary from half the size of a penny to that of a dollar, and even larger. The hair falls out and the surface of the scabby area is covered with a fine white scurf. It shows oftenest about the calves' heads and necks, but may also appear on any part of the body.

Ringworm is caused by a small parasite that burrows in the skin. Its contagious nature is well demonstrated by the fact that the diseased animals spread it by rubbing against others that are healthy. The fact that heads and necks come in frequent and close contact while the calves are pushing and crowding about the mangers explains why the disease appears oftenest on these parts.

Treatment is simple and effective, requiring but a short time for complete cure in all ordinary cases. Tincture of iodine applied to the scabs with a suitable brush or swab several times, at intervals of several days, is all that is required. When the disease encircles the eyes, care must be taken to avoid getting the medicine into them.—Dr. C. C. Lipp, University Farm, St. Paul.

Live Stock Notes

Dorsey & Son's Chester Whites

J. W. Dorsey & Sons of Perry, Ill., write under date of March 24 that they have eighty-five spring pigs. Sales have been especially good with them during the last season and the future outlook is very bright.

Percheron, Belgian, Shire Stallions

Watson, Wood Bros. & Kelley Company of Lincoln, Neb., still have a choice lot of Percheron, Belgian and Shire stallions for sale. They are big, smooth, heavy-boned, drafty fellows, the ton kind, with pleats of style and action. The best evidence of the class of horses this firm sells and the treatment they accord their patrons is best evidenced by the many old customers who come back and buy from them again from year to year. Write them for further particulars, mentioning this paper.

Percheron Stallions

Parties contemplating the purchase of a Percheron stallion will do well to write to Fred Chandler of Charlton, Ia., R. F. D. 7. These stallions are home-grown, consequently thoroughly acclimated, and are of the big, heavy boned, drafty type. Write Mr. Chandler for further information, mentioning The Twentieth Century Farmer.

Kill the ROUP Germ

Stamp out this disease in your poultry yard. Roup germs lurk in the drinking water, nests, coops, everywhere they can find a breeding place. **Stamp them out—use B-K.** Just put a few drops of B-K, the powerful, non-poisonous, colorless germ destroyer in their drinking water. Sprinkle the nests, floors, roosts, coops with a dilution of this wonderful germicide and you will Knock the Roup Quick. Try it at our expense.

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Sample Free B-K is not only the best germicide but the cheapest to buy—the easiest to use. It is ten times as effective as clear carbolic acid, yet it is perfectly safe to handle and keep about the house. For Cholera, Gapes, White Diarrhoea, etc., it has no equal. B-K does not cause your hens to drink less or slack up laying. Send for FREE SAMPLE BOTTLE—try it without cost. The result will please you. Don't wait—send NOW—while you can get B-K to try FREE.

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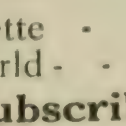
I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. **W. L. DeCLOW, Cedar Rapids, Iowa.**

PERCHERONS



8 home-grown stallions. The big type, 2 to 5 years old, ready for heavy service. Bargains. Also weanlings and yearlings. Just east of Omaha. Fred Chandler, R. 7, Chariton, Ia.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

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SALE OF HOLSTEINS

50 yearling heifers.....
50 1½-year-old heifers.....
100 2 to 2½-year-old heifers.....
100 2½ to 3-year-old heifers.....
Just being bred to a son of a 24-pound dam.

250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.
Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

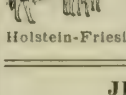
FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

O. I. C. HOGS

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." **G. S. BENJAMIN' RFD79 Portland, Mich.**



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Investment Comparison

An income of $3,000 per year and the family keep from a 160-acre farm, and what may be done to realize it, was the subject of a conversation with the most eminent farmer expert of the state. He said, "I would raise on this farm twenty-five acres of alfalfa, forty acres of corn, twenty-five acres of wheat, fifteen acres of oats, twenty acres of meadow and thirty acres of pasture, leaving five acres for buildings, orchard, garden, etc. I would have stock enough to consume all I raised, so that my products would go to the market in a concentrated form, costing less freight. Besides, I should rotate my crops so as to keep up fertility." That such a result may be attained on a good quarter-section of Nebraska or Iowa land must be admitted by any who will thoroughly consider conditions.

It is pertinent to ask what such a farm is worth per acre, measured by its production in dollars. Any property that will yield an income of $3,000 per year is worth at 6 per cent $50,000, which would make this farm worth over $300 per acre. You can buy farms in central western Minnesota at from $65 to $80 per acre equally as good, and better situated because nearer to the great primary markets, with every modern convenience. If the earning power of the farmer is over 6 per cent, then the earning power of the latter is evidently over five times as great, or 30 per cent. Here's a problem for the money-making farmer.

Paper Pulp from Weeds

Francis Laird Stewart, a widely known chemist and geologist, who has his laboratory at Murrysville, a village just over the Allegheny county line, is having patented through the legal firm of Lyon & Hunter a new process of making pulp which is vouched for by eastern experts in paper manufacture as being no inventor's illusive vision, but really an accomplished fact. Mr. Stewart was graduated at the old Jefferson academy at Cannonsburg and was for years the engineer-geologist for the parent companies of the Philadelphia company, when Murraysville was the hamlet whence natural gas was first pumped to Pittsburgh. He was for years employed in tracing anticlinals or upheavals in the vernacular.

It is claimed that the exploitation of the patents which are being taken out abroad as well as in the United States will revolutionize the manufacture of paper, remove all necessity for wrangling over wood pulp export restriction by Canada, or over paper trusts and besides will admirably serve to abolish waste, and thus become a part of the conservation movement, and as a prime attraction cheapen the price of the essential material in newspaper and book printing, while raising the grade.

Mr. Stewart affirms that he has found a process by which from plants never used before and naturally found in such abundance and in such favorable locations as to make them immediately available at a mere nominal cost, pulp can be made of the purest and highest quality the same as from linen and cotton rags, without the least difficulty. In a brochure Mr. Stewart has prepared, he incorporates a plate showing a reproduction under the microscope (the object being magnified 140 times) of a sample of composite pulp made at one operation by the new process from 102 typical species of plants and plant waste, the mixed pulp consisting wholly of the ultimate fibers and cellulose tissue. A list of the plants used in this conglomerate is added, and among the names are those of the best known of common weeds, besides hays, vegetable, flowering and all manners of plant growth.

He argues that the exhaustion of the forests removes wood pulp as a material This was first utilized about half a century ago, when mixed with a proportion of sulphite for newspapers and low-grade papers. He finds in the saw grass of the Florida Everglades the palmetto undergrowth, the reeds and rushes of the Dismal swamp, the cactus and maguay of Arizona, the wild rice of the northwestern lakes and in the reed cane in Arkansas an inexhaustible growth to be converted into high and low grade pulp by his process. Some of the ingredients in his conglomerate pictures were reeds from the far-famed mosquito swamps around Hackensack, N. J.—Pittsburgh Dispatch.

Thrift by Parcel Post

Mrs. Julian Heath, president of the National Housewive's league, with headquarters at No. 1 Madison avenue, New York city, is doing a wonderful work in bringing to the minds of women the interest and importance of household financing.

Here is Mrs. Heath's proposal for utilizing, in the interest of the housekeeper whose allowance is limited, the new parcel post law.

Under the new law, parcels not exceeding eleven pounds in weight will be carried within a restricted city zone for 15 cents and within a fifty mile zone for 35 cents. Mrs. Heath proposes direct dealing by parcel post between the farmer and the housekeeper through the agency of a registration bureau.

The city housewife, under Mrs. Heath's plan, will go to the bureau and establish her credit in much the way the business men satisfies his bank that he is responsible. In the same way the farmer or market gardner or chicken raiser registers. When that has been done any registered housewife may write to any registered farmer to send her directly by parcel post whatever vegetables, eggs, cream or other produce she wishes. They will be sent promptly. A perfectly practical plan.

As an extension to Mrs. Heath's plan I suggest to the housewives who can use the parcel post that they start a savings fund to be made up of the differences between what they pay for things under this plan and what they would have to pay in the ordinary neighborhood markets.—Chicago News.

THE MARKET PLACE

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WE TEACH YOU TO OPERATE AND repair automobiles; training on vulcanizers, drill presses, lathes; pattern making, moulding, brazing and driving. Free catalogue. Lincoln Auto School, 2352 O St., Lincoln, Neb.

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IDAHO RED CEDAR SPLIT POSTS direct from producer to consumer, 4½c to 9c each here. Delivered prices carlots on application, shipped subject to approval before payment. A. R. Derr, Secretary Farmers' Local, Clarkfork, Idaho.

HEDGE POSTS, ANY SIZE, CARload lots. Clarence Allen, Dawson, Neb.

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento, **CALIFORNIA**

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ANCONAS, THE MODERN EGG MAchines; baby chicks and eggs for sale. Write for mating list. E. A. Doty, Rising City, Neb.

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POULTRY, EGGS AND BUTTER wanted, highest market price; egg cases furnished free. Perry & Co., Omaha.

LIVE STOCK

4 HIGH-GRADE HOLSTEIN BULLS, 8 months old. Bargain. Peter Brehm, Harvard, Neb.

TYPEWRITERS

OLIVER VISIBLE TYPEWRITER for sale cheap; sent on trial. Charley Rickart, Route 5, Rosedale, Kan.

$15 CASH WITH ORDER BUYS REMington or Smith Premier, guaranteed one year. Central Typewriter Exchange, 1609 Farnam St., Omaha, Neb.

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ALFALFA SEED, NEBRASKAgrown, for sale by S. Hunziker, Sutton, Neb.

SEEDS—ALFALFA, $6; TIMOTHY, blue grass and cane, $2; sweet clover, $9. Farms for sale and rent on crop payments. J. Mulhall, Soo City, Ia.

DUNLAP STRAWBERRY PLANTS, $4 per 1,000, 50c per 100, prepaid anywhere. W. C. Hebdon, Blair, Neb.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Hagglund, Essex, Ia.

DOGS

SCOTCH COLLIE PUPS, WITH SIZE, grip and beauty. Clarence Allen, Dawson, Neb.

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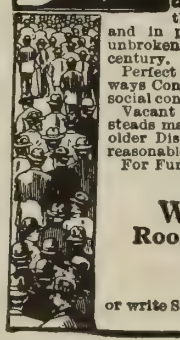

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ROSE COMB BROWN LEGHO eggs, $5 per 100; safe delivery guarante Walter Hogue, Fairfield, Neb.

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You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

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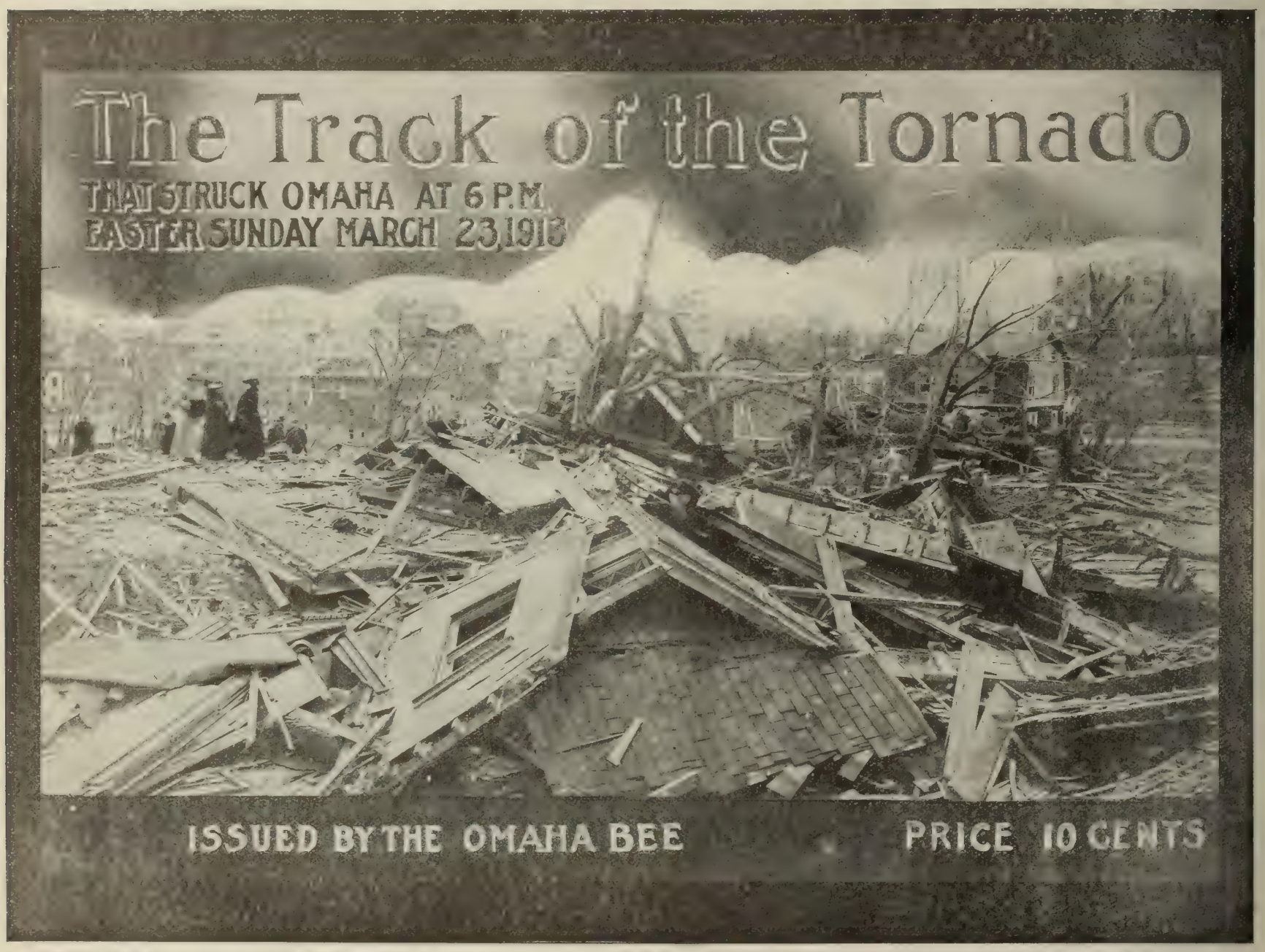

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Prattle of the Youngsters

Nice

Willie's Mamma—Is James a nice boy for you to play marbles with?

Willie—Sure. I can beat him every time.—Lippincott's.

Sassy

Lady—Why, you naughty boy, I never heard such language since the day I was born.

Small Boy—Yes, mum; I s'pose dere wuz a good deal of cussin' the day yu wuz born.—Tit-Bits.

A Substitute for Education

"Edgar," said the teacher, "your writing is somewhat awful. See if you can't do a little better next time."

"Oh, I don't have to learn to write," replied the little fellow. "Papa is going to buy me a typewriter."

As She Saw It

A child of 2 years, with bright eyes and a roguish mind, began suddenly to giggle in church one Sunday morning. Noticing the child watching the back of a nodding deacon's head, the mother inquired into the cause of such merriment.

"Oh, mamma," laughed the child, "dat man's head is peekin' out at me through a hole in his hair."

The Real Wonder

Ernest Thompson-Seton said, "I asked a little boy in one of my camps to tell me something wonderful about birds.

" 'Why,' said the little boy, 'how they come out of the eggs, that's wonderful.'

" 'Now,' I went on, 'tell me something about them more wonderful still.'

" 'Why,' he answered, 'it's more wonderful how they ever got inside the eggs.' "

According to the Word

Dorothy had heard her mother talking of Lent and frequently noted the word fast, but it conveyed an entirely different meaning to her from that in which it was used. Dorothy's mother observed Lent by fasting, but evidently her daughter had not come to understand the meaning of the word. On Ash Wednesday morning she was doing a little washing and ironing for her doll and was going about it in such a hurry that her mother inquired the reason.

"Well, mother," she replied, "isn't this the day you have to do everything fast?"

The Boy Knew

A little boy was taken down to the dog show at the Central armory the other night. He almost went wild with delight over the exhibits. He begged his father to buy him the prize-winning Russian wolfhound, and he explained in a loud whisper how easy it would be to pocket the Mexican hairless pet and take it home to mother. He liked almost all the dogs—in fact, he scorned only one exhibit, and that was the little cage of dachshunds.

"Wouldn't you like to have one of these?" asked his father, trying to change the subject.

"Naw! I kin make one o' them with four toothpicks and a cucumber."

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Increasing Irrigation Possibilities

IN THE next issue of The Twentieth Century Farmer we will print an article on "The Use of Irrigation Wells in the Plains States."

There are few portions of the United States where irrigation would not come in handy at some season of the year. We insure our lives, our homes, and even the lives of our stock. Why not insure the life of our crop, or, rather, assure it? If irrigation is not a benefit, would irrigated land remain at its present high figure? Now that inventive genius has perfected the internal combustion engine and the centrifugal pump, thus vastly increasing the irrigable area, it behooves every man to see whether or not he can irrigate his land from wells, if he is not on a gravity project.

Former President Roosevelt once said that "Even five acres in a good irrigation district are enough to support a family." The pump will keep the "lessening land problem" at bay for many years yet.

Bright and Breezy

Inconsiderate

"If you don't stop nagging me, Emily, I shall shoot myself this very minute."

"Yes, that's just like you, when you know how nervous I am when I hear a shot."

More Suitable

At the Devon Horse Show a mot of Miss Eleanora Sears' was retailed. A very stout young woman, the story ran, asked Miss Sears' advice about her costume for a fancy dress ball.

"I think of going as Helen of Troy," she ended. "Do you think it would suit me?"

Miss Sears, surveying the young woman's swelling contours, with a faint smile, answered:

"Helen of Troy—or, perhaps, don't you think, Helen of Avoirdupois would be better?"

Two of a Kind

Alfred Gwynne Vanderbilt, while driving his coach from London to Brighton one beautiful June morning, talked to a compatriot about the New York Horse Show.

"I remember a country fair at Newark," he said, "where the judges' decisions were not so uniformly unchallenged as they are at our Horse Show.

"Once an old farmer, hearing a decision uncomplimentary to his favorite cow, rushed into the ring, waving his arms furiously, and attacked the judges.

" 'Why ain't my cow first? Why ain't my cow first?' he shouted. What are her faults, I'd like to know?'

"One of the judges, approaching the abusive contestant, answered drily:

" 'Her faults, my man, are somewhat akin to your own. She lacks good breeding.' "

Heavy Feeders

One of the country-week associations of Duluth was entertaining a pale host of slum children with an open-air luncheon, and, as the urchins devoured ham sandwiches and cake and pie on a wind-swept knoll in the shade of an oak, Jerome S. McWade, the millionaire sociologist, addressed them.

"Children," he said, "don't be like some little ones we entertained here last year. They were awful eaters. I saw a young lady last year offer a boy a piece of chocolate cake. He looked at it doubtfully, then he rubbed his stomach and rose.

" 'I guess I can get away with it, all right,' he said, 'if I stand up.'

"Another very little boy, at the end of the repast, held out his arms to his mother and said:

" 'Carry me home, ma, but don't bend me.'

"I paused beside a third youngster who was scowling as he wiped his hands and face on the tablecloth.

" 'Well, son,' I said, 'have you had a good feed?'

" 'No,' he growled, and, giving his stomach three or four pats, he added:

" 'It don't hurt a bit.' "

ARNGIBBON

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Cream Production in the Missouri Valley

II—Conditions Indispensable to Success of the Small Creamery

THE peculiar economic and industrial conditions that now prevail throughout the Missouri valley territory are working toward a change in industrial methods. It begins to look as though big business, when it becomes too big, would be forced to divide itself into small businesses, so that, by the elimination of enormous overhead expense, it may be made to conform more nearly to the demands of economic law. Just at present the butter-making industry throughout this territory seems to be approaching this condition, perhaps more closely than other forms of industry, and, accordingly, much attention is being given to the establishment of small creameries, whether proprietary or co-operative. Activity is stimulated, perhaps over-stimulated, by zealous enthusiasts for co-operation, and especially by those to whom the word "centralizer" serves the purpose that a red flag does when flaunted in the face of a bull.

Under these circumstances, The Twentieth Century Farmer feels it to be its duty to its readers, carefully, candidly and impartially, to set forth the conditions indispensable to the success of a small creamery. It earnestly commends to the attention of its readers, and especially to those of its readers who are thinking of establishing a small creamery, what it has to say upon this subject in order that they may be fully informed in the premises, and be protected against possible loss through the over-persuasion of unscrupulous promoters.

Two Conditions that Must Be Met

In general, there are two general conditions that must be met in any locality where it is proposed to establish a small creamery, if the venture is to be profitable. In the first place, there must be a sufficient supply of raw material for manufacture; that is, a sufficient supply of cream to be made into butter. In the second place, there must be careful, economic, expert management of the manufacturing enterprise.

It is estimated by fair-minded men in the best position to know whereof they speak that throughout this territory, in order to make a small creamery successful, there must be sufficient cream produced within a radius of nine or ten miles to make 100,000 pounds of butter a year. Since there is a theoretical overrun of 25 per cent in the manufacture of butter—that is, since eighty pounds of butter-fat will produce 100 pounds of butter, this amount of butter production would require 80,000 pounds of butter-fat. It is estimated, and this is only an estimate, since under the circumstances it is impossible to arrive at exact conclusions, that the average cow throughout the Missouri valley territory produces only 135 pounds of butter-fat per year. But suppose, in order not to fall below the actual facts, the average production per cow of butter-fat in this territory be placed at 150 pounds. Then it would require 533.3 cows to produce this amount of butter-fat in one year. But 150 pounds of butter-fat per year exceeds the estimate placed upon production, not by creamery men, but by our agricultural colleges. So, then, in order to be perfectly safe, the number of cows necessary for the success of a small creamery should not be placed below 600.

This is true, and may be relied upon when applied to the territory of the Missouri valley under conditions as they exist here. These conditions take into account climatic and soil conditions, the degree of development of the cream-producing industry, the quality of the cream-producing animals and their capacity for production.

Will Regard Demand Too Large

People from the dairy states, because they live under conditions so entirely different, will regard this demand of 600 cows for the small creamery as altogether too large. It would be too large were the conditions to which they are accustomed and with which they are acquainted prevalent here. In lower Ontario, where there is an abundance of grass for summer and succulent forage for winter, and where the average production of dairy cows is double what it is here, the small creamery can be successful on half the number of cows. In certain districts of Minnesota and Wisconsin, in which the dairy industry is the principal industry, and where dairy cows have been improved and rendered capable of higher production, a much less number of cows than this would suffice for the purpose. But in the Missouri valley, with its cows such as they are, with 65 per cent of the cows not paying the cost of their keep, it would be business suicide to undertake to operate a small creamery with less than 600 cows.

These 600 cows must be located within easy hauling distance—that is, within nine or ten miles of the creamery, so that cream may be delivered in good condition. The quality of the butter made depends upon the quality of the cream delivered at the creamery. The price to be received for the butter depends upon the quality of the butter. The American people are ready to pay the quality price for quality. What they object to is being obliged to pay the quality price without getting the quality. If the creamery is to receive the highest possible price for its butter product, the cream delivered at the creamery must be in first-class condition. The average small creamery will have to depend for its profit upon the quality of its product. There have been small creameries in the Missouri valley that had cream enough to enable them to produce a profit, but which failed solely because they produced a poor quality of butter, which could not demand in the market a remunerative price. It follows from this that there must be cows enough to produce the necessary amount, as has been set forth, but it must be produced and delivered at the creamery in such condition as to enable the creamery to produce a first-class quality in its product.

Must Take Proper Care of Cream

This means, in addition, that the farmer producing cream for the small factory must take proper care of his cream. The centralizers hitherto have offered the cream producer no incentive for doing this. They have paid, and still pay, the same price for what is technically known as "rotten" cream that they pay for first quality cream. The patron of the small creamery will have to depend on the quality of his product for his profit. Accordingly, it will stand him in hand to take proper care of that product so that it may be delivered at the creamery in first-class condition.

It will also stand him in hand to improve his herd by eliminating the animals that do not produce a profit, and by increasing, through proper breeding and care, the amount of production. When these things are done throughout any community it may be made possible for a small creamery to be profitable with the product of less than 600 cows. But with conditions as they are throughout this territory, an attempt to succeed with less than that number would probably result in failure.

In a succeeding article this matter of providing an adequate supply of raw material for the small creamery will be further considered.

Glory of the Farmer

THE glory of the farmer is that in the division of labors it is his part to create. All trade rests at last upon his primitive activity.

He stands close to nature; he obtains from the earth the bread and the meat. The food which was not he causes to be.

The first farmer was the first man, and all historic nobility rests on possession and use of land.

Men do not like hard work, but every man has an exceptional respect for tillage and a feeling that this is the original calling of his race, that he himself is only excused from it by some circumstances which made him delegate it for a time to others.

If he have not some skill which recommends him to the farmer, some product for which the farmer will give him corn, he must himself return into his due place among the planters.

And the profession has in all eyes its ancient charm as standing nearest to God, the first cause.

RALPH WALDO EMERSON.

Picking and Marketing the Strawberry Crop

To Pick a Belated Crop of Thirteen Millions of Quarts Requires Co-Operation and System

TO PICK a belated crop of 13,000,000 quarts of strawberries from one small district and market them at a profit in competition with large yields from beds scattered over several states requires co-operation and system on the part of the growers, but that was done last year by the Ozark Fruit Growers' association. About 10,000,000 quarts of the berries had to be handled in two weeks.

The association is an affiliated organization of thirty-two organizations and of 405 individual stockholders, the object of which is to secure the advantages of co-operative marketing of fruit of all kinds and the purchase of fertilizer, crate and basket material in large quantities.

A corps of expert salesmen are maintained in the leading markets when a crop is moving, and their success has been very satisfactory. The salesmen inspect the fruit upon its arrival and if it is not up to standard an allowance is made to the purchaser and a claim filed against the initial-carrying road for improper icing or delay in delivering the car.

Old Method of Shipment

In former years, before the growers organized in 1904, most of the cars were shipped on consignment and the commission men paid whatever they felt inclined to give the growers. The usual plan upon receipt of a car was to wire that it was in very bad condition, offering a small price for the contents. The grower could not travel several hundred miles to investigate the matter and had to take what he could get.

John Cramer, president of the Fruit Growers' union of Sarcoxie, affiliated with the Ozark association, relates some of the early hardships of the strawberry-growing business. The postoffice at Sarcoxie is directly across the street from the city park, and during the shipping season there was a tacit understanding among the growers that when one of their number started from the postoffice toward the park no one should join him until after he had read his mail. Some of the returns were so ridiculously low that the shippers were ashamed to let the other growers know what they received.

One of the best cars of berries Mr. Cramer ever shipped was delivered in reasonable time, and as he did not receive a telegram advising that the market was "off," or the fruit in bad condition, he had high hopes of getting a fair price for his crop. About a week later he received a statement from the commission men, showing that the berries had been sold so low they did not pay the selling commission and freight charges, and he was requested to send $6.35, balance due for freight paid. The berries probably sold for about $1,000 on the market, but he was asked to lose all his berries and cost of picking them and contribute $6.35 more to the commission man. He did not pay the balance, nor was he able to recover any money for his car of berries, but a continuation of such experiences led to the organization of the growers.

Photograph of a box of Grade A strawberries grown by C. B. Cramer, Sarcoxie, Mo. Each berry was of uniform size and color, with half-inch stem attached. For shipping purposes the boxes were filled even with the top, but not piled up, as shown here. Mr. Cramer had eight acres, which averaged two hundred crates per acre.

Any grower of good standing may become a member by joining an affiliating organization, or by subscribing for $1 in stock of the association. A fee of 2 per cent on gross sales is charged for running expenses, and if there is a deficit at the close of season an assessment is levied upon the stockholders.

District Covers Forty Miles Square

The district covers about forty miles square in the southwest corner of Missouri, and an adjacent strip of Arkansas land. During a normal season the berries ripen immediately after the main Arkansas crop has been picked, and before the berries in the middle and northern states are ready for market. The strawberry business is largely a side line to farming on account of the inability to get labor when the crop ripens rapidly. The association maintains a business office at Monett, Mo.

The officers are: President, G. T. Lincoln, Bentonville, Ark.; secretary and treasurer, J. W. Stroud, Rogers, Ark.; vice president, Dr. E. L. Beal, Republic, Mo.; general manager, Senator R. A. Rogers, Gravette, Ark.

A trained corps of inspectors are maintained at all association shipping points, and after they accept the berries the association guarantees the quality and condition for a reasonable time. The business office is notified of the quantity and grade of berries and number of the car as soon as it is loaded, and it is held for shipping instructions from the manager. In the course of a few hours he either sells the carload to one of the many buyers, who has orders to ship to a certain market; sells the car direct to the market through one of his salesmen at that place; or, in a pinch, consigns the car to one of his salesmen in the hope that it can be sold before arrival at destination. Sometimes the load has to be sold at auction at the open market price, but the representative in that territory is present at the sale to see that they get the best possible price.

Owing to very cold weather during the preceeding winter, the 1912 crop was about ten days later than usual, which threw it into competition with the berries from Nebraska, Iowa, the remainder of Missouri, which ordinarily follows that district; Illinois, Indiana and Ohio. And owing to a warm rain and plenty of sunshine during the ripening season, the crop was the largest ever picked in that territory. The owners worked in the fields superintending the picking crews, while their wives, some of them with young babies to care for, worked in the packing sheds, paying the pickers and supervising the inspecting and crating.

Pickers Receive a Universal Price

The pickers received a universal price of 1½ cents per quart, being paid with aluminum disks stamped the denomination they represented, by a local bank. There were three series—for one box, for a six-box tray and for a twenty-four-box crate. The checks were good for their stamped value at the stores or the bank, so the pickers did not have to worry about getting full value for their labor. A great many professional pickers followed the ripening berry crop from Texas and earned from $3 to $4 a day. The local boys and girls earned from $1.50 to $2 a day.

The professional pickers tried to boost the picking price to 2 cents per quart and thought they could win by refusing to work for a few days, but the members of the Ozark association throughout the district stood firm and prorated the available pickers among the growers who needed help, so that if there had to be a loss on unpicked berries each grower would stand his proportion, and the strikers soon went to work. Most of the storekeepers closed their places of business during the day and went with their clerks to the berry patches to help save the crop.

At the shipping station each crate was opened by an inspector for the association, who graded the fruit, and if it was too green, too ripe, stemless or trashy he refused to accept it, and the grower had to dispose of it elsewhere. Only two grades were accepted and a receipt for the total number of crates of each grade was given to the grower as soon as it had been inspected. The banks permitted 75 cents per crate to be drawn at once, on deposit of the

A Strawberry Bed in a Young Cherry Orchard, Owned by N. N. Hoover, Pierce City, Missouri

receipts, to pay for picking, checks and other expenses.

The refrigerator cars were thoroughly iced by the railroad company several hours before being required for loading, so that the temperature in the car was considerably reduced. A minimum load was 510 crates, but most of the loads were 567 crates. A passageway the width of the door was left across the center of the car to give air circulation around the crates, which were cleated together and thoroughly braced to prevent sliding in the car.

Continual Fight With Buyers

During the season the association often had as many as fifty cars of berries a day for sale, and the independents had several more, so it was a continual fight with the buyers to keep the prices steady. The independent growers and their associations marketed their berries independently of each other and of the Ozark association, and were easy prey for the buyers, who soon forced them to consign their shipments or accept a very much lower price than the Ozark association demanded. Not being in touch with the movement of the crop, several independents consigned to the Denver market at the same time loaded it so heavily that they lost almost everything. However, the association handled a large majority of the crop and was able to keep the various markets comparatively steady under the circumstances.

Manager Rogers Wins Out

The first day that the crop came with a rush the buyers who were at Monett organized to break the selling price. They remained away from the association office until noon and then bid for a few cars at a very low price. Manager Rogers could not hear them, so they departed for a hotel, and at 3 o'clock offered the same price, but did not get any berries from the association. In the meantime the number of loaded cars was increasing rapidly. Mr. Rogers wired all of his salesmen to hustle for orders, but not to book any at less than $1.50 per crate at point of shipment. During the afternoon he began to receive orders. They came from various markets for from one to five cars each, so when the buyers came back for their last charge on the price, about 5 o'clock, he showed them that he had a good chance to clean up all of his available stock without selling any of them a car. They immediately broke ranks and took at his price all the cars he had left. If he had not been able to hold out against them on that day the bottom would have fallen out of the market for the rest of the crop and the growers would necessarily have lost heavily.

During 1905, the first year of the association's activities, they sold 226 cars of berries on track and consigned 294, averaging $1.10 per crate for the entire crop, although one consigned car brought only 3 cents per crate and another car brought only 5 cents per crate. The cost of picking, crating and box material is about 60 cents per crate, which shows a very heavy loss of money, in addition to loss of the fruit in those cars. It shows how the commission men goughed the growers on consignment shipments at that time.

Like Lambs Out of the Fold

In 1910 and 1911 the crop was light and the association reduced the percentage of consigned cars to almost nothing, the net average per crate for the seasons being $2.31 and $2.05, respectively. They were working toward the total elimination of consignment shipments. As the buyers were taking almost everything at point of shipment, some growers thought they could save the association commission of 2 per cent, and at the same time get the advantage of the prices upheld by them, so a number of growers scattered through the district pulled out of the association affiliated organizations and started independent organizations, principally for convenience in loading cars. But they did not have the association guarantee back of their packing and learned early in the season that they were like lambs outside of the fold, easy victims financially for the merciless buyers.

Pickers at work in a well-kept strawberry bed, the packing shed shown in center of field. The berries were delivered at farther side of building, which faced north. Men, women and children helped to save the crop.

It was a bitter lesson for some, but a strong demonstration to all of the value of co-operation. Mr. Stroud's yearly report to the association shows that in the face of such lack of universal co-operation, and an excessively large and belated crop, the association was able to give a net return of $1.18 per crate to its growers for all of their crop.

Sarcoxie is called the "mother of the many berry-shipping points in the Ozarks of southwestern Missouri," and has been the largest shipping point for a number of years. In 1897 the shipments totaled 232 cars, with the largest day's shipments being twenty-five cars. During the twenty-four hours ending at 7:30 a. m. May 28, 1912, twenty-nine cars of berries were loaded at that point. A. A. COULT.

Listing Best Method of Planting Corn

BY LISTING the land once, letting it stand a week or two, then splitting the ridges and listing again, practically the same perosity of soil will have been established as with stirring and planting by planter, while the crop of weeds that springs up between the two operations will be easier to keep free of these pests through the whole season.

Lister ridges will dry off and permit of cultivation much quicker than will the flat surface of land planted to corn with a planter. At the same time, the drilled corn in listing, being deposited at a greater depth from the surface than that planted with a planter, it will have a greater supply of available moisture at hand, and thus will resist a drouth better than the shallower planted corn.

Listed corn is much easier to tend than even check-row corn. A good harrowing should be given just as soon after drilling as possible—before the plants are through the ground if convenient. This enables us to do the job quicker than after the corn is up and has to be watched to prevent covering, and destroys all weed growth, leaving the corn a fair chance to grow, with no weeds to smother it back or sap the moisture from the soil.

We follow the harrow with a land roller, which crowds considerable fine dirt into the furrow, crushes the clods and leaves the soil in fine condition for future cultivation. While we have secured good results at this first cultivating with common fenders, better results will be realized if a box about three feet long is allowed to drag between the cultivator shovels for keeping the clods off the corn plants. We use a V-shaped box, which allows the fine, moist dirt to roll in behind it and down against the corn, covering the weeds and nourishing the plant as only such mellow soil can.

One more cultivation ought to level the furrows and rid the rows of all weeds, leaving the third plowing to hill the corn up slightly. Avoid cultivating too close to the stalks, rather allowing the shovels to run a short distance away and throw the soil against the corn. Where one leaves the ridges too sharp at laying-by, it promotes root growth too far up on the stalks; this ridge washes away a little later, and the tender lower portions of the stalk thus exposed to the heat of the sun, usually so extreme at this season, are literally scorched. This is sure to cut down the yield of the corn. We give the corn a gently sloping hilling-up at laying by, and continue to promote the dust mulch by working between the rows with the five-shovel cultivator, sometimes practicing this even after the corn is in tassel.

As here shown, it requires considerably less labor to produce corn where the land is listed than if planted by the corn planter, since it can be put in the ground quicker and easier, cultivated with less work and greater ease, and will actually yield more, one year with another. Other advantages that add materially to the excellence of listing are: The roots of the corn are so deeply set in the soil that they brace and hold the stalks in an upright position, thus avoiding the damage so often resulting from planted corn being blown down by the wind; also making a field of listed corn more agreeable to husk in. Then, this same deep-root system leaves less of the stalk above the soil, and so lowers the relative height of the ear from the ground, thus leaving it where it can be easily and quickly reached at husking time. This advantage can be appreciated only after husking the high, unhandy ears in a field that was planted by planter. M. A. COVERDELL.

Facts About Flax

A firm seed bed is necessary.

Early planting is safest in the long run.

Minnesota No. 25 is the best variety to grow.

Flax is not "hard on land" when compared with other crops.

Flax should not be grown on the same field oftener than once in five or seven years.

Harvest the crop when it is ripe. Thresh or stack as soon as possible when flax gets dry.

Flax can be successfully grown on old lands when properly handled. Do not sow flax on flax-sick soil.

Flax in rotation should follow the hay or pasture crops. A large amount of humus is necessary in the soil.

Flax wilt germs are carried by the seed, and live from year to year in the soil. The formaldehyde treatment will disinfect the seed.

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Did you put the farm in order before the spring rush came on?

The late United States Senator Stephen B. Elkins of West Virginia piled up a fortune of $4,025,209 in thirty years. There were no pockets in his shroud, and he didn't leave his address.

Make good use of the whitewash brush. Thorough whitewashing of the interior of poultry buildings will play an important part in keeping lice and mites down when the weather grows warmer.

A series of stories of the Missouri river country begins in April in The Youth's Companion. The first of these, "Up and Down Old Muddy," is told by Alan Mackenzie, and describes travel up the river in the '60s.

The typhoid or common house fly breeds out of doors, in manure and filth, seemingly preferring horse manure. The manure should not be left in the barnyard, but should be frequently carried to the fields and the gathering place treated with chloride of lime.

In the interest of science and public welfare, Mayor Henry J. Arnold of Denver will be the first person to be inoculated with typhoid vaccine by the city's health department. The department is inaugurating the policy of vaccinating against the annually recurrent scourge of typhoid.

Tree Planting

The greatest mistake in planting trees is in waiting until the spring rains have passed, until the soil has settled and dried out on the surface. The April planting will more generally succeed in getting a quick and sure growth of roots than the May and June planting, practiced by some tree planters. You will be able, no doubt, to get trees a little cheaper at the latter end of the season than at the beginning, and you are sure to get the refuse stock, the culled-over stuff, the very kind that is not worth planting.

There is nothing pays better than planting trees. If you have a few acres of ground, plant a row of trees around the lot; it will add to its beauty. Fruit trees are just as easily had, just as easily planted, and worth more when grown. Nothing looks much nicer than cherry trees for tree lines, and if you are obliged to give the fruit to your neighbors who have none, you will be thought more of when you are dead and gone than if you had grown a lot of cottonwood trees or other kindred varieties that are proving a nuisance in impoverishing the land for two rods on either side. Grow trees and plant them early in the spring.

The Hog Pasture

How many hog owners and raisers are perfectly satisfied with the hog pasture they have fenced off and devoted to the comfort, thrift and success of their hog-growing industry? It is easy enough to lay out and fence a hog pasture, and it is easy enough to discover after you have all this done just where you would take in a little more ground or extend the advantages of this lot, if you were doing it over again.

The general fault that the hog owner finds with himself is that he did not provide ground sufficient for the hogs he is trying to keep. A hog pasture is not a hog pen nor a hog lot, but a field of many acres; you cannot make it too big, if health and development of the hog is the object, and it is. The hog pasture should open out from the feed lot, from the buildings, the water, feeding accommodations, sleeping quarters, etc.; the home, in fact, of the herd.

The hog is an important factor on every well managed farm, in the sense of money making; therefore the importance of providing every convenience for the comfort and well-being of the hog, if he is to be a partner in the financial success of this very honorable calling. Every farmer who thinks and studies the work he is engaged in carefully and practically will see that if he can make a certain feature of his farm operation profitable by a certain course of treatment or operation he is going to do it. Why? Because it is profit that prompts him to devote his time and attention to the farm.

There is nothing in the handling of the hog on the farm so conducive to health and thrift as a large, roomy pasture. It is useless to say that the pasture should be alfalfa. There has never been any kind of grass that excels alfalfa for hogs, and this emphasizes what to plant where you are preparing for the hog pasture. A variety of grasses is usually considered of advantage to the farm pasture, and is for the cow, horse and sheep, but for the hog there has never been any combination of grasses that have equaled alfalfa in making pork, in getting a rapid growth on pigs, shoats, or in assisting the mature hog to gain in weight when given a full feed of corn.

The hog pasture should be large enough in acreage to admit of the hogs traveling over it without leaving it as a sort of second-hand feed, soiled from too frequent contact with the traveling grazers as they pasture over the ground. The rapid growth of alfalfa necessitates its being mowed off at least once every month during the grazing season; thus it is constantly renewing and cleansing itself by the fresh growth coming up from the stool or crown of the plant.

Quality is the Demand

Never in the history of the world has there been greater stress and emphasis placed upon quality, in all lines of production, manufacture and things of natural growth and development, than now. The tendency is toward improvement in every line of industry; people are not content with the ordinary things of life.

The farmer when he buys is looking for the best quality of implements, machinery and live stock; he has learned that the best is the cheapest, and that the difference in cost between the two is more than offset by the difference in quality, the advantage to be had in the better article or animal. There is also a spirit of pride being cultivated into the people which distinguishes in favor of the better class of production.

It most generally pays, when measured by dollars and cents, to buy the best, and in producing, to produce the best. This is abundantly verified in the growing of crops and in the breeding and production of animals The improved breeds of grains and animals are most profitable because the quality is in demand, and buyers are willing to pay for quality.

There is scarcely an exception to this general principle of action on the part of intelligent operators in any line of industry or business. Quality is given a premium over the inferior or lower grade article, and this is just and right. The distinction is possibly not as critical and exacting as it should be, nor enforced as rigidly as it will be, when the buying elements in trade become more intelligent in the discrimination of quality.

It pays to buy the very best seed for the sowing and planting of all crops on the farm. It pays to keep the best beef-producing cattle and the best pork-producing hogs. It does not pay to keep a cow that merely pays for her feed in yield of milk. Now is the time to study quality in all lines of farm production and see where improvement in quality can be made. Look around and see how many of your good neighbors are ahead of you in quality of animals, quality of seed grains and quality of farm implements and machinery to successfully operate the farm.

Prevent Black Leg

It will not pay to wait until you have lost one or two yearlings before you apply the vaccine. It is now an established fact, and it is supposed that every cattle raiser is fully convinced of the merits of the vaccine treatment for the prevention of black leg among the young cattle. The time to vaccinate is in the spring and fall seasons. It has been found the safest plan to vaccinate the calves and yearlings once every six months until they pass the 2-year-old age, which is believed to be the age limit for this disease.

If there is a verification in any of the old sayings in their practical sense, it is in the use of the black leg vaccine—"that an ounce of prevention is worth a pound of cure." It is the easiest and quickest thing imaginable to lose a calf by black leg, especially from April to June. It is the easiest thing connected with cattle raising to vaccinate a bunch of calves and yearlings when you are fixed and prepared to do it.

There are many farmers who have accustomed themselves to treating their young cattle for the prevention of this disease that it is observed with as much accuracy as any other farm or live stock matter on the farm. They take no chances in the spring with the coming yearlings, nor in the fall with the weanling calves. The experience is that this disease must be headed off. It will not do to wait until it makes its appearance in the herd, then try to save all loss; it takes its toll without reserve or favor when it calls.

Black leg does not appear every year in the same pasture. It has been hard to understand in this respect in many instances. Calves have died in June and July with black leg in certain herds and pastures, and, without special care in disposing of the carcasses, no more fatalities have appeared on these lands for several years.

A system of vaccination practiced every six months has in some herds entirely eradicated black leg, or it at least ceased to be a means of contagion or source of death from this disease in the herd.

Crop Prospects for 1913

It is not too soon to predict crop prospects for the country in general. The rains and moisture from the snows through the month of March has been quite widespread in its distribution, and with the exception of the recent eastern floods has aided the soil by conditions which have permitted more than the usual absorption at this time of the year.

The cold weather has tempered the disposition of trees and vegetation in general in their tendencies to develop, holding back growth, that suggests a very favorable prospect for another successful fruit year. The fall-sown crops of wheat and rye have so far been reported in a healthy condition and can now be depended upon to make a fine spring start that will mean a large yield of grain, if the usual growing conditions prevail.

If the dry weather of last fall, and carried through the winter, is an indication of increased moisture for the summer months, there is ample reason for a very optimistic view for the coming crop season.

Provide Against Loss

The season is now approaching in which great loss usually is reported from the newly-shorn flocks of sheep, due to sudden and unexpected cold and wet weather, where the bare-backed sheep cannot be protected from the elements by shed or stable. A dry, warm place for a few hours is usually all that is necessary. The newly-shorn sheep should be provided with sheds and dry ground to bed on, in case of any cold or wet weather following shearing, and until the new growth of wool gets started, or at least until the animal gets tempered to the changed conditions of its bare body being exposed to the cold winds and chilly nights through the early spring. The tendency among sheep owners is to early shearing. This practice is more generally observed on the range than on the sheep farm. Formerly, the first or middle of June was regarded early enough when the weather was very warm, and no possibility of cold nights or cold rains to chill the bare sheep.

In those days the old eastern sheep farmer brook-washed every sheep on the farm. This custom has practically been abandoned, owing to the advantage of selling in the grease and dirt and getting almost washed price for the wool. The dirt that is taken out of the fleece by the scouring process of the woolen factories would suggest that woolen factories should be established in all sheep-growing localities in order to keep the dirt at home. It seems extravagant to sell wool to be shipped a thousand or two thousand miles from where produced, to be shrunk in weight 69 or 70 per cent on account of the dirt and grease it contains. The freight on this waste is charged up to the scoured wool left after scouring.

The great loss occurring so frequently after early shearing is certainly a serious matter to the sheep owner, and should prompt all sheep owners to be sure that the cold season has passed before the shearing is started. Sheds with good rainproof roofs should be provided so as to crowd the sheep under shelter, where they will be reasonably warm and dry, in case of an emergency, such as frosty nights or cold rains, falling soon after shearing.

Cleaning and Grading Seed

The practice of cleaning and grading the seed for the sowing and planting of all farm crops is becoming a recognized custom among the best farmers of the country. It is also becoming the practice to treat seed for fungus diseases, such as smut, etc. What farmer, understanding the damaging influence of smut in seed grain, would knowingly sow smutty wheat, oats or other grains and take the chances of crop damage that must surely result? It is just as ruinous to crop production to sow indiscriminately the good, bad, indifferent and damaged grains as they are generally found coming from the thresher, with the additional mixture of foreign matter made up of weed seed and such undesirable additions.

The reform now most needed is in a closer observance of quality in the small grains used for seed purposes. There was for many years a lack of attention in grading and cleaning of the seed used as the basis of the small grain crops, due to a lack of competent devices to properly clean and grade the seed. There was a time when there was scarcely any help for the farmer; he depended on the old windmill to help him out, and it did help some, but imperfectly, compared with the improved machinery of the present day.

There is no excuse now for the farmer not having his wheat, oats, barley and all seed grains in perfect condition for sowing and planting at a comparatively small expense. When the difference is estimated between the crop produced from the perfectly cleaned and graded seed and from the ungraded, the machinery practically costs nothing and pays for its use a big premium besides. The seed corn can be graded and sorted up with this same grader. This is a subject that every farmer should think about, investigate and determine in his own experience, whether or not he can afford to be without any of the means of increased crop yield. It is just as important to grade up, sort out and breed from the best in grains as in cattle, hogs, sheep, horses or any of the farm animals.

Farm Improvements

In these times of modernized methods in farm management it becomes necessary for the farmer, as well as the business man who owns property, to look about him and investigate the materials best suited for the construction of the farm buildings, and which possess the lasting qualities, since economy in building hinges more directly upon this feature of durability than all other things beside. It never pays to buy cheap or damaged materials to use in the construction of farm buildings.

There is something in the substantial appearance of the improvements put on the farm or home property that lends attractiveness, which means value to the whole surroundings. Whenever the land owner commences to construct or repair the outbuildings, sheds, stables or feed lots with old, worn-out materials he at once lays the foundation of the depreciation of the whole farm property. These improvements, when built of good, new material, securely roofed by the best roofing materials on the market, present the appearance of stability, permanency and endurance that creates the favorable impression that causes country property to be so much in demand by moneyed people.

It matters not how attractive a stable or shed may be constructed; its utility depends upon its roof; its ability to turn water, its security in keeping dry every foot of ground under its roof, whether it is occupied by the farm animals, machinery or feed. How often do we see old sheds for the cattle, sheep or swine that are literally mudholes within, because of leaky roofs, and the water turned in the buildings in place of out? The partial roof, or defective roof, shuts out the sunshine and air and the mudhole is preserved.

There are not enough of the common farmyard outbuildings on the general run of farms. Some attempt to put everything under one roof, while others prefer the buildings separate; however this may be, there is no excuse for a poor roof in these times of manufactured roofings, of the various kinds that are on the markets and guaranteed to be both durable and inexpensive, compared with the old shingle roof or board roof. The waterproof roof is the greatest money saver on the farm, and the leaky roof is one of the greatest sources of loss on the farm.

Per Cent of Foreign-Born Whites by States

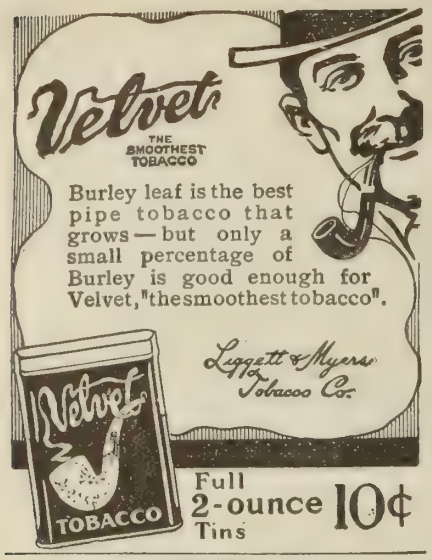
This map shows the per cent of foreign-born whites in the total population by states. A glance shows where most of the foreigners go after landing upon our shores. In New York and parts of New England the foreigners largely enter manufacturing pursuits, while the farmers push on to Minnesota and North Dakota. The map contains some surprises. One can hardly explain how Indiana, located between Illinois and Ohio, should show such a marked difference from both.

Practical Uses of Motorcycle

The day after the recent tornado in Omaha, the wires of the Western Union company were all down, and the only way in which they could communicate with the outside world between trains was by sending relays of motorcycles with the dispatches to Lincoln, from which point they could be sent in any direction over the wires. Everyone that had relatives in Omaha at that time has special reason to think well of the motorcycle. It performed valuable service for them at a time when their hearts were agonized with apprehension of the worst.

For similar purposes, such as the rapid transportation to and from town, and carrying of light loads, the motorcycle will be found to be a very efficient and a practical aid on every farm. A man can now, by the use of these machines, get to town and back almost within the time that would be required to get a team and carriage ready. In this way small repairs and small amounts of commodities can be secured on short notice at the least expense.

There is also a pleasure side to the motorcycle. Nothing is more exhilarating than a ride through the country on a fine morning, when there is opportunity, with a call on the neighbors and a view of how the crops on the different farms are coming along. Some of the manufacturers now make an attachment that can be fitted to a motorcycle so that two, or even three, people may enjoy the ride together. To a person that desires rapid transit, and is not able to purchase an automobile, the motorcycle is the next best thing. Besides, the motorcycle will go where it is impossible to take an automobile. With appreciation of its merits will come an increased use.



Tornados, Cyclones, etc. are unknown in Beaver Park, "The Land of Sunshine." Why? We are protected by the mountains. Write me for prices on orchard homes. James Moore, Penrose, Colo.

Data Concerning Hog Cholera

(The Twentieth Century Farmer is in receipt of an inquiry for data regarding hog cholera and hog cholera serum. It is thought that many readers will be glad to learn the simple facts about hog cholera and hog cholera serum. And for this purpose the answer to the inquiry for data is here printed).

HOG cholera is an exceedingly fatal, epidemic disease of hogs. It is claimed by those in the best position to know that it is the only fatal, epidemic disease of hogs that spreads over wide reaches of territory. The disease is probably caused by a specific infection by some form of disease germ. But this must remain for the present an hypothesis, because the epidemic hog cholera germ has not yet been discovered.

The disease is probably an infection of the blood, and it attacks and makes lesions in those organs of the body that are in an impaired condition, and consequently unable to resist the disease. If the digestive tract of a hog is in a diseased or unhealthful condition, the lesions will probably appear there. If the lungs are the weakest part of the animal, there will be lung lesions. And so with the other organs of the body. This accounts for the fact that some scientists urge that there are several distinct diseases of hogs that are infectious, because different organs of the body are attacked. Some of these assert that there is such a thing as an epidemic, infectious pneumonia, basing their conclusion on the fact that in some cases only the lungs of the hogs suffer lesions. But in all known experiments the blood of the hog suffering from this infectious pneumonia, when injected into a well hog, produces cholera. This has led to the now generally accepted conclusion that there is now only one widespread fatal disease of hogs, and that this disease is hog cholera, no matter in what portions of the body lesions may appear.

Disease is Highly Infectious

The disease is very highly infectious. The germs of the disease, if it is a germ disease, as it probably is, are found in the flesh and tissues of the diseased animal, and also in the feces. The germs that are in the flesh may be transferred from place to place by flesh-eating animals and birds. The germs that are in the feces may be transferred from place to place upon the feet of either men, animals or birds. Hence the necessity of rigid oversight of the diseased herd to prevent the germs being carried from place to place, and thus spreading the epidemic.

The employes of the Department of Agriculture discovered by experiment that the blood of a hyper-immune hog, injected into a well hog, conferred immunity to the disease. In case the animal treated was not exposed at once to hog cholera, it was found by experiment that the immunity conferred was temporary only, lasting with different individuals from thirty to ninety days, as a rule. If, however, the treated hog were immediately exposed to cholera, the immunity conferred became semi-permanent—that is, it would ordinarily render the hog immune for the ordinary period of life of the average hog. When the treated hog was a member of a herd in which cholera was already ravaging, it was found that he there received the necessary exposure to make the immunity permanent.

The Simultaneous Method

For the reason that some farmers on whose farms no cholera existed wished to immunize their hogs permanently, the idea suggested itself to the operator to give to the treated hogs the exposure to hog cholera necessary to permanent immunity by injecting into the treated hog a small quantity of virulent blood—that is, blood drawn from a hog suffering from a virulent attack of hog cholera. This virulent blood was injected at the same time that the serum was injected, and it was found to confer permanent immunity, providing the serum was potent and the virulent blood virulent. This method of immunizing hogs is technically known as the simultaneous method.

This simultaneous method sometimes causes sows, heavy with pig, to abort, and it was found that by using what is known as the double method this danger might be averted. The double method consists in injecting the treated hog with a full dose of serum, the injection generally being made in the flank, and then, after the lapse of a week or ten days, administering what has already been described as the simultaneous method. This method, in a large degree, averted the danger of abortion, and was recommended specially to owners of high-priced, pure-bred hogs, as it was regarded more efficient, though more expensive, than the simultaneous method.

Dose of Serum Administered

The dose of serum administered is from twenty-five to thirty cubic centimeters for every 100 pounds of hog. Shoats weighing from forty to one hundred pounds receive the full dose. Small shoats receive a proportionately smaller dose. The dose of virulent blood is one cubic centimeter for every hog, weighing from forty pounds up. For smaller shoats the dose is proportionately smaller.

In the beginning, because serum is somewhat expensive, a smaller dose of serum was recommended, but now the tendency is to increase the dose of serum, because the serum itself is entirely harmless, so that an overdose will not be dangerous, in order that the operator might be sure that he would use serum enough. Many operators now use forty cubic centimeters to every 100 pounds of hog.

Serum is the name given to the blood of a hyper-immune hog, after the fibrin of the blood has been withdrawn. The hyper-immune hog is produced by taking a hog that has had the cholera, and by this means has been made immune to cholera, or a hog that has been immunized, and injecting into it, generally into a vein in the ear, a large quantity of virulent blood. If this virulent blood does not make the hog sick with cholera, it proves that the hog is hyper-immune. The blood of this hyper-immune hog is drawn from the tail. After as much blood has been drawn as is possible, and still preserve the life of the hog, the bleeding is arrested and the hog put on good feed for the purpose of replenishing his store of blood. This hyper-immune hog is generally bled in this way three times, and then at the fourth bleeding he is bled to death. All this blood, when the fibrin is extracted, is serum. A 200-pound hog, treated in this way, will give about 9,000 cubic centimeters of serum.

What Experience Has Proved True

The theory upon which the operator goes is that this blood of the hyper-immune hog has in it certain qualities which render the cholera infection harmless.

Experience has proved this to be true.

It should be borne in mind, however, that the serum is intended for use only with a well hog. The only way in which to tell whether a hog is well or not is by taking his temperature, since hogs with a temperature as high as 107 degrees have been known industriously to hunt their food, and yet show no sign of sickness. It sometimes happens that if the rise in temperature of the hog is only slight, the administration of serum will give it immunity. But this is very uncertain, and in many instances the serum in such cases only hastens death. Serum is not a cure; it is merely a preventive.

No serum should be used until it has been tested. It may be tested by giving an experimental hog the simultaneous treatment; then if the serum protects the animal against the effect of the virulent blood, it is potent serum. If it does not so protect him, it is useless and should be discarded.

Not Possible to Standardize

It is not possible to standardize the virulency of the blood, or to determine any hog's resisting power. It accordingly sometimes happens that the hog treated by the simultaneous method becomes sick and sometimes dies. About 2 per cent of the hogs treated by this method have in the past died under the treatment. But probably this result might be avoided. The reason that the hog becomes sick is that it has not received sufficient serum to counteract the virulent blood. Accordingly, when the first indication of sickness appears he should receive another full dose of serum, which, in all probability, will be sufficient to counteract the infection of the virulent blood and confer permanent immunity.

It should be borne in mind that this serum treatment is not a scientific discovery, but an empirical discovery. It was discovered by mere experimentation, not by scientific process. It is, however, efficient when properly used under strict sanitary methods. In nearly all states arrangements are being made to furnish potent serum to farmers at exact cost of production. This will make the serum treatment a cheap and efficient method of hog insurance.

Fine Wool Sheep in America

I—The Origin of Merino Sheep

THE merino sheep of the United States, commonly designated under the general term, fine wool sheep, have a history that gives them a distinct and prominent position as the wool-bearing sheep of America. The merino sheep, while it has been wonderfully improved and increased in both wool and mutton qualities since its first introduction into this country, 1801 to 1812, was originally a sheep of great wool merit.

The merino sheep was a carefully established breed for centuries before its introduction into the United States. In the thirteenth century Spain became renowned for its woolen manufactures, then scarcely known in the rest of Europe. There was great care in the system of breeding and handling of these sheep in Spain. The Spanish government took great pride in the fineness and quality of the wool produced by its flocks.

It is generally conceded by sheep history that the name merino is of Spanish origin. One authority says that in ancient Spanish history a government officer was called "merino," a sort of judge or supervisor over a district, county or village, and was named directly by the king. Spanish law mentions the dignity of the merino mayor and merino miner. It was also the duty of the merinos (mayors) to distribute the pasture grounds to the mountain flocks (Serranos) and wandering flock (trashumantes). The latter were also called royal flocks, on account of the special rights they enjoyed, and it was the duty of the merinos, or their miners, to distribute grounds among the trashumantes, protect them in their privileges and punish those that trespassed on the same. It is presumed that to distinguish these from the others they were called after the men that had charge of them, "merinos." One authority says: "I believe that this name was given to the trashumantes, the wandering flock, after the expulsion of the Moors, when large tracts of land were entirely depopulated and the number of fine-wooled sheep largely increased and the new privileges conceded to them.

The custom was to conduct a migratory system of grazing with the flock; they were taken out in the beginning of the grass season and, after the fleece was shorn, traveled hundreds of miles to grazing lands and returned in the autumn for wintering. Thus they became a peculiarly fitted type of sheep for grazing in large bands, and this peculiarity is distinctly a characteristic in the breed, born in it from its habits of life for generation after generation.

The Spanish government became so convinced, at a very early day, of the great value of the merinos that a special edict was passed prohibiting their exportation without a royal license. This prevented a general dissemination of the race until after the overthrow of the Spanish dynasty by the French under the French armies commanded by Napoleon. For several years the most valuable merinos in Spain were in possession of and controlled by the crown. The principal flocks were named Escurial, Gaudeloupe, Paular, Infantado, Negretta, Montarco and Aguiirre, and these were especially in the reserve list up to the time of the French invasion.

It was on Napoleon's second invasion in 1810, when his army advanced toward Madrid and the governmental junta fled to Badajos and their finances being exhausted, that it was suggested to this assembly by representatives of other countries that they might sell some of their confiscated sheep, which were feeding in thousands on the plains. This suggestion was resorted to as a means of raising funds and a sale was conducted at which large numbers were sold.

It was here that Consul Jarvis of Boston availed himself of the opportunity, through his correspondent, a highly respected merchant of Badajos, who, in company with a Spanish colonel, purchased between 3,000 and 4,000 of the choice of the 8,000 offered for sale. Mr. Jarvis shipped 1,400 to the United States; the other division were shipped to Scotland and England. This is reported to be the first government sale of sheep made by Spain. This purchase was all of the Paular cabana, or flock, and very desirable sheep.

A very careful research was made about 1875 to 1881 in the matter of evidence of importation of the merino sheep by the various merino register associations, then organizing in the United States, and establishing records for flocks tracing up to reliable importations. The reliable importations of pure-bred Spanish merino sheep seem to center between the dates of 1801 and 1812, and upon these is the pure-bred merino sheep history of the United States based.

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To the user it means an almost trouble-proof car. A car with low cost of upkeep. A car that meets every strain.

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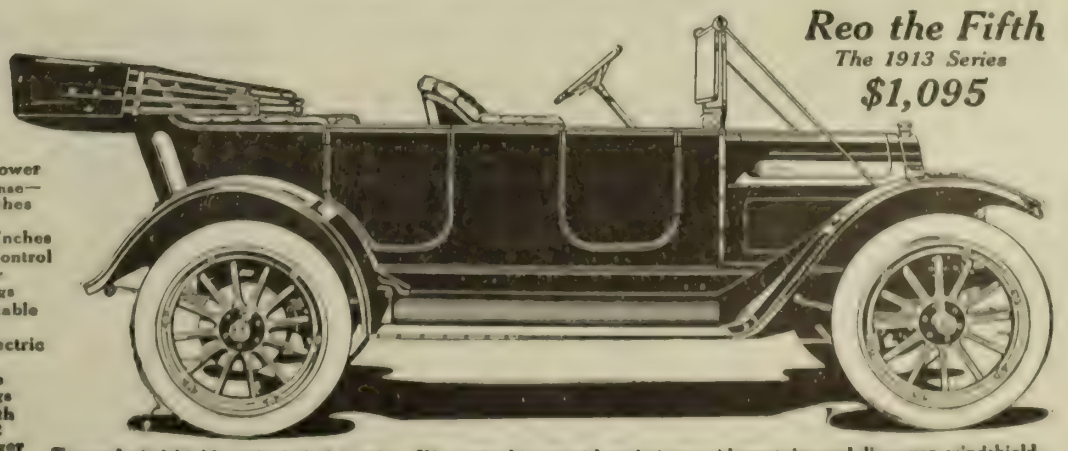

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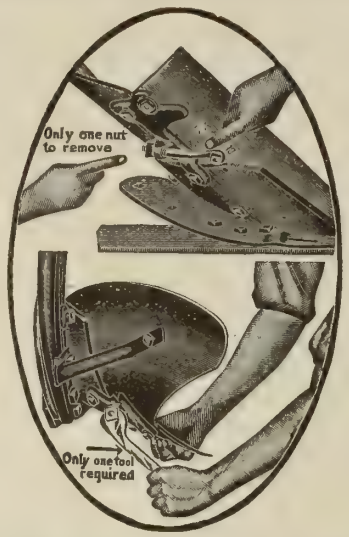

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Nebraska University Dairy Herd

A VISIT to the dairy department of the Nebraska University state farm will be appreciated by every lover of live stock, especially those who have cultivated an admiration for the dairy cow. The 1913 herd consists of fifty-four cows of all breeds—twenty-four Holsteins, eleven Jerseys, eight Ayrshires, seven Guernseys and four Shorthorns. This list comprises the cows now in the milking division. There are about thirty heifers of various ages, the produce of these cows, that will be developed to determine their milking abilities. The state farm dairy cows are, of course, a choice lot of milkers. It would be no credit to keep a lot of inferior or even half-way quality cows in a herd such as this one stands for.

These cows are all good representative animals of the breed they stand for. They are not beauties, all of them; many, however, are very fine appearing animals; especially is this true of the Holsteins. They have been selected, of course, in view of their butter-fat and large producing qualities, but in this line of breeding there is combined symmetrical form and beauty to a remarkable extent. It is the business quality, however, of the dairy cow that is consulted in estimating her value.

The milking Shorthorn is still recognized as a candidate for the double-purpose cow and has pretty good prospects now of establishing her claim. The Shorthorn Breeders' Association recognized this class of cows at its last annual election by placing C. A. Otis of Ohio on its board of directors, and because he was an enthusiast on the milking qualities of this breed.

Nebraska has been improving in its state farm dairy herd and has a class of cows now that are pretty hard to beat. It looks like business to see the quality that is represented in this herd. If an experiment station means anything, it is to show the possibilities in its various lines of work. We all know the common, low-producing conditions of the farm and its live stock, but this is not a stimulus to effort in improvement. It is the excellent things we are interested in and strive to obtain.

Some Ayrshires in the University of Nebraska Herd

The dairy department, under the supervision of Prof. J. H. Frandsen, is progressing finely and has a standing in quality and test that is highly creditable to the state. Everything pertaining to Prof. Frandsen's management is in view of practicability and the making of this department instructive to the common cow owner. This is as it should be, and such a policy, closely carried out, is bound to win with the public sentiment.

The University of Nebraska is fortunate in having one of the best producing dairy herds in the state and one which stands in the front rank among the experiment station herds of the country. In 1912 thirty-seven cows, made up of the four leading dairy breeds — Jersey, Holstein, Guernsey and Ayrshire — produced an average of 9,301.2 pounds of milk and 432.7 pounds of butter. When it is remembered that a herd producing 6,000 pounds of milk and

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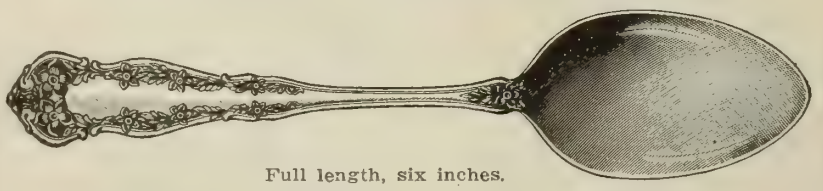

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280 pounds of butter is considered a very good herd, and the average Nebraska cow kept for milk purposes produces but half this amount, we realize the quality of these cows.

But this it not all. One cow in the herd has produced 21,614 pounds of milk and 883 pounds of butter in one year; three have averaged 787 pounds of butter in one year; six 713 pounds, and there are thirty-six lactation periods in the herd records averaging over 500 pounds of butter per year. This is what some cows have done. Here is

J. H. FRANDSEN,
Professor of Dairy Husbandry,
University of Nebraska

what one is now doing: La May, a Holstein, freshened November 14, 1912, and up to the first of March, 1913, produced 8,794 pounds of milk and 318.8 pounds of butter. In one week, under official test, she produced 656.2 pounds of milk, containing 22.6 pounds of butter. It is expected that her yearly record now being made under the Holstein-Friesian Association advanced registry rules will add new laurels to the University of Nebraska dairy herd. This cow produced in one day 99.1 pounds of milk, equivalent to fifty quarts. She is a beauty, a wonder, and to any cow fancier it is worth traveling hundreds of miles to see her.

The herd is kept in a sanitary barn, with only such care as the first-class dairyman could afford to give his cows. Their daily ration is made up of corn silage, alfalfa hay and a grain mixture composed of corn, bran and cottonseed cake. During the daytime, between milkings, the cows have the use of a clean, well drained yard, protected by an open shed on the north for use on stormy days when the cows receive their hay. All cows making high records are milked three times a day and La May is milked four times.

The milk from these cows is bottled in the university dairy and retails at 10 cents per quart, delivered. While this price is higher than that obtained by the other dairymen in Lincoln, it is the aim of the department to use such care in keeping it wholesome and clean as to make it especially fitted for babies. As there is always a waiting list of customers which the herd is unable to supply, the department feels justified in this extra care and price.

Prof. Frandsen is highly pleased with the interest taken by the people of the state in visiting the experiment station. He says: "Hardly a day goes by in which the dairy department does not receive parties of visitors. It is estimated that during the last year over 10,000 visitors saw the herd and dairy, and possibly gained an added inspiration for more profitable and enjoyable work on their own farms. The men in the dairy department are always glad to show the herd and give details of its management for the benefit of others."

The Twentieth Century Farmer urges the citizens of the state to visit the state farm and experiment station and become better acquainted with the work and study that is being carried on there.

Filling Silo More Than Once

At the Interstate Farmers' meeting held recently in Sioux City, the manager of the Cassaday farms, located at Whiting, Ia., gave some very interesting information, which we are glad to present to our readers. He stated that he filled his silo twice, and sometimes three times, a year. The first filling was with the green corn just as it came from the field. Then sufficient corn was harvested and shocked to prove adequate for the second filling. After the first filling of the silage was exhausted the silo was refilled by passing the shocked corn through the ensilage cutter. An inch stream of water was kept running in the blower to wet down the dry corn fodder, and another inch stream of water was kept constantly running into the silo from the top. This furnished adequate moisture for the dry silage and afforded the possibility of so thoroughly tramping and packing the silage as to exclude the air. Such second-hand silage, as it might be called, proved as appetizing and as succulent for cattle as the first filling. Cattle semed to like it just as well and to do just as well on it. What little amount of nutrient value was lost to the corn shocks by weathering was, of course, lacking in this silage.

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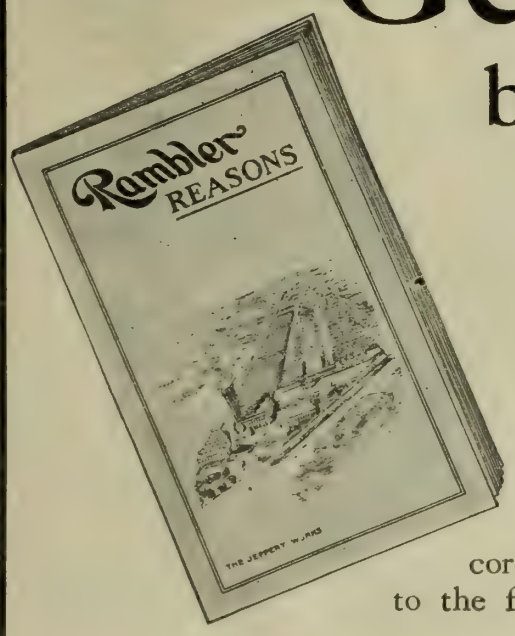

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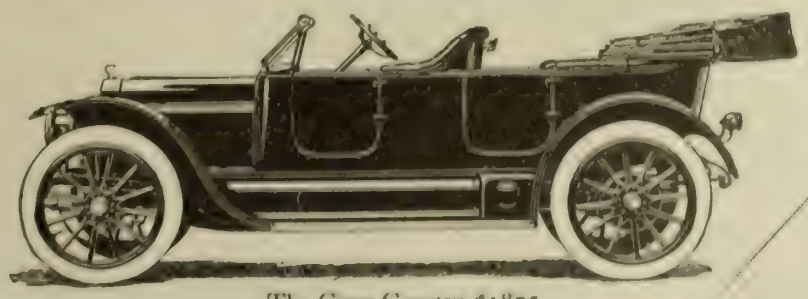

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Land Monopoly of Mexico Serious Question

By Frank G. Carpenter

MEXICO CITY—Outside the revolution proper, President Huerta and his administration have big questions to deal with. The Madero policy has awakened the common people, and congress is divided among their friends and those of the big land monopolists. The great trust here is the Land trust. Something like 1,000 families own the bulk of the good lands of Mexico, and for generations they have been ruling the country. They have had their lobbyists here at the capital, and when they have piped the statesmen have had to dance. The power of this land trust was well known to Porfirio Diaz, and the opposition to it brought about the downfall of his administration. President Diaz knew that the time had come to divide up the lands, and he was planning to tax them with a view of so doing. But the power of the haciendado in the federal congress and the state legislature was more than he could overcome, and he failed. He tried to tax the big estates which were not in cultivation, and to thus bring about their division. But he was balked at every turn, and the result was his downfall.

Bringing in Cattle On a Hacienda

What President Madero Did

It was upon promises to bring about a land division that Madero made his campaign for the presidency. He stumped the country, saying that if he became president he would so tax the big estates that the owners could not afford to keep them. He also said that he might compel the haciendados, or large landholders, to give farms to men who were working for them. He told the peons that their wages would soon go up to $1 a day; he said they would have a chance to buy land and that he would create a class of small farmers.

It was these big landholders that largely aided in bringing about the defeat and death of Madero, and President Huerta and his party are indebted to them. The common people, however, have learned too much and gone too far to recede. The government knows that there can be no permanent peace without a movement toward a division of the lands, and congress is now trying to bring forth some scheme which will result in such a division. One plan which is agitated is the restoration of the communal lands about the towns to the Indians who formerly owned them. And there are other plans to wipe out the feudal system, which now gives a few families this great land monopoly and makes them the ruling aristocrats of the country. The fight of the future is to be between the landless and the small landholders and the land monopolists, and it will go on in one form or another until Mexico belongs to the many instead of to the few.

Among the Land Barons

How would you like to have 5,000 families own the whole United States? Such a division would be somewhat the same as that which exists in Mexico today. There are men who own millions of acres of farming and grazing land, and who in addition have mines, houses and gold galore.

Let me give you a few instances. The biggest land owner of all is Don Luis Terrazas of the state of Chihuahua; he and his immediate relatives own outright over 7,000,000 acres of the most fertile lands of northern Mexico; they keep it in big tracts and the most of it is employed for stock-raising only. Terrazas brand 60,000 calves every year, and he has on his place enormous droves of horses and mules and flocks of sheep and goats: he owns nearly all of the land between Chihuahua and the United States boundary, and you may ride further than from New York to Washington on the railroad in crossing his farms from north to south; they are wider from east to west than the distance between Baltimore and New York, and, indeed, the boundaries are so poorly defined that no one knows just where they end. The people here say that Terrazas does not know how much land he has and that he could lose 1,000 beef cattle and not feel the loss; he is without doubt about the richest man in Mexico; he is worth something like $100,000,000, and is the autocrat of the state of Chihuahua.

Another man who has millions in this same state is Enrique C. Creel, who was formerly the Mexican ambassador at Washington; he is a son-in-law of Terrazas, but is said to be worth about $20,000,000 in his own right, much of it being in land and cattle. Mr. Creel was born in Chihuahua; his father was a Kentuckyian who came to this country during the Mexican war and later settled here; he had a family of seven, and Enrique C., his oldest boy, was named for Henry Clay.

Just across the border of Chihuahua is the state of Coahulla, where the Madero family owns its vast estates, which are now liable to confiscation, and a little to the southward, in San Luis Potosi, is Encarnacion Ipina, who holds more than 1,700,000 acres. Ipina has live stock which exceeds in number many times that of all the cattle, camels and sheep owned by Job, the famed monopolist of the Land of Uz, and he also raises corn, wheat, beans and potatoes. Nevertheless, not one-twentieth of his lands are under cultivation, and his Indian workmen cannot buy an acre to hold in fee simple.

Another big owner in the same state is Mrs. Sarah H. De Lee. She has over 1,000,000 acres, and of these she cultivates only 50,000.

In the state of Tiaxcala, which is about half the size of Connecticut, thirty-nine persons, or families, own all the land, and this notwithstanding the population is almost 200,000. In the territory of Tepic, which has over 170,000 inhabitants, the country is practically owned by thirty-one families, and in Tamaulipas lives Manuel Gonzales, who owns 3,500,000 acres, or an area which

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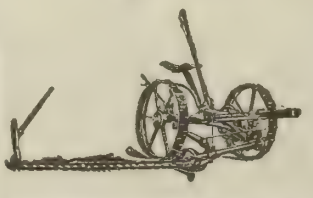

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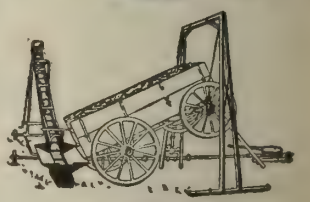

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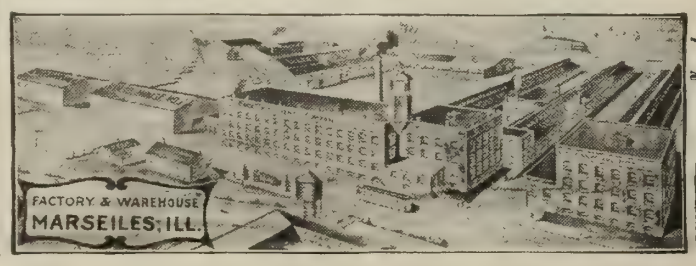

is [illegible] cst two-thirds as big as Massachusetts. Nevertheless, Gonzales cultivates only one acre in every 700 and his vast horde of peons do not own the land upon which their rude homes are built.

Some Big Tropical Farms

The state of Vera Cruz is largely made up of tropical lowlands, and its properties are about the most subdivided of all the Mexican states. Nevertheless, there are many landholders there possessing from 150,000 to 250,000 acres each, and a man named Braniff, who is of British and Spansih descent, has 32,000 acres planted to wheat and many square miles devoted to cattle. He has thirty acres of lawn in his home grounds and he lives like a lord; his hacienda employs 1,800 men and it takes a population of more than 5,000 to care for it. Ten thousand cattle feed upon its pastures, and among them are some of the best animals which fight in the bull ring at Mexico City. This plantation has large irrigated areas, and its owner has erected dams and canals at a cost of hundreds of thousands of dollars. The plantation has railroads upon it and a flour mill worked by electricity.

In Yucatan there are also large estates, some of them exceedingly profitable, owing to the cultivation of hemp. The same large holdings might be cited in other parts of the republic, but this will show you how the lands are tied up and kept out of the hands of the people who would cultivate them.

These haciendados, as the plutocrat landholders are called, have money beyond the dreams of avarice. They usually live magnificently upon their estates, but just now, while the rebels and bandits are moving about over Mexico, a large number of them have come here to the capital, while others have left for Madrid and Paris. In some cases the fighting is going on upon their haciendas and they want their families to be away from the danger of mobs. On this account not a few of them have rented or bought houses here, and for the last two years have kept off their farms.

It is on some of the biggest estates that most of the fighting goes on. Take that of Terrazas. The rebels of Chihuahua have torn up the railroads and the Mexican Central line, which goes south from El Paso, has been long out of running. The trouble there has largely come through Terrazas himself, who is said to be as autocratic as the czar of Russia; he is now an old man, but his sons rule, and it is they who are trying to protect the property.

Don Luis Terrazas

I have heard a great deal about the Terrazas family since I came here. Outside the land the old man owns most of the public utilities of his neighborhood, and he also loans money at high rates of interest; he controls the banks and his income is enormous; he lives like a lord and entertains royally on his great hacienda; he can house 100 guests at a time, and he keeps up an establishment of servants fit for a king. Some time ago he asked the archbishop of the Roman Catholic church to dedicate a new house of worship on one of his ranches. The holy father came with a great corps of guests and Don Luis kept them for more than three weeks, making up hunting parties and excursions of various kinds. During this time the guests had white horses only, the old haciendado having picked out of his thousands of animals those of that color and had them trained for the purpose.

Don Luis' big estate came largely from a grant which his father obtained for his services in the war of Mexico's independence, and in 1865 he got other grants for his own work in holding the state of Chihuahua against the army of Maximilian. He has, I am told, something like 30,000 peasants working for him, and some of them are engaged in the present rebellion.

Thirty Thousand Hired Men

Many of the buildings on the Terrazas estate were put up long ago; they are surrounded by stone walls twenty feet high, with square towers at the corners, upon which there are cannon. The houses are of Mexican style, the flooring of the patios being of diamond-shaped tiles of different colors. In the niches of the wall stand statues imported from Italy, and the patio itself is filled with all the plants of the tropics, while a fountain plays in its center.

The rooms are large and they face the patio, the windows being barred with iron so that they make you think of a prison. Some of the quarters are beautifully furnished from Europe. When Terrazas went to the St. Louis exposition he carried with him sixty of his family

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TRAINED NURSE
Remarks About Nourishing Food.

"A physician's wife gave me a package of Grape-Nuts one day, with the remark that she was sure I would find the food very beneficial, both for my own use and for my patients. I was particularly attracted to the food, as at that time the weather was very hot and I appreciated the fact that Grape-Nuts requires no cooking.

"The food was deliciously crisp, and most inviting to the appetite. After making use of it twice a day for three or four weeks, I discovered that it was a most wonderful invigorator. I used to suffer greatly from exhaustion, headaches and depression of spirits. My work had been very trying at times and indigestion had set in.

"Now I am always well and ready for any amount of work, have an abundance of active energy, cheerfulness and mental poise. I have proved to my entire satisfaction that this change has been brought about by Grape-Nuts food.

"The fact that it is predigested is a very desirable feature. I have had many remarkable results in feeding Grape-Nuts to my patients, and I cannot speak too highly of the food. My friends constantly comment on the change in my appearance. I have gained nine pounds since beginning the use of this food."

"There's a reason." Read the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

How Much Do You Pay For Dry Feet?

Men who buy rubber boots pay their money for dry feet and legs. It's not the price paid for a pair of boots that counts—but how long the boots last. Figure the price of rubber boots on the cost of a day's wear and you will see why "Ball-Band" Rubber Boots are the lowest priced and longest wearing boots you can buy.

"BALL Red BAND"

If a pair of cheap boots costs you $3.50 and wears 30 days and a pair of better boots costs $4.50 and wears 60 or 90 days—then you save money by buying the better boots.

Ask your dealer for "Ball-Band" Boots. Look for the Red Ball on the knee.

Write for Free Illustrated Booklet

MISHAWAKA WOOLEN MFG. CO.
337 Water Street Mishawaka, Ind.
"The House That Pays Millions for Quality"

PRICES SLASHED!
The Galloway Manure Spreader, Complete
64.75 AND UP

New No. 5 Low Down, 70 Bu. Spreader, Complete With New Mandt Steel Gear, Tongue, Whipple-trees and Neck-yoke. Special Price—Only $79.50

No Money Down

Prices Slashed—yes, slashed to bed rock! The greatest, most astounding, price-slashing offer ever made you on a high-grade Manure Spreader. Write me today. Think of it! The wonderful Galloway Manure Spreader No. 0A, complete with all-steel gear and patented features, for only $64.75. You can't beat it *anywhere!* You buy direct from my big factories and save all middlemens' profits. I've knocked the bottom right out of all spreader prices. I'm making a special, extra price cut on my great No. 5 Manure Spreader. Only $79.50 for this complete, low down, 70 bushel Spreader with new Mandt all-steel gear and every great feature. Detachable force-feed. Double drive. Two horses handle it easily. Just to prove that my claims are true, I'll ship you this spreader *free.* No money down—no bank deposit. I'll let you

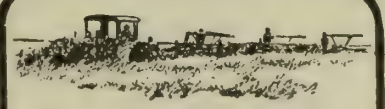
Try It 30 Days FREE!

I want to ship a Galloway Manure Spreader direct to you and let you try it on your own farm 30 days free. No mortgages. No notes. No money down. Doesn't that prove to you that the Galloway must be all and more than I claim for it or I couldn't make such an unheard of offer? I want you to give the Galloway the severest tests, and then, if you don't think it is, by far, the best—send it right back to me. The trial costs you nothing—it's free.

Write For My Big Catalog and Special Offer Write me today! Get posted! Let me send you all the facts about this great price-slashing offer. I will save you $25 to $50 by cutting out all middlemen's profits. Remember, this is a special offer! If you want a low-down, easy to load, light-draft spreader at a *tremendously reduced price* then write for my proposition right *now.* Listen: if you write me quick, I'll send you my special offer telling you how you may get a Galloway Spreader either partly or entirely without cost to you. Write me TODAY,

Get My Big Book "A Streak of Gold" FREE This book is worth many dollars to any man; regular price $1. It is free for just writing me today. It tells how to care for the manure, how to spread it, and how to make the manure-pile pay for your spreader. Write me now, *at once,* and get this book and my big, price-slashing offer—all FREE. Address:

Wm. Galloway, Pres., WM. GALLOWAY CO., 419 Galloway Sta., Waterloo, Iowa 889



Use It Every Day

Have a tractor on your farm that will shove your work right through, a tractor that will work with profit day and night. The

RUMELY
GasPull
15-30 h.p.

will go anywhere and has the power behind it—it pulls up to 6 bottoms in stubble—harrows, discs, hauls, bales and makes roads.

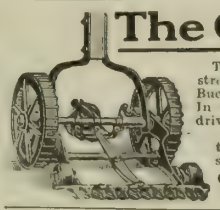
It's handy, easy to run and of light weight. It does the work of a dozen horses, and goes almost anywhere a team can go and brings money back with it.

It will pay you to see this tractor—it will be of service every day in the year.

Ask for GasPull Data-Book, No 352, and the name of our nearest dealer.

RUMELY PRODUCTS CO.
(Incorporated)
Power Farming Machinery
LA PORTE, IND. 704

The CLIPPER



There are three things that destroy your lawns: Dandelions, Buck Plantain and Crab Grass. In one season the Clipper will drive them all out.

If your dealers do not keep them, let us know and we will send circulars and prices.

Clipper Lawn Mower Co., Dixon, Illinois.

From a S. C. Buff Leghorn Breeder.

Twentieth Century Farmer,
Omaha, Neb.

Gentlemen:—

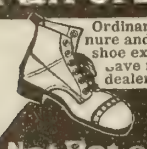
Your paper is the one medium I can always speak a good word for as a business getter. O. E. Henning, Mead, Neb., March 21, 1913.

(His ad cost him 75c a week.)

YOU CAN BUY ANY CUT IN THE Twentieth Century Farmer

for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

Just Like Getting a Pair of Shoes Free.



Ordinary shoes rot and crack from manure and barnyard acids. That means big shoe expense. Also sore and tender feet. Save money, save your feet. Go to your dealer. Get Huiskamp's Barnyard shoes

A Farm Shoe That Manure Will Not Rot or Crack Through.

Absolutely guaranteed. That means as much wear from one pair as you get from two pair of ordinary shoes.

FREE A Bottle of Barnyard Non-Rotting Shoe Oil

Send your name and address for Free bottle of Barnyard shoe preparation. Try it on your ordinary shoes.

HUISKAMP BROS. COMPANY,
203 Johnson Street, Keokuk, Iowa

Save Seed—Preserve Moisture

Double the Yield

The Keller combined Pulverizer, Surface-Packer and Mulcher will do these things and more. It will prevent washing of hillsides, baking of soil, smut and rust. You get a **FREE TRIAL**

We prove it in your field, at our risk.

For full information address

Keller Concrete Machinery Company
KEARNEY, - NEBRASKA

Wedding Gifts

No gift is more acceptable than beautiful, durable silver. The beauty and quality of

1847 ROGERS BROS.

"Silver Plate that Wears"

make it the ideal wedding gift. The beautiful Old Colony pattern is suggestive of simplicity, grace and quality. Guaranteed by the largest makers.

Sold by Leading Dealers

FACTORY PRICES YOURS 60 DAY FREE TRIAL

The famous WITTE Gasoline Engine, built for 43 years by Ed. Witte, master engine builder, now sold **direct to you.** The standard engine of America, with every improvement up-to-date—detached cylinders, vertical valves, etc.—the entire engine backed up by a **Real 5-Year Guarantee.** Just think! It takes only **2c to get the money-saving, factory prices on 54 styles and sizes.** Save money! Write at once for **FREE TRIAL OFFER** and catalog. State style and size wanted. Address

WITTE IRON WORKS CO.
1557 Oakland Avenue, Kansas City, Mo.

CUP ELEVATOR

Always ready for use. Placed inside the crib in the dry. Easy running, durable and strong. Elevates oats, wheat, or ear-corn, 50 bushels in three minutes.

SET IN YOUR CRIB BEFORE YOU PAY

The first successful **Upright Ear Corn Elevator made—SOLD DIRECT to the Farmer.** Free Catalog showing 8 styles with crib plans which save you money. Write for it today.

INTERLOCKING FENCE CO. BOX 67 MORTON, ILL.

Shinn Lightning Rods

Now protect more valuable property than any other rods made, because they are scientifically perfect. Made and sold under $75,000 bond.

ASK YOUR DEALER

For Shinn rods, the kind that are put up by experts and work inspected by our state inspectors. If he has none don't accept any substitute but write for full particulars about guarantee and for catalog.

W. C. SHINN 107 16th St., LINCOLN, NEBRASKA

Of Interest to Our Women Readers

Everybody Is

Way down deep within their hearts
Everybody's lonesome.
Far within their secret parts
Everybody's lonesome.
Makes no difference how they smile,
How they live or what their style;
Once in every little while
Everybody's lonesome.

People first in big affairs—
Even they are lonesome.
Maybe like to put on airs;
Just the same, they're lonesome.
Men for whom existence blends
Every good; who gain all ends,
Still reach out their hands for friends;
Everybody's lonesome.

Women, silk-clad, jeweled fine,
Yes, they, too, are lonesome.
When their gems the brightest shine,
They are just as lonesome.
Some must serve and some command;
All still seek, with groping hand,
Love, and friends who understand.
Everybody's lonesome.

Though your gift of friendship's small,
Everybody's lonesome.
It may answer someone's call;
Someone who is lonesome.
Give and give with might and main,
Give your hands, and join the chain;
And your gift will be your gain.
Some time, when you're lonesome.

Our Home Chat

To have gone through a calamity which has wiped out whole families, deprived one of friends and left hundreds of prosperous people destitute and homeless is an experience whose influence is not soon recovered from. This is the situation of many of the readers, and a few of the staff of The Twentieth Century Farmer.

At such a time as this, when flood and storm has devastated so large a territory, the smaller considerations are swept away, jealousies between cities are forgotten, country and town are brought together and nothing remains but the need of those afflicted and the sympathy of those who escaped. Neighbors share what is left, and latent brotherliness becomes a living force. There are plenty of opportunities to help; let us help those nearest to us. The sufferers are showing themselves to be heroic, refusing help until those worse off can be cared for; in fact, being so insistent on this point as to make relief work difficult.

We sympathize with those who have met with misfortune and disaster, not only in the Missouri valley, but throughout the breadth of our country, and rejoice with those who have had narrow escapes. We are brought at such a time to meditate upon our weakness before a great natural force and to recognize how ineffectual are our material possessions, which may be utterly destroyed in a moment. There has been no better advice come down through the ages in regard to savings than to lay up our stores "where moth doth not corrupt."

THE EDITOR.

Making the Farm Home Attractive

The home-loving woman wishes, above all things, to have attractive surroundings, and the more refined and intelligent she is, the harder does she strive for beauty indoors and out. It looks sometimes as if she had a pretty hard row to hoe, when one considers the many demands on her time and strength, but if she is like Martha, "troubled about many things," she must learn "to choose the better part," which will reflect credit on both herself and her family and incidentally add to the material value of the farm, for a house set in attractive grounds is worth more money than the neglected homestead, and if a buyer is desired the former need never go begging for a market.

It may be urged that it is not a woman's place to plan for outdoor improvements, nor to take a hand about bringing them about, but if there is any place that a woman is her husband's partner, both in work and pleasure, it is on the farm, and there is both happiness and satisfaction in the partnership. The husband is busy in the field much of the time and has little opportunity to give thought to matters that are in a way foreign to his daily work, but if his attention is called to them he is usually very glad to do all he can to gratify his wife's wishes, whether it be to plant trees and shrubs or to make walks, or in other ways add to the comfort and beauty of the home grounds.

Spring is the best time of the year to begin the work of making the home attractive, both inside and out, for nature is encouraging our efforts. If there is little money, make up the deficiency by planning carefully so as to make that little go as far as possible. If you cannot buy expensive shrubs and vines from the nursery, look to the woods near you, if there are any. Do not be blind to the beauty that has been provided without price. Nearly twenty years ago, when we first located in the Ozarks, I asked a young woman who lived near us if there were any native vines that I could transplant to our humble hillside home. She had lived in the neighborhood all her life, yet she could not name a single one. But, to our delight, when making our first tour of inspection, we found Virginia creeper, bittersweet and trumpet vine growing in profusion, and many climbers that we could not name, and the woods were full of wild cherry trees, redbud or Japan Judas, and hawthorn, besides cedars and many other trees of ornamental possibilities. The wild grapevine, as well as the tame, is beautiful as well as useful, and serves to clothe with greenery places that are hideous in their nakedness. I have in mind a place I saw lately, that has a rock wall that supports wild grapevines that furnish an abundance of material for delicious jellies and other delicacies.

I went back to our old home, before mentioned, last fall after an absence of many years. The old house was about to fall down, but the place still looked as if it could be made inviting, as the lilacs and cedars had survived all neglect, but they were about all that were left of the trees and shrubs that I had worked so hard to bring into beauty, except several oaks that nature had planted before our advent. But even these few growing things added many dollars to the value of the place as a prospective home.

If the ground is bare of grass, do not let another year pass by without sowing seed and making a start for a setting of green to the house. If possible, enclose the dooryard with a fence of some kind that will exclude poultry, as well as all kinds of farm animals, and make walks from the house to the outbuildings on the premises. If the walks cannot be made of the all-enduring concrete, gravel, cinders, or even sand, are better than the sticky mud that is so common in earth paths. If the ground in the yard is rough, remove stones and all sorts of rubbish, and plow. If any corners cannot be reached with the plow, spade them and harrow and rake till smooth and level. If the ground can have a dressing of manure before plowing, the grass will thrive much better and be longer lived.

Along the fences plant some tall-growing flowers, and also vines that you like. Try annuals, so as to get immediate results, and plant perennials for the future. Friendly neighbors can help each other in getting a start of all sorts of decorative plants by exchanging or sharing with each other; this was the way that people did in pioneer times, and a deeper sympathy existed and greater friendliness was the rule than now, when most everybody is for himself, and money is what brings any coveted object.

It is not that human nature has changed; there are just as many kindly disposed people as ever, and what is needed is that they cooperate or help to bear each other's burdens. Would it not be fine if there could be a united effort in every neighborhood to bring beauty to the homes where there is little or none? It would add to the value of the farms and to the pleasure of the passer-by, and, more than all, help to keep the beauty-loving girl and boy at home who are dissatisfied with their surroundings and are only waiting for an opportunity to slip away to more congenial environments.

If betterment of social and material conditions in the country are to come, the bright, ambitious young people must have homes that satisfy their artistic sense, and any movement looking to this must be inaugurated by women individually and collectively. Perhaps someone who reads this says, "Pshaw, there is much beauty in the country home as anywhere!" Yes, it is in some places, but this is not written for those so fortunate. There are thousands of farm homes that are bare of any green thing about them and the dooryard is black earth; I have seen them no longer ago than last summer, but they could all be changed with a little or more work and some money, and while the wife, mother, sister or daughter will in most cases be the one who must make the first move, all will enjoy the result. CENA S. CORNMAN.

Pictures in the Home

No one can tell you what pictures to hang on your walls; that is a matter of individual taste. But an attempt should be made to have the pictures harmonize, not only with the others in the same room, but with the background. Many rooms having restful, harmonious wall colors are spoiled by the variety in frames and mats, or by the groupings of the pictures; also by putting into a small room a picture that needs distance to bring out its full meaning.

ALICE M'FEELY.

Practical Styles for the Home Dressmaker

All the Patterns on This Page Ten Cents Each

4634—Ladies' One-Piece Apron. No more practical or convenient type of apron could be designed than the one here shown. It fastens by a single button, and therefore is easy to slip on and off. It can be made of gingham, percale or crossbar and is simple to make. The pattern 4634 is cut in sizes 32, 36, 40 and 44 inches bust measure. Medium size requires 4¾ yards of 27-inch material.

2654—Child's Apron. The entire apron is plain and extends from the neck to the hem. In the back there is a shallow yoke and the material is gathered and attached to the lower edge of this. The sleeves are full length and string ties hold the garment in at the waist. The pattern 2654 is cut in sizes 2 to 12 years. Medium size requires 2¾ yards of 27-inch material.

5489—Ladies' Skirt. This skirt is cut in six gores. It can be used for completing a coat suit, or it can be worn with separate shirtwaists. The closing is made at the left side of the back. Serge, cheviot or broadcloth can be used to make this skirt. The pattern 5489 is cut in sizes 22 to 30 inches waist measure. Medium size requires 4⅜ yards of 36-inch material.

4595—Boys' Russian Suit. The blouse of this suit has a sailor collar fastened by a nobby sailor's knot, the shield is removable and the sleeves are finished in the regulation style at the wrist. The trousers are cut without a fly and are finished with legbands, or elastics. Linen or serge can be used to make this suit. The pattern 4595 is cut in sizes 2, 4 and 6 years. Medium size requires 3¾ yards of 27-inch material.

4949—Girls' Dress. In the above design we have a practical little dress which might be made for school or other general wear. The full length closing at front is a new idea and aids greatly in the laundering. The pattern 4949 is cut in sizes 4 to 12 years. Medium size requires 3½ yards of 36-inch material, with ¾-yd. 27-in. contrasting goods.

3866—Ladies' Shirtwaist. This waist has a group of small tucks at each shoulder in front and a closing band with buttons down the center. The back of the waist is altogether plain. The sleeves are gathered at the shoulder and are tucked above the cuff. The pattern 3866 is cut in sizes 32 to 44 inches bust measure. Medium size requires 3¼ yards of 37-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

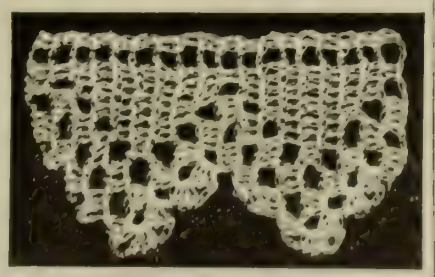
Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Crocheted Lace

The use of hand-crocheted edges is in great favor, and seem likely to remain so for a long time. I am sending an easily copied pattern, and one especially adapted for pick-up work. In the directions I will use ch for the word chain, and dc for double crochet. Chain 21 stitches.

First Row—One dc in fourth stitch in ch, ch two, skip two, two dc in next two stitches of ch, ch two, skip two, four dc in next four stitches, ch two, skip two, four dc in last four stitches.

Second Row—Ch two, four dc in



loop, ch two, two dc in next loop, two dc in next two dc, one dc in dc, one dc in top of chain at end ofrow.

Third Row—Ch two, one dc in dc, ch two, four dc in four dc, two dc in loop, ch two, four dc in next loop, ch three, four dc in same loop.

Fourth Row—Ch two, four dc under three ch, ch three, four dc under same ch, ch two, two dc in loop, six dc in six dc, ch two, one dc in dc, one dc in top of chain two.

Fifth Row—Ch two, one dc in dc, ch two, eight dc in eight dc, two dc in loop; ch two, four dc under three ch, ch three, four dc under same three ch.

Sixth Row—Ch two, four dc under three ch, ch two, four dc under same ch, ch two, four dc in loop, ch two, skip two, eight dc in eight dc; finish like fourth row.

Seventh Row—Ch two, one dc in dc, ch two, six dc in six dc, ch two, four dc in loop, ch two, four dc in loop.

Eighth Row—Ch two, four dc in loop, ch two, four dc in loop, ch two, four dc in loop, ch two, skip two, four dc in four dc, ch two, one dc in dc, one dc in top of chain two.

Ninth Row—Ch two, one dc in dc, ch two, two dc in dc, skip two, ch two, four dc in loop, ch two, four dc in loop. Repeat from second row.

MRS. GILBERT.

Gold Dollar Alfalfa Seed

If you are interested in high grade dry land alfalfa seed that is absolutely guaranteed to be as represented as to purity and vitality, send for our prices and samples.

None genuine without our trade mark.

Dawes County Alfalfa Seed Growers Ass'n
CHADRON, NEB.

GOOD TREES

Save you money. We sell direct from our nurseries to you. Are you intending to set a commercial orchard? Write us. Do you need a home orchard? Ask for our catalogue. We are favorably located to handle extensively high grade trees and shrubs. Investigate our prices. It's worth while. Send for our 1913 catalogue. Write at once. A postal brings it. The names and the address of a few of your friends will be appreciated. We handle an excellent line of Spray Pumps and Spraying Material. Premiums to those who order early. Address

FALLS CITY NURSERIES,
FALLS CITY, - - NEBRASKA

Pure Bred Seed Corn

Picked in September, sure growing, big yielding, Reid's Yellow Dent, Johnson County White, Leaming, Improved Silvermine, and Bloody Butcher, grown by us on Sunnyside Seed Farm which we own and operate ourselves. Send today for the free corn book giving full particulars, prices, etc.
McGREER BROS., COBURG, IOWA.

SEEDS Fire dried SEED CORN Husked before the frost dried on independent seed ear racks with air and steam heat. Sure to grow, because germ is preserved. Also Clover, Alfalfa, Oats, Rye and **Garden Seeds.** Write at once for **Free** Catalogue and receive free Souvenir. Fred Echtenkamp, Box L, Arlington, Neb.

5,000 Bushels Seed Corn
From Seed Corn Center of the World
Reid's Yellow Dent, Silver Mine, White Cap Yellow, Legal Tender, Blair Yellow, Neb. White Prize, P le of the North, Blair White.
SEND FOR FREE CATALOGUE
AYE BROS., Blair, Nebraska.
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EGGS FOR HATCHING
From 21 Leading Varieties of Chickens.
AYE BROS., Box 3, Blair, Nebraska.

SHORES-MUELLER CO. Shores REMEDIES EXTRACTS SPICES
Wanted
Farmer or Farmer's Son
with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made $90 one week. We mean business and want a man in your County. Write us.
Shores-Mueller Co., Dept. 68, Cedar Rapids, Iowa

25c FASHION BOOK FOR... 5c
(POSTPAID)

A new edition (Spring and Summer, 1913, issue) of EVERY WOMAN HER OWN DRESSMAKER, illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

Pattern Department,
Twentieth Century Farmer,
Omaha, Neb.

This Coupon and 18c
good for the next numbers of all of the following magazines:

Pictorial Review
McClure's Magazine
Ladies' World.

Address Twentieth Century Farmer, Omaha, Neb.

Spring's Here—
Spruce Up Your Lawns

It's time to cut the grass around your house and outbuildings—time to trim and mow and spruce up your lawn and surroundings.

Here are the tools you need—grass scythes, lawn trimmers, lawn mowers, hay forks, etc.—all members of the famous Keen Kutter family

KEEN KUTTER
Garden Tools

You can work faster and easier and longer with Keen Kutter tools than you can with ordinary kinds, because Keen Kutter tools are made to work *with* the worker—to cut clean. They balance perfectly.

Keen Kutter quality is backed by the Keen Kutter trade mark and that is your lasting guarantee of absolute satisfaction or money back.

"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered. —E. C. SIMMONS.

If not at your dealer's, write us.

SIMMONS HARDWARE CO., Inc.
St. Louis, New York, Philadelphia, Toledo, Minneapolis, Sioux City, Wichita.

Lawn Mower No. KNDH16 Price $11.50

Lawn Edger No. KL Price $2.50

Grass Hook No. K Price $0.50

Keep the Grain Out of Your Straw Pile

All threshing machines are not alike. There is one different from all others. It has a different way of taking the grain out of the straw. **It beats it out** just as you would do by hand with a pitchfork. All other machines depend upon its dropping out.

This one different machine is the Red River Special and you should insist upon having it do your threshing. It will save all your grain and waste none of your time.

It saves the Farmer's Thresh Bill.

It has the Big Cylinder, the "Man Behind the Gun," the patented Grate and Check Plate, the greatest separating devices ever built.

The Big Cylinder drives the intermingled straw, chaff and grain against the separating grate, **beating** the grain through where the check plate catches it and delivers it to the grain pan and mill.

Ninety-five per cent of the grain is taken out right there.

The straw goes over upon the shakers which hold it and **beat** it until all the grain is **beaten out.**

In all other kinds the straw is hurried out of the machine and the grain is expected to drop out.

It doesn't. Thousands of green straw stacks every year loudly say it doesn't.

The Red River Special saves all this. Insist upon its doing your work this year.

It will save your thresh bill. Write for proof.

To Whom It May Concern:

I. J. Knudson, farmer, of McHenry County, North Dakota, do depose and say that during the summer of 1908 I bought of Nichols & Shepard Company a threshing outfit, consisting of one 20-horse power, double cylinder traction engine and one 32x52 Red River Special Separator with wind stacker, self-feeder and weigher attached.

That on or about August 23, 1908, I started this outfit near a stack of old straw that had been threshed in 1907 by a————separator, and to stretch the belts on the new machine I caused a small load of old straw from the stack in question to be run through the new machine and was surprised to get over sixteen bushels of oats from this load of straw.

I afterward threshed out the balance of this stack and got 347 bushels of grain.

(Signed) JAMES KNUDSON.

Subscribed and sworn to before me, a Notary Public, in and for McHenry County, North Dakota, this 6th day of Feb., 1909.

[Seal] J. EDGAR WAGAR. Notary Public.

My commission expires March 27, 1914.

NICHOLS & SHEPARD COMPANY, Battle Creek, Michigan
Builders of Threshing Machinery, Engines and Oil-Gas Tractors

BASEBALL OUTFIT FREE

BOYS! Here is your chance to get a fine baseball outfit, consisting of complete suit, including shirt, pants, cap and belt, good quality, extra well sewed, or combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector. **Will Not Cost One Cent.** Send your name and we will send you 8 set of our fine pictures to dispose of at 25 cents each. Send us the $2 you collect and for your trouble will send you outfit as described. **WRITE TODAY** for pictures. No harm done. I take back what you can't sell.
M. O. Seitz, 1M81 Chicago

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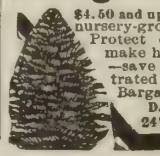

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Stories by Our Young People

Pa's Management

Funny thing 'bout pa 'n' ma;
Lots o' times I've noticed it.
Pa he'll ask her what she thinks
'Bout some thing, 'n' ma she'll sit
Still as mice the longest time,
Thinkin' hard as hard can be,
'N'en she'll say what she thinks best,
Just as far as she can see—
'N' pa he'll laugh.

Pa he'll laugh 'n' tell her: "Pooh!
That there way won't never do."
'N'en he'll tell his way 'n' try,
'N' try to make his plan go through,
'N'en when he sees it just won't work
He switches round 'n' tries ma's plan,
'N' when it works he'll up 'n' say:
"I told you so! It takes a man!"
'N' ma she'll smile.

Ma she'll smile—she smiles a lot—
'N' owns up women don't know much;
That men's the smartest things, but that
Like pa, why, there ain't many such.
'N' pa, when he goes struttin' off,
I'll look up soberlike at ma
'N' say I'm glad I ain't no girl,
So's I'll grow up a man like pa,
'N'en I'll just grin.

The Editor's Corner

Now is the time to prepare for the garden, if your preparations are not already made. Every boy and girl should have a garden of their own, even if it be a very small one. There is much pleasure in preparing the soil, in planting the tiny seeds, then watching for the first green shoots. There is pleasure, too, in conquering the weeds, which seem so determined to supplant the vegetables and flowers. Ask your father for the use of a little piece of ground this year and get him to teach you how to prepare and fertilize it, and to plant the seed you have chosen. City boys are coming to know the pleasure of this garden-making, and they are securing the use of vacant lots on which to make their garden, overcoming difficulties which country boys and girls do not have, for there are few farms on which the children cannot have a little ground if they will take care of it. Plant your garden this year, and if you are a beginner, plant something easily raised, until you get to understanding the work.

THE EDITOR.

(Prize Story.)

The Straw, the Coal and the Bean

By Lyel Talbot, Aged 11, Brainard, Neb. Original. Red.

Grandma went into the garden and got an apronful of beans. She put them in a kettle and put them on the stove. A bean jumped from the kettle and it said:

"I am lucky that I got out without being cooked."

The fire would not burn good, so grandma put some straw in the stove. A large coal jumped out of the stove and said:

"I am lucky that I got out and never got burned to ashes."

And then a straw jumped out and said:

"I am lucky, too."

Then the bean said:

"We are all lucky that we never got killed, so let us be friends and go out in the world and seek our fortune."

So they traveled and traveled till they came to the brook. The straw said:

"I will lie across the brook, and then you can get across."

Then the coal started to walk. When he got in about the middle of the straw, the straw broke and they fell into the brook; then the bean laughed so hard that it burst. A tailor, who happened to come along, took pity on the bean and sewed it up with a black thread, and this is why some beans have a black strip down the side.

(Honorable Mention.)

Hiawatha's Namesake

By Effie Crose, Aged 13, Tulare, Cal. Blue.

When little Hiawatha was 10 years old he was often found in the woods with his little bow and arrow that his father had made him. One day he was out in the woods hunting. A neighbor happened along and, seeing him with his bow and arrow, and yet not shooting any of the birds and rabbits there, asked him why it was. Hiawatha looked at him in surprise.

"Didn't you know my name was Hiawatha?" he asked.

"No," replied the man, "but your name being Hiawatha doesn't hinder you from shooting them, does it?"

Little Hiawatha was still more bewildered.

"Wasn't the birds and rabbits Hiawatha's brothers, and did he shoot them? My grandma said if I was going to have my name Hiawatha I must play I was him. That is why I carry a bow and arrow instead of an air gun."

The United Five

By Harry Whitehead, Aged 13, Rigby, Idaho. Original. Red.

One day in August about five of us boys started out for the swimming hole, but we had to pass a house where a poor old lady lived. She had been trying to pick apples and had fallen and hurt herself so she could not pick them. The boys decided to pick the apples for her. When we had finished the job she called us into the house and told us how thankful she was for helping her so much.

Some time later we were told that the old lady wanted us to come to her house the next Sunday afternoon. At 2 o'clock on the appointed day we all met at the old lady's home, and after we were all settled she began to talk to us. She told us that we had done her a kindness and we could do the same for others if we would.

Thus she organized what is now known as the "United Five of the Rockies," which helped many who needed the help of the boys of the little club.

Old Stumpy

By Ruth Ferree, Aged 10, Carleton, Neb. Original. Blue.

Several years ago, in midwinter,

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Walter Stichler, Ord, Neb.

BLUE—Audrey Akerman, Thompsonville, Mich.

ve had a severe snow storm; some f our chickens were caught out in storm, and when found next day ome had their combs and feet rozen. One hen in particular had er feet so badly frozen that both eet came off, and it was comical to ee her stump around without any eet.

Along toward spring our incubaor hatched, and mamma had so nany little chicks that she hardly new what to do for broody mothrs. She went to the hen house and rought in old Stumpy, put her in a ox with fifteen chicks and covered hem over with a piece of old carpet. he did not take very kindly to the hicks at first, but after two or hree days she began clucking to hem. When she was let out of oors with them, you should have een her try to scratch for them. he raised every one of the fifteen hicks, until they were old enough o sell. Then she was sold, also. ut talk about good mother hens, he certainly was hard to beat.

Additional Stories

Red—Amy Olson, Malcom, Neb.; harles McNamek, Winterset, Ia.; Daisy ramwell, Ames, Kan.

Blue—Lula Ruyle, Beatrice, Neb.; Zende Downey, Sumner, Neb.; Catherine gnes Lally, Amboy, Ill.; Jennie Wilson, ogan, Ia.; Bernard Wilson, Logan, Ia.; ella Meyers, Denton, Neb.; Harry recott, Wayne, Neb.; Nellie Wilson, ogan, Ia.; Margaret Freeland, Burwell, eb.; Bernice Miller, Almena, Kan.; lada Elmok, Miller, Neb.

Home Grown Daffydils

rize book worth a dollar to two best each week. Mail yours to Daffydill Editor, Twentieth Century Farmer.

FIRST PRIZE—Earl Arrington, axon, Okl.: Would the farmer ave help enough to care for his hay the horse pitches, the wagon loads nd the hay stacks?

SECOND PRIZE—Mrs. Alice F. annicott, Albion, Neb.: If brownyed Susan met Bachelor Button, ould it be love-in-a-mist? If they ot poppy's consent, would they call n Jack-in-the-pulpit? If so, would tose have a bleeding heart and balom?

John Overholt, Havana, Ill.: If he pie turn-over the cake, would it lip on the icing?

If the sage should caraway sweet najoram, would the hoar hound ark of the cat nip?

Reva E. Hilgenberg, Dedham, Ia. —If the foot were large, would the hoe lace?

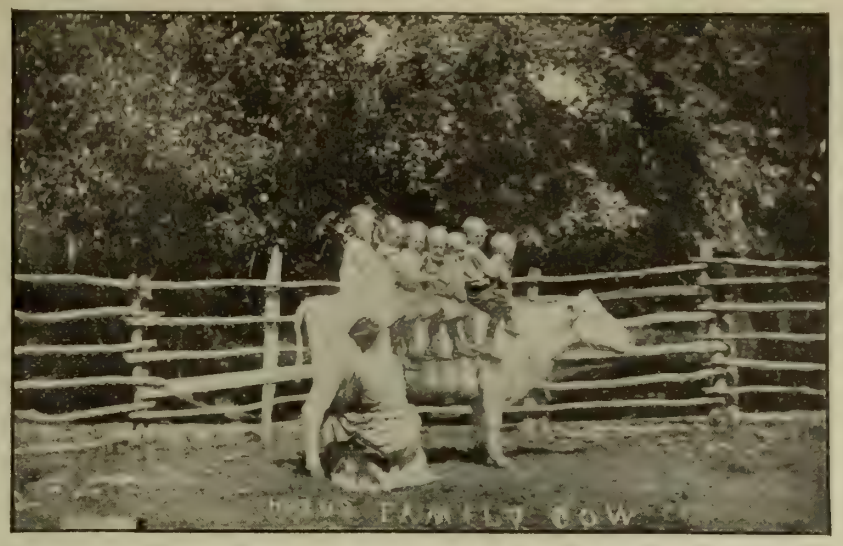
Theodore J. Wulber, Tarkio, Mo. —If a little boy tore his trousers, would Dan Patch?

Alma Mesehke, Watertown, Wis. —If a man fell off a roof, would he e an eaves dropper?

How can a frog be alive when he roaks?

If cabbage is called a head, corn an ear, what do you call potatoes?

Drexel Fox, Newport, Neb.—If a horse nibble grass, can a cat nip tea?



Family cow belonging to R. J. Horn, Bonesteel, S. D., that is a great favorite with the three Horn children and their playmates, the children of C. E. Fleharty.

Black and Blue Bruises

The color of blood is due chiefly to iron in the little blood cells, says St. Nicholas. When the iron is kept in these little blood cells, which are living and traveling around in the blood vessels. the color is red. Hit the skin hard enough to break some of the little blood vessels beneath the surface, and the little red cells escape from the injured blood vessels, wander about for a while in the tissues and die. When they die, the iron that made them red before then changes to black-and-blue coloring. After a while this iron is taken up by the glands called the lymphatics and made over again into nice, red cells. The iron is taken up very much more quickly by the lymphatics if the black-and-blue spot is rubbed and massaged.

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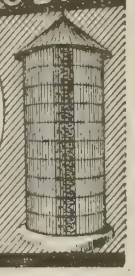

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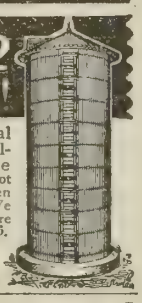

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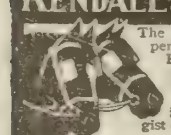

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R. F. NEUBERT, Box 812, Mankato, Minn.

That Western Laying Contest Of Interest to Poultry Raisers

THE Missouri Laying Contest is going on apace and beating the records of last year up to this time, by far. For January the same number of hens more than doubled the number of eggs laid in January of 1912. This January of 1913, these hens laid 7,016 eggs; last January they laid 3,203 eggs. The increase is attributed to the milder weather of January in the present year, more pullets contesting, better houses and a larger amount of food consumed by the contesting hens. One of the record layers for this month was a Canadian Black Orpington. She laid an egg every day in January. A pen of Single Comb White Leghorns, entered by a party from England, led the contest with greatest number of eggs for the first three months of the contest. The number of eggs laid by the leading pens of White Leghorns seems phenomenal. Next best at the two months' end were Silver Wyandottes of Illinois and Iowa, followed closely by Black Orpingtons, Canada; Barred Rocks, Illinois; Black Langshans, Missouri; White Wyandottes, Arkansas; S. C. Reds, Florida; White Wyandottes, New Jersey. In the month of January these pens kept leading, but, with the Leghorn exception, changed about in record, slightly. For the best individual record for the first months of the contest, leaving out the Reds and Rocks, we find these named breeds making highest individual records. They are making tests with twenty-eight different kinds of feeds on these hens.

The Turkeys

It is time now to begin looking after the profitable turkey. April for some of the colder states finds the turkey hen looking about for a nest. The turkey hen should be in good condition, but not too fat, when she comes into laying, for if she is this last, it is likely to show its effect in the eggs' fertility, or, worse yet, in poults subject to early digestive troubles, which, next to lice, is a poult's worst foe.

Try to coax the turkey hunting a nest into a shed or some other enclosed place to make that first nest. If she happens to insist on making it out in the open, then insist upon her allowing you to turn a barrel or box with a door hole cut in it over that nest. Dust the turkey hen frequently with some good louse powder. Hold her head down and rub the stuff well through her feathers. If you give the eggs to a chicken hen for hatching, be very sure that hen is perfectly free from the big lice. Why these big lice will kill a poult twice as quickly as they would a wee chick who can say, but they will?

Turkeys are not easy to raise, and if you do not begin trying to with care, as well not begin at all. Inbreeding hurts turkeys far more than it does chickens, and this shows always in producing poults difficult to raise. But if your stock is strong, herein lies half your battle won. Insist upon having roomy coops for your hen with young turkeys, and always provide board floors, as damp is fatal to a young turkey. Nowadays, with rubberoid roofing so cheap and the lumber dealer always ready to sell you it in short lengths for covering coops, you have little need of trusting poults to leaky damp-floored coops. Build a board or small mesh wire inclosure about the poult coop, so they can be kept close on bad days. Never let them out into the least chill until they are passing one week old, and then not to any length of time.

Feeding is a main concern to a poult; they succumb to indigestion sometimes when but seemingly plain food has been used. Feed them as much as you would young chicks, stale crumbled bread and a little egg yelk mixed with it, or stale bread squeezed dry from sweet milk and slightly peppered with black pepper. Chopped onions they relish with their bread after three or four days old. Get them on cracked grains also when a few days old; feed them often, and on clean boards, but try not to let food lie before them. It is safer to feed often, and yet leave them a little hungry after each feed. Don't gorge them on anything; even an overfull crop of sweet milk has killed them. IDA M. SHEPLER.

Make Your Own Egg Tester

If you have no egg tester, then make one. Take an oatmeal or cornflake box, one large enough to slip over a lamp chimney; take out both ends, place it over the chimney and mark one side the box that is even with the lamp flame, cut a hole here the size of large end of the egg, paste a deep ring of black cloth around this hole, or paint about it with ink or black paint, and this gives you a good enough egg tester. When setting hens set enough at one time to have a good bunch of chicks coming off at one date, test these eggs as if in an incubator, and you will give some hens a chance to get back to laying in short order. There are certain parties in every neighborhood that see not one bit of use in testing eggs more than once during an incubator hatch. "What's the use?" they ask.

Well, this is the use. Suppose you set that thermometer on a dead egg and the cold egg runs it down 1 degree, or 2, as is more often the case, don't you see what happens? You find your thermometer running 2 degrees below the mark, though the live eggs may be heated to the right degree. You turn up the lamp flame to get the thermometer up two more notches, and away goes the eggs with live chicks in them up two notches above where they should go. The result is found at the end of the hatch in a lot of chicks dead in the shell. One little idea is to mark some eggs you know to be carrying life all the time and keep the thermometer on these.

IDA M. SHEPLER.

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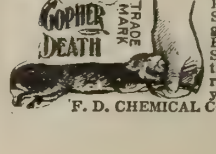

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Many Costly Mistakes Made in the Construction of Silos

THERE have been in the past a number of mistakes made in the construction of silos which, with a knowledge upon the subject, could have been easily avoided.

It is understood by all that the supreme end to be secured in ensiling is the exclusion of air. The more complete this exclusion the more perfect is the material kept. When the fodder is cut and blown into the silo there is a certain amount of fermentation which takes place, due to minute plant life, the organisms which are favored by presence of air and food material in the fodder. This growth will continue as long as there is a supply of air, and if allowed to continue indefinitely, the result will be rotten silage. If there are air holes, cracks or depressions of any kind in the walls of the silo, around these for six or eight inches there will be found spoiled silage. The silo then must be constructed so that it will be absolutely air-tight, and this is one advantage that the concrete silo has over the stave or wooden one. They can be made absolutely air-tight.

It should also be noted that it is necessary to have the inside walls smooth; this will allow the silage to settle uniformly. If the walls are uneven, this mass will settle evenly, which will cause air spaces and will result in much spoiled silage.,

One of the most common mistakes made by dairymen is that the diameter is often too great for the number of cows fed. The diameter should be such that two inches of silage can be fed from the surface each day. As soon as air comes in contact with the surface of silage it will soon spoil. When silage is being fed, to prevent this spoiling, it is necessary to take off from the entire surface at least two inches each day. For a man with a herd of fifteen cows a silo ten feet in diameter is large enough. If he has thirty or forty cows, it should be built with a diameter of sixteen feet. The writer has seen a large number of silos with diameters ranging from twenty to thirty feet, and in every case has a large amount of spoiled silage. In one case one-third of the silage was spoiled. Again, the height of the silo should be at least twice that of the diameter. By increasing the height there is secured pressure that not only expels air, but also excludes it from entrance. The more pressure obtained, the better silage will be the result. A silo ten feet in diameter should be built to a height of twenty-seven feet. It is not economical to build a silo less than ten feet in diameter, or more than twenty feet. If you have a herd that requires more feed than can be stored in a silo twenty feet in diameter, it is a better practice, and more economical, to build two smaller ones than to build a large one.

Another common mistake is the location. The silo should be located from three to five feet from the barn or the feeding alley. There is an odor peculiar to silage which is ever present and will penetrate the whole stable. This would make a very undesirable taint in the milk, as the latter is very sensitive to odors. Never build your silo in a barn for this reason.

It is not advisable to extend the silo deeper than three or four feet in the ground, because the labor in removing silage is too great.

Spring Dairygrams

Make sure that you are right in hand when the young heifer drops her first calf. She is very apt to need your help, and to fail in giving it you may lose not only a good calf, but the heifer as well.

* * *

If you have no definite record of the cows' breeding, you will appreciate at this season of the year more than any other the advisability of keeping the bull confined to himself, turning the cows in to him in breeding, rather than letting him run with the herd.

* * *

Close, damp, dark or filthy stalls for the young calves promote disease among them, especially that of the "scours." A good-sized lot for them to run in during the day furnishes those essentials to good health and rapid development among the little fellows, viz., fresh air, sunlight and exercise.

* * *

There are very few farmers who have no running water, or its equivalent, somewhere on the farm, and every housewife is entitled to having such water manipulated in providing a place in which she can store her dairy products during the hot summer months, especially enough of them for household uses. It is not only profitable, but is conducive to the good health of the entire family.

* * *

Many farmers could avoid being out of milk and butter next winter if they would but breed some of the cows at this season, which would throw them to come fresh at a time when most of the cows are going dry, preparatory to bringing calves in the spring. This breeding of the cows so all of them will drop their calves in the spring is only a much-worn habit, handed down from generation to generation. Get out of the old rut.

* * *

There is what might be termed "a happy medium" between the pregnant cow that is too fat and the one that is in a run-down condition. The cow that is too fat will drop a well-developed calf, but her fleshy condition will render calving difficult and laborious, while the calf will belong too much to the fatty or carbohydrate class, where it should be of the albuminous. The thin cow will have little or no trouble at calving time, but will drop a small, weak, undeveloped calf, which she has not the stamina to properly nourish. Only normal flesh is all that is required in the pregnant cow. Her calf will be better proportioned in every way; it will be strong, vigorous and she will produce plenty of milk for it.

M. A. COVERDELL.

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French Dry Batteries represent the most powerful, efficient and convenient aid ever offered farmers. For a few cents a year you can electrify your farm and save hours of time, miles of steps and a pile of dollars. Have the power, convenience and luxury of electricity at your hand ready for instant use all the time.

Saves Time, Work and Money

French Dry Batteries are lightening labor and lighting hundreds of dark places. Their uses are saving time, work and money for thousands of farmers. Just the pressure of a button or a twist of the wrist and presto!—the gasoline and automobile engines are started; both party and exchange lines of the telephone are working; gates and doors are opened; call bells are rung, and scores of other duties are performed by the aid of

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French Dry Batteries deliver a strong current for a long period. They are scientifically constructed packages of electricity. Poor quality batteries give a weak current for a short time and finally "peter out" altogether.

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and get longer, better wool that will bring the highest price.

PRICE $11.50

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It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Complete, including four combs and four cutters of the celebrated Stewart quality $11.50. Get one from your dealer, or send $2 and we will ship C.O.D. for balance. Satisfaction Guaranteed. Catalogue of Sheep Shearing and Horse Clipping Machines FREE.

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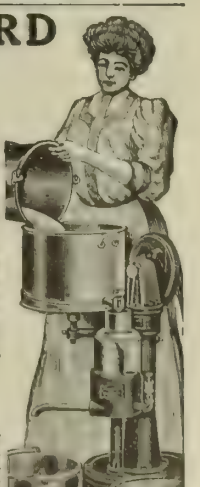

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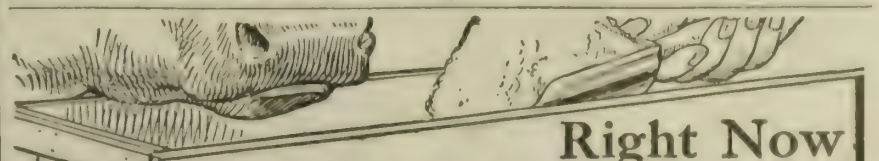

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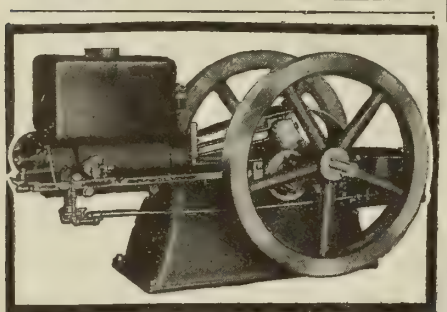

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

What to Do With Queenless Colony

A. S., Sherman county, Nebraska: What shall I do with a queenless colony of bees? In case I should wish to unite them with another colony, what would be the best method?

Answer—A queenless colony may be given a frame of brood containing eggs, or very young larvae just hatched, and ordinarily the bees will build queen cells and rear a queen. It is not best, however, to give the frame of brood for this purpose until late in April or early May, as drones will be essential in order that one may mate with the queen, and drones are not reared until the swarming season approaches.

It frequently happens that laying workers develop in a queenless colonly, and under such conditions the bees will frequently fail to rear a queen from the adopted brood. In such a case the only recourse is to unite the queenless colony with another which contains a queen. The simplest and most effective way to unite them is to place the brood chamber containing the queenless bees over another colony with a sheet of newspaper between in which a few holes have been made with the point of a lead pencil. The bees will unite within two or three days and the laying workers will be exterminated.

Getting it Out of His System

The farmer, as a rule, is not easily led, possibly because the farm journals he reads have so many strings to the matter found in them. However, he knows a good thing when he sees it, and is ready always to push it along, and The Twentieth Century Farmer has some real good ones, among them the privilege of taking part in discussions.

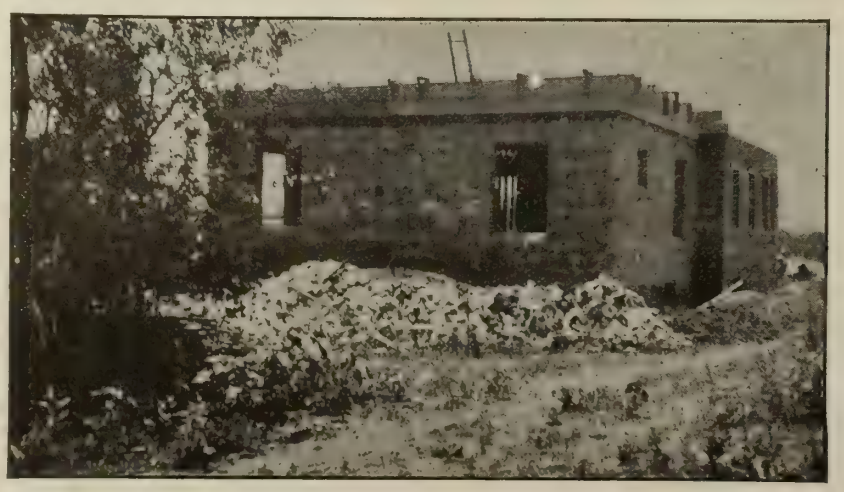
In this respect, your comment on "Organized Agriculture," in the issue of February 22, seems timely. If these organized agricultural meetings are held for the purpose of giving farmers real knowledge, every phase of the farm should be given a show of practical experience, not theory. Anyone can theorize, but that never will prove, until tried, the fact, and even a fact may not, under all conditions, remain a fact.

Here is where the long-winded theorizer, or even a practical illustrator, may fail to reach the fact. For instance, the agricultural college instructor, experimenting with every needed device and facility, under every needed advantage, can produce that which, under ordinary conditions, cannot be done. A farmer may have good land, good implements, good seed and good workman, yet fail, while the college man with the same may succeed. The elements, the sunshine, the rain and numerous other things necessary to success on the farm cannot be supplied. These can be supplied at the experimental college, where money is given by the whole state, and is used on small tracts, under every favorable condition. Hence, a long-winded spiel isn't getting to the point. Distinguished educators, or distinguished personages, representatives of advanced civilization, are not always good headliners. Figureheads are a poor crop on the farm, while they may look well at a college.

Now, Mr. Editor, give the farmer everything that can be shown to work under all ordinary conditions. Cut off the dignitaries, who usually are advertisements in disguise. Get from the real farmer his experience, not for one year, but for years. Tell us through your valued paper what can be done in times of drouth, hot winds, cold, wet and freezing, chinch bugs, cutworms and all enemies to the crop, even down to the fellow that manipulates the price after all these others get their share, and every farmer in this fertile valley and hill will call you blessed. Cut out the fellow who is always "cutting the melon," who, for the big slice, is filling farm papers, telling farmers how they can grow rich by investing in a particularly great and wonderful invention that will do the work, while the farmer lies in the shade, wears kid gloves, can have an automobile and be somebody, as big "Jt." W. C. STARKEY.

Nebraska.

Editor's Note—In the early days there used to be a sign in a Denver dance hall, "Don't shoot the fiddler; he's doing the best he can." It exhibited the right spirit. Whenever a man is doing the best he can, don't hinder him; help him. Those agricultural college instructors, good ones among them, do not claim to know it all. Any one of them will admit that he can probably learn fully as much from the practical farmer as the practical farmer can learn from him. It takes knowledge and experience together to make a good man. The farmer needs their knowledge; they need the farmer's experience. Let them work to-



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It describes all. And with the book we want to send you an expert's diagnosis of your horse's lameness. All this is absolutely free. Simply mark the spot where swelling or lameness occurs on picture of horse, clip out and send to us telling how it affects the gait, how long animal has been lame and its age.

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On Every Rod of fencing you buy is not the difference in the price you pay. Usually low price fence is the dearest. In buying fencing take time to look into the way it is built. Find out how it is made, galvanized, woven, etc. Then buy the fence that has the ear-marks of quality, strength and long life. You'll find it *cheapest* in the end. Investigate

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Just get a postal card and write right now for our catalog. It tells how we prepare the steel—draw it into wire—anneal it, galvanize it, weave it.

It tells about the *SQUARE DEAL LOCK* which *double grips* the stay wires above and below the strand wires.

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Tells how the *one-piece* Stay Wires overcome sagging and bagging. Why Square Deal Fence is the cheapest—how it saves money for you.

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If you will send at once (before they are all gone) we will send you a fine Four-Section 2-Foot Rule FREE, postpaid. A postal will do.

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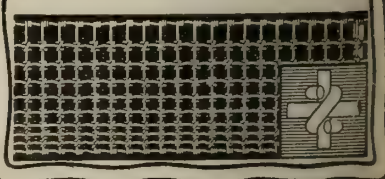

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gether. The professors are trying to work with the farmers. Let the farmers be ready to take what good they can get from the professors, make practical application of it and at all times do their very best. The real trouble with the farmer is, not so much that he doesn't know enough, but that he does not do as well as he knows. If the farmer does as near his best as the college professor does, neither will feel like shooting the other.

Dry Farming in Montana

K. K. M., Casey, Ia.: Please send me what facts you can regarding dry farming in Montana. I would like advice on eastern and east central Montana along the C., M. & St. P. and M. P. railways in regard to the general farming and stock raising; also water supply and quality, markets, etc.

Answer—In northeastern Montana, along the region drained by the Missouri river, the average rainfall is about fifteen inches per year. With dry farming methods this is sufficient moisture if conserved to raise ordinary farm crops. On the tables the water supply is not abundant, and in many places is slightly alkaline. There is plenty of pasturage for live stock and plenty of market for products. The principal business there now is stock raising and the principal large markets are Minneapolis and St. Paul. In southeastern Montana, through the territory drained by the Yellowstone river, the rainfall is in some places one, and in other places two, inches less than it is farther north, which makes successful market operations hazardous.

Calf Impossible to Wean

J. W. Hudson, Wyoming: We have a calf that is impossible to wean. We have tried several methods and all have failed. I read an article once in some paper of a cow that sucks herself and they said they slit her tongue about an inch. Is that a safe remedy? If so, please state just how to cut, and where.

Answer—Cutting the tongue of a sucking animal is an ingenious form of cruelty worthy only of the Fiji islanders. The man that does it should have his own tongue slit, just to see what it is like. There are plenty of muzzles on the market that will accomplish the desired result and at the same time permit the calf to run with the cow. Abandon tongue-slitting; get the right kind of a muzzle.

The Disk Lister

G. B. H., Cozad, Neb.: I saw in your paper of March 22 a new method for planting corn by putting two disk wheels on a lister to plant plowed ground. Would you please give me that gentleman's name and address?

Answer—Edward L. Hunt, Syracuse, Neb.

Farm Tractors Run a City

A carload of farm tractors were on the platform at Anderson, Ind., for shipment to California when the electric light and water plant were put out of business by the flood. One was immediately rushed to the office of the Daily Bulletin and a belt run into the basement press room from the alley, and both papers, the Herald and Bulletin, were printed on time. Another of the machines was attached to a centrifugal pump and after nine hours' pumping the water at the electric light and water station was lowered so that the water plant was gotten in operation, while a third one of the machines was used to keep the D. & M. telephone plant in operation; the fourth one was attached to a big dynamo in the Banner store, furnishing light and power for the block.

Transplanting Strawberries

A Good Strawberry Plant Showing an Abundance of White Roots

The Same Plant, Showing the Roots Trimmed for Transplanting

To Study Co-operative Credit Union

President Wilson has appointed Senators Fletcher of Florida and Gore of Oklahoma, Representative Moss of Indiana, Colonel Harvey Jordan of Georgia, Dr. John Lee Coulter of Minnesota, Dr. Kenyon L. Butterfield and Clarance J. Owen of Maryland members of the commission authorized in the last agricultural appropriation bill to cooperate with the American commission assembled under the auspices of the Southern Commercial Congress to study in European countries co-operative rural credit unions and similar organizations devoted to the betterment of rural conditions. The same men also have been designated delegates to the general assembly of the International Institute of Agriculture in Rome next August.

E. Myers, President, E. Myers Lye Company

How and Why Merry War Powdered Lye Makes Bigger Hog Profits

A well known authority on the subject of Hog Raising says: "Many hog raisers find it unprofitable to feed hogs after they weigh 250 pounds; the next 100 pounds costs too much. The secret of cheap production is first to grow strong frames on diversified grain and forage crops, *always keeping the hogs keen in appetite*, then giving them a high finishing feed to which they will respond."

How To Keep Hogs Always Keen In Appetite

The surest and cheapest way of keeping hogs so is by feeding *Merry War POWDERED Lye daily* with their rations. *Then* when ready for their topping off they will *quickly* put on *FAT* with the change of food—there is *no waste* of feed—every pound of corn is changed into *profit making pork*, because every bit of feed is fully digested—and instead of taking the usual 5 to 6 weeks to put on an extra 50 pounds of live weight, your *Merry War POWDERED Lye* hog will add that extra 50 lbs. in 3 or 4 weeks—a clear *saving* in time and feed.

Prevents Hog Cholera

Merry War POWDERED Lye not only keeps hogs *keen in appetite* from weaning till market time—healthy, strong and in prime condition for quickest and cheapest fattening—but it also *prevents hog cholera* and *protects* hogs from that dreaded disease. You need it as part of the *daily* rations of your hogs. *Costs only 5c per month*, per hog for complete *protection*. (*2 FEEDS PER DAY.*) *There are no substitutes. Merry War POWDERED Lye* is a *specially prepared, Powdered* Lye that *will prevent hog cholera.* The use of ordinary, old fashioned lye for hogs would be but a doubtful experiment—perhaps a most *dangerous* one. You can't afford to take chances. The actual *experience* of thousands of hog raisers has *proved* the real merits of *time-tried Merry War POWDERED Lye*—the greatest hog remedy the world has ever known.

"Merry War" Gave These Hogs Keen Appetites

"Our seventy head of hogs have fattened fine since feeding *Merry War POWDERED Lye.* They like the slop better with *Merry War POWDERED Lye.* My husband said: "It does our hogs good and helps digest the corn they eat."

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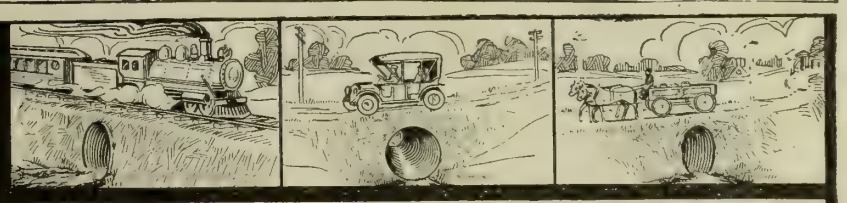

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Bores 100 ft. in 10 hours. One man can run it, a team operates it and easily moves it over any road; Bores slate, coal, soapstone—everything except hard rock, and it drills that. No tower or staking—rotates its own drill.

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LISLE M'F'G. CO., • • Box 139 Clarinda, Iowa.

Review of Live Stock Market

By A. C. Davenport

CATTLE, generally speaking, are worth 25c a hundred more than they were a week ago, due to the simple fact that railroad transportation is back once more to normal. A week ago at this time many of the roads by reason of high water in Ohio and other eastern states were refusing to accept shipments and packers and shippers alike were, figuratively speaking, up in the air. No one knew with any degree of certainty that he could ship either the cattle or the product, even if he should buy the cattle. Under such conditions of uncertainty it invariably happens that those who would otherwise buy refrain from doing so. Thus it happened that at the close of last week the markets of the country were in very unsatisfactory condition—that is, prices were decidedly lower and the trade very dull.

Conditions this week have improved greatly. With eastern outlets once more, accessible packers at all the big markets have been free buyers, and there has also been considerable buying at some points on shipping account. Prices have rapidly strengthened and at the close of the week are, as noted above, right around 25c higher than at the close of the previous week. This advance carries the market to a point that is not very much under the extreme high time of the season to date.

Outlook Very Encouraging

While it is always possible for unlooked-for events, such as the interruption of railroad traffic and excessively large receipts, to depress the market, still the general outlook is very encouraging. Most every operator on the market expects moderate receipts on an average throughout the remainder of the corn-fed season. As a matter of course, large receipts are liable to occur at any time, and should occasion no surprise, but no one anticipates large receipts to be kept up for any great number of days in succession. It would follow from this that most operators on the market are bulls, now, the same as they have been for several months back. This does not necessarily mean that they are all looking for any great advance in prices, because prices are already high enough, considering the quality of the cattle coming to market, and about as high as the consumer feels that he can pay. It does mean, however, that they are not looking for any lower prices, but expect that present values at least will be well maintained. As a matter of fact, however, there are quite a good many cattlemen who do expect considerably higher prices before the close of the season.

Sheep Prices Stronger

Sheep have profited along with cattle from the restoration of railroad transportation. It will be remembered that a week ago the market was very much in the dumps. It seemed as if everybody was afraid to buy, but this week conditions have all been favorable and everyone has bought freely. Prices have rapidly mounted upward, thus making good the greater part of recent losses. At some points prices are right up to the high notch of the year, while at some other places they are still a little under the year's best figure. It will be remembered, however, that as often as prices have reached the high point there has been a sharp reaction in the consuming demand. There has been no indication this week of anything on that order, but sheepmen are inclined to the belief that there is a limit to the prices that consumers are willing to pay. Thus while they expect that the market will fluctuate more or less, and that at times considerably higher figures than now prevail may be touched, still the majority of operators do not expect the market to go very much beyond present bounds, at least not for some little time to come.

No Change in Hogs

Hogs have suffered a severe reverse this week. Receipts proved to be quite liberal at most all points and packers were not at all slow in taking advantage of the situation to force values downward. During the last week they have dealt the market sledge hammer blows until prices are now down to the lowest point touched since about the third week in March.

General conditions governing the hog trade have not been materially changed, so that the decline has been based entirely on the question of receipts; in other words, the market is lower, apparently, for no other reason than that receipts have been large enough to make it possible to put prices down. Stocks of provisions continue light, while the consuming demand is good. There is, however, one feature that may have made it somewhat easier for the packers to break the market, and that is a moderate shipping demand from the east. It is not yet apparent whether this is due to increased local supplies of hogs in the old eastern states or to a slackening up of the consuming demand for fresh pork.

The immediate future of the market seems to be dependent in no small degree upon the size of the receipts. The liberal runs of the current week have been by many ascribed to the fact that storms delayed shipments the previous week, and that these storm-delayed hogs are responsible for the increase in receipts. On the other hand, there are some who are rather inclined to the belief that there are still quite a good many hogs in the country and that, being ripe for market, they are naturally coming forward in increased numbers. Next week's run will go a long way toward settling this question, for if it should prove to be small it will indicate that this week's receipts, as claimed by some, consisted, in part at least, of storm-delayed shipments. On the other hand, should next week's receipts prove to be large, it will look very much as if the hogs were in the country and ready to come forward. Going still farther, some operators contend that next week's receipts will really be a very good index of the market for the next thirty or sixty days. These prognosticators take the ground that large receipts indicating a fair supply of hogs in the country will mean little or no further advances for some time to come. They admit, however, that with light receipts it will be very hard work to prevent the market from quickly recovering all that, or even more, than has been lost during the last few days.

Educate the Cattle Producer

THERE is a great deal of information volunteered for the guidance of the cattle breeder, cattle grower and the common farmer who keeps a few cows and raises a few calves, the surplus of which is to be disposed of as the demands of the farm and business requires.

The great majority of cattle owners have their own ideas of how they intend to handle their breeding and the disposition of the produce of their herds. The raising of beef cattle is a very common suggestion for the farmer and cow owner. The converting of this produce into beef for the beef market is also urged by some as the proper thing to do, because beef is high priced, and the farmer who keeps the cow and has the calf produced on his land should not give half or any part of his profit to the middle man, the feeder, but should follow his calf to the packer and thus get all the available money out of it.

Many recommend the baby beef proposition as the best solution of the increase of the herd, that there is more clear money made by weaning the calf at 6 months old and putting it into the feed yard and crowding it along with all the feed it will consume until it is 12 or 14 months old and then sending it direct to the packer or fat cattle market. This has been tried and quite generally has proven satisfactory as to gain in weight and price in the market. It is a quick return for the producer, and from that point of view is hard to controvert.

The present situation seems to suggest an effort to increase production, volume of meat, in view of lowering the general price to the consumer. This is based upon the theory that baby beef, calf meat or veal, should be discouraged as much as possible in order that these young things, of small food capacity, may be developed into mature animals with two and three times the bulk of food product that they represent under present conditions of marketing.

Here comes in the question of high-priced land, too expensive for grazing purposes, costing too much to slowly develop the calf to the mature beef form of the 3-year-old steer, a process which ordinarily is not forced, but rather retarded by the rustling habit of letting the calf as a yearling and 2-year-old forage in the stalk fields and over bare pasture fields in the winter season to get a living. Cornstalks and strawstacks are utilized to cheapen the keeping of the steer on the farm until he is of feeding age.

Here is probably where the plan is lacking in method and business management on the majority of farms handling the stock cattle. The steer calf should be put onto a growing ration, that his bone and size be encouraged, but not be forced to fatty accumulation more than is necessary in his growth. Grow the steer until he is 2 years old as rapidly as possible; his ability then to carry a large carcass makes him a popular beef animal in any market and a profitable animal for the farm and feed lot.

There is now a great deal of information volunteered in the interest of the farmer that he combine his breeding in view of both beef and milk, that all breeds of beef cattle should be bred for dairy qualities as well as beef. This is a good sentimental line of argument and no doubt is being given much more attention by beef cattle breeders than is published. There has been too much stress put on beef quality, to the detriment and exclusion of milking quality, by some beef cattle breeders.

There has never been a time when milk properties in beef cattle have been so much talked about and urged as a necessity in keeping up the standard of desirability in the cow. No buyer is going to discount the value of a Shorthorn or Galloway cow or any other breed because she gives twenty or twenty-four quarts of milk per day. The buyer will try to find some means of taking care of the surplus milk, and there will be no disposition on his part to keep it a secret. It is something to the credit of the cow, even if she is a beef animal.

It is all right to suggest or even advise these breeders and farmers how to do in the matter of handling their herds, but they each have their own ideas, and these will be carried out first, and if they fail they will then plan something else. There can be no defined or set system of directing these people what to do or how to do it, and it is very fortunate for the business and the country that it is so. It is not necessary that laws be enacted, as suggested by fanatical theorists, that the heifer calves all be reserved from slaughter for three years. This whole scheme of supply and demand will work itself out if let alone, and capital invested, labor employed and general live stock conditions will be satisfactorily adjusted to meet the demands of the consumer without any compulsory enforcement of legal restrictions.

It might be a timely suggestion to say that no matter what breed is selected, make a fixed rule in all your breeding to use a pure-bred bull and as far as circumstances will permit get the best individual your money will buy. There is such a thing as a scrub pure-bred. It does not pay to buy the inferior pure-bred animal for sire purposes; neither does it pay to buy the grade, though he be possessed of many good qualities. There are many pure-breds not registered. These may be reliable breeders, but usually there has not been a critical observance in pedigree, and the assurance of quality in the ancestors is not just what the breeder of high-grade cattle even wants. There is nothing discreditable in the breeding of grades, so long as pure-bred sires are used. This means advancement and improvement in quality.

Where Every Little Counts

The hand that rocks the cradle is seldom the one that rules the mothers' meeting.

Success is always due to our own efforts; failure we can blame on someone else.

It's a good thing to make your money grow, but a dollar always looks largest when it's the only one you have.

The girl who thinks no man is good enough for her is quite surprised to find that the men are satisfied to have her think so.

The theatrical managers who are scouring the country for plays might try scouring a few of those they already have.

Even the people who realize that the wages of sin is death console themselves with the thought that payday is a long way off.—Boston Herald.

Stumped

Mrs. Mason, who had been married but two months, came hurrying into Mrs. Sutton's one morning.

"I've come to ask you to tell me something," she said eagerly. "You see, I don't know how to cook everything yet."

"I will be very glad to help you," replied the older woman. "What is it you want to know?"

"Well, you see, my husband has gone out, and he told me he was going to shoot clay pigeons this afternoon, and I know he will bring them home, and I don't know a thing about cooking a clay pigeon."—Pittsburgh Chronicle-Telegraph.

With Angle Steel Rib and Spline-Dowel

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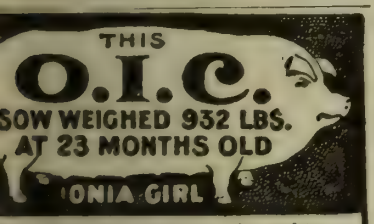

have started more breeders on the road to suc- than any man living. I have the largest and fin- herd in the U. S. Every one an early developer, y for the market at six months old. I want to one hog in each community to advertise my Write for my plan, "How to Make Money from " C. S. BENJAMIN" RFD 79 Portland, Mich.

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at as small feeding cost, nor is there any breed of cattle that will *keep it up* like Jerseys will, *year in and year out.* That's why you ought to buy Jerseys to increase your herd's efficiency. Send for Jersey facts.

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ulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

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Bone in Horses

What is the particular attribute to which the horse buyer attaches importance when he speaks of an animal having good bone? It is to be feared that in many cases what is in the mind is size or quantity of bone, but of far more importance than quantity is quality, and it is well that those who are interested in horses should make a note of this.

If the bones of two animals, such as the thoroughbred and the draft horse, be examined, a great difference will be noted as regards their density. The bones of the racer or thoroughbred seem very much less bulky, but far more compact and not so loose and spongy as those of the slow-moving draft horse, such as the Percheron, Shire, Clydesdale or Belgian. Other things being equal, the coarser the bones the more liable they are to bony deposits, such as splints, spavins and ringbones. The truth of this will be apparent to any of those who have to do with the treatment of these diseases. It is quality of texture and not bulk of texture that is required.

The difficulty which arises is how to judge quality of bone. Like most things, it depends to a great extent on the teaching of experience. When judging an animal the history of which is unknown to us or whose work has not been sufficient to test the soundness of his legs, if he is found to have weak, flat bones, it would probably in the majority of cases be accurate to conclude that the bone is of inferior quality.

Let is be remembered that the nature of the soil, of the food and the climate generally very considerably affect the feet and the bones of the animal. Horses in lowland, moist districts are found to have weak and flat feet, whereas in firm ground and hill districts their feet are more upright and blocky. The main thing, however, which should form the basis of the purchaser's judgment is that it is quality and not quantity of bone that counts, and that the animal with large, round, bulky bone may be but a poor specimen after all.

Live Stock Notes

Gilbert Johnson's Poland-Chinas

Gilbert Johnson, well known breeder of Poland-Chinas at Osceola, Neb., has 110 head of spring pigs and one sow yet to farrow. They are sired by Hather's Hadley 2d, Choice Orange, Colossal, Improver, Metal Top, Jumbo the Great and others. Mr. Johnson informs us that they are the finest and evenest lot of pigs he has ever had, all but one litter being farrowed within twenty days. The sows are averaging nine pigs to the litter, so it will be seen that they are prolific.

Pritchard's Duroc-Jerseys

Robert Pritchard of Carroll, Neb., has fifty-one head of spring pigs and several sows yet to farrow. Mr. Pritchard has one of the best herds in northeastern Nebraska. He does not aim to raise as many as he has in years past, but the quality of the stuff he produces is second to none. His winnings at some of the leading shows is evidence of this fact. His pigs this year are sired by Soo King 116723 and King of Kings 132243. Keep his herd in mind when you want anything in his line.

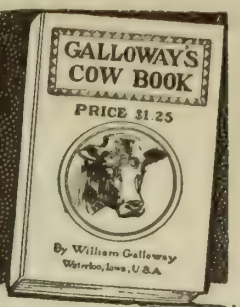
Davis & Son's Poland-Chinas

Frank Davis & Son, breeders of Poland-China hogs at Holbrook, Neb., have forty-seven spring pigs to date, sired by L's Victor 57392 and Big Bennie 65265. The pigs are good and strong and coming along in good shape. The firm of Frank Davis & Son is familiar to every breeder of big-type Poland-Chinas in the country. The senior member of this firm is one of the pioneer breeders of the west and has contributed in a large degree toward the upbuilding of this great breed of hogs. Their herd is entirely immune, and we trust that anyone wanting anything in their line will keep them in mind.

Wernsman Has Ninety Spring Pigs

Colonel Jacob Wernsman of Cedar Bluffs, Neb., informs us that he has ninety spring pigs to date, with six sows yet to farrow. They are sired mostly by Gold Dust Jim 13276 and Jumbo Critic 2d. The sows have averaged better than six to the litter and are coming along in good shape. Colonel Wernsman is one of the old-time Duroc-Jersey breeders, and the class and character of the hogs he has produced has placed him right up in the front rank. Keep his herd in mind when you want anything.

I Want To Send You This Valuable Cow Book Free!



Positively the only **book** of its kind ever written. A complete **Manual of Dairying** for the modern business farmer giving ALL of the best, modern, scientific dairying methods in clear, plain English. No theories—just the sound, practical **money-making facts** that every cow owner should know. This book is priced regularly at $1.25. FREE to you if you only write at once.

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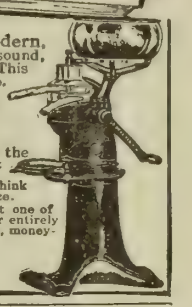
I want to tell you how you can get the very latest and greatest product of the great Galloway factories—the wonderful Galloway Sanitary Separator—shipped right to your farm for 90 days' absolutely free trial. Unquestionably the most liberal separator offer ever made. I'll even pay transportation charges both ways if you think you can get along without this wonderful machine after the FREE trial. Send at once.



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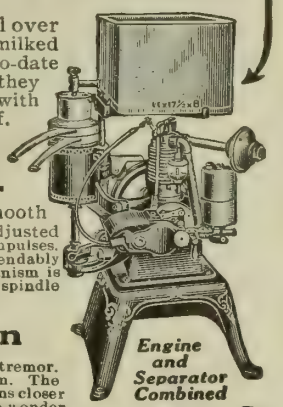

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Put your finger on the swift spinning bowl. You won't feel a tremor. And the skimming is absolutely even because the speed is uniform. The "AUTOMATIC" never gets tired or slackens speed. It therefore skims closer than any hand power machine. No butter fat is lost. See this little wonder in actual operation at your dealer's. Then you won't go on cranking a separator any more. If you're milking ten cows you can't afford to. Give us the name of your dealer. Write for catalog 17.

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A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants

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Let Me Ship You This Great 5 H.P. Galloway Gasoline Engine for Only 99.50

This Offer Is Limited! DOWN come my prices! Write for my offer--a special offer for the next 60 days only. I'm making the greatest, price-slashing offer in the history of the gasoline engine business. My wonderful, 5-horse power, water-cooled, frost proof, gasoline engine, on this special 60-day limited offer, only $99.50! I'm making THREE now where I made only ONE before. I've got to sell them. So I've got to make the price. I'm doing it! I've even cut way below my former very low prices for this extraordinary offer. Write me!

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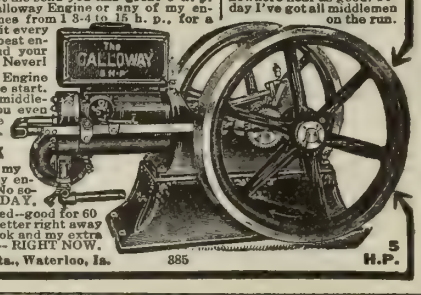

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Investment

A Dairy Investment

DAIRYING in Omaha's trade territory has made many notable strides within a few years. The prime reason for it is because it has paid all interested. It has built the greatest creameries of the world here; it has built over 3,000 silos in Nebraska within three or four years, and it will tend very largely to conserve 40 per cent of the corn plant, adding immensely to the food supply.

A Nebraska farmer with only a little money settled in the Sacramento valley less than two years ago. His nineteen cows paid him in one month $230 not long since, or $15.44 per cow. This is a great yield when you know he had only fair grade cows. But he has two things we cannot have here—a mild climate that will grow alfalfa the year round and a market that's never satisfied. Here is where alfalfa is cheap, for it produces from eight to ten tons per acre, and butter-fat brings from 32 cents up; besides whatever the cow consumes goes straightway into milk.

Everything considered, the dairy in the Sacramento valley is a great money-maker; besides, there is less risk attending it than any other business.

Farmers Leaving the Farm

H. F. Patterson, superintendent of the Better Farming association, is in receipt of a letter from a farmer, living in the homestead section of South Dakota, in which he says that there were fourteen carloads of stock, household effects, together with the owners that left his part of the country for Canada since March 1, 1913. He stated that the newspapers were not publishing this fact, but that it was the truth, nevertheless. One of the reasons given for these people leaving the country was that the farmers were compelled to pay a very high rate of interest. He believed that two-thirds of the people that left were forced to leave because of the high interest rates. In concluding his letter he stated "High rates of interest drive more settlers out of South Dakota than the drouth."

The Center of Grain Production

The figures of the last census, when compared with those of the previous census reports back in 1850, indicate that the movement of the production of grain under natural conditions has reached its western limit. Since 1850 the "median point" (center) of production of the six great crops—corn, wheat, oats, barley, rye and buckwheat—was about twenty miles west-southwest of Burlington, Ia.; but its western movement in the last ten years was comparatively very small. It remains to be seen what effect the great irrigation work now planned by the government will have upon the location of the great grain fields of the country.

Pepper Grass

Pepper grass is quite prevalent on many farms in South Dakota; especially is it found upon early fall plowing. The only way this weed can be destroyed is to thoroughly disk the fall plowing before seeding; this will turn up the young plants and will destroy practically all the weeds. Further than this, the early disking will pack down the soil and will materially help in saving the moisture.

Our Own Minstrels

"Mistah Wilgus, wot am de diff'unce 'tween a grass tinted hornascopia——"

"You mean cornucopia, don't you, George?"

"Dat's wot I said—hornuscopia. Wot am the diff'unce 'tween a grass tinted hornuscopia an'—an' literary womanz?"

"I give it up, George; what IS the difference between a grass tinted cornucopia and a literary woman?"

"De one am a greenhorn an' de uddah am a bluestockin'."

"Ladies and gentlemen, after devoting a few moments to killing the depraved author of that wretched conundrum, Prof. Gottemall Skinnd, the eminent vocalist, will sing the pleasing sentimental ballad entitled, 'Mother, Dear, Where's the Formaldehyde? I've Been Kissing an Alderman!'"—Chicago Tribune.

The Market Place

DOGS

SCOTCH COLLIE PUPS, WITH SIZE grip and beauty. Clarence Allen, Dawson, Neb.

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ALFALFA SEED, NEBRASKA grown, for sale by S. Hunziker, Sutton, Neb.

SEEDS—ALFALFA, $6; TIMOTHY, blue grass and cane, $2; sweet clover, $3. Farms for sale and rent on crop payments. J. Mulhall, Soo City, Ia.

DUNLAP STRAWBERRY PLANTS, $1 per 1,000, 50c per 100, prepaid anywhere. W. C. Hebdon, Blair, Neb.

SEED CORN—SILVER MINE, LEGAL Tender, Boone Co., White, $2 per bushel. John Hagglund, Essex, Ia.

HELP WANTED

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

SALESMEN—FOR HIGH-CLASS TObacco factory; experience unnecessary; good pay and promotion for steady workers; complete instructions sent you. Piedmont Tobacco Company, Box H-5, Danville, Va.

WANTED—ALL-ROUND BLACKsmith; single man with small capital. Address J. D. Bowen, R. 2, Pueblo, Colo.

MISCELLANEOUS

YOUNG MAN, WOULD YOU ACCEPT and wear a fine tailor-made suit just for showing it to your friends? Or a Slip-On raincoat free? Could you use $5 a day for a little spare time? Perhaps we can offer you a steady job. Write at once and get beautiful samples, styles and the wonderful offer. Banner Tailoring Co., Dept. 206, Chicago.

BOY PROOF WATCHES, SPLENDID timekeeper for anyone; stem wind and stem set, finished in nickel or gunmetal, guaranteed on approval, $1.50 post paid. S. W. Harr, Jewelry Dept., Riverside, Ia.

GRAIN AND COTTON MARKETS—Future prices of grain and cotton are now being approximately estimated on the basis of future crop weather conditions. This is a new process for estimating future values. For information regarding this service address Foster's Weather Bureau, Washington, D. C.

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UNIVERSITY OF ILLINOIS

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

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Prattle of the Youngsters

Not Possible

The benevolent citizen while iking along Park Place spied a le tot weeping. So he walked up it and said:

'Now, be a good boy and stop ur crying."

The child replied:

'I can't."

'But why can't you?"

'I can't."

Well, here's a cent; tell me why u can't be a good boy and stop ing."

" 'Cause I'm a girl."

Youthful Definitions

In order to give his scholars a m grip on original composition, a ioolmaster believes in the value of at he calls "an exercise in fram- definitions." After illustrating at was wanted, he set the little ys to write one-sentence defini- ns of "boy" and "girl." Here are ew of the ideas evoked:

'A boy is made of a lot of bones, h flesh put round them."

'A girl is nearly the same, but we not cut her hair."

'A boy is born a baby."

'A girl is only ribs out of a man's ly."

'A girl is God's sheep."

'A boy is a ordinary creature de out of dust, and so is a girl." Tit-Bits.

Family Exclamations

A Cleveland man who makes a ctice of choosing his words with e, a practice which he has en- vored to instill into the family cle, made a memorandum of the used words uttered by his son d daughter during a recent break- t. Here is the result:

Elegant, nineteen times.

Awful, eleven times.

Dandy, six times.

Fierce, four times.

Great, two times.

When the meal was over the head the household called the family und him in the library and vely read the totals to them.

'Gee, that's fierce!" said the son.

'Isn't it awful!" said the daugh-

A Higher Critic

Ray Fowler, jr., 6 years old, son Raymond Fowler of Evanston, has turned "higher critic" of the le. Little Raymond was so epy Saturday he could not say his tomary nightly prayer. When awoke yesterday he was remorse- over his lapse and, while sitting his mother's lap, he said:

'Mamma, I didn't say my prayers t night. Can't I say them now, l make it all right?"

His mother assented, but instead kneeling as he does at his nightly votions, he kept his seat and be- the Lord's prayer. When he ched "Lead us not into tempta- n," he stopped.

'Mamma, I don't think the Lord uld lead anybody into temptation. uld He? It isn't right to ask the rd not to do something he uldn't do."

Noticing the startled expression in mother's eyes, he added:

'Maybe I don't know what nptation means."

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The Untouched Gold in Your Soil

AS YOU look out of the window of your home, just picture for a moment, to a depth of one foot, every acre of your farm.

Did you ever stop to think that each acre foot that you intend to plow for corn this spring weighs about three million pounds? Well, it does, and then there is the second, third and fourth foot below it through which the plant roots creep in their search for food. This great mass of soil is filled with plant food.

In next week's issue we will print a special article, fully illustrated, showing how this plant food is converted into growing crops. The writer makes clear how the untouched elements in the soil may be reached by intelligent farming methods.

We will also print an editorial resume of the National Conference on Marketing and Farm Credits, which met in Chicago the first week in April.

Bright and Breezy

Difficult Advice

Lady (to tourists' agency official)—I have nothing to declare. What shall I say?

Official—Say, madam, that you have nothing to declare.

Lady—Yes, but suppose they find something?—Punch.

Husbands and Eggs

Miss Fola La Follette, in a settlement address in New York, spoke a wise word about husbands.

"Wives should never nag their husbands," she said. "A husband is like an egg. If kept continually in hot water, he soon gets hardened."

The Point

"Do you say that your hens 'sit' or 'set'?" asked the precise pedagogue of the busy housewife.

"It never matters to me what I say," was the quick reply. "What concerns me is to learn, when I hear the hen cackling, whether she is laying or lying."

A Paying Business

Farmer Soboss—Well, there's another lit'rary guy bought a farm back here and gone to raising chickens. He's got over a thousand of 'em."

Farmer Hardscrabble—He must be a good writer to support so many hens as that."—Puck.

Whom Did They Suspect?

An excursion party from a woman's club of Chicago had gone to a rural part of the state. As there was only one very small hotel in the neighborhood, some of the members had to sleep in a nearby farm house.

Everything was very simple, although scrupulously clean and homelike. But there was naturally a lack of some of the luxuries of high-priced city hotels.

Bedtime came, and some of the ladies discovered that there were no keys in the locks of their rooms. They consulted the farmer's wife.

That good woman was frankly surprised.

"Why," she said, "we don't usually lock our doors here, and there's no one here but you. But then," she added, as she scrutinized the ladies carefully, "I suppose you know your own party best."—Youth's Companion.

Friend of George Washington

Booker T. Washington, discussing negro longevity, said to a correspondent in Tuskegee:

"A good many of these old mammies and uncles honestly think they're 142 or 187, but their minds have softened with the years, and, though they don't really intend to prevaricate, yet it isn't safe to rely on them too implicitly.

"I once knew an old uncle who claimed to be 159. He said he had known George Washington, so I asked:

" 'Do you know anything about Washington crossing the Delaware?'

" 'Oh, lawdy, yes,' he answered. 'Why, I done steered the boat!'

" 'And do you remember,' I continued, 'do you remember the hack Washington took at the cherry tree?'

" 'Why, lawdy,' he replied, 'I done drove dat hack mahse'f!' "

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Cream Production in the Missouri Valley

III—Conditions Indispensable to Success of the Small Creamery—Continued

IT IS not enough for the success of a small creamery that the adjacent territory have 600 cows for the production of cream. The product of these 600 cows must be constantly delivered to the creamery. This means that the community must become welded together in a community spirit so strongly that they will constantly support the local industry, no matter what inducements are offered them to abandon it. Many a small creamery in this territory has failed because those that were at first most loud in protesting their loyalty to it were the first to abandon it and deliver their cream at the cream receiving stations.

Where a small creamery is established in territory formerly exclusively occupied by centralizers, it is natural for the centralizers to endeavor to meet the new competition and to retain their hold upon the community. It is natural for them to use every advantage to secure all the cream possible. At such receiving stations the receiving agent generally receives his compensation in the form of a commission paid upon the amount of cream he receives. It is to his interest to secure and hold as many patrons as possible, and for this purpose he generally gives, at least to some patrons whom he especially desires to hold, a higher test of cream than the condition of the cream warrants. In this way the creamery that he represents is compelled to pay for more cream than it actually receives. The cream producer should not be deceived by the high test into thinking that he gets more money for his cream. The price paid for cream at the receiving stations is based on the supposition that a high test will be given, and accordingly a lower price for cream is paid. No small creamery can succeed unless its patrons remain loyal to it in spite of all inducements that are offered them to abandon it. It therefore follows that for the production of sufficient raw material to enable a small creamery to do a profitable business there must be in this territory at least 600 cows to supply the creamery with cream, and the owners of these cows must remain constantly loyal to the local industry. Unless these two conditions can be fully and constantly met, the attempt to establish a small creamery had better be abandoned.

Proper Business Management Necessary

In addition to an adequate supply of cream the small creamery, in order to succeed, must have proper business management. The manager should be a business man of the first order. It very frequently happens that when a company of farmers are engaged in selecting a manager, and wondering whom they can get for the position, some one of them says something like this: "Why, there is Bill; he is a good fellow and he is out of a job; why not take him?" And so Bill is chosen, regardless of his business qualifications, and whether he knows anything about the business or not. Such a course is suicidal. The manager must be a good business man. He must keep the accounts in such shape that every patron can readily understand them. He must understand markets and be able to market his product at the highest possible price.

Proper business also includes the selection of a first-class butter maker. The prices that the farmer receives for his cream depend upon the price that the factory receives for its product. First-class butter commands the highest price. The average small creamery draws its cream from a limited territory; and thus receives its cream in better condition than the large factory that has to ship it long distances, and as a result, other things being equal, is in a position to produce at less expense a better quality of product. To produce this high quality of product a first-class butter maker is essential. A mistake in this particular will invariably prove fatal to the enterprise.

Must Be a "Good Mixer"

This butter maker must be more than a butter maker; he must understand and be able to work with his fellow men; he must be a good mixer; he will have all kinds of patrons, with all kinds of dispositions, to deal with, and must be able to get along with them all on the most friendly terms; he must be able to inspire them with confidence in him and in the factory; he must be able successfully to handle his patrons.

Many a small creamery in this territory has failed because the patrons, for some reason or other, did not like the cream receiver, or, in other words, the butter maker; could not get along with him, and consequently sold their cream to other buyers. The receiving of the cream and the making of the butter is the most essential part in the business management of the enterprise. Failure or weakness here will invariably result in loss.

When these things are taken into account and fully assured, when there is a constant supply of sufficient cream to make 100,000 pounds of butter a year, when the business manager is a business man and will devote to the creamery business his business talent, when the butter maker can make, from improved cream, the finest quality of butter and at the same time attract, draw and hold patronage of his industry against all competition, the success and capacity for profit of the small creamery is assured.

The Twentieth Century Farmer believes that this small creamery should be co-operative; that is, that all producers of cream should share in the profits of the enterprise. It believes that such an enterprise will allow to the cream producer a much higher price for his cream. Where the small creamery is proprietary and the profits are distributed only among the stockholders, the chances are that the enterprise will not result, except in the case of farmer stockholders, in greater benefit to the farmer, the cream producer, than he derives from the present system established by the centralizers. It is because The Twentieth Century Farmer believes that the successful co-operative creamery will promote the interests of the cream producer and of the dairy industry in general that it recommends and advocates the establishing of such creameries wherever their success may be assured. It opposes the establishment of such creameries under other circumstances and conditions, because it believes that the premature exploitation of such creameries will result in injury to the farmer and will retard the development of the dairy industry in localities where it is attempted.

To the Holstein Cow

Here's to the Holstein cow!
Long may her breed increase,
Her worth prove greater from year to year,
Her victories never cease.

Queen of the dairy realm;
The pride of an ancient race
Of royal breeding and quality
Glows in her honest face.

Sovereign by right of birth,
Mild and content and wise;
She calmly chews her cud, unmoved
By accident or surprise.

Placid and still alert
For the best that may come her way,
Conserving strength to produce at need
A hundred pounds of milk a day.

Strong built and large, but fine,
Graceful and straight and trim,
Lines of beauty and rugged strength
Blending in every limb.

Wedge-shaped and deep and broad,
True to the type ideal,
A perfect model of symmetry
From horn-tip down to heel.

With clean-cut head and neck,
Hide mellow and hair like silk,
And a large, square udder so broad and full
It takes two men to milk—

Her product a constant source
Of the food that is best for health
And her offspring adding each year her share
To the store of her owner's wealth

You may choose the crowded streets
Of the town with their din and glare,
And amid the buzz throng
Seek the gold to be gathered there

But let my fortune start
With a plot of ground to plow
(Away from the city's smoke)
And a pure-bred Holstein cow

—Eugene M. Hosting

Use of Irrigation Wells on the Plains

The Pump Will Keep "Lessening Land Problem" at Bay for Many Years Yet to Come

Three Mills Pumping Into Reservoir, Now Being Discarded for Engines and Centrifugal Pumps

By E. Z. Black

WE READ in the sacred writ that "a river went out of Eden to water the garden." Perhaps there would have been no garden, with its famous apple tree, had it not been for the river. Certain it is that there would be but few and indifferent garden patches on the plains of the southwest were it not for the river which goes out from the Rocky mountains in Colorado to irrigate them.

The existence of this river was unknown until three years ago, and yet compared with it the mighty Mississippi is but a tiny brook. The people of western Kansas, northwest Texas and eastern New Mexico knew that there was everywhere a supply of pure water for their suction pumps, operated by windmills, but no one attempted to exploit the moisture-bearing strata that might lie beneath this first water vein. An account of how the plains of the southwest developed their underflow for irrigation may prove helpful for other sections that are perhaps overlooking such oppotunities.

This portion of the United States was formerly called a desert. It contains practically no running streams, or springs, or arroyas that may be dammed. The rainfall ranges from fifteen to twenty-four inches per annum. When the windmill began to deliver water into surface tanks, stockraising became general and extensive. More than a score of years ago the farmer came and clucked to the plow mules. He found that kaffir, maize, broom-corn, sorghum, wheat, oats and such crops would usually make fair crops under precipitation alone. He also discovered that in order to raise vegetables the tiny stream from his windmill was essential. Realizing that irrigation would mean maximum yields of all staple crops every year, as well as the ability to grow many delicate varieties of plants and trees, he sought for a means to supplement the rainfall on a larger scale. Larger reservoirs were built and several mills set to pumping into the same; but a windmill seldom produces more than twenty gallons per minute, and so the irrigation of large acreages was impossible.

Hearing of the success of irrigation in California and other states by means of centrifugal pumps operated by electricity or gas engines, several plains towns resolved to try out that method. Here is the way the citizens of Plainview, Hale county, Texas, went about it: In November, 1910, a subscription list was circulated and certain men with vision agreed to stand the expense of putting down a deep well and installing a pumping plant on the J. H. Slaton farm, provided that if the well should be a success Mr. Slaton was to reimburse them. A 6x8-foot pit, twenty-six feet deep, was dug into the first water-bearing stratum; then a twelve-inch hole was drilled for 103 feet, through two other strata of water. The pump was set in the bottom of the pit and operated by a shaft-drive from a thirty-two horsepower gas engine. After sufficient sand had been pumped out a flow of 1,500 gallons per minute resulted. This was the capacity of the engine rather than the well, it being thought that a forty horsepower engine would develop 2,000 gallons. Mr. Slaton paid for the well.

Within three years more than 300 of these irrigation wells have been brought in on the plains, and the drillers are unable to keep up with their contracts. Many rotary drills are running both day and night. Both horizontal and vertical pumps are used, and where the lift exceeds fifty feet the pitless pump appears to show more efficiency and economy. In Texas and New Mexico 500 to 2,000 gallons per minute are most popular, and the engines range from twenty-five horsepower to seventy-five horsepower. Crude oil, costing from 4 to 6 cents per gallon and testing thirty-nine to forty-two Baume scale, is a popular fuel. Where the lift of the water is between thirty and sixty feet, the cost of pumping an acre foot of the same is approximately $1. Pumping expense alone considered, $2 per acre per annum will usually cover the cost of irrigating most crops. A 1,500-gallon-per-minute well will take care of 160 acres, the flooding system being used.

With proper installation, every well so far has been a success. The bottom of the water-bearing strata has not yet been reached, but several wells have demonstrated that the underflow so far discovered amounts to a solid stream fifty feet deep. Since these strata range under a section larger than Illinois, this may well be called "the world's largest river"—unless there are larger such rivers waiting to be discovered. However, these strata are too far from the surface over the majority of the plains for economical pumping for irrigation. Where the lift is more than 100 feet, no attempt has so far been made to utilize the centrifugal pump in this section. Naturally, the less the lift the more the profit in irrigated crop growing.

It is thought that this subterranean stream, so long unknown, must have its origin in the melting snows of the Rockies. It has been shown that it is slowly flowing to the southeast. The Colorado, Brazos, Red, Canadian and Arkansas rivers have presumably been its outlet on its way to the Gulf of Mexico. Many people think that even if a well were put on every 160 acres of the shallow water portions of the plains it would be impossible to exhaust the supply.

It is a question of much discussion as to which is the more satisfactory for pumping, gas engines or electricity. A $350,000 central power plant at Portales, N. M., is furnishing the irrigationists in that district with "juice." However, a group of English capitalists who are

backing a $3,500,000 irrigation project in the vicinity of Plainview, Texas, are using gas engines almost altogether. The local agent for the owners, the Texas Land and Development company, announces that the 60,000 acres, planted to truck, fruit, alfalfa, etc., will be irrigated by 400 wells, which will average 1,200 gallons each. Each of these wells will be equipped with an individual pumping plant, operated by separate engines. The engine seems to be the most popular so far, partly because of the absolute independence of the owner.

It would be impossible to chronicle all the advantages that irrigation is bringing to the southwestern plains. Compact communities is no small item, since it means better schools, churches, mail delivery, social advantages, cooperative marketing, etc. Compact communities are impossible under extensive "dry farming" or stock raising. The irrigated sections of the plains have acquired more citizens and broken more land in the last three years—since the coming of the centrifugal pump—than in the ten years preceding that event. This crop insurance of rain-like water is transforming $10 and $20 land into $100 and $400 land, and the returns will pay big dividends on those valuations. It is seldom that "dry-farmed" maize will yield forty bushels to the acre. In 1912 one plainsman harvested 119 bushels of maize to the acre off of his irrigated farm. Under rainfall alone few portions of the plains make more than three tons of alfalfa to the acre. Irrigation means five and six cuttings of the hay, each averaging from a ton to a ton and one-half per acre. The average price is $15 per ton. Some plains farmers have netted $500 per acre from young bearing orchards, with truck between the rows, under irrigation methods. Celery, strawberries, cantaloupes, tomatoes, Bermuda onions, lettuce, sweet and Irish potatoes, asparagus, parsley, tomatoes, cucumbers, sugar beets and such truck are made possible and profitable under irrigation. One man

Irrigating Alfalfa Direct from Well Flowing 1,200 Gallons Per Minute

netted $250 per acre off irrigated onions, followed by a crop of Mexican beans in the same season. Irrigation makes two crops of many varieties of truck possible where one could not be grown before. In the orchard irrigation means healthy trees and no stunted fruit.

The soil of the plains is from three to six feet deep and of an alluvial nature. It is very rich, having never been leeched of its fertility by floods. However, the big crops of wheat taken off year after year were rapidly sapping its strength. That is the danger of the grain crops—selling the soil with the crop. Irrigation has made possible an infinite variety of crops which may be properly rotated, and thus build up the farm rather than weaken it.

There are few portions of the United States where irrigation would not come in handy at some season of the year. We insure our lives, our homes and even the lives of our stock. Why not insure the life of our crop, or rather, assure it? If irrigation is not a benefit, would irrigated land remain at its present high figure? Now that inventive genius has perfected the internal combustion engine and the centrifugal pump, thus vastly increasing the irrigable area, it behooves every man to see whether or not he can irrigate his land from wells, if he is not on a gravity project.

Former President Roosevelt once said that "even five acres in a good irrigation district are enough to support a family." The pump will keep the "lessening land problem" at bay for many years yet.

Tabernacle Season Soon On in Midwest

By Edgar White

THE "tabernacle season" will soon be on in the middle west. Close to the village is a large, spreading canvas and in it flaring gasoline lights and rustling fans. On the platform of borrowed boards sit the preaching talent, in shirt sleeves, fanning vigorously. Until the weather is good and hot the camp meeting doesn't get up much steam.

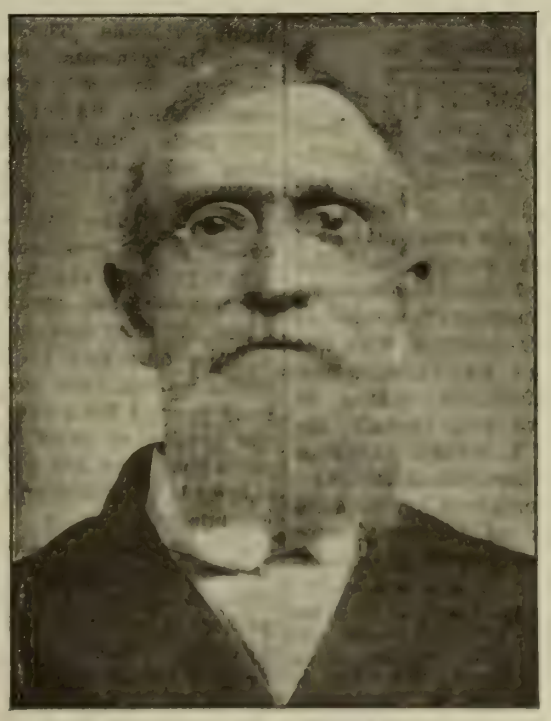
You will search the big outdoor auditorium in vain for an organ or any other musical instrument. These are interdicted and unnecessary. Nor is there a choir loft. A lynx-eyed sheriff, armed with the commonwealth's search warrant, would not find in all that multitude a song book. The singing, like the river of life, is abundant, and circumscribed by no vexing rules. A strong voice is a good voice.

" 'Tis the old-time religion!
'Tis the old-time religion!
'Tis the old-time religion!
And it's good enough for me!"

Not much of a song? Wait till you hear it sung, out in God's great outdoors, by 2,000 lusty voices, men, women and girls. You'll smile at first, but before the song's half over you'll join in involuntarily, whether you can sing or not. You can't help it.

In these primitive services the singing is the main thing. Under its overpowering influence the penitents go forward by the dozens and kneel at the rough boards, where the "preaching brethren" invoke divine forgiveness for sins.

"Old Hundred" took the place of "The Marseillaise," the French war song, with 5,000 Missouri troops in the southern army at the battle of Iuka, Mississippi. All these troops had sung "Old Hundred" many a time at the



Elder J. W. Cook

backwoods camp meetings in their native state, but it had never occurred to them that under its tremendous inspiration a great battle might be won until they sang it under the leadership of Bishop Cavanaugh on the eve of the fight.

"Before Jehovah's awful throne,
Ye Nations, bow with sacred joy—
Know that the Lord is God alone;
He can create and He destroy!"

The large assembly of soldiers followed the hymn as the bishop lined it, in the old-time way, and the song was hardly finished when the booming of cannon was heard in the distance. The "congregation" dismissed itself and went into the action with the grand old song on every lip. At night, on a field paid for heavily with blood, the soldiers kept on singing as they looked after the wounded and buried the dead. I have talked with men who were in that battle, and in many others, but for somber significance, for the knitting of the ties between the soldier and his God that terrible fight at Iuka stands out in their memory above all others.

It's the "old-time" hymns, like the "old-time religion," that inspired men to great deeds. "Nearer, My God, to Thee" was the last words on the lips of those devoted men who went down on the Titanic that the women and children might live.

Off the Pacific coast, in the year 1850, was a sailing vessel bearing home many who had been to the gold fields of California and were returning by way of the Isthmus. On board was one of these oldtime Missouri exhorters and singers, the Rev. John A. Clark, a man who is described as having "a face like that of John C. Calhoun." Brother Clark was a "missionary Baptist," a man of tremendous energy and faith. He was known throughout the Mississippi valley for his powerful rendition of "The Old Ship of Zion." Like most of the old songs, it didn't seem from the reading of it like there was much in it, but when Brother Clark stood up and took hold of it with his powerful voice the congregation went wild with religious fervor. While on the voyage spoken of a terrible tropical storm came on. Crew as well as passengers gave themselves up for

(CONTINUED ON PAGE TWENTY-SIX)

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New Jersey, agitating a law for muzzling cats, is evidently jealous of California, which has one for dehorning mosquitoes.

A fifth edition of "Corn Studies," which was prepared by Prof. F. H. Rankin, superintendent of agricultural extension of the University of Illinois, has just been issued. This pamphlet is admirably adapted to the study of corn in the rural schools of the corn belt.

That silos should be two and a half times as high as they are wide, is the reply of Prof. C. A. Ocock of the department of agricultural engineering of the University of Wisconsin to a recent question as to whether or not it is practical to build a concrete silo ten feet in diameter and fifty feet high.

In a recent spraying and pruning demonstration held by the Ohio College of Agriculture, a minister asked that a demonstration be given on trees in his home orchard. His request was granted and the minister was one of the most earnest spectators, asking scores of questions and showing his desire to familiarize himself with the techincal features of the work being carried on by members of his flock. "I have been preaching to two generations of these people," he remarked, "but have never really appreciated the inner details of their work. I am now believing and acting on the principle that one whose life touches the lives of others at the greatest number of points succeeds as a leader of mankind's activities."

Maintenance of Fertility

There was a time when there were but few believers in the doctrine of soil preservation, or the need of it, in the western prairie states. The western farmer, because he had farmed the same land year after year for twenty or more years, and got fair to good results, became a believer in the old pioneer expression, "This is an inexhaustible soil; it has no bottom; it will last forever." Who has not heard this expression used over and over again?

It is only within the last ten or a dozen years that many farmers and land owners in the Missouri valley country would concede that there is danger of impoverishing the land by excessive cropping without putting back any fertilizing material. The soil-robbing lectures that the farmers' institute course introduced in these states and pounded into their audiences year after year has at last taken hold and the farmer and land owner is now trying to put back what he has been industriously taking out of the soil for years, not realizing that there would be a day of reckoning, and that the restoring of exhausted and run-down soil was much harder and more expensive to bring about than the impoverishing process.

It is safe to say that there is great interest now all over these rich prairie farming states in the matter of soil fertility, in better farming, in the making and saving of manures about the stables and stock lots. The tendency is toward better farming and the improving of the land in soil fertility. When this spirit once becomes the ambition and governing motive of man, the results are soon apparent. It is observed that in neighborhoods where scientific farming methods are applied that it soon spreads to other farms. There is a disposition to keep up with the procession, and it is only necessary to set the example and show the results and accessions are many.

The Hessian Fly

The Hessian fly alarm has been sounded in the counties of northeastern Kansas. Wheat fields are said to be so badly infested with the fly as to render the possibility of a crop a hopeless proposition. The plowing under of these fields seems to be the recommendation offered by the scientists familiar with the Hessian fly and its depredations. The area of infestation cannot be fully determined yet, though the eastern half of the state is under investigation as suspicious territory.

The description given by the Kansas Department of Agriculture as the evidences in detecting this insect is:

At this time of the year the flies are little, brown, oval, flaxseed-shaped objects, a little less than one-eighth of an inch long. When present they can be found lying lengthwise of the wheat stems between the leaf sheath and the stalk at a point just above the crown or the place from which the covering leaves arise. Pull up a bunch of wheat, roots and all, and strip down the leaves of the stalk. When making these examinations short, dead wheat stalks will be noticed. Examination will show that these are worse infested with flies than the others. These are small and dead because they are infested. The flies have passed the winter in this condition. Beginning with the first week in April and continuing through the month, these "flaxseeds" will give up little mosquitoes like flies that will lay their eggs on the blades of the wheat. These eggs will soon hatch and the reddish maggots will make their way down the plants as in the fall, with this difference, that the wheat being older, the points above which they come to rest and feed will be higher on the plant. The more backward the wheat when the spring brood of flies are on the wing, the lower down the plant their maggots will be found. Here they feed, grow and turn white, reach maturity and transform to flaxseed-like bodies about harvest time. This is the brood that causes the crinkling or lopping over of the wheat from one to two weeks before harvesting time.

It is said by some authorities that nothing can be done to prevent the injury in the infested fields. Why would not the close grazing of the wheat field in March and April with sheep be a remedy, as the sheep will nip the wheat plant down close to the surface and would get everything above the stool or crown of the plant? We would recommend the close grazing of the industrious sheep as a remedy. This has a beneficial influence on the wheat, rather than injurious, when carefully managed, not pastured when wet or the ground soft and muddy. Let the wheat get a little start in the spring, then pasture close. The sheep will compact the soil by traveling over the field, and nip close, without pulling out the wheat plants.

Express Companies' Plea

The big express companies appeal for relief, alleging that the government's parcel post reduces their business 25 per cent, and that if the Interstate Commerce Commission's schedules are enforced their revenues will drop $25,000,000.

Several facts must be considered before accepting this plea at its face value. These express companies, which enjoyed monopolistic privileges until the advent of the parcel post, did business on an absurd undercapitalization and declared enormous dividends. Their original combined investments, it has been repeatedly declared, without serious contradiction, did not exceed $1,000,000, their stock deriving its tremendous values from ever-increasing surpluses.

So when the express companies complain of threatened reduction in earnings they are reckoning upon a water-stocked, monopoly-dividend basis. If they had heretofore been earning only fair profits upon fair capitalization, then they would have good ground for protest, but as it is the burden of proof is on them to show that they are entitled to more favorable consideration from the commission.

The disastrous flood which visited Ohio completely inundated the new poultry plant of the Ohio State University's College of Agriculture, Prof. F. S. Jacoby, head of the department, barely escaping with his life. Three thousand eggs being hatched were swept away by the waters and over $500 worth of incubating machinery destroyed.

A good, heavy draft mare that shows promise of being a useful breeder should not be sold off the farm for city teaming. It would be more profitable to breed her and sell the geldings for the city trade.

Problem for the Farmer

The growing of wheat has been regarded by farmers generally over the agricultural and grain-growing sections as one of the profitable features of farm crop operation. The wheat crop has not been looked upon as a soil robber, but, on the contrary, a money yielder and a convenience in crop rotation, affording excellent advantages in re-seeding the land to hay and pasture grasses. The wheat crop has been a kind of cleanser of the soil of noxious weeds and undesirable volunteer vegetation, leaving the land clean and free from objectionable growth.

Now comes Dr. J. H. Worst, president of the North Dakota Agricultural College, and says that the wheat crop is a soil robber; that it is robbing future generations of soil fertility; that it is mining the soil properties at a rate that means certain impoverishment to the land; that every time there is a crop of wheat grown that the land is in reality producing the crop at a real cash loss. In evidence of this assertion, Dr. Worst gives the following illustration:

"One acre producing twenty bushels of wheat mines from the soil forty-four pounds of potash, worth 5 cents a pound, or $2.20; twenty pounds of phosphoric acid, worth 4 cents a pound, or 80 cents, and forty-two pounds of nitrogen, worth 15 cents a pound, or $6.30; a total of $9.30 an acre, or 46½ cents worth of soil fertility for every bushel of wheat raised. The United States Department of Agriculture says that labor and other production cost, interest on investment, cost of marketing, depreciation, etc., amounts to 58 cents per bushel for all wheat raised in the United States. This brings the actual cost of a bushel of wheat, including the commercial value of the constituents removed from the soil, up to $1.04½."

The information disclosed will not, in all probability, have much influence in correcting the mining of the natural resources of the soil, so long as twenty-five to fifty bushels of wheat per acre can be produced at a cost not directly drawn upon the bank account of the farmer. The farmer will no doubt continue to be a liberal borrower on the soil resources of his land and take his chances of being able to pay it back during his use of the land.

The best farmers of the country, east and west, are attempting, through their systems of cropping, cultivation and fertilizing, to not only reinstate the land farmed to its original standard of soil fertility, but to greatly increase its crop producing value. How well this is being done can be determined by results in wheat growing, where in some instances there has been land raised in wheat yield from fifteen to twenty bushels per acre, the yield of a dozen years ago, to as high as sixty-eight bushels per acre in 1912. The Missouri valley wheat farmers will not be discouraged in the tax they are levying on the soil constituents in the production of the present big yields, but will try, under scientific methods, to keep ahead of the game and be on the safe side of the account.

The Stock Dipping Vat

The dipping vat has become a necessary fixture on many farms where hogs and sheep are the stock kept. It is an indispensable feature of improvement on the sheep farm where the tick has a start. There is practically no way of getting rid of the sheep tick except by dipping. Some attempt to treat the infested sheep by feeding sulphur, others by opening the wool on the back and other parts of the body and sprinkling the sulphur on the skin. The sheep raiser of experience, who has ticks to worry with and treat summer and winter, will tell you that any kind of application—sulphur, snuff, etc., is a waste of time and material, likewise administering in feed for sheep to eat the remedy.

The dipping of the animal gets directly at the trouble. Once treated is not sufficient, though it kills every living tick on the sheep. There are always eggs to hatch after the dipping is over, and in a few months your sheep are stocked up again with a new lot of ticks and the work is all to do over again. The sheep should be dipped the second time and possibly a third dipping would be a surer remedy. Most any of the standard dips recommended for ticks will do. The coal gas dips are highly spoken of, also the tobacco dips, etc.

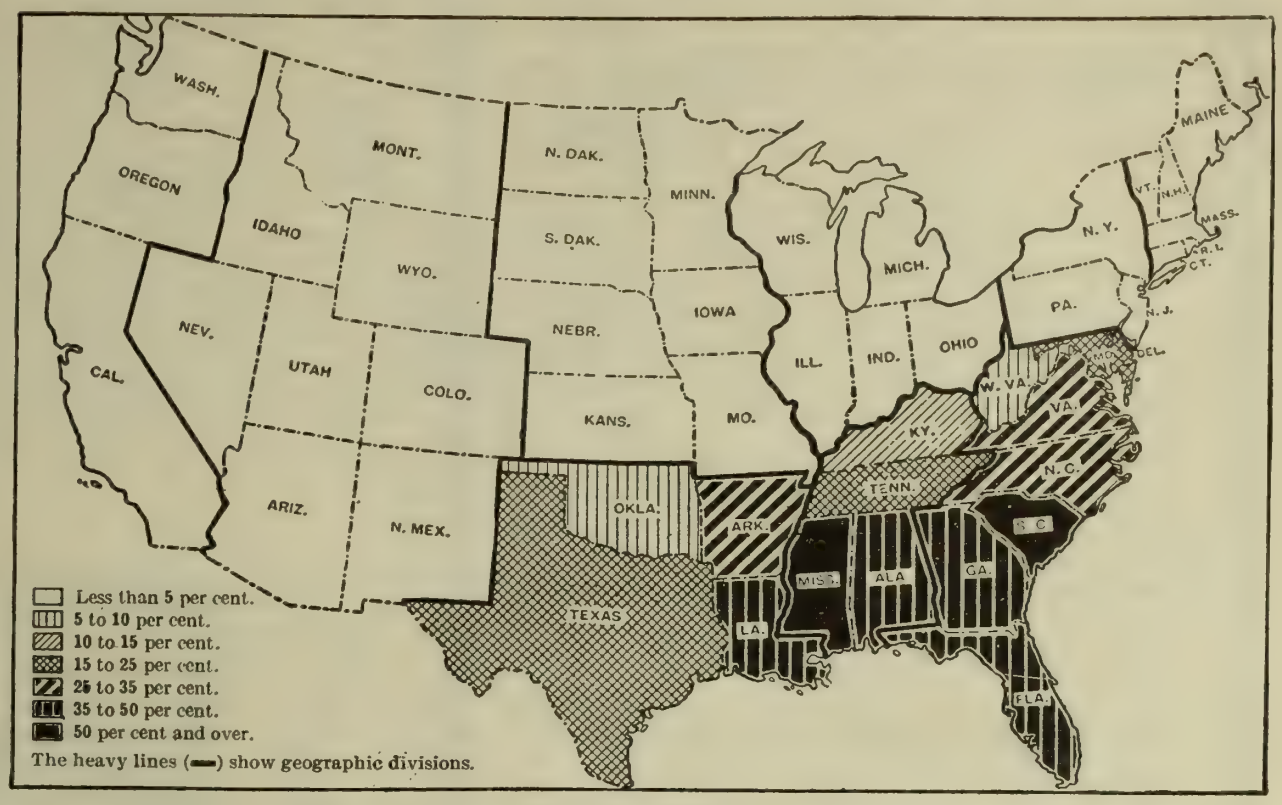
The best time to commence is just as soon as the sheep are shorn. It takes less dip; less waste follows, and a much surer chance of getting rid of the ticks. The ticks commence changing from the mother to the lamb as soon as the ewe is shorn, and as soon as the lamb shows a growth of wool. Where flocks are badly infested this transfer from the ewe to the lamb often ruins a lot of lambs. They are literally covered with these pests, that feed on the blood of the lamb.

As to the hog, there are other means of treating the hog for lice: but there is nothing more effective than the dip, and if the tank and fencing of pens are properly arranged, there is no quicker or more satisfactory way of treating the hogs. The bath improves the skin of the hog; hogs regularly dipped seem to have a nicer growth of hair and a better general appearance. It is not necessary because your hogs are not creeping with lice that you omit the dipping.

The hog vat and its cleansing influences, when the hogs are run through it once a month, is just as important as the bath tub is to the hog owner. Since the hog is restricted to one bath a month through the mild season, spring, summer and autumn, the owner should be accorded the privilege from once a day to once a week through the year. At all events, the sanitary effects are noticeable in all animal life, and the farmer who provides for this and observes system in its practice will profit by his pains.

As long as a beef animal is only fed enough to maintain life there will be no increase in weight, and no profit. Under these conditions a scrub is just as good. But when properly fed and cared for the superiority of the pure-bred becomes at once apparent in quick maturity and flesh production.

Percentage of Negroes in Total Population by States



This map puts fairly before the eye what is generally understood to be fact with reference to the percentage of negroes in the total population by states. It is evident, from this map, how much of the United States may fairly be included in what is known as the black belt. It will be interesting to see what changes occur in the ten years that come between the last census and the next one. This map will be worth preserving for this purpose.

Cattle Prices Still Upward

Last year has been characterized with all kinds of predictions from cattle dealers from all parts of the country as entering a period of higher prices for beef cattle. This soon spread to a belief that the grounds were so broad and well-founded for this prediction that it should include all grades and classes of cattle. The longer the time given the cattle interests of the country to study and investigate the situation of cattle supply, the firmer the belief in a nation-wide cattle shortage, and the more active the speculative and trading interests have become in cattle ownership.

The southern and southwestern cattle country—Texas, New Mexico, Oklahoma and Arizona—the district of large breeding resources, the district that formerly has been the greatest source of supply for the more northern grazing and feeding sections, is the first to appreciate the cattle scarcity of the country. The most astonishing evidence of shortage has developed in the increased prices demanded in this division of the cattle country. This is most pronounced in the rapid advance in the breeding cow prices and the calves and yearlings that have not yet attained to former custom market age. Last fall extravagant prices were offered and paid for calves at weaning time all over the southern and southwest cattle-growing districts; this winter unborn calves for next October delivery were contracted at $25 per head for whole herds, and recently there have been 600-pound coming yearlings, steers and heifers bought at 8 cents — $18 per head—to go into the pasture and later to the feed lot.

This estimation of future values comes from the practical side of the business end of cattle production. It has the additional merit of being the matured, deliberate judgment of experienced cattle handlers, and carrying with it the future delivery of the unborn produce of the herd, a feature of risk, under any ordinary conditions of trade, that the buyer would not indulge in. Cattle prices and beef prices are up to stay for many years, unless some unforeseen condition influencing beef consumption develops not now in sight.

Dog Tax Protects Sheep

Missouri has gone on record in defense of its sheep industry by passing a dog tax law. The proceeds accruing from its enforcement will be held to reimburse sheep owners for the damage sustained by dogs killing or injuring sheep. Where the damage can be traced directly to the owner of the dog he will be held responsible for the loss, in case he is worth it, otherwise the damage is assessed and the claim on proof is paid through the county treasurer out of the dog fund tax.

This kind of a law should be in operation in all states, as the dog nuisance has practically driven farmers out of the sheep business, where the flock owner has no relief, and without evidence to locate the dog owner, he must suffer the loss.

No state can hope to become a sheep and wool-growing state without first providing reasonable security from the dog and wolf nuisance. The risk is too great and no farmer can afford to house, pen up or corral his flock each night in the year, in order to keep his property secure from trespassing dogs that are a curse and damage to property owners.

Governor Dunne of Illinois bears the distinction of being the father of a family so large that it is often mistaken for a mass meeting.

Agricultural Education

Valley township, Scioto county, Ohio, has a first-grade high school at Lucasville. Its course includes a year in agriculture for both boys and girls. A manual training course is provided for the boys and domestic science for the girls. Each of these has a well equipped laboratory.

Recently a striking instance of just how agricultural instruction in our schools helps out on the farm occurred in this school. A member of the board of education started to drill wheat last fall; he sent a sample of his seed wheat to the school. The class in agriculture examined it with glasses and picked out the shriveled grains. They then calculated the per cent of bad grain. That night the owner heard the result of the examination. The next day he increased by one-eighth the amount of wheat he sowed. Now, in April, one can go to the field and tell by the difference in the thickness of stand just where the increased sowing began.

At another time a resident of the district wanted to sell some of his cows. Before determining which ones, he sent a sample of milk from each one to be tested. The school has a Babcock tester. After the per cent of butter-fat in each sample had been determined the owner concluded which cows he could best part with.

Over 5,000,000 farmers receive the weather forecasts daily over the rural telephone, the forecasts being telegraphed by the weather bureau to the central offices and thence distributed free to all patrons of the line, most companies being anxious to furnish this service as an inducement to new subscribers. If a farmer has a telephone and does not receive the daily weather forecasts, he should call up central and find out why.

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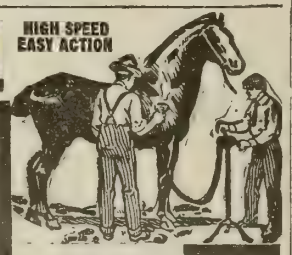

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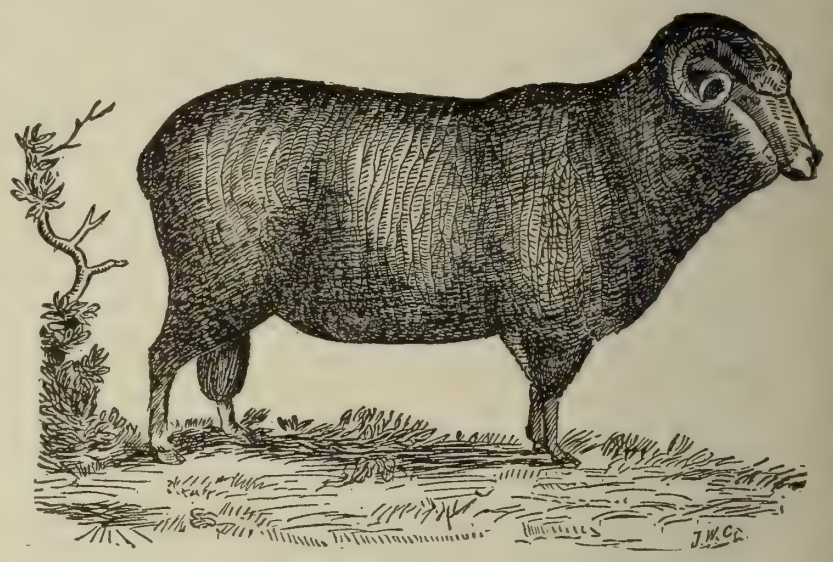
Fine Wool Sheep in America

II---The First Importations

THE first importation of Spanish, or merino, sheep into the United States was by Hon. Seth Adams, then of Dorchester, Mass., and later of Zanesville, O. This was a pair of merino sheep delivered at Dorchester, near Boston, October, 1801. Mr. Adams was in France at this time and knew of the merino sheep being smuggled into France by Napoleon's army for food purposes during the Spanish war with France, and determined to have at least a pair, and, securing these, he had them shipped on the brig Reward, Captain Cooper in charge, and left Dieppe, France, in August, 1801.



Typical Type of Merino Ram of a Century Ago

Mr. Adams made a claim later for a prize of $50 offered by the Massachusetts Agricultural society for the importation of the first pair of merino sheep into the United States, and received it. He also stated that these were imported from Spain by Bonaparte. There was, however, no question as to the purity of blood, nor as to their origin.

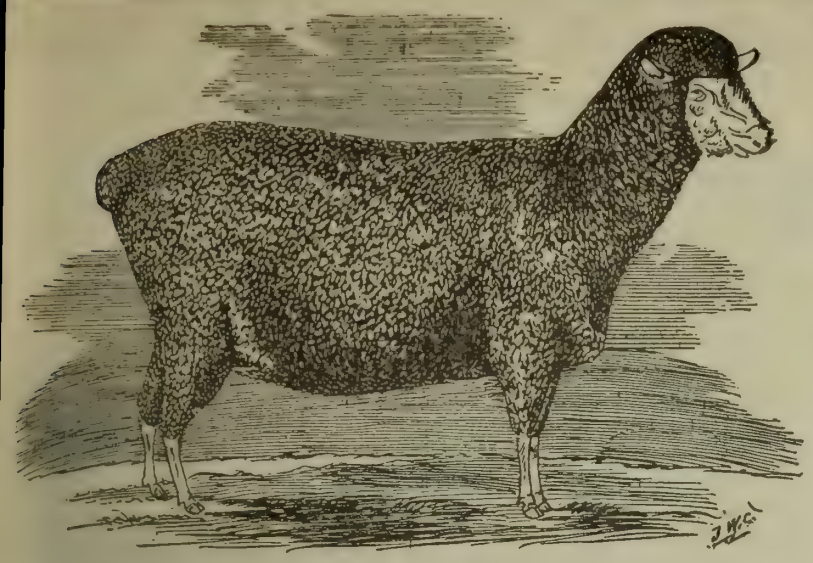
The Agricultural Society of Massachusetts, having offered a premium of $50 for the importation of a pair of sheep of superior breeding, Colonel David Humphreys, who had imported a flock of merinos and sent some of them into Massachusetts, heard of the offer and made application for the society premium of $50. The award was plainly due Seth Adams, but upon investigation of the quality of both lots of sheep and the dates of arrival, the Humphrey importation was awarded a gold medal. Having arrived about six months later than the Adams pair, but being a much larger number, they were recognized liberally as coming under the object of the award. The records of the Massachusetts Agricultural Society show that in 1802 a letter was received from Colonel Humphreys, then minister to the court of Spain, on the merino sheep, extolling their superior wool qualities and recommending the propagation of these sheep in the United States.

The Seth Adams sheep were kept for several years where first located and then, with their increase, about twenty-five or thirty in number, were moved overland to Muskingum county, Ohio, and for a time were located at what was then known as Wakatonica, later known as Adams Mills, and now Dresdon. Mr. Adams' address was known as Zanesville, O. It is clearly evident that the Seth Adams importation never grew to prominence among the sheep breeders of the country and occupies only the position of a circumstance in the early history of the merino sheep of America. His sheep, or the descendants from his flock, form no important feature or part in pure-bred sheep history more than that of their importation, though there is every reason to believe that they were of pure merino blood as purchased in France and imported to the United States. Seth Adams died in 1852, and the evidence of purity of breeding in this flock was practically surrendered at this time, as there was no one left who could trace the pedigree of the flock in its following years.

Colonel David Humphreys' sheep history, with the importation of the Spanish merinos, stands as one of the greatest pillars in the foundation structure of the present-day American merino sheep. Colonel Humphreys commenced his flock in 1802 by importing from Spain seventy ewes and twenty rams, which he placed on his farm at Derby, New Haven county, Conn.

Colonel Humphreys had been minister plenipotentiary at the court of Madrid for five years and was recalled by President Jefferson in 1802. When leaving the court it was the custom to present the member with a number of bars of silver, which was offered to him. This he declined, duly acknowledging the high honor conferred upon him, it being contrary to the regulations of the United States, but later intimated that he would cheerfully accept some merino sheep for the benefit of his country. He was told that this was against the laws of Spain; that no order could be signed to that effect, but no doubt he could obtain some himself and no notice would be taken of it.

Colonel Humphreys said: "I succeeded in getting a person of the most respectable character to deliver to me at Lisbon 100 sheep,



Typical Type of Merino Ewe of a Century Ago

mposed of seventy-five ewes and enty-five rams, pure merinos, om 1 to 2 years old. They were nducted, with proper passports, ross the country of Portugal by ree Spanish shepherds and es- rted by a small guard of Portu- se soldiers. On the 10th day of ril, 1802, they were embarked in e Tagus on board the ship Perse- rance, and after a voyage of fifty ys twenty-one rams and seventy es were landed and taken to my rm in Derby, Conn., they having en transferred at New York on ard a sloop destined to that river. e nine which died were killed in nsequence of bruises received by e violent rolling of the vessel on e banks of New Foundland."

This was practically the first im- rtation of merino sheep of any nsequence into the United States, d the ones which had more to do the establishing of pedigree than others combined, since the sales m the flock which in years fol- ved were mainly made to men o bought in view of purity of od and with the intention of intaining a pure-bred industry. e rams of this importation were sold for grading up common flocks in the state; the ewes soon had a surplus of increase which were sold to start the foundations of other pure-bred flocks; thus the importation of Colonel Humphreys' flock in 1802 soon grew into thousands of merinos that were scattered all over the New England and eastern states.

It was Colonel Humphreys' success in getting a flock of merinos that stimulated Consul William Jarvis to the effort which at a later date, 1808 to 1811, was actively employed in the buying and shipping from Spain such choice sheep as he could get. His first shipment consisted of twelve sheep, which he instructed his agent not to sell for less than $150 per head. They were sold for $15,000—$1,250 per head.

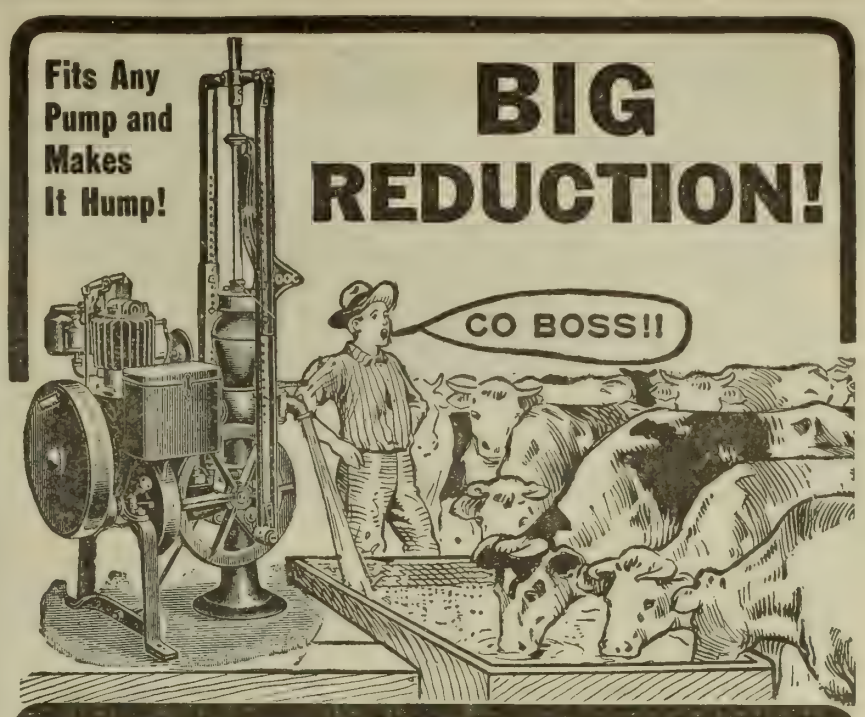
Consul Jarvis is credited as shipping more sheep to the United States from Spain and France than all other persons combined who were engaged in sheep importation prior to 1812. He shipped 1,400 Paulars, 1,700 Aquirres, 200 Escurials, 130 Negretes and 200 Montarcos—in all, 3,630. These were all such sheep that under ordinary conditions could not

(CONTINUED ON PAGE TWENTY-SEVEN)

Small Gas Engine on the Farm

THE time will soon be here when the small gas engine will be found to be a practical necessity on every rm. There is no need of a man's ing by hand what he could do ch more quickly and much more iciently with the aid of an engine. One of the most important and cessary uses of the engine is in mping water. Most farmers de- nd upon the wind for power in mping. But the wind is some- es treacherous and dangerous, as aha learned a few days ago, and is also uncertain, as many a rmer knows to his regret. Those at have used the sailboat know at when the wind dies down the yagers are compelled to supple- ent sails with oars, to raise what e sailor calls "a white ash breeze." any a farmer in the height of the sy season, in the heat of a torrid n, has had to raise "a white ash eeze" to operate his pump at a ne when the water was most eded, and the wind had died out d refused to do the work. These ls in the wind frequently last a week, and the farmer that passes through a week of such experience with a large number of stock to water will naturally have his attention directed toward the little machine that will do his pumping for him, whether the wind chooses to blow or not.

Besides, this little workman will do other light jobs, such as turning the separator or washing machine, or grindstone. Turning the grindstone is a man's work, and the boys generally have to do it. The boys will be glad to see the little workman take their place. It will shell corn, it will run the fanning mill, another job that the boys usually have to do; it will run the feed cutter, it will handle a horse fork, it will saw wood, it will do any number of jobs that have to be done, and it is cheaper to operate and more efficient than brawn and muscle. Here is a chance for any man, by the expenditure of a little money, to let brains take the place of brawn and muscle in human labor. The wise man will accept the opportunity offered.



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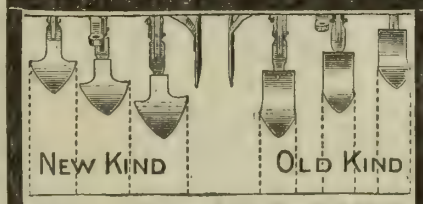

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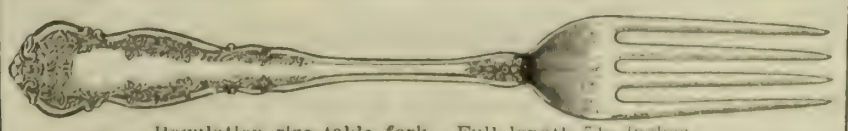

Regulation size table fork. Full length 7⅛ inches.

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Safety at Harvest Time

ALL your work leads up to the harvest. At that point you plan to coin the season's labor. Are you ready for the harvest? Are your machines all in good working order? If there is any doubt, now is the time to look into your machine shed and see.

It is far better to buy a new machine before harvest than after. Get your new machine with the I H C trade-mark and with one of these time-tried names on it—

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Osborne Plano

Any one of these will save delays and insure a speedy harvest without loss of grain.

Now is the time to look over your equipment. If it takes a new machine, order now. Nothing is gained by waiting till the last minute when you cannot expect the service you can command now.

Remember the dealer can give you more time now. The machine you buy now has been made before the rush. You are safer with the machine at home properly set up early than hauling it home after the grain is ready to cut.

If repairs are needed, order them now. If your dealer does not have what you need, he will be able to secure it in time so that you can put it on at your leisure.

Be sure you get I H C repairs and not imitations. The I H C repair part is made the same as the original on your machine except that it is strengthened if found necessary.

Buy your twine early, then you will be safe against a possible shortage. Better have a few balls extra than not enough. You can always use it.

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The best is always the cheapest in binder twine as in machines.

Captain Anson used to say, "It is good playing at critical moments that wins ball games." The harvest is the critical moment of the year for you. Play safe on all points by equipping your farm with I H C harvesting and haying machines and binder twine. Catalogues and full information are yours for the asking.

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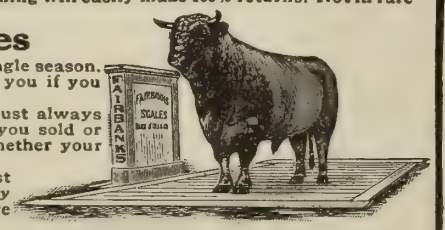

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Stock at Nebraska State Farm

Animals that Are Being Bred for Results

EVERY Nebraska farmer, live stock grower, breeder, dealer, handler or person in any way interested in the live stock business or industry should arrange to at some time make a visit to the State farm at Lincoln.

You will see animals there that for breeding, type and quality will start you to thinking. These animals, while well fleshed and robust, are not overfed or strongly fed—kept in just such breeding condition as you would approve of. They are given the privilege of shed and open feed yard, where they get their rough feed from hay bunks or cribs. They are not stall-fed and pampered, but comfortably provided for.

The Nebraska state farm experiment station is getting down to business in the matter of breeding good horses, cattle, sheep and swine. There has been a revolution there in the last few years in the matter of breeding animals. One will now see some very fine specimens of all breeds of cattle—Shorthorns, Herefords, Angus, Galloways, Holsteins, Guernseys, Ayrshires and Jerseys—and these represent breeding stock that is being bred for results. The cows, the heifers and the calves are there to show what the old cow is capable of transmitting to her progeny. This is a good live stock show of itself. Several breeds of horses, sheep and swine, besides the cattle, are to be found on the farm, and they are not of the common order, but selected to be the best for representative breeding purposes that could be had.

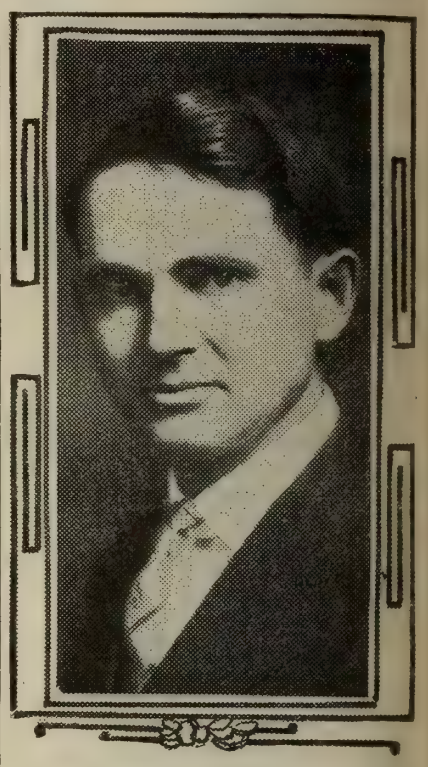
Serve Two Important Uses

These animals serve two very important uses—first, as breeding types for class study, and second, for breeding purposes to demonstrate in actual performance that type and ancestral qualities mean something, from hereditary influences. The agricultural college and experiment station that is handicapped by the use of the ordinary breeding animal might just as well cut this feature of the animal husbandry department entirely out of the course. Wrong impressions formed of breeding requirements are dangerous and damaging to the student; therefore, "the best or none" should be the motto of the agricultural college. The Nebraska college is pretty well supplied at the present time in the various departments with breeding animals. In the beef breeds of cattle there are fifty head of all ages—Shorthorns, Angus, Herefords and Galloways.

Three Breeds of Swine

The swine department is represented by three breeds—Jersey Red, Poland-China and Berkshire—twenty breeding sows of all kinds. These are brood sows of considerable merit and have been carefully selected and carefully handled to produce the best results as breeders. The swine department is well provided with a large hog house, modernly equipped and substantially built in view of giving the best advantages for handling sows through the farrowing season. There are large, roomy yards, or lots, provided with the movable individual farrowing house. It is under contemplation to introduce a herd of Hampshire swine this spring.

The sheep department is fitted up with good, comfortable barns and a very good class of sheep have been provided for instruction in breeding and feeding. The breeding flock consist of sixty to seventy head—Shropshire, Hampshire, Cotswolds



PROF. R. K. BLISS,
Head of the Animal Husbandry Department of the University of Nebraska

and western grades. A very encouraging feature in all this breeding section, in all clases of stock, is the condition and quality of everything kept. This speaks well for the management of this department of the farm, and especially to the one in personal charge and oversight of the feeding and care.

Cattle Feeding Experiments

The cattle feeding and experiment section is always a feature of activity with the agricultural college, whether it accomplishes much or little. There are forty-seven head of past 2-year-old steers now on feed at the Nebraska experiment station. These steers were grown near Wood Lake, Cherry county, Nebraska, and purchased in the South Omaha yards November 1, 1912; they were brought to the farm and put upon a ration of alfalfa hay, a little silage, and corn. The corn part of the ration was gradually increased until December 15, when the cattle were divided into six lots of eight each and put upon the experimental rations.

The object in keeping the cattle off of the experimental rations for such a long period was to get them accustomed to the location, to the stanchions where they are fed, and thus to eliminate as much as possible factors other than feed that might tend to change the result of the experiment. It might also be said

that during the month and a half previous to putting the cattle on experimental rations that the School of Agriculture and College of Agriculture students put in about three weeks of good, hard work in judging these steers.

Prof. Bliss said: "We found this work very helpful to the boys, and we believe that it is of just as much value to them to know something concerning the stock cattle as it is to know something concerning the show cattle."

Steers Used for Student Judging at Nebraska University

On February 15 the cattle were put on the following rations:

Lot 1—Corn, cold-pressed cotton-seed cake and prairie hay.

Lot 2—Corn, cold-pressed cotton-seed cake and corn silage.

Lot 3—Corn, corn silage and prairie hay.

Lot 4—Corn, silage and alfalfa (heavy).

Lot 5—Corn, silage (medium) and alfalfa hay.

Lot 6—Corn and alfalfa.

In adition to this, each steer is fed one pound of straw daily. The object of this is to counteract any tendency toward scouring.

Each Steer Weighed

Each individual steer was weighed three days in succession at the beginning of the test, and the average of the three days taken as the weight of the steer. The steers were reweighed in four weeks and again in another four weeks. At the beginning of the test the steers weighed about 940 pounds. While it is too early to draw any definite conclusions concerning the relative efficiehcy of the rations fed, Prof. Bliss feels that he can say without question that the one ration made up of corn, corn silage and prairie hay is decidedly inferior to those rations which contain protein. The rations which contain protein have made on the average from 140 to 160 pounds of gain per steer in fifty-six days, while the ration that does not contain protein has only made a gain of about 110 pounds.

"Our object," remarked Prof. Bliss, "in putting the ration of corn, corn silage and prairie hay in this test was due to the fact that a number of people think that the feeding of silage removes the necessity of feeding alfalfa or clover, or the purchased protein by-products. Up to date this test shows very clearly that while silage is an excellent feed, it must be supplemented by protein."

In addition to the ration experiments, the cattle have been measured once around the heart, once around the middle and around the flank; also the height and width of chest. The object in this is to find what type has to do with rate of gain.

No Figures at Present

There are not given any definite figures here concerning the actual gains made by the different steers upon the different feeds, because there would be danger of misinforming the public as to the relative value of these rations if such information were sent out at the present time. For example, a heavy silage ration usually does best at the early part of the experiment, whereas a light silage ration is likely to do better at the end of the experiment. Hence, you see the liability of misinforming the people if definite figures are given out at this date.

The object here with the breeding herds of cattle, hogs and sheep is to keep them in just as economical a way as possible and still have them in good shape for the student judging classes. The expense for feed for this stock is very little, if any, in excess of what it is on the average farm. For the most part, during the last winter the breeding cattle, hogs and sheep have received corn, alfalfa and silage for feed, except the hogs, of course, have not been fed silage.

South Dakota Alfalfa Reminders

Alfalfa needs a firm seed bed.

Foxtail is the greatest enemy of alfalfa.

Southern irrigated alfalfa seed is not the best.

Alfalfa can be inoculated if the soil be sterile.

Alfalfa should not be pastured until well established.

Northern-grown alfalfa seed only should be used.

Alfalfa seed should not be shipped in from the south.

Alfalfa will not stand heavy pasturing the first season.

Alfalfa should be planted when conditions are favorable.

Alfalfa does not do well when planted with a nurse crop.

Alfalfa should go into the first winter with a good covering.

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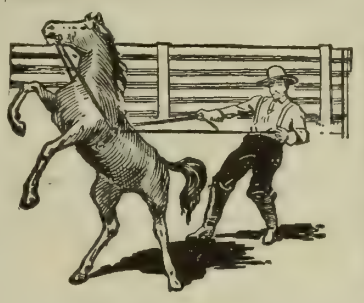

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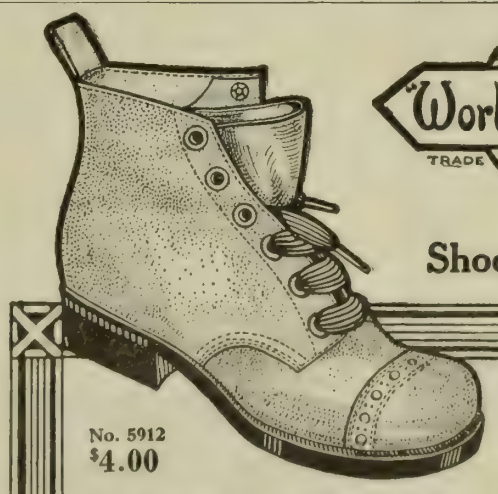

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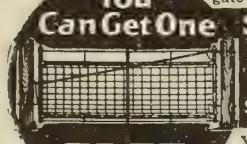

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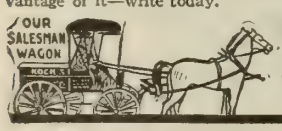

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Railway Building Still Progressing in Mexico

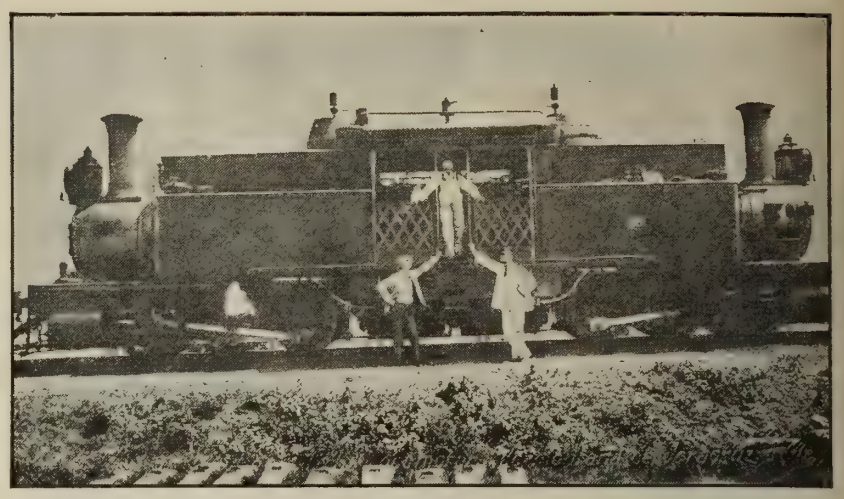
By Frank G. Carpenter

MEXICO CITY—Railway travel in Mexico just now is mighty uncertain, although the railway officials say they expect things to quiet down from now on, and the travel and business conditions to show a steady improvement. For the last few months things have been decidedly bad on the roads from here to the north. The Mexican Central to El Paso was out of commission for more than a year, and the Laredo road has had many hold-ups and bridge burnings. Conditions upon it were especially bad shortly after Madero was killed, and some of the regions through which it passes had many rebels and brigands.

As I came here over that route, some months before the battle at Mexico City, the passengers on my train discussed the possibilities of a tunnel being blown up, and since then some of the bridges have been burned and rebuilt. Hold-ups by bandits and rebels frequently occur between here and Vera Cruz, and, in fact, there are but few regions where travel is positively safe. If there are soldiers on your train, there is liable to be shooting by anti-administration brigands, and your life is in danger. If there are no soldiers, the train may be held up and robbed by the rebels or bandits, and the passengers, without regard to nationality, be forced to hand over their money, watches and jewelry at the point of the revolver. In some such cases the passengers are searched to see if they are giving up all that they have, and in others foreigners are freed after their pocketbooks and money rolls have been handed over. For this reason I am hiding my money. I always carry a number of good yellow bills as a reserve fund for accidents, and these I now keep in my socks while traveling by train. I would say, however, that in several hundred thousand miles of travel all over the world, this is the first time I have done so.

Mexico's New Railroads

Such conditions have practically paralyzed travel throughout a great part of this country. This is so, although much of Mexico, geographically speaking, is quiet, and the freight and passenger business is being carried on almost as regularly as in times of peace. The most of the foreigners have sent their families out of Mexico, but many of them are going about from city to city, and there are still some thousands at the capital.



Siamese Twin Engine Used on Oldest Mexican Railroad

As to the railway officials, they claim that conditions are not half so bad as they have been painted; they are planning new construction work, and as soon as quiet is restored a number of new lines will be built. The National Railways have just completed a final survey of a line from Tampico to Matamoras, a distance greater than from New York to Boston, and they have built something like 800 miles on several branches of their system within the last twelve months. The Southern Pacific company has added considerably to its mileage on the west coast during 1912, and the Mexico Northwestern railway has completed its line from El Paso to Chihuahua.

By Rail to Yucatan

In addition to this, concessions have been asked for a number of lines. Two railway companies have been formed to build roads south of the isthmus of Tehuantepec; one of these is to go from Santa Lucretia, on the Tehuantepec National railway, to the town of Campeche, through the states of Vera Cruz, Tabasco and Campeche, and it will there connect with the United Railways of Yucatan. This road is financed by different capitalists; it is now being surveyed and construction will soon commence. This will form a main line between the rest of the republic and the peninsula of Yucatan, and will enable one to go from the United States to that country by rail. It will open up some of the richest tropical country of the world.

Another important line, financed by the British, but to be built by Americans, has been projected from Acapulca, on the west coast, through the state of Guerrero to Balsas, on the Balsas river, where conection will be made with the National railways. It will open up a semi-tropical region and also large timber and mineral reserves.

In adidtion to this new construction, the old roads are being improved. Notwithstanding the revo-

Some of the Railroad's Competitors

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lution, the National railways have been relaying much of their main line with eighty-five-pound steel rails, and they have improved hundreds of miles of track on that line with rock ballast. They have added to the rolling stock by the addition of many oil-burning locomotives and of new passenger and freight cars. The Mexican railway has during the same time relaid its main track with heavier steel and has turned its engines from coal-burning to oil-burning, while the Southern Pacific has been improving its roadways. This work has, of course, been outside the region of active rebellion.

Mexico's Railway System

Few people appreciate how rapidly Mexico has been moving during recent years along railway lines. In comparison with the character and number of its population, it has been building such lines faster than almost any other country; it has now more than twice as many miles of railroad as either Spain or Italy, it has 2,000 miles more than Austria and an equal amount in advance of the Argentine Republic; it is far ahead of Brazil, and there is not a Spanish-American country on this hemisphere which approaches it in railway construction.

The lines now built are more than 16,000 miles and their cost has been over $500,000,000 in gold. Of these roads 70 per cent were constructed under American auspices, 15 per cent by the English and other foreigners and 15 per cent by the Mexicans.

The general idea is that the government owns or controls all the roads; this is not so. The Mexican railways are now operated by forty independent corporations. The government has the majority of the stock of the National Railways of Mexico only, which have altogether about 8,000 miles, and it operates some other railways, such as the Inter-Oceanic, under long-time leases. The government is improving these lines, and it is now building eight branch lines which aggregate over 1,116 miles. The most important of these is a road from Tampico to Vera Cruz, with a short line connecting with Mexico City.

The government roads are known as the National Railways of Mexico; they consist chiefly of three main lines, which were merged into the one system in 1909. These lines are the old National railway, the old Mexican Central railway and the old Mexican International railway. In adition to this, they include the Vera Cruz and Isthmus railways and the Pan-American railway, which has been built to the Guatemala border. These lines belong to the government in the sense that it owns the majority of the stock. The bonds are held abroad, as is also a little more than 49 per cent of the stock. The bondholders are operating the property and the chief officials are Americans. The net capitalization of the road, including bonds and stock outstanding, is about $135,000 per mile, upon which it had in 1911 a net income of 3 per cent. Preferred stock pays a 4 per cent dividend.

Southern Pacific Railway in Mexico

Outside of the National railways, the most important system in the republic is that of the Southern Pacific company of Mexico; this was projected by Harriman as a connection with our Southern Pacific, and includes a number of lines along the west coast. It has now almost a thousand miles of railroad and has concessions which entail the building of about 500 miles more. This road has been seriously injured during the revolution, but many of the bridges destroyed have been replaced, and improvements will be made as soon as possible and the road completed. The Southern Pacific lines connect the northwestern part of the country with the port of Guaymas, and they are now in operation as far south as Tepic. They will be extended to Guadalajara in connection with a short strip of the National railways, as soon as conditions are settled.

The first railway in Mexico was a line two and one-half miles long, which ran from Mexico City to the Shrine of Guadalupe; this was built in 1854, and three years later the concession was granted for the old Mexican railroad, which ran from Vera Cruz to Mexico City; this was built by English capital under a good concession, and it was completed in 1873, having at that time received something like $12,000,000 in subsidies. The road is about 300 miles long, including its branches, and it cost over $30,000,000, or about $100,000 a mile. When it was begun the Indians objected to its construction, and in order to pacify them the work was begun at both ends and carried on to the meeting point, half way between the coast and the capital. As all the materials came from England, this entailed an enormous expense, it costing as much as $5 to bring a steel rail from Vera Cruz to the capital by wagon.

The road from Vera Cruz was capitalized at $46,000,000, and it has always paid a good profit on the investment. For a long time it had a monopoly, and at the start its freight rates for this haul of less than 300 miles were 10 cents a mile. The road is a marvel of engineering and it has some of the steepest grades upon record. It runs from the lowlands at Vera Cruz right up the mountains, and it has some grades so steep that a Siamese twin engine, with a double-header, has been constructed to mount them.

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Judge for yourself if any tire in the world can offer you greater value.

Note the Result

That's how we give you the uttermost mileage for as little as lesser tires cost.

That's how, at our price, you get tires that can't rim cut—tires 10 per cent over the rated size.

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Little Mischief.

Words & Music
By CLARENCE SINN

Moderato

f *mf*

I'm not so big as some of you, I've not had time to grow, It's not my fault that
Some-times I think that grown up folks was nev-er lit-tle boys, Or else they would-'nt

p

I'm so small, I s'pose they made me so. I like to have a jol-ly time, tho'
scold us kids for mak-ing too much noise. I'm sure my ma-ma nev-er was a

to be good I try; They call me lit-tle mis-chief and I'm sure I don't know why.
lit-tle boy like me; She calls me lit-tle mis-chief, when I does-'nt want to be.

accel - - er - - - ando:

Tempo de Schottische. CHORUS.

I'm such a lit-tle mis-chief, if they tell me true; Al-ways do-ing some-thing which I should-'nt do,

mf

But I have such jol-ly times, if you on-ly knew, I'll bet you wish you were a lit-tle mis-chief too.

SYMPHONY

f

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Description of Patterns

4650—Ladies' House Dress. The dress we illustrate is one of the simplest. It has Gibson tucks at the shoulders in both front and back, and these extend all the way to the belt. The closing is at one side of the waist. The sleeves are the plainest of leg-o'-mutton shape and full length. The pattern 4650 is cut in sizes 32 to 42 inches bust measure. Medium size requires 8 yards of 27-inch material.

5739—Ladies' Empire Dress. This pretty dress closes at the front. It is made with a five-gored skirt and has a removable chemisette. The sleeves may be long or short, as preferred. Serge or linen can be used to make this dress. The pattern 5739 is cut in sizes 32 to 42 inches bust measure. Medium size requires 5⅞ yards of 36-inch material, with 2⅞ yards of braid.

4615—Children's One-Piece Apron. The simplicity of this little apron will appeal to the busy mother, as the garment can be run together in less than an hour. The apron is cut in one piece and fastens at the back by a small strap and at the shoulders with buttons and buttonholes. The pattern 4615 is cut in sizes 4 to 12 years. Medium size requires 1½ yards of 27-inch material.

5174—Ladies' Waist. This waist is made with a side front closing and has tucks at the shoulders; these are short in front and are carried to the waistline in the back. A plain shirt sleeve completes the garment. The finish of the neck may be a plain band, which will allow the wearing of collars of any style preferred. The pattern 5174 is cut in sizes 32 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material.

4616—Simple and easy to make. Boys' styles are very much the same. This little dress pictured above is for the real small boy who has not yet been put into knickerbockers. All boys like pockets, and one is inserted in the left side of the front, which is sure to please the little fellow. Serge or linen can be used to make this dress. The pattern 4616 is cut in sizes 1, 2 and 3 years. Medium size requires 2¼ yards of 27-inch material.

Economy in Little Things

Many think it is penurious to be saving in little things. Never was there a greater mistake. "Many a mickle makes a muckle," the Scotch say, and while some are "penny wise and pound foolish," it does pay to save the little things.

Is it not just as easy to save corn and crumbs spilled on the floor, for the chickens, as to burn them, as I saw a woman do not so long ago? Are your dishes any cleaner to put a whole bar of soap in the dishpan and turn boiling hot water on than they would be to soap the dishcloth, or make the water soapy? And, by the way, do you always rinse the soap off before drying them? Soap is made of all kinds of grease, and no matter if lye is used to purify, the fact remains the same, that soap is made of filthy grease. Flour does just as well made into starch, for common calico and colored clothes, and is not as expensive as laundry starch.

Is it not better to mend a tear in a dress, or garment, directly, than to keep on tearing it, till only fit for the rag bag? "A stitch in time saves nine." If one must build fires with kerosene, which in most cases is unnecessary, it is a saving to have a deep can, with some oil, in which place a few corncobs, or sticks; they will save an explosion, perhaps. Soda thrown into the stove when the chimney is on fire, and there is danger of the roof burning, will form a gas that puts out the fire. Salt is good, also. As a writer has said lately in The Farmer, soda is far more economical than baking powder. It pays us farmers' wives to practice baking with our nice sour milk and soda, and only use baking powder for extra occasions. All parings should be saved for the cows or hens.

There are so many ways of saving in little things, and if we do not notice any immediate difference in our pocketbooks, it surely pays, for "Waste not, want not" is a maxim old but true, and a good housekeeper does not even waste time, but "looketh well to the ways of her household, and eateth not the bread of idleness." MADGE MILLAR.

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Edelweiss, Glide Waltz	Bohemian Girl, Selections
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Irish Melodies	Beautiful Blue Danube, Waltz
Last Hope, *Gottschalk*	Dancing in Barn, *Turner*
Falling Waters, *Truax*	Mocking Bird, Variations
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Of Interest to Our Women Readers

Fifty Years Apart

They sit in the winter gloaming,
And the fire burns bright between;
One has passed seventy summers,
And the other just seventeen.

They rest in a happy silence,
As the shadows deepen fast;
One lives in a coming future,
And one in a long, long past.

Each dreams of a rush of music,
And a question whispered low;
One will hear it this evening,
One heard it long ago.

Each dreams of a loving husband
Whose brave heart is hers alone;
For one the joy is coming,
For one the joy has flown.

Each dreams of a life of gladness
Spent under the sunny skies;
And both the hope and the memory
Shine in the happy eyes.

Who knows which dream is the brightest?
And who knows which is the best?
The sorrow and joy are mingled,
But only the end is rest.

Our Home Chat

"What shall I do with Bess?" anxiously requires a wholesome, busy farm woman. "She seems so lazy, and is irritable and dissatisfied. She is only 16, but wants to get away from the farm."

Our advice in this particular case is to have patience with Bess, and, yes, to humor her a little, but to keep her at home for several years, by all means; then, when her character is formed and she is old enough to have good judgment, let her go if she be still determined, not, however, without being fully informed of the dangers and difficulties that she may very possibly encounter.

This girl wants pretty things and good times; she needs an active interest in life. Let her refurnish the farm home, or a room or two, this spring. Furnish her the means of studying the principles of house furnishing and decoration. Possibly you think you can't afford it, and, anyway, you much prefer the old things that you and John went to housekeeping with. Bess is more important than this consideration. She may make some mistakes, but you can control the amount of outlay by giving her a certain sum with which to work.

Let Bess have some pretty clothes and a chance to attend good concerts and entertainments. Go with her; it will do you a world of good; and let her have company at home. It might be a good idea to have some of her girl friends from town for a house party; their delight at getting out in the country will give her a new viewpoint.

If Bess rebels against washing dishes and feeding chickens (and the writer cherishes a secret sympathy with her in this), let her change off by doing the baking, and teach her to excel in this line. Another thing to take into consideration, she is growing rapidly, and her apparent laziness is, very possibly, from a physical cause. THE EDITOR.

Get Near to Nature

The winter is past. Spring, with its new hope and cheer, is upon us, with its promise of warmth and singing birds and swelling leaf-buds. To the average housekeeper the beauties of nature in the changing seasons are a closed book. Intent upon her monotonous routine of daily tasks, she is like Martha, cumbered with many cares, when, like Mary, she, too, might choose "the better part."

"But the housework must be done, our families must eat, washing and ironing, sweeping, cooking and sewing, all have to be attended to. Martha's part cannot be ignored."

True, but many details in the work may be omitted, giving the housekeeper time for other things. The simple life is clamoring for votaries. Too many "frills" lay their burden upon us. We need to learn how to discriminate, to do the really necessary things and judiciously slight the others. Too many pies, cakes and doughnuts are a curse instead of a blessing; "coffin tacks," a wise physician calls them. "Our worst enemies receive better treatment at our hands than our long-suffering stomachs." Labor-saving devices, convenient arrangement of kitchens, cupboards and shelves do much to lighten the busy mother's work. Simpler clothing for the little ones add to their comfort and save the mother's time and strength.

Resolve to enjoy the sweetness of the coming summer. Breathe its pure air, revel in its sweet, cool mornings, its pattering rains, its flaming sunsets, its langourous noons and its dewy, star-bespangled nights. Watch the growing things —"the miracle of grass and trees." Plant something, if it be no more than a window box of nasturtiums. Get out into the open, unhampered by four walls; go on picnics with the children. Have a screened porch, if possible, where many of the family meals—simple ones—may be served. Take as long walks as your strength permits; go for an outing with a tent and live in primitive simplicity; let sun and wind and warmth and fresh air tan your skin and permeate your being with their beneficent healing influences.

Our summertime is brief,
Swift passes bud and leaf;
Too soon the autumn tints will deck the trees.
Enjoy it while it lasts.
'Twill soon be over—past—
Make much of summer's sweetness ere it flees.

LENA B. ELLINGWOOD.

An enterprising improvement society in Sheridan county, Nebraska, organized for the purpose of improving their community and getting a railroad through that part of the sand hills. Photo by Ida Pisel, Spade, Neb.

A Riding Club

One of the finest clubs for country young people is a riding club. I lived in a community where such a club was organized, a few years ago, and it developed into one of the most wholesome and enjoyable of pastimes. The members joined in couples and were later paired off by matching horses, size and color being considered. An excellent horseman drilled the troop, some of the ideas and suggestions being offered by an old soldier, and one of the club members who had drilled at college. They met once every two weeks for drill, and were soon in great demand to ride on special occasions. The girls did not adopt the rather stiff-looking riding habits, but wore dark riding skirts, white waists and caps.

In the Fourth of July parade they wore broad shoulder sashes of red, white or blue, according to their division, and decorated their horses' bridles with long plumes. They rode four abreast, or eight abreast, and how the horses did step to the music of the band that marched ahead!

At an old soldiers' reunion the Riding club was the leading feature of the day's program. An old soldier on a proud steed and a tiny girl on a little black Shetland led the troop in the parade, and the horses marched splendidly, for they had learned to enjoy the drill as much as their riders. Later in the day the club gave a sham battle on a slope just outside of town, in which all the old soldiers took part as infantrymen. Blank cartridges were used and the battle was so real and the horses drilled so faultlessly, it was by far the best number on the program.

The main part of the drilling consists in teaching your horse instant obedience; train him to travel carefully among crowds and traffic without becoming excited and nervous; teach him to be fearless, yet alert, and, above all, gain his complete confidence by being gentle and sensible in his training. Drilling is an easy matter when the horse understands his master.

As a health promoter, a better club could hardly be suggested, not to mention the experience gained in skillful horsemanship and the benefit of the training to the farm horse.

DAISY CANNON.

Pointed Paragraphs

Beauty either fades or rubs off.

Nature is probably too busy to turn out handsome men.

The man who kicks himself gets back at his best friend.

Discussion of Woman Suffrage

By Harriette H. Nation

THERE is hardly a doubt that we all hear much discussion, and still more of remarks, about woman's suffrage and the suffragettes. In some localities it would seem as though ideas and words were running rank in that direction. We hear much criticism of those who walked through snow and slush, and so on, to Albany. Many say it was all done for notoriety alone. Of course, I would not venture to try the proof of such an assertion. It all reminds me of the poor old lady, a very pious, though somewhat discouraged, church member, who trudged to prayer meeting one night when the weather was inclement, and, finding only a very few other faithfuls there, finally said: "It does seem as though every church has to have its Judas." Yes, so it is likely to prove in every organization. And the same may be said of those on the outside. The rank and file will not be filled with saints, even though consisting of women.

Of course, we expect them to make mistakes and seem unfit for the ballot as yet, because it is all so new and foreign to their style and line of work heretofore, for the most part. Yet, it must really hurt any true sister of good principles to hear so many people speaking lightly of the suffragettes. We used to have a little motto in school as follows: "He is not only idle who does things, but he is idle who might be better employed." Aye, truly, we can find something better to do than casting stones, as it were, at those of our sex.

While it is quite true that women may have prejudices, political and otherwise, the same as men, yet we think they have a longing for something in life which they have never obtained, yet feel rightly to be theirs. Perhaps the woman who has had no deep experiences in her home life, the self-satisfied woman, sees little use in all this demonstration. She can see things from the one viewpoint only. Hence, all the mistakes and peculiarities of the suffragettes become so magnified that she can see no good whatever in it all. Some seem to forget that woman has always been a subject. And, in order to reach toward the ideal life, the yoke of subjection must not be heavy.

Now, the class who are leaders in any movement are generally prompted by some deep trials which have set them to thinking until the thought has become a hobby. Therefore, these suffragettes may seem radical; but we must realize that it always takes a radical to start a reform.

Women have worked and planned and struggled from the dark ages up to the present stage of civilization, and today we see them struggling as never before. Do you ever stop to think what it would mean if they should stop this constant work and be content with the showing they could make with less effort? Imagine the result, if you can. Society, with such a poor showing, would very soon become forms of caste, according to the size of the pocketbook, principally. Our land of the free and home of the brave would soon be a poor excuse. Indeed, women have tried so hard to put the best foot foremost and hide poverty that it is no wonder we are showing a pretentious side. Surely, there is need of a change in the situation. Our independence must be maintained.

Some who went from here to the late inaugural at Washington, with no belief in woman's suffrage for the betterment of conditions, returned firm believers in the cause. Don't think I am trying to vindicate those women who sling mud at the men, and who assume to eradicate the existing evils for a certainty. We know they are far from mastering the servant problem, the child labor problem and many more that rush to our memory. All we can say of those women is that we are sorry to see them so assumptious.

Yet we need not decry the cause for this or any other such reason. We must expect mistakes and hard pulling in the bringing about of this or any reform. As a whole, the suffragettes seem insistent on gaining some grounds for more freedom, some privileges they have longed for, yet never attained; and that is what enthuses conscientious, fair-minded people in their favor. We must bear in mind that this is just their maiden effort, figuratively as well as literally, in this case. We should be both honest and earnest in our treatment of the question.

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TO SAVE MONEY ON EGGS

THE "WATER GLASS" SOLUTION A CHEAP PRESERVATIVE.

By Gathering Fresh Eggs Now, While Prices Are Low, They Can Be Kept a Year and Can't Be Told from the Newly-Laid Product.

OMAHA, Neb., April 19.—Why pay anywhere from thirty to fifty cents a dozen for eggs next winter when, by laying in a supply now, they can be had at from fifteen to twenty cents a dozen, and the slight trouble that is necessary to preserve them? The eggs can be kept by putting them in the "water glass" solution and nobody can tell them from the strictly fresh product.

Eggs stored in the "water glass" solution at the Kansas State Agricultural College last August, when the weather was very warm, were used last month, and none who ate them was able to distinguish between them and fresh eggs.

Now is the Time to Gather Eggs

April, May and June are the best months in which to preserve eggs. Most of the cold storage eggs are gathered in April, but "water glass" eggs can be preserved in any month. It is the best method for the farmer or housewife who desires to keep forty or sixty dozen through the winter. Here is the secret described by F. S. Jacoby of the poultry department at the agricultural college:

The receptacle used should be a stoneware jar. A 10-gallon earthenware jar will hold about thirty-three dozen eggs. Place the eggs in the vessel the day they are gathered. The fresher the egg the better it will keep. Be careful not to crack any of the eggs in placing them in the jar, as they will spoil and cause trouble. Use only clean, unwashed eggs. There is a thin coating on the outside of the egg which aids in sealing the pores of the shell. When the egg is washed this coating is removed.

With one or two dozen eggs as a beginning, the water glass solution may be prepared. Take nine gallons of boiled water and add to it one gallon of water glass. After the mixture is cool it may be poured over the eggs. Use enough liquid to cover the eggs. From day to day more eggs may be added and also a sufficient quantity of the liquid to keep them submerged. The eggs should not float. When the jar is full the liquid should be one-half an inch above the top of the last egg. Place a large plate or a round wooden board over the eggs so as to keep them submerged.

To Be Kept in a Cool Place

The jar should be kept in a cool place, preferably the coolest spot in the cellar. Tie a piece of oilpaper over the top of the jar to prevent evaporation of the liquid. The eggs may be removed as needed, one by one, and should be washed in cold water. It is not advisable to use the same water glass two seasons. Sometimes an egg will become broken and decomposed. If it is not removed within a certain length of time it is likely to cause other eggs to spoil; consequently, it is a good idea to examine the jar every two or three months to see that no eggs have spoiled.

Salt and Lime Unsatisfactory

The practice of preserving eggs in salt is quite common. The one objection to this method is that the contents of the egg evaporate and causes it to lose its flavor. Lime water has been used to some extent, but limed eggs have a flavor which is easily detected and quite objectionable.

Bran, sawdust and various other materials are used for packing eggs, but none is equal to water glass. This solution is so easily prepared and so effective that it commends itself to the farmer who desires to keep his summer eggs for winter use, or the town housewife who wishes to economize on her egg bill.

Buy the sodium silicate from drug store.

One Pound Sodium Silicate to One Gallon of Water.

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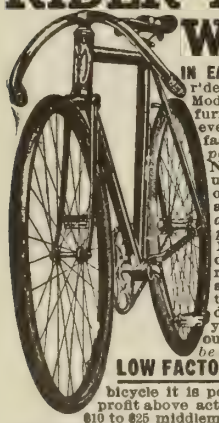

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Stories by Our Young People

In Mischief

Everybody's out today.
Dear! It's lonesome jus' to play
All alone the livelong day!
Guess I'll take a look and see
What dessert we have for tea
In the pantry. Look! Oh, Gee!
Apple, mince an' cherry pies!
Chocolate cake, too! Oh, my eyes!
It won't hurt if I jus' take
One bite o' that chocolate cake.
Um-m-m! It's good! Now for the pie!
Someone's comin'! I must fly!
I'll take one pie, though, from the shelf—
Help comes to him who helps himself.
—Margaret D. Hays.

The Editor's Corner

Few boys and girls are not familiar with Grimm's fairy stories, yet it is probable that not many know much about how these delightful stories were written and how old they are. In fact, it is hard to guess how old they may be, for at first they were legends or traditions handed down from one generation to another by word of mouth.

Just about 100 years ago two brothers named Grimm, living near Cassel, Germany, decided to write out all these old stories, so they would not be forgotten. Accordingly, they talked with the very old people who could remember the stories they had told when children, and they collected all the old writings they could find which had reference to these old stories. From this they studied out what seemed to be the correct form of the stories and wrote them.

The fairy stories as we know them are quite different from those written by the Grimm brothers, having been somewhat changed, but yet they are essentially the same.

THE EDITOR.

Rules for Young Writers

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the side on which you wish it counted.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to The Twentieth Century Farmer, Omaha, Neb.

CAPTAINS.

RED—Walter Stichler, Ord, Neb.

BLUE—Audrey Akerman, Thompsonville, Mich.

(Prize Story.)

A Fairy, A Kitty, A Boy

By Bertha Hayes, Aged 13, Fayetteville, Ark. Blue.

It was one of those balmy nights in spring, when fairies are abroad, and dance on the "green" with light hearts. All fairies have missions; they are not idle folk. Fairies don't wait till holidays to give presents; they have a knack of giving them when most desired and needed, as well as on holidays. Our fairy, Blue Bell, was not dancing on her sister fairies' "green," neither was her heart light. She had started out with gifts for all the children, but now she had given them all away, and a new family had moved in. They, of course, must have gifts. She only needed one gift, for there was just one boy living with his widowed mother, who was very poor. The boy was sick, which made the fairy's heart sadder; she had nothing left but a strip of fairy ribbon, but he was a boy. She might go to Fairyland and get him a gift, but her wings were so tired and it was so far that she could not bring his gift before the next night, and he would feel bad when the other children showed him their gifts the next day. He must have a gift this night, but how was the fairy to get it for him? If she hadn't forgotten her wand! But she had. How had Blue Bell learned of the boy in just this one night? She had heard the children talking about him. But the children certainly didn't see Blue Bell. No, indeed! She was invisible to mortal eyes.

Blue Bell's tears fell the faster as she neared the sick boy's house; she flew nearer the street. What was that she saw walking below? Whatever it was, it had walked up the steps of a deserted house and was sitting there. Blue Bell drew nearer; she saw it close now. It was a very tiny pussy cat, crying in a very tiny voice. In a moment its soft fur was against her cheek, a very big pur-r-r rewarded her caresses. Blue Bell smiled and smiled again. She knew it was Jimmy Todd's, and he had moved a week before and left this purrer here. The fairy smiled brighter and, with its tiny claws working in and out of her flower robe, she flew toward the sick boy's dingy little house. At last she got there and, flying around to his window, looked in.

It was a bare little room with a small cot in the center. The sick boy lay on it, his face pale and thin. In a moment she was by his bed smoothing his fevered brow. He smiled in his sleep. Of what was he dreaming when he felt the cool of Blue Bell's hand?

Laying the soft, purring puss at his side, she flew out. Suddenly the ribbon was remembered. and Blue Bell flew in again to put it on pussy's neck. When again she flew out a rose-pink fairy bow adorned pussy.

Blue Bell smiled as she flew to Fairyland. True, her wings were heavy and tired, but her heart was light and her dreams in her flower bed were sweeter that night.

(Honorable Mention.)

The Wounded Bird

By Helen Charles, Aged 10, Hartford, Ark. Blue.

One morning I was walking down to the brook to get me a cool drink, when I heard a sound that seemed to be very pitiful. I ran to the spot where I thought the cry came from, and there I saw a little baby bird in the bushes. I picked it up and carried it home. I did not go to the brook, for I was anxious to get the bird home. Papa told me the bird had its wing broken from falling, he thought. Papa bandaged the wing and put the bird in the cage, because it was too weak to fly. He left the cage open so the mother bird would come and feed it. I sleep near the window, where I could see the cage. I slept till 5 or 6 o'clock in the morning, when I heard a "Tweet, tweet." I awoke and saw it was the mother bird with some food for her baby.

Every morning the big bird would

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Oceana Roll	Put Y'r Arms Around Me Honey
I Want A Girl	Killarney My Home O'er Sea
Kiss Me My Honey	Come Josephine in Fly'g M'hine
Star of the East	Dreams of Long Ago by Caruso
Railroad Rag	There's Mother Old & Gray, etc.
Baby Rose	Silver Threads Among the Gold
Mysterious Rag	Alexander's Rag Time Band
Daisies Won't Tell	Put on Your Old Gray Bonnet
Steam Boat Bill	When Autumn Leaves are Fall'g
Some of These Days	Meet Me Tonight in Dreamland
You Beautiful Doll	Brass Band Ephraham Jones
Casey Jones	Where River Shannon Flows
College Rag	In All Dreams I Dream of You

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Meditation, by Morrison	Star of Sea, Reverie
Kiss of Spring, Waltz	Loveland, Waltz
Silver Bell, Two-Step	Moon Winks, Three-Step
Napoleon's Last Charge	Maple Leaf, Rag
Red Wing, Two-Step	Beautiful Star of Heaven
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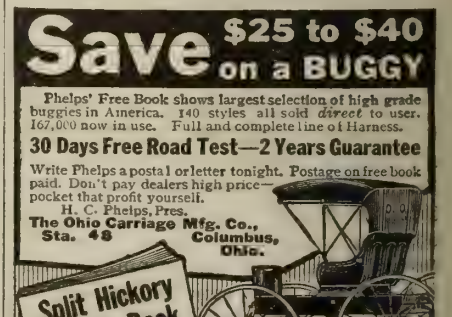

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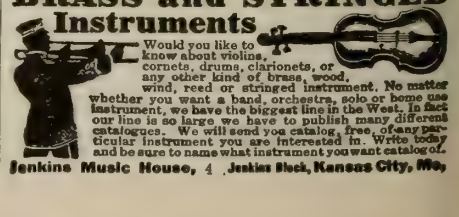

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bring the baby something to eat, and one morning I woke up and the bird had gone with its mother.

Jean

By Nette Read, Aged 12, Reno, Nev.
Original. Blue.

One evening when papa came home he brought a black and white collie puppy. I was very glad and asked mamma if I could hold him. I held him for a little while and then asked mamma what we should name him. She thought for a little while and then she said we would name him Jean. When Jean was large enough to play with us papa said we must teach him some tricks. He soon learned to jump over our hands when we held them out, to speak for his food, to catch bread when it was thrown to him, to shake hands with us and to lie down and roll over. When we got him he was very small. We have only had him about six months, yet he is as large as some full-grown dogs that I have seen. He is not a very good watch dog, but is very playful. When we pick up a rope or stick and run with it he chases us until he gets it.

Additional Stories

BLUE—Marie Arfahl Riceville, Ia.; Vinola Franklin, Gracemont, Okl.; Ella Clayton, Hartford, Ark.; Loriena Harms, Norfolk, Neb.; Bertha Dickinson, Osceola, Neb.; Mamie Duke, Cloyis, N. M.; Ethel Hudson, Wyncote, Wyo.; Vina Hosch, Bangs, Tex.

RED—Archie Arnett, Albert City, Ia.; Ruth Arnett, Albert City, Ia.; Florence Hansen, Weeping Water, Neb.; Bernard Sweeney, Broken Bow, Neb.; Martin Moffitt, Pueblo, Colo.

If Olive had a date with a peach, why would the Dutch roll?

Carl Haller, Los Angeles, Cal.—If Santa Ana and Santa Clara went boating, would San Petro?

Phoebe Griffin, Altamont, Mo.—If a hen cackles, will "Castle Craney Crow?"

Don Webster, Dayton, Wash.—If the rooster had a tooth, would the Orpington pullet?

Photo by Earl Waters, Alba, Ia.

A Cherokee County (Iowa) School Out for a Picnic

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FIRST PRIZE—Orvie Campbell, Hubbard, Neb.: If a bookworm should tell a story, would a silk worm spin a yarn?

SECOND PRIZE—Lena M. Wiese, Calvert, Tex.: The secret of the spring girl's charm is simply she ties her hat with Gauda-lupes and doesn't forget her bows.

Carrie Cordoza, Sebastopol, Cal.—

FRIENDS HELP
St. Paul Park Incident

"After drinking coffee for breakfast I always felt languid and dull, having no ambition to get to my morning duties. Then in about an hour or so a weak, nervous derangement of the heart and stomach would come over me with such force I would frequently have to lie down."

Tea is just as harmful, because it contains caffeine, the same drug found in coffee.

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"Another lady, who had been troubled with chronic dyspepsia for years, found immediate relief on ceasing coffee and using Postum. Still another friend told me that Postum was a Godsend, her heart trouble having been relieved after leaving off coffee and taking on Postum.

"So many such cases came to my notice that I concluded coffee was the cause of my trouble and I quit and took up Postum. I am more than pleased to say that my days of trouble have disappeared. I am well and happy."

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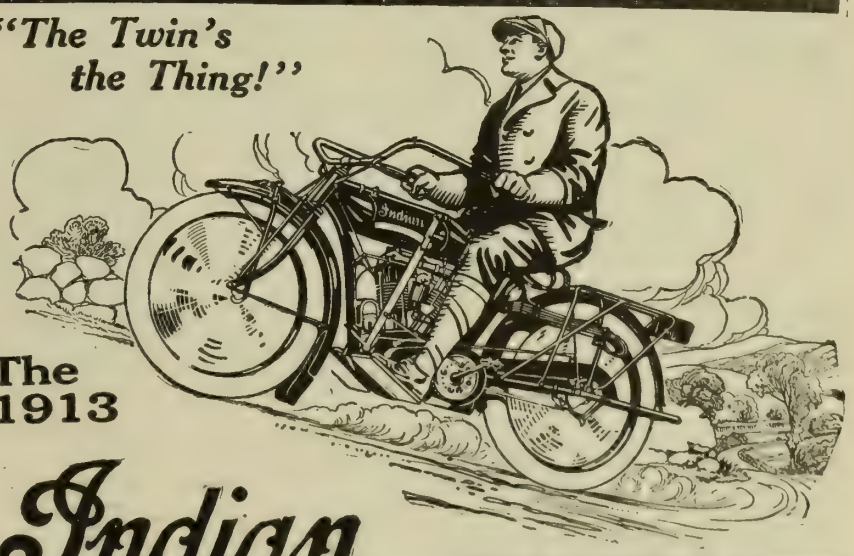

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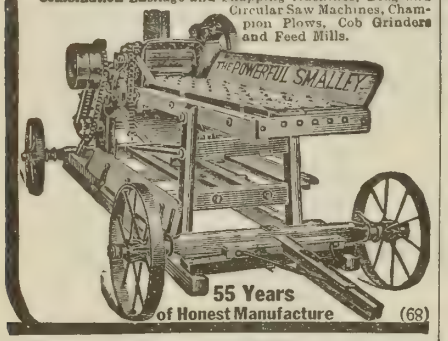
Manufacturers of Ensilage, Alfalfa and Hand Feed Cutters, **Combination** Ensilage and Snapping Machines, Drag and Circular Saw Machines, Champion Plows, Cob **Grinders** and Feed Mills.



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"make good" because they're made good. And they've been getting better every year for 15 years. If you want to be treated right, order a Kalamazoo now. We prepay freight. Get our catalog; it tells the whole story. Address Dept. 16.

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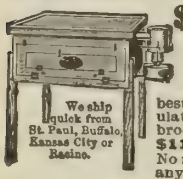

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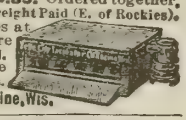
$7.55 Still Buys World's Champion 140-Egg Incubator

Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder, **$4.85.** Ordered together, **$11.50.** Freight Paid (E. of Rockies). No machines at any price are better. Satisfaction guaranteed. Write for book today or send price now and save time. Jim Rohan, Pres.



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Best ROUP Preventive

Try It at Our Expense

We will send you a sample bottle containing enough to satisfy you that B-K is the best preventive and remedy for roup, cholera, gapes, white diarrhoea and other germ diseases.

10 Times as Powerful as Carbolic Acid — **B-K Bacilli-K** — Colorless, Non-Poisonous Germ Destroyer and Disinfectant

Easy to Use Just put a few drops in the drinking water and sprinkle floors, roosts, coops and nests with a dilution of B-K. It solves your poultry disease problem. Does not cause hens to drink less or slack up in laying. Cost is trifling. Write for sample. (33)

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From Land and Water Fowls. Greatest Egg layers. Biggest money-making strains. Prices **Low. Don't Buy An Egg** till you see our Circular, mailed for 2 cents. Write today. **Farmer's Poultry Co. Bx 35 Mankato, Minn.**

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LAND and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive **Poultry Book** for 1913. Write **Henry Pfile, Box 625 Freeport, Ill.**

EGGS FOR HATCHING
From 21 Leading Varieties of Chickens.
AYE BROS., Box 3, Blair, Nebraska.

Facts and Figures in Poultry Keeping to Be Borne in Mind

ARE those new-laid eggs?" asked a grocer of a country customer bringing in a basket of eggs. "What do you call new-laid eggs?" she asked. "Any egg not laid more than four days ago in summer, possibly five, and not over ten days at the longest in winter." Wonder how many know this? ***

The ducklings of the large breeds should be ready for market at 10 weeks of age, and if fed right ought to average five pounds apiece. The chick should be of the broiler weight two weeks after, or at 3 months of age. The Pekin mother duck ought to lay you from 100 to 120 eggs during her laying season. Duck feathers bring lower prices by nearly half in some markets than goose feathers.

***

Custom hatching by the mammoth hatchers is quite likely yet to become general in country neighborhoods. It has proved a success where tried by men or families who, learning how to run the temperature of the small incubators, could make a success of seeing after the mammoth kind. In all neighborhoods, while the majority prefer to hatch their own chicks, yet a goodly number want at least a good spring start with boughten baby chicks.

***

The more you send by parcel post on the short distance routes, the cheaper the weight is made to you. For instance, living out on a rural route, you want to send a dozen eggs into the city from which travels your rural postman. These will cost you about 5 cents, and 1 cent additional for each extra pound—that is, put in two more dozen, and the three dozen will cost you about 7 cents, and if you put in eleven dozen, weighing the limit—eleven pounds—you will pay 15 cents postage. Now, can you do it, making better prices to you and a saving to some customer?

***

There are articles edited for Country Gentleman by editors not to the country-born, or they would know when a writer comes with something certainly so far from truth and common sense in the poultry business that one wonders if the writer really knows a chicken from a goose. Think of an editor allowing an article in his paper that describes a poultry plant, started from twenty-five hens two or three years ago by a woman, that made its owner last year in dressed poultry alone $4,872 clear, besides 2,000 capons annually, some of which weigh as high as fourteen pounds in summer and sell for 40 cents a pound, and weigh as much as eighteen pounds apiece in winter and sell for 45 cents a pound, besides all the baby squab broilers the owner sells when 3 weeks old (?) at $1.25 a pair. Think of it, a 3-week-old chick. Think of feeding cornmeal as a scratching food, and one quart of grain to 100 hens for a meal. And all this mess of stuff given as truth in our most aristocratic agricultural paper. No wonder some people would want to rush into the poultry business after reading of these wonderful results happening from twenty-five hens in the short time named, and just ordinary chickens, Buff Orpingtons, presumably, as now a $250 Buff male heads the gang. So the writer says.

And the 2,000 capons now annually. Isn't that going some for twenty-five hens to start annually from two or three years ago? When did the annually begin? And we'd all like the recipe for bringing all those 3-week-old chicks to a size that would bring us $1.25 for a pair as a squab, and make one-half bite for the nabob who ate them, and also what market pays $2 for a pair of fryers 6 weeks old and 45 cents a pound winter and summer for capons, though we folks here only know of the winter market for capons, and it would hump us to get a last spring's chick of a very large breed up to fourteen and eighteen pounds then, if at all.

The author says the feeding system on this woman's plant is unique. He lists cornmeal in the mixture for scratching food. What poultry keeper ever heard of scattering cornmeal in a litter? And three gallons of oats at a feed to 1,200 fowls? Say, that reporter must have been sadly stuffed by some wag of an attendant on those chickens. It could be no other way. Unique, surely; 100 hens dining on one quart of oats, cornmeal in the litter, chicks big enough to make a meal of at 3 weeks old. Where was that editor at when his gentlemanly reporter, whose knowledge of fowl must have been derived from his boarding house table, filed in with that poultry stuff?

IDA M. SHEPLER.

Cement Floors

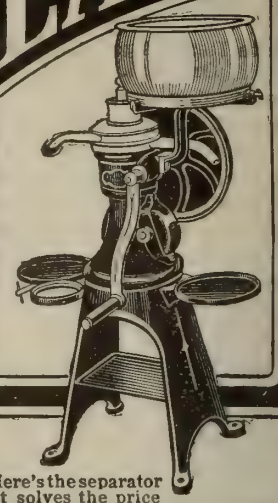
A reader asks the common question, "Which do you think best for my new poultry house, dirt, cement or a board floor? For myself I prefer the cement floor; others of the family do not."

The answer to this question must be this: It does not so much depend upon your preference as the location of your poultry house. If the soil is light, loose and drainage good, the dirt floor is best all around. Also, as the dirt floor must occasionally have its top soil removed and fresh soil put in, preferably sandy or gravelly soil; the handiness or expense of doing this must, too, be taken into consideration.

If the ground is wet and heavy, then plank or cement is best. If a cement floor is not built rat-proof, about and under, then it is a mean floor to put in a poultry house, as rats safely burrow under it, and stay there, too. Better in this case, always, a board floor in preference. The board floor must be raised from off the ground, with no good harboring room for rats.

A cement floor is easily cleaned, but is cold to the feet of the fowls, often producing rheumatism. If cats cannot get under the board floor to clean out rats, which should be the case, at least the board floor can be raised and the rat killer, himself, get at them.

BEATRICE CREAM SEPARATORS



Here's the separator that solves the price problem. Sells for $25 to $40 less than other standard machines. The connecting link between separator efficiency and reasonable price.

Another point: Our patented device cleans the machine *in less than 2 minutes.* Will save you time—will save you money—will save you cream. Skims close and clean. Easy to run—hard to wear out. Second to none.

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Exclusive Patented Features

WALL—Only Silo having double dead air space wall in which tile are curved to fit circle. This makes smooth inside surface, permitting ensilage to settle readily. Tile thoroughly vitrified, of uniform color. Patent grooves insure thin tight mortar joint, with only half the amount of mortar, yet much stronger than ordinary silo joints. **ROOF**—Self-supporting—no forms, rafters or gauges required. All reinforcing and mortar fully protected from weather. Dead air space prevents heat radiation. Our vitrified hollow silo tile are absolutely waterproof and more durable than stone. Any mason can roof your silo with them.

Write today for our book, *"Clay Products for Permanent Farm Buildings."* It's intensely interesting. Sent FREE!

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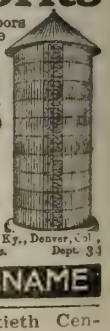

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Cleanliness in the Apartments of Dairy Cows Most Essential

NEXT to our homes, the apartments of the dairy cows should be exemplary of cleanliness and healthfulness. In cleanliness the dairy stable should be as nearly as may be the equal of the housewife's kitchen. Both are laboratories in which human food is prepared. Much of the food prepared in the kitchen is cooked and thereby sterilized, while the food prepared in the dairy stable is consumed largely in an uncooked state and the dirt and filth that has gotten into it from the surroundings remains unsterilized.

Few mothers would boil potatoes for themselves in the stable where the milk for their children is drawn from the cows, yet the potatoes would not be contaminated at all.

In healthfulness the dairy barn should, as nearly as may be, be the equal of our homes, for are not our dairy cows the feeders of many of our babies and all of our children?

In order to secure this high order of cleanliness and healthfulness, the dairy barn must conform to certain general specifications. The floors, stalls, mangers and gutters should be concrete, or of an equally sanitary substance. Concrete may be washed and disinfected, rendering it clean and free from disease-producing organisms. The inside walls should be smooth, that dust and dirt may be eliminated. Galvanized metal linings are desirable in this respect; steel fixtures are most easily kept clean.

The milk room should be separated from the main building by a well ventilated passage. Hay should be put down in a closed feed room, rather than in a passage, that the air may not be laden with dust at feeding time. The stalls should be well lighted, that dirt may be seen and that the sunshine may exert its purifying and disinfecting powers. Six square feet of glass per animal, or one square foot of glass for fifteen square feet of floor space, are usually provided. Ordinarily, the lighting is more efficient from east and west windows than north and south.

Adequate ventilation should be provided for. An air flow of about 35,000 cubic feet per hour per animal should be maintained, that the air of the stable may be pure and healthful. To secure this large flow of air and yet keep the stables reasonably warm is a problem. The King system, with properly designed out-take and in-take flues, is at present the most practical system employed.

In short, the dairy barn should be well ventilated, lighted with an abundance of direct sunshine and constructed on as sanitary lines as may be that our milk supply may be as clean and free from disease germs as possible. E. W. HAMILTON,

Idaho Experiment Station.

Should Tighten Hoops on Stave Silos

Unless owners of stave silos tighten the hoops as the warm spring weather progresses, the silos may be partially or completely ruined.

Loose hoops not only allow the staves to warp, thus making the walls no longer air-tight, but the whole silo may be weakened to such an extent that a high wind will cause it to collapse. A stave silo once down or twisted out of shape can scarcely ever be successfully restored.

Spring Dairygrams

Remember, now, if any of the dairy cows have proved unprofitable during the winter months, failing in their milk production for about one-half the year. Don't let the profuse flow of milk a little later on reconcile you to keeping such milkers another season, but fatten them up and put them on the market at once.

As a general rule, we neglect our bulls too much. Why should we feed and shape up the stallion for the breeding season any more than we do the bull? If we would but give our bull the same care in feeding, watering, currying and brushing that we do the stallion, what a wonderful improvement we might witness in the size, strength, vigor and general vitality of his calf crop over what it has been!

We endeavor to furnish as much of a variety and change of rations at this season as possible. The cows on most farms have been munching dry roughages and grains so long that any change from these monotonous courses will be welcomed by them, and their appreciation will be mutely expressed in an increase of the milk flow. The natural craving of the animals at this season develops for the succulence of grazing, and their rations should satisfy this craving as far as is practical by supplying those rich mill feeds, tender grains and succulent roughage so often missing on the average farm.

M. A. COVERDELL.

The Percheron Stud Book

The fourteenth volume of the "Percheron Stud Book," published by the Percheron Society of America, is now ready for distribution. This volume brings the registrations down to December 13, 1910. This volume contains an alphabetical list of the names of all stallions and mares recorded therein. Thus if you have the name of a stallion, but do not know his number, you can readily find his pedigree by referring to his name in the alphabetical list; from the number there recorded the pedigree can readily be found. All pedigrees in this volume are published in numerical order and with the index mentioned before, it is possible in a moment's time to locate the pedigree of any animal either by number or by name. On pages 481 to 523 is published an exhaustive list of corrections. Rules regulating registrations and transfers are given in the front of the volume. The preface to this volume consists in a comprehensive article giving a general review of Percheron breeding conditions. The price of the book is $3 to members and $5 to non-members. It can be had from Wayne Dinsmore, Secretary of the Percheron Society of America, Union Stock Yards, Chicago.

$65,000,000 would be saved annually by the exclusive use of DE LAVAL CREAM SEPARATORS

It is estimated that a million cow owners in the United States are still skimming their milk by some wasteful "gravity" method.

At an average of four cows to the farm and an average cream loss of $10 per cow per year (it is more often from $15 to $25) all of which could be saved with the use of a De Laval Cream Separator, this alone represents an annual cream loss of $40.000,000.

Then there are, all told, perhaps a half million inferior and old and worn out machines in use whose owners could easily save $5.00 per cow per year by exchanging their "cream wasting" machines for De Lavals, and figuring on an average of six cows per farm, this reperesents another loss of $15,000,000 at least.

Then to this tremendous cream waste through the use of inferior separators must be added the excessive cost for repairs on cheap and inferior machines and the cost of replacing machines which should last from ten to twenty years, but which are ready for the scrap heap in two or three years. There must also be taken into consideration the loss in lower prices received for cream and butter due to inferior quality of cream produced by poor separators, all of which must easily equal at least $10,000,000 more.

This makes a grand total of $65,000,000 which would be saved to the cow owners in this country by the exclusive use of De Laval Cream Separators.

At first sight these figures may seem startling, but any experienced dairyman or creameryman will agree that the cream and other losses without a separator or with an inferior one will average a good deal higher than the above estimates and that these figures are really very conservative.

Any cow owner who is selling cream or making butter and who is not using any cream separator or an inferior machine, is really paying for a De Laval in his cream losses and at the same time depriving himself of the benefit of its use.

De Laval Separators are not only superior to all others in skimming efficiency, but are at the same time cheapest in proportion to actual capacity, while they are so much better made that they last from two to ten times longer.

No cow owner can logically make the excuse that he cannot afford to buy a De Laval, because it will save its cost over "gravity" separation in six months and over any other separator in a year and is sold for either cash or on such liberal terms that it will actually pay for itself while it is being used.

It will surely be to your advantage to join the million and a half satisfied users of De Lavals. A little investigation will prove to you that the truth of the matter is you really cannot afford to sell cream or make butter **WITHOUT** the use of a De Laval Cream Separator.

The nearest De Laval Agent will be glad to demonstrate this to your own satisfaction or you may write to us direct.

The new 72-page De Laval Dairy Hand Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request. If you contemplate a purchase, ask for 1912 De Laval catalog also mailed upon request. Write to nearest office.

The De Laval Separator Co.

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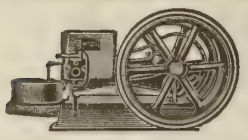
Gasoline Engines



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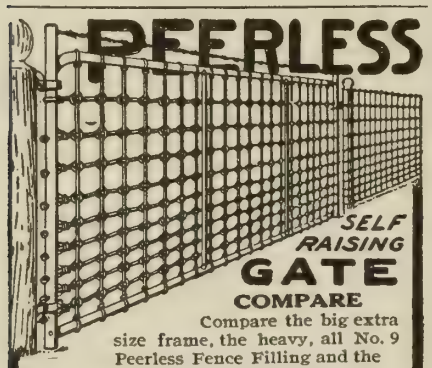

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General Purpose Dairy Barn and Silo

The main barn at the left is utilized for hay and horses; the wing at the right is where the dairy cows are kept. Two special features of this barn are the numerous windows, admitting sufficient light, and the roof projection above the windows. Notice the proper pitch to the roof, making it possible to utilize the most space for hay. At the right end the manure spreader can be left and filled from the carrier and will still be under shelter. The carrier track goes through the two doors and across the end of the barn underneath the roof.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Making Both Ends Meet

Speaking of farm problems, what is the biggest problem confronting every son of the soil? The answer is, "making both ends meet." Just the same old, world-weary concern of getting enough to eat and to wear and a little left over for the "necessary luxuries."

What is the solution of this problem? You can't turn over to the back of the book and read it; you've got to work it out today and keep it up tomorrow and the next day and so on.

The probabilities are there are many answers—as many as there are men and women working on it. No general rule is always universally aplicable, but there are two things which every farmer can think over and work for. When these two items are settled the answer to the problem, "how to make a living," unrolls itself naturally and without effort.

The first thing a farmer should do is to establish a self-supporting home. He should cut down his expenses to the minimum by growing on his farm every item of food that can be produced economically.

The next chapter is to get a specialty of some kind. Only by producing something superior can a farmer hope to reap the reward commensurate with his deserts. The grower of grain and the feeder of market meat meets with the competition of more than a million others doing the same thing in the same old way. Then we all complain because the price of cattle and corn and hogs and wheat do not give us a reasonable profit over the cost of production.

The trouble is not altogether with the iniquitous gamblers who corner the markets and who hand out to us in lordly fashion the deadly market quotation and add insult to injury by saying, "You can take it or leave it; it's mox nix aus mit Louie."

The real trouble is with the world-old law of supply and demand which regulates prices everywhere and all the time, although sometimes the speculators mess things up seemingly by corraling the visible supply.

The only way to beat this game of world-wide competition is to produce something unusual. Get a specialty. A great variety of lines offer themselves to the discriminating disciple of Agricolus. Personal examples count for more than glittering generalties. Here are a few big successes gained by concentrating on special lines of work:

Lovejoy of Ilinois has made a name for himself as a breeder of world-famous Berkshires. He ships hogs to Europe, and if that isn't a success, you try it yourself.

Scribner, Hill and Gillette of Wisconsin, all living near a little village of less than 500 inhabitants, have won fame as breeders of Jerseys, Guernseys and Holsteins, respectively. This is an interesting case of local "competition" along similar lines that do not really compete. Probably it means that each sustained and encouraged the other by example and precept. If you ask any one of these men what breed of dairy cattle is best he will say, "The one you like best."

The Rowes of Illinois—father and son—combine Duroc hogs and seed corn, with good results. They don't feed the hogs on the seed corn, but you can see how it would work out if you know anything about either branch of farming.

The Funks of Illinois have some 27,000 acres, properly rotated, of course, but always with an eye to pedigreed seed corn, on at least 8,000 of these acres.

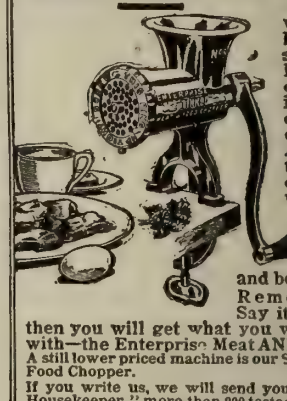
Hale, the peach king of Connecticut, turned his genius for advertising to the building up of a demand for Hale brands. He has made a fortune on land infinitely poorer than most of the fertile soils of the agricultural west.

Russell of Iowa began with Barred Plymouth Rocks in the back yard of a city lot. The last I heard of him he was making a handsome income as an expert poultryman—

Get the Chopper that Really Chops

Making appetizing, wholesome dishes from "left-overs"—particularly meat—is the every-day purpose for which you use a chopper. You can have these bits of meat cleanly chopped or just mangled—it all depends on the chopper you use. The

ENTERPRISE Meat AND Food Chopper



with its four-bladed, sharp steel chopping knife, gives the chopping cut. It is the one real chopper designed to cut meat AND food, it is the great utilizer of foods that would ordinarily be wasted. It means economy in table cost and better living. Remember "AND." Say it to your dealer; then you will get what you will be delighted with—the Enterprise Meat AND Food Chopper. A still lower priced machine is our Standard Enterprise Food Chopper.

If you write us, we will send you "The Enterprising Housekeeper," more than 200 tested recipes and household helps, for 4 cents in stamps.

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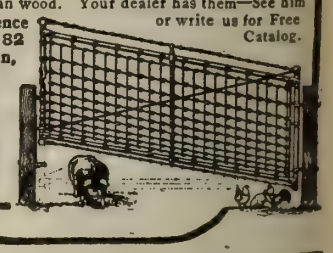

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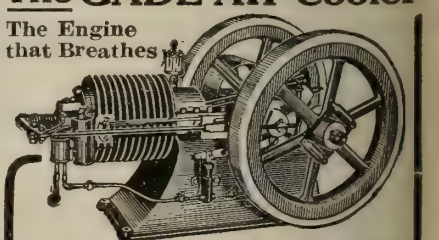

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THE BROWN FENCE & WIRE COMPANY
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vhich suggests the truth applicable n all these cases that "there is nore in the man than in the land."

Hoard of Wisconsin has done a reat deal for dairying and agricul-ure generally. Leaving unwritten here all he has accomplished as ublisher, governor and publicist, he as made easy money—easy enough vhen you know how—by shipping ilt-edged butter all over the United States by express. Probably this usiness has doubled since the oper-tion of our parcel post.

His friend and neighbor, who lives ust around the corner a little ways, nd who, I trust, will pardon me if still call him "Little Pig Jones," as made a national reutation as he producer of prime pig products. He simply tops the market on sis-age and sich, and the fancy prices e gets for this stuff made out of he 'umble 'og is something to make ou sit up and wonder.

I could rattle off names like these or an hour, but this is enough to how what can be done by getting a pecialty and climbing up to the top ith it. H. A. BEREMAN.

Editor's Comment—What do you think f this Montana farmer's advice? The xamples given are of men who have ade a success because they have aken into account the fact that the elling of what they produce is as im-ortant as production. Let us hear from thers on this subject.

s He Correct in His Conclusion?

Many forces, such as the govern-ent, railroads, colleges, the press, o-called philanthropists and differ-nt organizations, are aiming at the merican farmer great effort and rge expenditure of money for the urpose of educating him, enlighten-ng him and enthusing him into a eing with very much greater capa-ity and greater desire to produce ore crops.

The farmer is appealed to by these orces, as his friends working with hilanthropic motives, to do some-hing good for the farmer, and if he farmer fails to respond by ex-cuting the things he is told to do, hen all the epithets of learning are urned on him, and the farmer is randed as the most stupid and un-rogressive being of all.

Granting that the farmer needs rofits that he may better his chools, homes, roads, and slacken is physical effort in the interest of ental development; what I want to now is, are these forces, whose sole urpose is to increase the produc-on of crops, really a benefit to the rmer?

From Secretary of Agriculture Vilson's report for 1910 I take the ollowing in relation to the big corn rop:

A crop that exceeds that of even the reat agricultural year 1906, greater han the average crop of the preceding ve years by 14 per cent, while the alue of this crop is below that of 1909 nd also of 1908.

Again, from the secretary's report or 1908:

While the value of all cereals dropped bout $40,000,000 below the totals for 05, and about $12,000,000 below 1904, the umber of bushels for 1906 were 120,000,-0 above the yield for 1905 and 570,-0 above the yield of 1904.

The year 1912, the banner of all orn years in the corn belt, about 600,000,000 above 1911, but re-turning the farmer gross $64,000,-000 less than the 1911 crop.

The wheat crop for the year 1912 is 109,000,000 above 1911, but re-turns gross to the farmer $1,750,000 less. The potato crop for the year 1912 was 138,000,000 bushels above the 1911 crop, but returns gross to the farmer $21,000,000 less than the 1911 crop.

In short, the bumper crop of 1912 reduced the price to the farmer 22 per cent below the year 1911. Meat is high because it is scarce. The 50 per cent that goes to the middle man might be shaved a little.

I have been speaking of gross re-turns. A business man will quickly see that the farmer is burdened with all the expense of handling the extra tonnage.

I might go on indefinitely with such figures, but any farmer knows from his own experience that other things being normal and equal he is to take very much less for his crop during years of great production, and I feel sure that most years he sells his crop below the cost of pro-duction if he will count his labor and interest and depreciation on his investment.

Colorado. JOHN GRATTON.

Seed Corn Testing Experience

V. N., Monroe, Neb.: I have read quite a bit about testing seed corn and I thought I would write my experience. On the 31st of March I put in fifty-seven kernels of corn. The manner of testing was by tak-ing sawdust and putting it in an old wash basin. Three days later I looked and corn was sprouting vig-orously. The weather was quite changeable, but I kept it in the sun-shine as much as possible. The week following I examined the corn and there were fifty-five vigorous ker-nels and two had sprouted, but were weak, so I did not count them. I figured that it averaged 98 per cent. I picked this corn last fall in corn husking time. I hung it on wires to dry in the driveway of a crib.

Seed corn, I think, will be very good this year. Corn was very ma-tured before frost. Last spring was a bad time to get good seed, but most farmers in this neighborhood had a good stand. There was quite a bit of old corn planted.

This country is getting to be a good place for the farmer who has plenty of money to start on, if he wants to buy land. Land is getting to be worth from $75 to $100 per acre.

Wheat is looking fine. There is a good stand in most places and it is growing rapidly.

"I Want A Small Light Tractor — One I Can Operate Alone"

That's what a prospective customer in Iowa wrote us the other day. Continuing, he said: "I just noticed from your ad in one of the farm papers that you are putting a small tractor on the market, and am anxious to get your catalog describ-ing same. I have several catalogs of small tractors, but most of the concerns who are making them are new at the business and many of them are building only experiments."

This shrewd farmer is evidently familiar with Hart-Parr Quality and Service. Chances are he'll invest in a Hart-Parr "27"—the small, light trac-tor designed for 160 to 320 acres. It meets medium power needs.

With the Hart-Parr "Self-Lift" Plow (see illustration), it's a strictly One-Man Outfit. Plow is operated by a rope on the clutch lever. You run the entire outfit from the engine platform. Tractor is nearly all steel, strong but light. "Self-Lift" weighs one-third less than any other. Outfit will not sink and mire in soft soil.

Plow has independent self-lift and hand-lift attachments. Strongly con-structed, with large clearance, light draft, no gears to clog or break. Special spring beam coupler enables bottoms to readily pass over or skid around obstructions and immediately return to line of draft.

Tractor takes the place of 12 sturdy horses, uses cheapest fuels at all loads and is oil cooled. You can use it for all kinds of work re-quiring power, from breaking sod to grinding feed.

Write for Special circulars describing both outfits.

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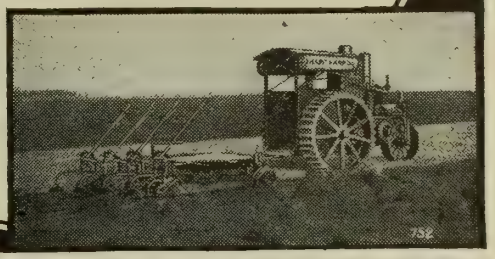

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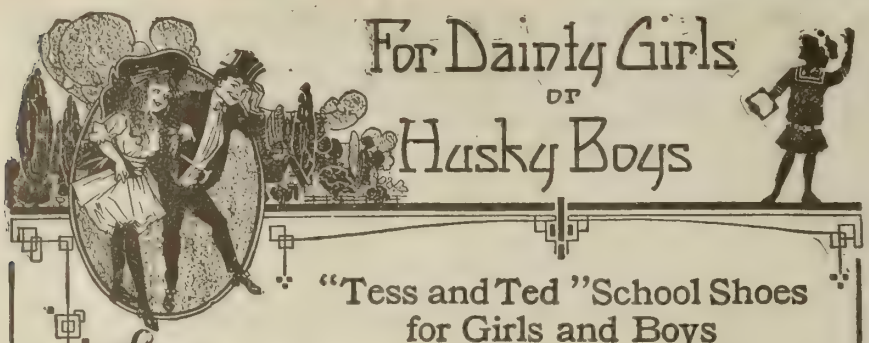

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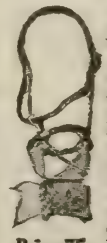

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Mention The Twentieth Century Farmer.

Tabernacle Season Soon on in Midwest

(CONTINUED FROM PAGE SEVEN.)

lost. The sails of the vessel were swept away, the mainmast dismantled and the seething ocean seemed to reach out for its victims. At this critical juncture the old exhorter threw an arm around the forward mast and began to sing with such energy that his voice was heard above the roar of the wind and the waves—

"Oh, what ship is this that will take us all home?
Oh, Glory, Hallelujah!
'Tis the old ship of Zion,
Hallelujah!
'Tis the old ship of Zion,
Hallelujah!"

The seamen and frightened voyagers gathered about, clinging to rails and spars, and joined in the song. It calmed the terrible tumult, drove fear away, and the peace of an abiding faith took its place. The ship rode safely out of the storm and every passenger was landed at his destination unharmed. But on reaching port the sailors refused to let Brother Clark go until he climbed up on a pile of merchandise and sang for them the old song once more. It is said that for years afterward the sailors in the Pacific coast trade sang "The Old Ship of Zion" as the song of the sea.

The votaries of the "old-time religion" were sometimes severe in their demands for an absolute and complete renunciation of every semblance of worldly vanity. There was a big camp meeting going on near Macon, Mo., one August. Fully twenty-five penitents were kneeling at the mourners' bench. Men and women, dressed in plain cotton and homespun, worked and prayed among the ones stricken with sin. A beautiful girl, with hair like threads of gold streaming down her back, arose and cried:

"Sweet Jesus, forgive; forgive!"

Then she knelt again and her form shook with sobs. A tall, thin woman, with a white face and half-closed eyes, stood up on the mourners' bench and chanted:

"The judgment day is coming!
The judgment day is coming!
The judgment day is coming!
Prepare to meet thy God!"

The tones were shrill, severe, uncompromising, like a denunciation on lost souls. The golden-haired girl shrieked and covered her face with her hands. The chanting sister went mercilessly on—

"Shall the record be found wanting,
Shall the record be found wanting,
Shall the record be found wanting,
Prepare to meet thy God!"

Several penitents arose, shouting for joy. They had come safely "across." The golden-haired girl swooned. A man edged through the crowd and asked one of the workers what the trouble was. The brother pointed to the breast of the girl, who was being fanned by the chanting sisterhood.

"There is something she won't give up," the brother said.

It was a small gold locket, representing "the world and its vanities."

Elder J. Wade Cook, who carried the torch of the "old-time religion" into the "wilderness" for fifty years, set down in a little book which he published at the close of life some curious statistics. He had preached to settlers in Missouri, Iowa, Arkansas, Texas and Kansas half a century, and his yearly income from all his pastoral duties combined—preaching, weddings and funerals—did not exceed $20, even when you listed yarn socks and mitts and garden truck given him at full cash value. The old circuit rider made this record to lay at his Master's feet: Sermons preached, 5,784; miles traveled, horseback and on foot, 35,840; weddings performed, 780; miles traveled to officiate, 15,600; funerals preached, 936; miles traveled, 18,720; total number of miles, 71,160.

The old elder scorned to use notes in the pulpit. On this point he says in his book:

Dear Reader: I want to say a few words in regard to these sermons, which number far into the thousands. Listen! Not one of them was written before it was delivered. I believed in a call to the ministry, and went to God for knewledge. The sermons were scattering sometimes; the grammar may have been bad; tautology may have been too much in evidence; but the Lord, who sees into the heart, blessed 'em just the same. I fired 'em off as He dictated, and He attended to the targets."

One of the main points of difference between the "old-time religion" and the more up-to-date system was as to future punishment. As to their conviction on an eternal lake of fire and brimstone for the lost the old preachers were uncompromising. It was in the Bible, they said, and they interpreted it literally. Many of the boys and girls who attended the long services were not much impressed by stories of the better world, because in the period of youth this land was very satisfactory to them, but when the exhorter roiled up his sleeves and described hell as he believed in his honest soul it existed he had 'em going. It was an awful place under the inspired eloquence of the early-day apostle, and few of the boys and girls who heard him tell of it ever outgrew their terror of the dreadful region descibed.

But if the horrors of hell were real, so were the glories of heaven, and the loving kindness of a merciful and all-seeing God.

In these latter days invention has followed invention so closely, and so many new and wonderful ideas and systems are springing up on every hand that one sometimes becomes bewildered in trying to keep up with it all and deciding which is best, but when the shadows of life slant down from the mountains and the curtain is dropping slowly and softly the soul reaches out, without question, without hesitation or doubt, to the old-time religion, the religion of the fathers and the mothers who have gone before.

Setting Him Right

"Papa, what is a revolution?"

"Why, a boy of your age ought to know what a revolution is."

"If mamma would assume all the authority of the household, would that be a revolution?"

"No, but if I should do it, it would be."

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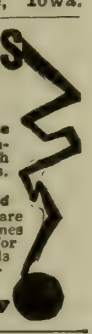

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Licensed Coaster Brake Manufacturers

Fine Wool Sheep

(CONTINUED FROM PAGE ELEVEN)

have been brought from Spain. The unorganized and distracted conditions brought about by the invasion of the French armies caused the release of the flocks, and, to an extent, the abandonment of the industry. The distribution of these importations were 100 to Wiscasset and Portland, 1,100 to Boston and Newburyport, 1,500 to New York, 350 to Baltimore, 100 to Alexandria and 200 to Norfolk and Richmond.

In the investigation for sheep history, which the various merino sheep breeders' associations of the United States conducted thirty years ago, in view of establishing the reliability of the various importations, at the outstart of creating a system of registry for the pure-bred merino sheep in the United States, there were found many persons to have been engaged in the importation of merinos from 1809 to 1812 and later.

The establishing of a system of pedigree or history of the merino had to be worked down to reliable ancestry, and this seemed to call for a basis of Spanish origin. The accrediting of the ancestry to the established pure-bred flocks of Spain seemed equally important, as there was every reason to believe that sheep of doubtful breeding came to the United States after the importation of merinos became a business or traffic of dealers. The reliability of sheep as pure-breds, whose ancestors were accredited to some of the cabanas of Spain that were recognized as pure in their native country, and under their strict rules of breeding and management, seemed a matter of vital importance to the pedigree builders of the American merino.

The tracing of an unbroken line of ancestry back to importation of 1802 to 1812 seemed to be the general basis of requirement with most merino registering associations. This system of basis seemed to center the reliability mainly about the importations of Colonel Humphreys and Consul William Jarvis as unquestionably reliable, and when the evidence of flock history presented these facts there was good grounds for registry.

There were, however, hundreds of flocks that had no documentary evidence, in way of certificate of sale and purchase, but was obliged to rely on hearsay evidence, in a measure, that they descended from stock purchased from certain prominent and reputable flocks and had never been bred out of these blood lines, etc. These flocks, with abundance of quality in the individuals to substantiate good blood and skillful breeding, were unfortunate in evidence and were shut out of the registers owing to lack of documentary proof to verify the owner's statements. Here is where the strife between the breeders of the various families of the merino sheep of the United States found it necessary to establish registers to fit the conditions that would conform to their varied situations as to proof of purity of blood and breeding—thus the numerous merino registers that have been organized, as though there were a score or more distinct breeds of the merino sheep in America.

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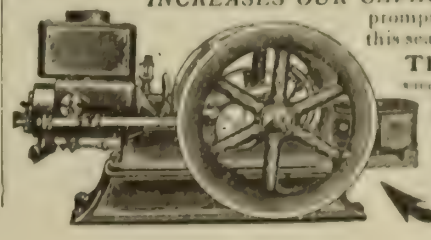

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It will pay you to investigate. Catalog Free.

Waterloo Gasoline Engine Co.,
185 W. 3rd Ave., Waterloo, Iowa.

Review of Live Stock Market

By A. C. Davenport

WEATHER conditions, especially during the last few days, have been very unfavorable for the moving of live stock. Heavy rains have prevailed throughout the greater part of the west, making country roads next to impassable and keeping both stock and shippers at home. In spite of that fact receipts of cattle during last week were quite liberal. This was especially the case earlier in the week before the rains had very much influence. During the later part of the week receipts were very much lighter.

Under the inufluence of liberal receipts early in the week the market at most points showed more or less decline. Later on, as receipts became lighter, prices jumped up and lost ground was recovered so that taking the markets of the country as a whole it may be said that market values underwent comparatively little change last week.

Prices on all kinds of cattle continue very satisfactory to the selling interests and it is a frequent subject of comment at market centers that cattlemen in spite of the fact that they paid such high prices for their feeders last fall are still making as good prifits as usual. In many cases profits have been really larger than the average for recent years. This has naturally created a very good feeling among the selling interests and operators at market points are already predicting a big scramble for feeding cattle next fall. All indications point to a small supply of feeders and unless the prevailing sentiment in the country changes very much there will be strong competition for everything available.

While the cattle market during recent weeks has shown very little change, the feeling both in the country and at packing points is very strong. It must be borne in mind that prices have for weeks back been so high that further advances are not necessary to prove the strength of the market. For this reason no one is predicting any great advance for the future and still everyone feels that the market will continue strong and that cornfed cattle from now on until the close of the season will command high prices.

Receipts are running very moderate, the five big markets for the year to date showing a decrease of 35,000 head as compared with a year ago. This is not large enough to be of very much importance when taken by itself, but when taken in connection with the consideration that last year was a year of short supplies it takes on more importance. There is nothing in sight at the present time to occasion any doubt as to the future of the market or to lead any one to doubt previous predictions in these columns to the effect that cattle are bound to continue selling high for a long time to come.

In this connection it might be well to add a word of caution. Prices being as high as they are, packers are very ready to take advantage of a few days of large receipts to pound the market down. The country can easily prevent these breaks from becoming serious by reducing shipments for a short time.

Hogs, it will be remembered, suffered some little reverse a week ago, but that decline has been recovered and at present writing the market is right at the high point of the season. In fact top prices were made at some points last week that were the highest of any figures made since last October.

Hogs continue to occupy a very strong position. Since the first of the year the five large markets show a decrease of almost 1,000,000 head as compared with last year. Eleven markets show a decrease of almost 1,250,000 as compared with the corresponding period last year. Figures like these certainly need no additional comment, as they tell their own story of a countrywide shortage in hog supplies.

General conditions governing the sheep trade have not shown any marked changes since a week ago. The consuming demand has been very satisfactory and has afforded a broad outlet for the product. Prices have fluctuated to some extent owing to receipts having been quite liberal, but in the main the market has been satisfactory from a selling standpoint. It is more than likely that receipts will continue quite liberal for some little time to come and operators on the market are not anticipating any material advance unless receipts prove somewhat lighter There is, however, a growing feeling among the market contingent that sooner or later sheep and lambs are bound to reach a considerably higher plane. In other words, quite a good many sheepmen are predicting $10.00 lambs before the close of the cornfed season. Whether they will realize their expectations or not remains to be seen.

Live Stock Notes

T. W. Cabett of Phillips, Neb., reports 120 spring pigs, coming along all right, sired by Big Cloverdale 63537 and Black Expansion 64227. Mr. Cabett is one of the old-time Poland-China breeders and has a herd that takes front rank among the best in the west. He breeds a type of hogs that are big enough, have plenty of bone and quality and possessing strong feeding qualities. He is a constructive breeder and knows his business and you are always sure to find some mighty good ones sticking around when you call on him.

J. C. Meese of Ord, Neb., breeder of Poland-Chinas, reports sixty-five spring pigs sired by Big Gun and Orphan Wonder 1st. These boars are of Expansion, Hadley, Wonder and Orphan Boy breeding. His sows have averaged nine pigs to the litter and it is "dollars to doughnuts" that he will have something to make the boys sit up and take notice about state fair time.

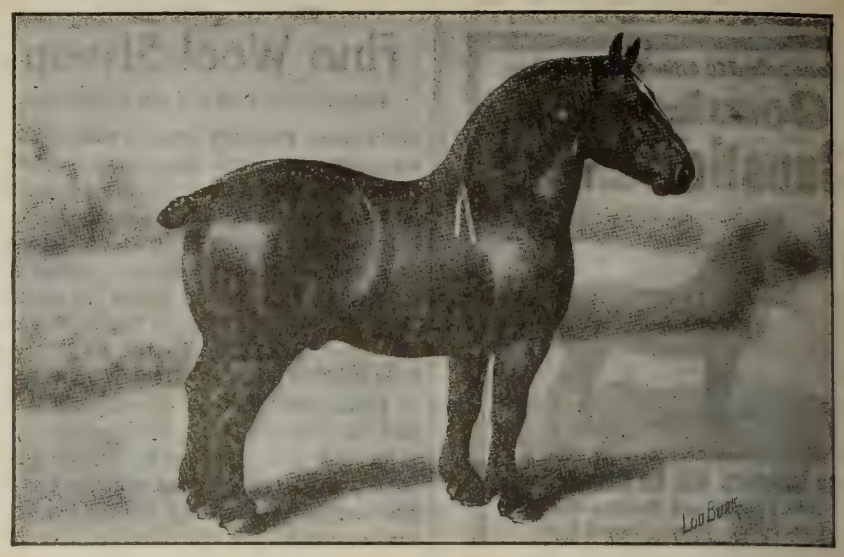
J. T. R. Nash & Son of Minden, Neb., have recently purchased another herd boar to place at the head of their herd. He is 2 years old, measures seventy-three inches in length, seventy-two inches in heart, flank measures seventy-three inches and weighs 750 pounds. He is a big, smooth fellow, with lots of quality, and stands on a ten-inch bone. He was sired by Baird's Expansion and he is out of the dam Model Gem, a first-prize sow at Lincoln, sired by Big Columbus. This boar will no doubt prove to be a valuable acquisition to their herd. Messrs. Nash & Son have eighty spring pigs to date, sired mostly by Gold Metal 61749 and Long Jumbo 64245 You can count on finding something mighty good here later on in the season, so you better keep the herd in mind.

William Bartlett, breeder of O. I. C. hogs at Pierce, Neb., reports seventy-five spring pigs to date and sixteen sows yet to farrow. These pigs are sired by Iowa Chief No. 130 in the O. I. C. and Crackerjack, No. 2420, O. I. C. Mr. Bartlett has one of the largest O. I. C. hogs in Nebraska and enjoys a trade that is, indeed, pleasing. If you are interested in this great breed of hogs, better keep his herd in mind.

Our old friend A. R. Barnes of Petersburg, Neb., informs us that he has 100 head of spring pigs this season sired by Belle's Crimson Wonder, B. & L.'s Wonder, Colonel Chief and others. Mr. Barnes reports the number of March pigs lost in his community as very large, this being due to the changeable weather during that time. In regard to his own herd, his pigs are coming along very nicely at this time and with favorable conditions he will be in a position to offer his cuseomers something as good, or better, than he ever has in the past. He has one of the strongest Crimson Wonder-Colonel bred herds in the country and the quality of hogs he has been producing is ample evidence of the fact that he has been following along the right line. Just remember his herd and write him if you want anything in his line.

Henry Stuthman of Pilger, Neb., has 118 spring pigs sired by Colonel Tippy, Melina's Wonder, B. & G.'s Wonder, Crimson Wonder Select and others. The sows have averaged ten pigs to the litter and he has had very good success in saving them. At this time he has a number of very choice fall boars that he is offering for sale at prices that should prove attractive to anyone wanting something in this line. Their breeding is of the very best, and you can rest assured Mr. Stuthman will give you a fair description of what they are if you will write him, mentioning this paper.

Sixty-two spring pigs is the report of George W. Schultz at Yutan, Neb., breeder of Duroc-Jerseys. His pigs are sired by Essex Colonel, King Cleatham and Model Select. Mr. Schultz says his pigs are certainly doing fine and that he has the strongest demand for bred gilts that he has ever had. He says: "I have now shipped sows to satisfied customers in seven states, all on mail orders, and mostly through The Twentieth Century Farmer. This proves that it not only pays to raise good hogs, but that it also pays to use the proper advertising medium when you want to dispose of them.



The above is an illustration of the type of Percheron stallion offered for sale by Rhea Bros. of Arlington, Neb. They have a splendid lot of big, heavy, drafty fellows and are pricing them well worth the money. You can make no mistake in writing them if you are in the market for a stallion.

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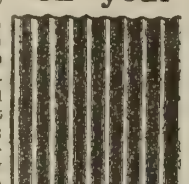

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St. Tammany Parish is only 22 miles from New Orleans, a city of nearly 400,000, and the second largest seaport of the United States and within 24 hours of the great Central Markets.
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Terms easy and prices reasonable—Write for further information.

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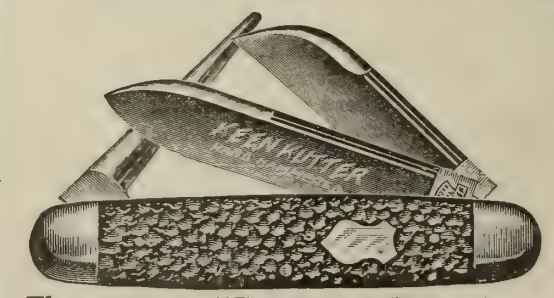
Do You Know the Value of a KEEN KUTTER Pocketknife?



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The regular selling price of this knife is $1.50. Ask any dealer; he will tell you the same.

This particular knife is designed for the special use of farmers, stockmen and sportsmen, on account of the Leather Belt Punch Blade for making various-sized holes in leather for buckles, rivets, belt lacing, etc.

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It's not an easy task to dip sheep, and when it is done you want the satisfaction of knowing that the labor wasn't all wasted. You can have this satisfaction only by getting the best.

DR. HESS DIP
And Disinfectant

cannot be improved. It has the Dr. Hess & Clark quality. Every ingredient is analyzed or standardized to absolutely guarantee uniformity. It is non-poisonous, non-irritating, kills ticks and at the same time heals the skin. It meets the U. S. Government's requirements as an official dip for sheep scab. Put it in the hog wallow to kill hog lice, and sprinkle it everywhere to kill germs of disease and clean up the premises. For the kitchen sink and drains it purifies and deodorizes. Get the best and remember it is guaranteed. One gallon makes from 50 to 100 gallons of solution.

Write for Dip Circular.

DR. HESS & CLARK,
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Don't be the Last Man in Your County

o adopt a labor-saving device of demonstrated efficiency. It's the pioneer in such things who makes the extra profit. It was so with the self-binder; with the first gasoline engine: and when mechanical skimming was first introduced. Now comes the

AUTOMATIC
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Engine and separator combined. You'll admit the idea is a corker. No cranking—no watching. Don't guess at whether it will make good. Get the facts. Write us at once. Write to men in your own county who are using it. We'll give you the names. For plain facts which every dairyman should know, get our AUTOMATIC Catalog 17.

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SOW WEIGHED 932 LBS. AT 23 MONTHS OLD
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I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." **C. S. BENJAMIN** RFD79 Portland, Mich.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

Live Stock Notes

Horace Wolvin, proprietor of Cyclone herd of Durocs at Utica, Neb., has seventy-five head of spring pigs at this time sired mostly by his herd boar, Cyclone. Mr. Wolvin reports an average of eight pigs to the litter and everything coming along in fine form.

A. J. Lovely of Roscoe, Ill., reports 162 little Berkshires sired by Concrete Masterpiece, Berwood's Rival Premier, Rival's Majesty, Handsome Baron 3d and Rival's Supreme. He keeps his herd immune by the simultaneous treatment and reports everything doing fine.

C. W. Buck, proprietor of Cloverdale stock farm at DeWitt, Neb., reports eighty little red fellows as his quota of spring pigs. These are sired mostly by Tom Davis and I Challenge You. Mr. Buck thinks the outlook especially bright and says the demand for bred sows has been something fierce, with the supply exhausted.

C. Lionberger of Humboldt, Neb., breeder of Poland-Chinas, is using at the head of his herd two splendid big type boars. One of these is Equal Stamp, by Long King's Equal, and the other is King Cicero, by King Mastiff. He has eighty-five head of spring pigs sired by these boars that are coming along in good shape.

Valley King, Invincible Chief and W. Taft are the sires represented in F. Bostrom's spring pigs at Madison, Mr. Bostrom is not raising as many this year as usual, but will make up in quality what he lacks in quantity. He has been a careful buyer of the good ones and the blood lines represented in his herd are of the very best.

W. G. Unitt of Seward, Neb., the old-time Duroc-Jersey breeder, will have a nice line-up on spring pigs sired by his herd boar Colonel Wonder 1st. This boar is a strongly bred Colonel-Crimson Wonder hog. Mr. Unitt has one of the best arranged stock farms in the west and is amply prepared to give his pigs the very best possible chance. Keep his herd in mind for future reference.

Anton Roesler of Wilcox, Neb., has one of the extra good herds of Poland-Chinas in west central Nebraska. He says he has the best bunch of brood sows at this time that he has ever owned in the twenty years he has been in the breeding business. His crop of pigs this year will not be large, but they are extra good. They are sired by Blue Valley Wonder, Bellmetal 2d, Pan Over and Young Sampson.

King Mastodon Again 198151 is the sire of most of the spring pigs in the herd of John S. Johnson of Newman Grove, Neb. He has nearly 100 head of spring pigs and they are out of sows sired mostly by Stanton Hadley 165769, a Hadley bred boar. They have averaged nine to the litter and are just coming along in tip-top shape. If you are looking for the long, big-boned kind with quality, keep this herd in mind.

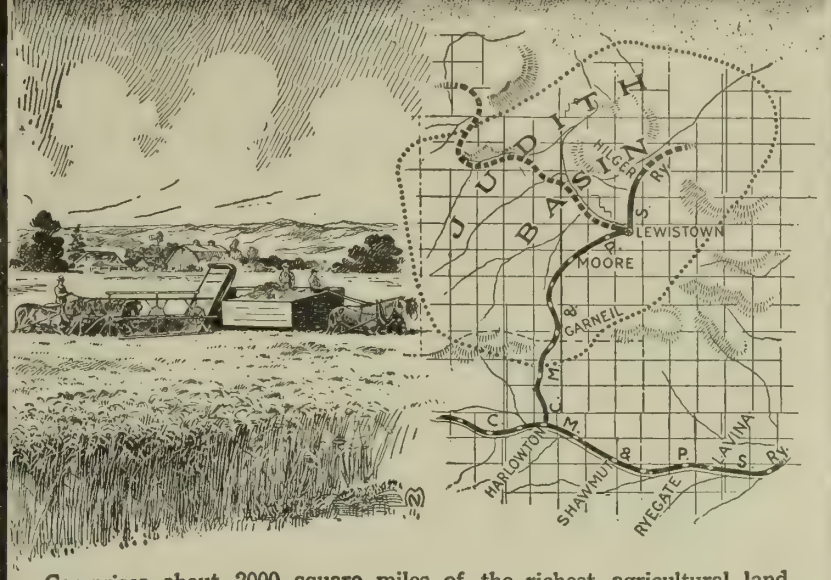
Jumho the Great and Big King are the sires of most of the eighty spring pigs in the herd of Orville O. Jones at York, Neb. Mr. Jones is breeding a big, smooth type of Poland-Chinas that meets the popular demand, and if all goes well he will have something above the ordinary to show this year. They ought to be big enough, for they represent a combination of the blood lines of Nodl's Jumbo, Long King, Big price, Expansion and others.

Dr. H. Pritchard of Florence, Neb., is crowding the century mark in point of number of spring pigs. The herd boars at the head of his herd and the sires of most of his spring pigs are D's Defender and P's Matchless. D's Defender is by Defender and out of a Mann bred sow, and P's Matchless is by Matchless Expansion and out of a Miller's Tecumseh dam. Dr. Pritchard has always been a strong champion of the big type Poland-Chinas and has one of the top herds in the state.

George W. Schwab, proprietor of Pleasant View Breeding Farm, Clay Center, Neb., writes us that his pigs are coming along in good shape and prospects were never brighter. They are sired by Buddy K 4th Wide Awake, W. L. A's Perfection, Gold Bond and Cremo. Mr. Schwab reports his sales as being especially good; in fact, demand and prices are stronger than they have been for some time. Mr. Schwab also breeds draft horses and Red Polled cattle, and says that he is having a good demand and making sales at satisfactory prices.

J. T. Armstrong & Son, breeders of Duroc-Jerseys at Clarks, Neb., report everything coming along in fairly good shape at their place. They suffered some loss with the small pigs during the month of March due to the inclemency of the weather, but at the present time everything is in ship-shape. These pigs represent a variety of blood lines being sired by some of the very best boars in the central west, as well as those sired by their own herd boar, Model Again by Golden Model, and B & L's Perfection by B & L's Wonder. Messrs. Armstrong & Son have one of the very best herds in Nebraska and can be counted on as having a mighty strong line-up later on in the season, unless something unforeseen happens.

The JUDITH BASIN
Central Montana



Comprises about 2000 square miles of the richest agricultural land in Montana, surrounded almost entirely by a rim of mountains — is famous for its immense yields of wheat and won the prize cup at the recent New York Land Show for the best wheat grown in the United States.

Ample rainfall — fertile soil — long hours of sunlight during growing season makes this district unusually adapted for the production of all grains.

Wheat yields per acre 30 to 50 bushels, oats 60 to 90 bushels, rye 25 to 35 bushels, flax 12 to 20 bushels, potatoes 150 to 400 bushels.

The richest sections of the Judith Basin are traversed by the new transcontinental line — the

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New lines now under construction, from Lewistown to Grass Range, Lewistown to Winifred and Roy, Lewistown to Great Falls, Chouteau and Agawam will open up a new, wonderfully productive territory.

Low round trip homeseekers' fares are in effect on the first and third Tuesdays of every month. Special low one way settlers' fares in effect every Tuesday until April 29.

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FAIRVIEW FARM
Percherons, Belgians, Shires, Mammoth Jacks and Jennets

SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets —in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA

JACKS, STALLIONS AND MARES.

I have as fine a lot of Imported and American bred Percheron and Belgian stallions and mares as can be found anywhere. Prices lower than other importers on account of selling a large number of jacks as well as stallions and mares. I want to sell 100 jacks and stallions within next 30 days. Special bargains during that time. Come and see me before buying. **W. L. DeCLOW, Cedar Rapids, Iowa.**

PERCHERONS

6 home-grown 2-YEAR OLD STALLIONS. Making 1900 to 2100 lb. horses, the BIG TYPE. Richest dapple and steel grays and blacks. In attractive flesh. April 10th I have these besides yearlings and twos and want to sell them.

Fred Chandler, R 7, Chariton, Iowa.

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The Greatest Dairy Breed.
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SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers..... } Just being bred to a son of a 24-pound dam
50 1½-year old heifers..... }
100 2 to 2½-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912
100 2½ to 3-year-old heifers..... }
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FIRESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyo for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Big Chance for You In a New Country

I have known homestead land in the West jump to hundreds of dollars an acre in a few years. I know where the same thing is likely to happen again. It's along the new Gulf-to-Sound line that the Burlington Railroad is running through the Big Horn Basin in Wyoming, connecting this rich valley with the money-making markets of Cheyenne, Denver and Omaha.

You get a Government irrigated homestead there now at only a small cost for the water right and have 12 years to pay for it—no interest is charged. Or you can get a 320 acre free homestead with nothing to pay but the Government filing fee.

The best thing to do is to go out there on one of our cheap excursions and see what kind of land this is and just what the conditions are. Folks who have already settled there are doing well with all kinds of crops, and as soon as the country is opened up to good markets, why—well it don't take a wise man to guess Write me a postal telling whether you are interested in an irrigated or unirrigated homestead and I'll answer at once, sending you maps, booklets, etc., telling you when and how to go out there and learn the actual facts, and how little it costs. Better write me today while this chance is still open. I am paid by the railroad to assist you in making a selection.

D. Clem Deaver, Immigration Agent, C. B. & Q. R. R., Room 350, Q Bldg., Omaha, Neb.

ALBERTA

The Price of Beef is High and so is the Price of Cattle.

160 ACRE FARMS IN WESTERN CANADA FREE

For years the Province of ALBERTA, (Western Canada), was the Big Ranching Country. Many of these ranches today are immense grain fields, and the cattle have given place to the cultivation of wheat, oats, barley and flax, the change has made many thousands of Americans, settled on these plains, wealthy, but has increased the price of live stock.

There is splendid opportunity now to get a **FREE HOMESTEAD OF 160 ACRES** (and another as a pre-emption) in the newer districts and produce either cattle or grain. The crops are always good, the climate is excellent, schools and churches are convenient and markets splendid in Manitoba, Saskatchewan or Alberta.

Send at once for literature, the latest information, railway rates, etc., to

W. V. Bennett
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or write Superintendent of Immigration, Ottawa, Canada.

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Orchardists are making
Fortunes in Fruit
in the famous Santa Clara Valley.
Farms, dairies, vineyards, orchards, stock and chicken ranches, large and small. *Write today for literature and list of places*
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FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento, **CALIFORNIA**

Free land information

You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

Land Information Bureau
Twentieth Century Farmer
Omaha, Nebraska.
Over 100,000 farm families read it.

Investment

A Mississippi Investment

U. S. WATSON, a prominent planter of Lexington, Miss, and subscriber to The Twentieth Century Farmer, relates his experience in cotton growing by what a colored family did with twenty-five acres of his land during 1912. His investment was as follows:

25 acres of land at $50	$1,250.00
One horse	140.00
Plow tools, gear, etc	15.00
Cotton seed and seed corn	12.50
For planting (there was one acre corn)	33.00
One-half cost of ginning	14.50
RESULT.	
22 bales cotton at $75	$1,650.00
11 tons cotton seed at $25	275.00
50 bushels corn at 65c	1,957.50

This amount was divided equally between the tenant and myself, giving $978.75 to each.

When one can invest $1,450 and get back the foregoing amount, it must be rated an investment that's worth while. This is the result of good land and management, but not so good but what any good farmer can duplicate it there. Mr. Watson has no trouble in getting tenants; in fact, it may be said there is a waiting list to select from.

Government Sells Timber in Idaho

The Department of Agriculture has begun advertising two large tracts of timber which aggregate 750,000,000 feet on the Payette river within the Boise and Payette national forests, Idaho. The district forester at Ogden, Utah, will receive bids up to and including June 1, 1913, and for an additional month if intending purchasers wish more time to examine the timber before deciding on their bids.

While the bids received through competition will determine the rate at which the timber will be sold, the department, as the result of a careful study, has placed a minimum price which will be considered on the timber, according to species and situation. These prices range from $2.50 per 1,000 feet for western yellow pine in the most accessible places down to $1 for the least valuable and least accessible timber. The initial rates will be subject to readjustment in 1918 and in 1922. By such readjustment the stumpage price may be modified twice at four-year intervals during the twelve years which will be allowed for the removal of the timber.

The department officials point out that in sales of such a large quantity of timber it is necessary to allow a long-term contract, because of the magnitude of operation and investment. The fact that many large sales have been made with readjustment clauses indicates, it is held, that timber operators find the method business-like and practicable.

The timber to be cut lies on the watersheds of the south and middle forks of the Payette, and bids will be received for any or all of the timber on either fork. It is accessible to southern Idaho, which is developing rapidly and in which the demand for timber will increase.

From the Book of Experience

"Good men gone wrong" are usually only bad men discovered.

When a man's reputation depends upon his clothes, he has to be "dressed up" all the time.

Drifting with the tide is very likely to land you on the rocks.

The people with abundance of temper lose it most frequently.

If the recall is to be applied to judges, let us begin with Judge Lynch.

Why call a man a crank who has positive convictions? A crank is something that can be turned.—Judge.

Ingenious Tommy

Tommy had teased, begged and implored his father to buy him a watch. The impatient father's answer was, "No; once and for all, no! If I hear you mention the word watch again, I shall punish you severely!"

That evening the family assembled at the dinner table, and, as was their custom before eating, each repeated a verse from the Bible.

When Tommy's turn came, he said, "What I say unto one of you, I say unto all of you—watch!"

The watch was forthcoming.—Judge.

...The Market Place...

POULTRY

Brahmas

LIGHT BRAHMA EGGS, $1 FOR 15, $5 for 100. Mrs. M. Wall, Eddyville, Neb.

LIGHT BRAHMA EGGS—15 FOR $1, 45 for $2.50, 10 for $5. Fair hatch guaranteed or another order at half price. Frank A. John, Bedford, Ia.

Cochins

PARTRIDGE COCHIN EGGS, 15 FOR $1. Albert Palmer, Arden, Neb.

Ducks

INDIAN RUNNER EGGS, $1.25 PER 13. White Leghorns. Agnes Young, Loveland, Ia.

ENGLISH PENCILED INDIAN RUNNER ducks—White egg stock; eggs for hatching. F. H. Barnes, R. F. D. 4, Box 89A, Lincoln, Neb.

ENGLISH STANDARD INDIAN RUNNER duck eggs; 12, $1. Jennie Sloan, Boicourt, Kan.

Hamburgs

SILVER-SPANGLED HAMBURG eggs—15 for $1, $4 per 100. Charles Voss & Son, Hubbard, Neb.

Houdans

HOUDANS AND WHITE ROCKS; eggs, $1 per setting, $5 per 100; satisfaction guaranteed. George J. Wolcott, Box 773, Central City, Neb.

Leghorns

ROSE COMB BROWN LEGHORNS—Pure, strong, good layers; 15 eggs, $1; 100, $4. Mrs. E. Fauquet, Wahoo, Neb.

ROSE COMB BROWN LEGHORN eggs, $5 per 100; safe delivery guaranteed. Walter Hogue, Fairfield, Neb.

ROSE COMB WHITE LEGHORN eggs, $1 for 15, $5 per 100. Mrs. Anna Nelson, Route 3, Genoa, Neb.

ROSE-COMB BROWN LEGHORN eggs. Otto Frahm, Calhoun, Neb.

ROSE COMB BROWN LEGHORNS, exhibition and laying strains. Circular free; range eggs, $5 per 100. Mrs. John Holzhey, Bendena, Kan.

ROSE-COMB BROWN LEGHORN eggs—15, 75c; 150, $5.00; carefully selecting and mating. Olga Hayek, Linwood, Neb.

SINGLE COMB BROWN AND WHITE Leghorns, White and Barred Rocks; eggs, $3 per 100. Barker Bros., Indianola, Ia.

SINGLE COMB BROWN LEGHORN eggs, $3.50 per 100; safe delivery guaranteed. Ray Briggs, Fairfield, Neb.

SINGLE COMB BROWN LEGHORN eggs for sale, from State Show winners. Send for mating list. Clarence B. Brown, Fairmont, Neb.

SINGLE-COMB WHITE LEGHORNS Foundation stock from best breeders in east. Eggs, $1 setting, $5 hundred. M. Ledlie, Holdrege, Neb.

S. C. WHITE LEGHORNS; EGGS, $3.50 per 100; Young's strain White Indian Runner ducks. George L. Darling, Route 2, Doniphan, Neb.

EGGS — PRIZE-WINNING, HIGH-scoring S. C. White Leghorns, fine laying strain; farm range—$4 per 100. Maude Farrell, Glenville, Neb.

Langshans

EGGS FROM BLUE RIBBON STRAIN Black Langshans, won 12 firsts, 10 seconds, 2 silver cups. J. T. Nelson, North Loup, Neb.

BLACK LANGSHAN EGGS FOR hatching. C. C. Cunningham, Kennard, Neb.

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BLACK LANGSHAN EGGS, $1 PER 15, $5 per 100; White Holland turkey eggs, $2 per 9. Mrs. J. W. Johnson, Loup City, Neb.

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March 13, 1913.

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THOROUGHBRED PARTRIDGE Plymouth Rocks and Partridge Wyandottes; eggs, $2.50 per 15. P. N. Frame, Fairmont, Neb.

BARRED ROCK EGGS, FARM range; $1.00 for 15, $5.00 for 100. Selected pens, $2.00 for 15. Baby chicks 12½c each. Mrs. Geo. Schulz, Yutan, Neb.

HILLCREST BARRED ROCKS, Bradley strain; eggs, $1 for 15, $4 for 100; Indian Runner ducks, fawn and white, $1.25 for 13. D. T. Gantt, Crete, Neb.

BARRED ROCK EGGS, $1 PER 15, $4 per 100. W. D. Kelley, Valley, Neb.

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BARRED PLYMOUTH ROCK EGGS from choice stock and good laying strain. George Franklin, Axtell, Neb.

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WHITE PLYMOUTH ROCKS—WON all the prizes at the Northeastern Poultry Show at Norfolk, Neb., December, 1912. Eggs, $1.50 per setting, $5 per 100. J. W. McClary, Norfolk. Neb.

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EGGS FROM SINGLE COMB CRYstal White Orpingtons, $1.50 per 15, $8 per 100. No better birds anywhere. L. H. Klinge, Grand Island, Neb.

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CRYSTAL WHITE AND BUFF ORpingtons; eggs from prize-winning stock; prices reasonable. Dr. W. E. Crane, Tilden, Neb.

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SINGLE-COMB RHODE ISLAND Reds, Buschman-Pierce strain; eggs, $4, $3 and $2 per 15; satisfaction guaranteed. Hepp Bros., Greeley, Neb.

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TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

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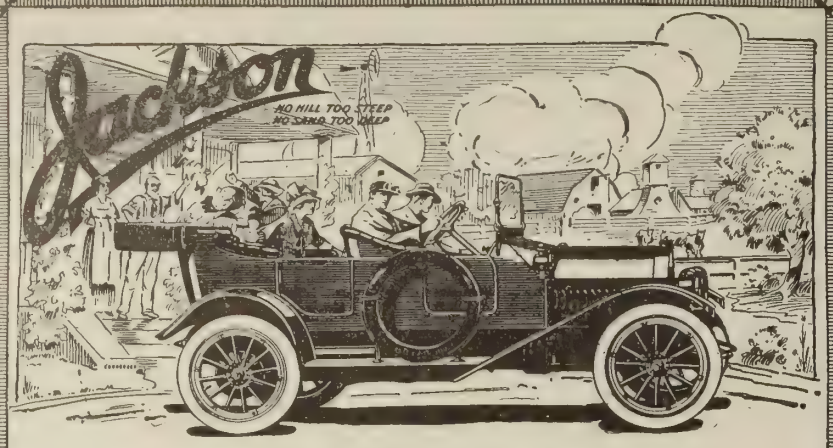

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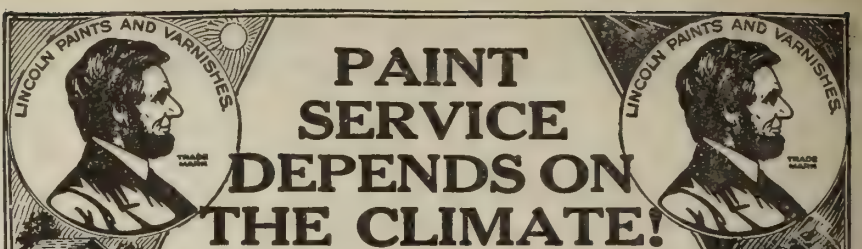

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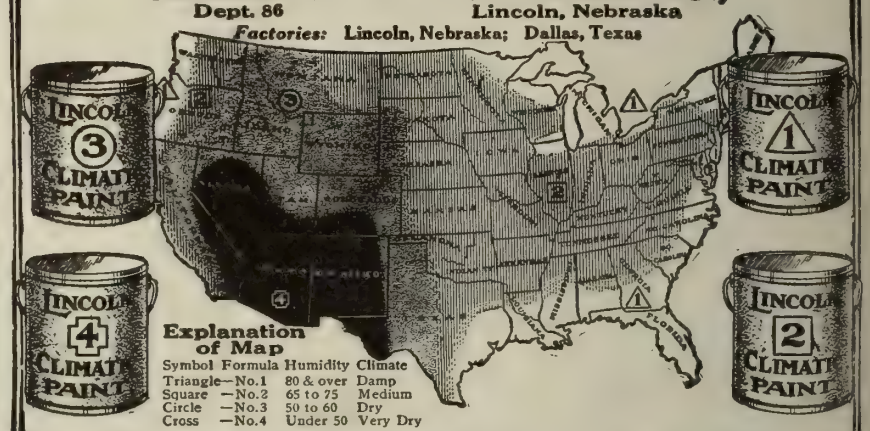

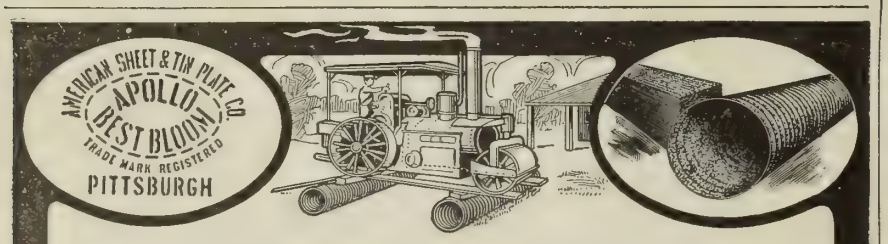

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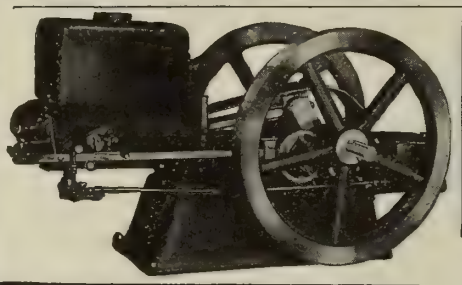

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with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made $90 one week. We mean business and want a man in your County. Write us.

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Prattle of the Youngsters

Retaliation

Benevolent Lady—If a boy hit you, would you retaliate?

Newsboy—No, mum; but you bet I would hit him back.

Like a Gentleman

Benevolent Lady—I hope you always behave like a gentleman, do you?

Newsboy—I can't, mum. I'm still in my 'teens; but I'll try to behave like a gentle-boy.

Of Course Not

Benevolent Lady—I was almost run over by that boy on the bicycle. I just feel sure I'll meet my death that way.

Newsboy—Cheer up, mum, it won't happen till the end of your life.

Unnecessary Labor

Johnny—Mamma, will you wash my face?

Mamma—Why, Johnny, can't you do that?

Johnny—Yes, but I'll have to wet my hands and they don't need it."—Lippincott's.

As They Looked

Benevolent Lady (escorting the newsboy to the country)—See (pointing to some cat-tails which grew along the swamp road), my boy, do you know what they are?

Newsboy—Oh, yes; they are sausages growing wild.

He Ate His Toast

The teacher had written on the blackboard the sentence, "The toast was drank in silence," and turned to her class for them to discover the mistake. Little Bennie Sheridan waved his hand frantically, and, going to the board, scrawled the correction:

"The toast was ate in silence."

Just as Well

"So you've lost your nice pussy-cat since I was here last!" sympathized grandma; "too bad! Of course, you miss him dreadfully, don't you?"

"Well, yes;" 6-year-old John assumed a look of chastened sorrow; "but then, grandma, since I've heard so much about this germ business I try to think it's just as well!"

The Real Reason

Three-year-old George and his sister, slightly older, were having a tete-a-tete luncheon.

"Why," she demanded, "do you take the last gingersnap, when you've had two, and I haven't had any?"

The young philosopher pondered for a moment, then condescended to elucidate.

"Because," he said, kindly, "I'm a boy, and you're a girl."

Inquisitive

The curate of a large and fashionable church was endeavoring to teach the significance of white to a Sunday school class.

"Why," said he, "does a bride invariably desire to be clothed in white at her marriage?" As no one answered, he explained. "White," said he, "stands for joy, and the wedding day is the most joyous occasion of a woman's life."

A small boy queried:

"Why do the men all wear black?"

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Wanted---Pictures for Publication

THE TWENTIETH CENTURY FARMER desires to secure photographs of farm scenes and life in rural communities. Knowing that among its readers are many amateur photographers of ability, and who have desirable pictures for sale, the following offer is made:

For every picture that is found suitable for use, $1 will be paid. Pictures accepted will not be returned, but those not suitable for reproduction will be returned to the sender.

The name and address of the person submitting it should be written plainly on the back of each picture.

Pictures must not only have the merit of news interest and value, but the photographic print must be clear and distinct, to insure a good reproduction in a half-tone cut.

We can use clever pictures of children and animals, handy devices and conveniences about the farm buildings and grounds.

In submitting pictures, parties sending them should give information and data about each one. This may determine the availability of the picture for publication.

Bright and Breezy

Lots Like Him

"He's one of our most successful financiers."

"That so? I didn't know he was rich."

"He isn't. But he's supporting a family of five on $12 a week."

Wasted Sarcasm

Indignant Wife—I wonder what you would have done if you had lived when men were first compelled to earn their bread by the sweat of their brows!"

Indolent Husband—I should have started a little notion store and sold handkerchiefs.

Self-Evident Fact

"It is impossible to get a fair estimate of the output of the American hen."

"Why is it impossible to get a fair record?"

"Because, no matter how you fix it, the record is bound to be a fowl one."

The Perils of Cookery

"Leezie, wumman," the old Highlander complained to his wife at breakfast, "thae eggs are michty hard-boiled again."

"Nae wonder, John, dear," replied his wife, triumphantly, "whaen the lassie boiled them by the kitchen clock and forgot it was five meenits slow."—Youth's Companion.

Too Much for Him

"Allow me," said the fresh young man in the Pullman dining car as he passed the sugar bowl to a shy young girl; "sweets to the sweet, you know."

"Allow me," said the girl as she handed him a plate of crackers; "crackers to the cracked, you know."—Ladies' Home Journal.

He Wouldn't Say It

The president of a small college was visiting the little town that had been his former home and had been asked to address an audience of his former neighbors. In order to assure them that his career had not caused him to put on airs he began his address thus:

"My dear friends—I won't call you ladies and gentlemen—I know you too well to say that."—Ladies' Home Journal.

Proof Positive

Two Irishmen were working on the roof of a building one day when one made a misstep and fell to the ground. The other leaned over and called:

"Are yez dead or alive, Mike?"

"O'im alive," said Mike, feebly.

"Sure you're such a liar Oi don't know whether to belave yez or not."

"Well, then Oi must be dead," said Mike, "for yez would never dare to call me a liar if Oi wor aloive."

A Good Loser

"Tickets!" called the conductor. One of the passengers began fumbling nervously through his pockets and finally turned them all inside out.

"Where is your ticket?" asked the conductor when he came to the nervous man. "You can't have lost it?"

"Can't have lost it? Thunder!" replied the nervous man, sarcastically. "I lost a bass drum once."—Youth's Companion

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Conference on Marketing and Farm Credits

What Was Done by Those in Attendance at the Big National Meeting in Chicago

THE Latin poet, in commenting on some futile effort in the good old days, said: "The mountains labour, and a ridiculous mouse is born." At Chicago the reverse proved to be the case. The little mice labored, but they brought forth a veritable mountain.

The call for the national conference at Chicago was issued by the "Co-operating Farm Papers." This is an association of a limited number of farm papers, organized principally for commercial purposes. It was praiseworthy on their part to afford an opportunity for national discussion of matters of such grave import to the nation at large. It was also good business for them to call such a conference, because it gave them practically an unlimited amount of free advertising.

The danger was at first apprehended that if the organization were made permanent under their leadership, it would degenerate into a mere advertising scheme for their benefit. It is possible that some prominent men, whose names occupied prominent places on the program, were absent from the conference because they did not wish to lend their names and their influence to any such advertising scheme.

Bigger Than Promoters Anticipated

But the conference became a bigger thing than even the promoters of it anticipated. It became truly a national affair; a veritable mountain was born. The conference took the organization out of the hands of the farm papers and placed it in the hands of men of national reputation in their respective fields of effort and secured for itself a permanence and a national significance. No man connected with a farm paper is now a member of the committee having the future meetings in charge. There will be another meeting next year at approximately the same time and at the same place. It will be in charge of men who have devoted themselves to the solution of the problems presented, and great results may be expected from the conference in the future.

There were some notable men in attendance. President Van Hise of the University of Wisconsin delivered an impressive address on "Waste in Distribution," which will set men to thinking upon this subject, and to devising means for avoiding unnecessary waste. He said that the key words of the solution of the industrial situation of the farmers are co-operation among the farmers themselves and co-operation with the consumer for their mutual benefit. Other speakers emphasized the same point, namely, that co-operation in distribution to accomplish its end must work for the benefit of both producer and consumer.

E. M. Tousley, secretary of the Right Relationship League, emphasized the same thought. Other speakers, who had given the subjects their serious consideration and study, contributed the results to which they had arrived.

Marketing Commands More Attention

It is to be noted that the problems connected with the proposition of the marketing of farm products commanded more attention from the conference than the matters relating to farm finance. It was admitted on all hands that of the consumer's dollar the producer receives less than half; that the railroads receive a not inequitable share, and that most of the balance is absorbed by unnecessary middle men and extortionate retailers. The problem seems to be how to avoid this unnecessary waste in distribution, the burden of which falls on both consumer and producer. No specific, definite, practical plan of operation was decided upon. Some enthusiasts present were disappointed on this account. They expected to see some definite plan outlined and adopted which should be at once put into operation, and at once bring the desired relief. But the more conservative ones felt that a matter of such great import should require prolonged consideration and study, and that sufficient time should be granted for an educational campaign among both producers and consumers in order to get them ready to co-operate in carrying into operation whatever plan might ultimately be formulated.

Chief Value of the Meeting

The chief value of the meeting lies in this—that it initiated a campaign of education which will not fail to bear its fruit in time to come. It is believed that the American people are wise enough properly to decide any question satisfactorily, to solve any problem that may be fairly put before them. No matter what the problem may be, if the people of the nation can have it fairly placed before them, and can be led to think about it, to argue about it, to agitate it, if necessary to quarrel about it, good will certainly be the final issue. And it is because the conference started such an agitation, because it has for its purpose the forcing of this problem upon the attention of the American people, that the meeting attained a truly national significance. From now until the meeting next April these problems will be talked over and discussed in every state in the union. The next meeting will be attended by men filled with thoughts forged in the heat of the strife in which all are engaged. With earnest men, devoting themselves to the solution, the best possible solution, of the problems that now vex our commercial life, the outcome cannot be otherwise than helpful.

A Change is Inevitable

While some of us are wedded to our present methods, and are conservative, and instinctively dread a change, while the self-interest of others urges them to a continuance of our present commercial methods, none but the commercially blind will fail to see that we are now, as a nation, at the beginning of a commercial revolution. The abuses which have crept into the administration of old methods have provoked universal unrest and universal distrust. There have been frequent, persistent, continuous violations of economic law in the distribution of products. Violations of law always extort penalties. These conditions have made a change inevitable. It remains for those having the matter in charge wisely to direct the coming change in order to promote the best interests of all classes. That is what the leaders in this mountainous movement, projected by the "Co-operating Farm Papers," will attempt to do.

It remains merely to commend the subjects discussed at the conference to the careful consideration and earnest study of both producers and consumers. It is to be hoped that every producer for the market will give the matter fair, unbiased, broad consideration and study. Let them get in line with the movement, be ready to follow its suggestions and adopt its conclusions when they are finally promulgated. Let the minds of the people at large become so familiar with the matter, in all its details and in all its relations, that when a feasible, practical plan of operation is finally adopted it will meet with acceptance and ardent support. No man lives for himself alone. Each, in a certain sense, lives for all. It is necessary that each surrender whatever of his own rights that stand in the way of the promotion of the rights of all. The age of individualism has passed. The community age is dawning. Let each learn to act in the community spirit as one of the glorious brotherhood of man.

Significant Agitation Begun

A national movement for the elimination of unnecessary expense in marketing farm products was inaugurated at Chicago.

This is the most significant economic and commercial enterprise that has been begun in recent years.

A campaign of education has been started to secure the elimination of unnecessary middle men.

Public opinion will be aroused to such an extent as effectually to prohibit exorbitant charges by retailers.

An over-supply of any commodity produces a bad economic condition. There are too many retailers. The unnecessary ones must be eliminated.

The National Conference on Marketing and Farm Credits will take all these matters in hand.

Untouched Gold Mine in Farmer's Soil

By C. A. Le Clair, Missouri Agricultural Experiment Station

The Veteran's Smile Reflects a Golden Harvest of Corn and Cowpeas from Efficiently Worked Soil

AS YOU look out of the window of your home just picture for a moment, to a depth of one foot, every acre of your farm. Did you ever think that each acre foot of that forty you intend to plow for corn this spring weighs about 3,000,000 pounds? Well, it does. And then there is the second, third and fourth foot below it through which the plant roots creep in their search for food. This great mass of soil is composed of finely pulverized rock material, the fineness of which depends upon the extent to which it has been subjected to weathering. Each individual grain is as varying in composition as it is in size when compared with others. The texture and consistency of your soil depends much upon the rock from which it was formed. But, roughly, the soil particles contain, besides many other elements, the all-important phosphorous and potash which are all essential to plant growth. In that acre foot of soil you are looking at there is from 500 to 2,500 pounds of phosphorous and from 5,000 to 7,000 pounds of potash. Didn't you notice this fall when you plowed for rye that the furrow slice was much darker in color than the soil below? That was because every soil particle in it was coated with a more or less dark, sticky, jelly-like substance which we call organic matter, and it has accumulated there from the refuse of stubble and other trash you have left upon the land in the past. That dark color means fertility to you. It is the thing that binds light soil particles together and give them body, while the heavy soil is loosened up and made to produce a more friable seed bed. Furthermore, the third all-important plant food element—nitrogen—almost wholly comes from this dark, sticky mass.

Soil an Undeveloped Fertilizer Mine

If, then, there is so much plant food present in the soil, is it not reasonable to expect twenty or more seventy-five-bushel corn crops from such land without other work than shooting in the seeds and keeping down the weeds? Long experience, however, has taught you otherwise, for it has been necessary at frequent intervals to apply tons of manure and much cultivation to bring a possible fifty-bushel yield. What does this all mean? Simply that, although you have a mine of plant food at your disposal, you must learn how to free it from the soil mass so that the crop can make use of it. You must think, then, of your supply of nitrogen, phosphorous and potash as naturally unavailable to plants, for it is locked up in the tiny soil grains and organic matter, and there is at one time, under average conditions, only a small amount available to the rootlets.

Just how to maintain or increase this immediate supply of available plant food is your secret to success. Plants take up their food only in solution. Thus it is absolutely necessary that the mineral grains and organic matter eventually dissolve. Rains free some plant food, but nature has so arranged things that the process is far too slow to secure maximum yields. However, if there is a large supply of decaying organic matter present, organic acids will be set free, which will greatly increase the dissolving power of the soil water. Then, too, as the organic matter decays it will give up its nitrogen, together with what phosphorous and potash accompanied it in the original straw, stubble or manure you left on the field.

Working a By-Product

Since you know that organic matter is the gauge of your harvest, all interest should be centered upon the means of maintaining or increasing this resource. It is constantly disappearing through decay and crop removal, but by husbanding the straw and fodder—either leaving it on the land or feeding it to stock, returning the manure—you will profit immensely. In the stover of that seventy-five-bushel corn crop there is thirty-six pounds of nitrogen, four and four-tenths pounds of phosphorous and thirty-nine pounds of potassium. Of course, in feeding the fodder not all will go back on the land, for some of the nitrogen and much of the phosphorous is lost in the manure heap or used by the stock in building up their bodies, especially if they are young and growing. In order to actually strike a balance, then, it is most necessary that you turn under a little extra organic material. This practice is commonly called green manuring. To do it economically, without losing the use of the land is the thing of most importance.

Further Economy

The first essential then is to adopt a rotation which includes one or more legume crops. Let clover be sandwiched in with your small grain and corn crops. Here you have the choice of either cutting the first crop to leave it fall back on the land, making the seed of your second crop be your financial profit, or you may cut the first crop for hay, pasture the second crop, and in both cases turn under the sod for the following crop. Two tons of clover or cowpea hay thus turned under will add eighty and ninety-three pounds of nitrogen to the soil, respectively. Besides, in the central and southern states it may be possible to sow cowpeas in the corn either at planting time or when the corn is laid by. In the north Canadian field peas or another legume may thus be drilled in as a companion crop or following a small grain crop. The peas can be either hogged off or plowed under, as convenient, and in so doing nitrogen and organic matter is added to the soil.

Solution of the Labor Problem

After getting the organic matter mixed with the soil it is next important that you provide means for its decay. It is the ever-present millions of bacteria which work upon the organic material in the soil so that it will once more be useful to the plant. These little creatures, which are the farmers' unseen friends, are often forgotten and woefully neglected. They need a sweet soil and plenty of air to thrive and do their best work. Fresh organic matter is more easy for them to digest than dry material. So it is expedient for you to turn under your green manure crop before it becomes too dry and woody. Of course, the condition of the weather will have much to do with just when you can plow it under; but, as a general practice, the earlier the better; for this will

Clover in Wheat Gathers the Nitrogen for the Next Year's Corn Crop

Six Cuttings of Alfalfa a Year and All but Five Per Cent of This Great Money Crop Comes Gratis from the Atmosphers

give a firmer seed bed and more time for the food elements to be set free.

Sanitary Conditions a Benefit

As said before, the army of bacteria thrive best on a sweet soil. Wet bottom lands are usually sour, because the organic acids formed by continued decay find no means of escape. Perhaps, then, it would be well to consider the drainage of that wet spot over there in the northwest forty where now you seem to grow nothing but marsh grass. Then there is that little knoll to the right which fails to produce well. It may be that the lime carbonate which originally kept it sweet has been leached away. Why not then experiment a little and add a ton or so of limestone per acre? It will cost less than $2 a ton and is surely worth the trial. Your friends, the bacteria, will soon show their appreciation; for, as you again cultivate the spot, it will be loose and friable and begin to show once more its old dark, rich color.

Permanent Profits

When these first efforts to increase your soil's production begin to bring returns into your pocket it may be well to take out a little insurance. Barring seasonal variations, which at times will curtail production, the best policy is to invest in an application of 125 to 150 pounds of bone meal once in every round of your rotation before a small grain crop. This will always keep the supply of phosphorous permanent. If the soil be light and potash is seemingly the lacking element, broadcast or drill in 100 to 125 pounds of sulphate of potash, at a probable cost, in both cases, of a couple of dollars per acre. Just how these principles fit your case remains entirely to be seen. Much depends upon your system of farming and the soil itself. It is worth your immediate consideration, however, and the time to make your neighbors sit up and take notice is right now. Every resource is at your disposal. Get busy.

Cream Production in the Missouri Valley

IV—Responsibility of Cream Producer for the Quality of Butter that is Made

IN THE last analysis, the cream producer is responsible for the quality of the butter produced from his cream. Of course, a poor butter-maker will not make the highest grade of butter from even the best quality of cream, but the best butter-maker in the world cannot make the highest quality of butter from a poor quality of cream.

The world is demanding a better quality of butter in the general markets. This demand is becoming more and more insistent. It will not be long before it will become imperative, so that all manufacturers begin to see the necessity of taking steps to meet the demand.

A word of explanation is necessary so that the ordinary cream producer may fully understand why the responsibility for the quality of the butter produced rests mainly with him. The peculiar flavor of June butter, which is so much desired and so much appreciated by particular butter users, is due to the presence in the butter of a certain kind of bacterium. In like manner the peculiar flavor of appetizing cheese is due to the presence in the cheese of a certain kind of bacterium that produces that particular flavor. To kill these bacteria destroys the particular flavor that they produce. Now, in cream, besides the bacterium already mentioned, there are other bacteria, some of which are unsanitary to the last degree. In "rotten cream" the number and variety of these bacteria are multiplied indefinitely. In order to make the butter produced from such cream sanitary, it is necessary to kill these bacteria. This is done by the process of pasteurizing. The cream is then inoculated by adding to it a substance containing certain of these bacteria that are necessary for the production of butter, mainly lactic acid bacteria. This inoculating material is called a starter. Scientists have been able to isolate certain of the bacteria found in sweet cream, and from the cultures of these bacteria the starter is made. But no scientist has been able yet to isolate all the bacteria that are found in sweet cream, and especially those that give to butter made from sweet cream that peculiar June flavor so much appreciated and desired. The result is that when "rotten cream" is pasteurized and inoculated with a starter that does not contain the bacteria which give the peculiar, desirable June flavor, the butter has a flat, insipid taste, which to many users of butter accustomed to the June flavor is neither pleasant or palatable. All such pasteurized butter is perfectly sanitary, because all the disease germs in it have been killed. But to some tastes it is not palatable, because it lacks the peculiar flavor mentioned.

It is contended by some health food enthusiasts that all cream should be pasteurized before making it into butter in order to kill all the disease germs that may be in the cream. This undoubtedly is true from the standpoint of sanitation. But the market demand at present shows that a great many people are willing to run the chance of disease germs being in butter in order to secure the palatable flavor. The highest market price is paid, other things being equal, for the butter that has this flavor.

There are some creameries in this state to which cream is delivered in such conditions that they are able to make this high quality of butter without pasteurizing the cream. These creameries command the highest market price for their product. Such a product cannot be made from "rotten cream." A perfectly sanitary butter may be made from such cream; but its sanitary character is gained at the expense of its appetizing quality. If, then, every cream producer should see to it that his cream is delivered at the creamery in first-class condition, it would insure the possibility of the creamery turning out the very highest quality of butter product.

The ordinary cream producer who delivers his cream at the cream receiving station laughs at the request for him to take proper and adequate care of his cream. "What's the use," he says, "of taking care of my cream? There's nothing in it for me. They pay just as much at the cream receiving station for 'rotten cream' as for good cream Why go to the extra trouble?" And the cream producer that sells his cream at a cream receiving station is right about it. These cream receiving stations offer no inducement to anyone to furnish a high quality of cream.

But with the patron of the co-operative creamery the case is entirely different. Here the profits of the cream producer depend entirely upon the price that the co-operative creamery receives for its butter, and the price received for the butter is directly dependent upon the quality of the butter, and this is dependent upon the quality of the cream received. It then becomes to the interest of every patron of a co-operative creamery to take such care of his cream as will permit its delivery at the station in first-class condition. Too much care cannot here be exercised, because the greater the care expended the greater the return in profit. This care should be equally exercised by all the patrons of the creamery, since one batch of bad cream will taint and destroy the flavor of a whole churning.

If co-operative creameries are to be put in a position where they can economically produce the highest quality of butter, one of two methods in caring for cream must ultimately be adopted by every cream producer. The first method involves handling the dairy cows in such a way that they will produce during the winter months, when weather conditions will assist in keeping the cream in proper condition without extra effort. This will involve the use of the silo as an accessory in cream production. Cream producers who are not willing to resort to the winter dairy will have to put up ice if the best interests of the co-operative creamery are to be conserved.

For the proper preservation of cream, quantities of cream of different temperatures should not be mixed together. The cream as it comes from the separator should be at once cooled down to the proper temperature before it is poured into the receiving can that contains other cream. This receiving can should always be kept at a low temperature to prevent fermentation and the development of unnecessary germ life. The cream producer that has an ice house can easily accomplish this result. When the cream is taken to the creamery the can should be wrapped in a blanket wet with ice-cold water, and then covered with a dry blanket in order to prevent heating the contents of the can. When cream from a carefully managed and clean dairy is handled in this manner, and is delivered at the creamery in first-class condition, first-class, palatable butter, commanding the very highest market price, can be made from it. Some sanitarians will object to the making of any butter from unpasteurized cream, but such butter, even though it be made from unpasteurized cream, will command the highest market price and lend the greatest amount of profit to the cream producer. Unless cream is so cared for, it will be impossible for even the best butter-maker to make from it the palatable butter that is now demanded by the highest class of trade.

From all this it follows that in the last analysis, other things being equal, the quality of butter produced depends upon the quality of the cream received; that the price received for the butter is determined by the quality of the butter, and the responsibility of the cream producer for both quality and price is apparent. The patron of the co-operative creamery should be satisfied with nothing less than the best; nothing less than the best will pay him best. If he wants higher prices, let him furnish a high quality of cream.

No Days Like the Old Days

There is no time like the old time,
When you and I were young,
When the buds of April blossomed
And the birds of springtime sung;
The garden's brightest glories
By summer suns are nursed;
But, oh, the sweet, sweet violets,
The flowers that opened first!

There is no place like the old place,
Where you and I were born;
Where we lifted first our eyelids
On the splendors of the morn;
From the milk-white breast that warmed us,
From the clinging arms that bore,
Where the dear eyes glistened o'er us
That will look on us no more.

There is no love like the old love,
That we courted in our pride,
Though our leaves are falling, falling,
And we're fading side by side.
There are blossoms all around us,
With colors of our dawn,
And we live in borrowed sunshine
When the day-star is withdrawn.

There are no times like the old times;
They shall never be forgot.
There is no place like the old place—
Keep green the dear old spot!
There are no friends like our old friends.
May heaven prolong their lives;
There are no loves like our old loves—
God bless our loving wives!

—Oliver Wendell Holmes

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Iowa has the largest whole milk creamery in the United States. It is located at Strawberry Point, in that state. It handles between 12,000,000 and 13,000,000 pounds of milk every year and pays out annually about $165,000.

Every farmer, whether he will or no, advertises himself and his methods by the appearance that his farm presents to observers. To look at a farm one is able to say either "a sober and industrious man lives here," or "a shiftless, drinking, no-account chap lives here." To which class does the reader belong?

Texas has a farm life commission that has for its special aim, besides making rural life attractive and the business of farming more remunerative, the institution of a rural credit system and the encouragement of a co-operative marketing plant. They have undertaken to secure a county farm life commission in every county to work in connection with this state organization.

The rural origin of city typhoid is beginning to be talked about with some reason. Some of this danger to the cities comes from the pollution that their water supply gets from the freshets that bring in infected material. For this the farmer can hardly be held responsible. But when the infection comes from food products transferred from the farm to the city the responsibility lies directly at the door of the farmer. Farm sanitation benefits more people than the farmers themselves. It helps protect the women and children in cities from deadly infection.

Pure-Breds Bring Reward

The breeder of pure-bred stock has a double chance over the breeder of grades. If you are breeding grade stock, there is no twentieth century farmer or stock grower of breeding intelligence who would think of selecting from your herd, or flock, a sire, an animal to breed from, no matter how fine an appearing animal you might have. The intelligence of the most common land owner and live stock producer is above and beyond the using of grade sires.

The best meat-producing animals are of that class which are bred especially for the advancement and development of the meat industry. Therefore, as the natural law of heredity is a fixed principle in creation, you must look to the fixed breeds and types of animals to reproduce their kind. You must select from herds having the intensity of blood and breeding, capable of transmitting their physical characteristics to their progeny.

In times of greatest scarcity breeders and dealers look more exactly after quality. This was not always so; times have changed greatly in the last twenty-five years in this respect. Quality is now talked about and sought after in a way and with a spirit never before experienced in this country. There is a pride now in the ownership of a lot of extra good animals—yes, in a lot of good animals—and there is as distinctly a feeling of shame and disgrace visible on the countenance of the owner of the common or scrub lot of stock. All manner of excuses are apologetically offered for the latter, because the man is nowhere to be found who does not know the difference and who does not know that it is an evidence of neglect, carelessness, lack of thrift and ambition—a sort of signboard, "On the road to the poor house."

The breeder of pure-bred stock, especially cattle, hogs or sheep, is now right on the high waves; he is going to be ready for the great demand that is coming, and going to come, for years. He cannot exert too much energy in producing the best in his selection of breeding animals, in producing an abundance of the very best of feed and in developing his stock to the highest possible degree of perfection in growth and finish for sale as breeders. Condition is half of the animal, when it comes to selling even to a breeder for breeding purposes.

When the possibilities of the animal are all drawn out to the surface that it is possible to thus develop, it seems to satisfy the critical buyer, although he may say, "I'd prefer if he were not in quite so high condition." He will buy him or her just the same if they suit, and a little quicker. This has been tried so often that high condition means a sale, when a little the other way means, too often, "I will look a little farther."

If you have not made the start in pure-bred stock, don't lose any more time. "Procrastination is the thief of time" in this proposition and you cannot afford to hold back at this time and pay later on anywhere from 20 to 75 per cent more for your foundation stock. Remember when you are buying that pure-bred stock make just as good meat as grades. They sell on the market a little better, all things considered, and they have the advantage of the pure-bred trade, also, which is now almost on a boom. From sale reports it is at least getting a boost.

Quality a Feed Problem

This is the time to take into consideration the matter of quality in the feed products of the farm. Quality is a much more important feature in the production of crops than most persons are willing to concede, judging from the careless methods employed and the seeming inattention given this feature of farm operation. The quality of all the feeds entering into the proposition of successfully handling live stock is a factor that cannot be overlooked.

In the one feature of feed supply —hay—there is significance in quality sufficient to govern the matter of profit or loss in the feeding enterprise on any farm. It matters not how complete the yardage and stabling, if the feed lacks in some essential feature or quality there is at once a handicap placed upon the particular enterprise, and loss may result from this one deficiency in feed quality.

The time to provide good feed is when the crop is being put in and when it is being harvested, cured and stored for feed uses. It is important that the land is in proper and fit condition for plowing, for cultivation and for seeding, and that the seed is of best quality; all these requirements are essential in order to get the best results in growth of crop. The crop that is grown under favorable conditions is best grown, and so far as nature is concerned, has the advantage of the less favorable, in the matter of quality.

It is quite important to exert every effort in having hay and grain crops preserved free from weather damage or injury of any kind. This cannot be done without attention, interest and considerable effort on the part of the owner or manager. It pays to give personal attention to these things which influence later in the success or failure of an enterprise to which they form an important part.

The harvest season has from the beginning of time been a period of interest, and almost excitement, in the securing of crops free from the damaging influences of rain and storm. The advent of machinery, to assist in a more rapid and economical handling of the harvest, has increased the ability of the farmer to produce, and the improvements in harvesting machinery have decreased the liability of damage to crops in the process of handling.

The matter of quality in all that goes into the feed ration of the animal, either for milk or meat production, is of sufficient importance to command the closest attention and scrutiny of the feeder and owner of the animal.

One of the advantages of cold storage of farm products is that it tends to equalize market prices for such products for the different seasons of the year, and, in case such products are carried over for another year, to equalize the year-to-year process. This is the conclusion the government has arrived at after an extensive investigation.

Revival in Orcharding

The Missouri valley country is having a revival in the commercial orcharding industry. The stimulus in tendency to buy orchards and to plant orchards is due to the excellent crops of apples that have been produced during the last five to six years. This revival is as pronounced with the old orchards that have been redeemed from the ravages of insect pests and again brought under good system of care and cultivation, as with the younger orchards just coming into bearing.

The orcharding industry is now attracting the attention of the horticulturally-inclined land owner, more particularly. The common hog and corn farmer who is not in sympathy with the orcharding line of work, and who cannot enter into it as its demands require, make it a study and an important feature of the farm operations, should keep out of it, no matter how enticing the big, red apple and the trees loaded with their harvest of fruits.

The organizing of co-operative associations of growers for the handling of the orchard crop solves a most intricate and difficult feature of the growing of fruits. The average fruit grower is not a skilled or trained seller of his produce, and, therefore, is not able to put it onto the market and compete with the dealer and commission trade. The grower's work practically ends in the orchard. He can grade, pack and put his fruit up, ready for sale, but right here is the need of the sales agent to direct this crop to cold storage, or to a market then in demand for just such produce.

The success of the Missouri valley country for apple-growing has been so thoroughly and fully demonstrated in the last five years that the renewed energy along this line of work in this district should result in an increase of many thousands of acres of orchard each year for many years to come.

County Bridge Building

The building of county bridges throughout this territory has been attended sometimes with scandal, and generally with inefficiency and waste. The county board is composed of men elected generally for a single term, and they are not supposed to know very much about bridge building, and yet the responsibility of building bridges rests upon them. They generally let the contract for such bridge building to some professional contracting bridge builder and generally accept his plans and his advice with reference to the work. He has an eye to his own profit in the matter, and it is within his power to swell that profit at the expense of the county. No bridge contractor has ever been known to sacrifice his own interests for the public good.

The state of Nebraska proposes to change this method. The state authorities will furnish plans and specifications for all such bridges, and the county boards hereafter will be required to ask for bids upon these state-furnished plans and specifications. This is a step in the right direction and will have a tendency to bring order out of chaos in the matter of county bridge building.

More Light, Gentlemen

The Twentieth Century Farmer is frequently in receipt of information, couched in more or less vigorous language, from enthusiasts, either individuals or co-operative journals, to the effect that cream producers in Minnesota and Wisconsin receive for their butter-fat 10 cents a pound more than the centralized creameries are paying in this territory. The Missouri valley territory in general usually receives such information about once a month.

Anyone would be foolhardy to question such a statement in the face of the flood of expostulatory rhetoric that would be sure to follow such questioning. But some of the good people in this territory want to be shown how it is done. There are some co-operative creameries here, and when they do the very best they can, they cannot begin to approximate these figures. They would like to know how to do it.

There are some awfully wicked people here that secretly assert that it is done by manipulating the cream test. Of course, they would not dare to hint at such a thing in open meeting. But they intimate that if a creamery receives fifty pounds of butter-fat, and then charges up the total butter production to only twenty-five pounds of butter-fat, it could afford to pay well for the twenty-five pounds.

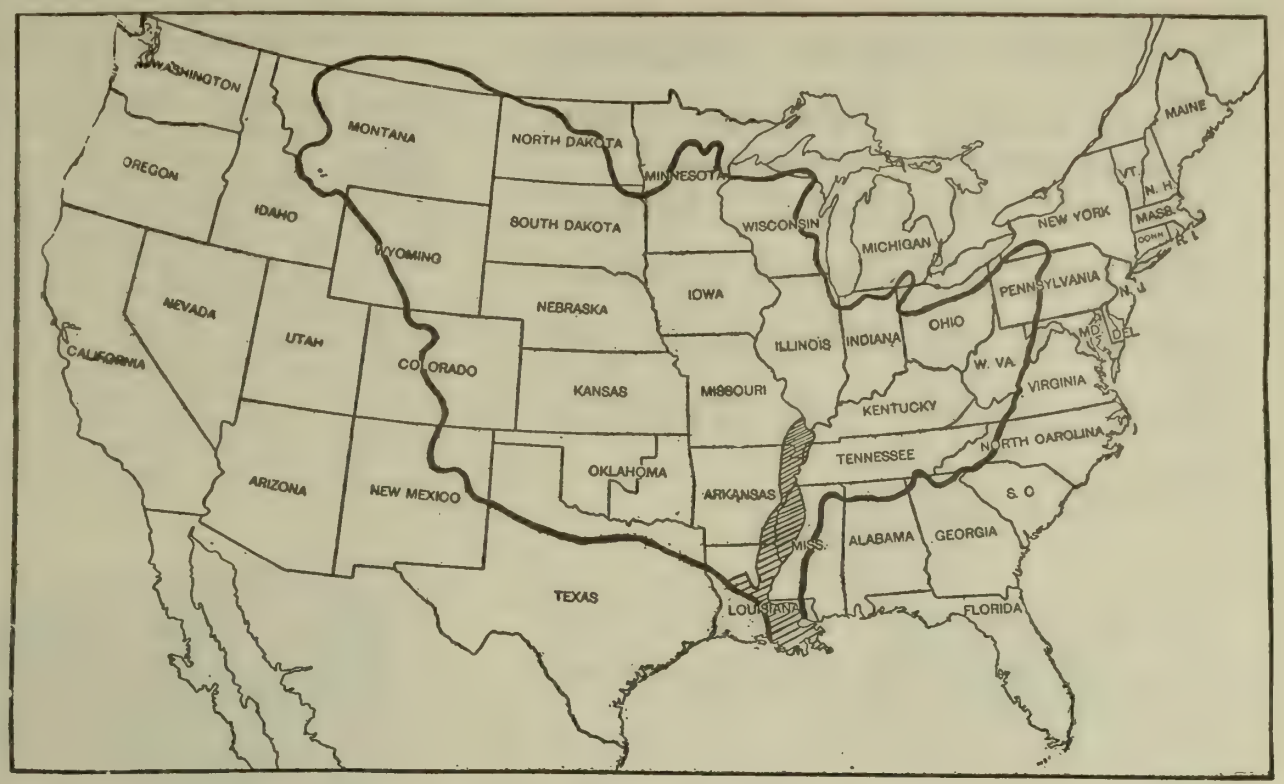
Now, not for the purpose of substantiating their assertions, but merely for the purpose of enlightening their brethren, let those advanced creamery men in Minnesota and Wisconsin publish more of their figures. For instance, let them give the total number of pounds of butter-fat received, the total number of pounds of butter made from it, and the price they received for their butter. Then the benighted brethren in this territory can hire a mathematical expert to compute the over-run, and so set forever at rest the intimation of these wicked ones that the cream test is manipulated. In order to establish full faith in the superiority of Minnesota and Wisconsin methods, no statement of the price paid for butter-fat should be published or dinned into the ears of editors unless it is accompanied by the other figures cited.

The truth will hurt nobody, and may help a whole lot of people. Untruth is damaging, the principal damage being that it impairs our faith in one another, and upon this faith the activity of the whole world rests.

The Farmers' Educational and Co-operative Union of Texas hit the nail on the head when they say: "We want to own and improve our homes, give our children better educational advantages, possess the comforts and conveniences of modern life and make the farm more attractive; but these and many other problems can be solved only after we have made the business of farming more remunerative."

The government reports that the rich gold ores said to have been found in Oklahoma have about the same value as sea water. It is possible that the wells from which the assay samples were taken had been "salted."

Thirty-One States Pour Water Into Mississippi River



The accompanying map is being put out by the Mississippi Levee Association to show why its work to protect the country of the lower Mississippi from overflow is national.

These alluvial lands are overflowed by waters from thirty-one states, covering an area of 1,238,200 square miles and embracing 41 per cent of the United States. The territory in Illinois, Missouri, Kentucky, Arkansas, Tennessee, Mississippi and Louisiana affected by floods is as large as the combined states of Vermont, New Hampshire, New Jersey and Connecticut, and when protected from floods will be available to the commerce of the whole nation.

The area within the heavy black line is the drainage basin of the Mississippi river and constitutes 41 per cent of the area of United States.

The shaded area, 29,000 square miles in extent, is the alluvial country subject to overflow from the waters of this basin.

Is it fair or just that the inhabitants of the small area should bear the whole expense of preventing floods from the large area?

Ignorance, Prejudice or Both?

A Custer county, Nebraska, man writes a contemporary as follows: "I milk forty cows, all good ones. These cows consume the following amounts during the six months of fall, winter and spring: Alfalfa, three tons, $36; hay, two tons, $20; straw, two tons, $6; corn, thirty-six bushels, $16; total, $72 per head for six months. Average price of butter-fat, 25 cents per pound; product of each cow, forty pounds, or $10 per month, $60 for six months. Loss on each cow during six months, $12."

If this statement is true, one of two things is also true—either the cows were poor cows or the man is a poor feeder. The man's own statement seems to prove both of these hypotheses.

The cows were poor cows; that is, as cream producers. They produced only forty pounds of butter-fat in six months. It is estimated that the average cow in this territory produces 135 pounds of butter-fat a year. This would be at the rate of 67½ pounds for six months. These cows produced less than two-thirds of this amount.

If these cows were near the end of the lactation period, it is not fair to cite them as an example. If they were not near the end of their lactation period, they were poor producers, no matter if the test was taken in the fall, winter and spring.

According to his own statement, this man is a poor feeder. He feeds three tons of alfalfa hay to each of his cows during six months. This would be at the rate of thirty-three and one-third pounds a day, in addition to the hay, straw and corn they consumed. This is not intelligent feeding. No intelligent man would expect to get a profitable return on such expenditure.

The chances are that these figures are estimated and are very far from exact. The rest of this communication shows sufficient prejudice to give both mathematical and ethical strabismus. No one accomplishes anything by being either inexact or unfair.

This correspondent is a poor buyer if he bought his feed at the prices here quoted. He is a poor judge of market values if he fed his own feed. Such a man need not expect to make money at anything.

The farmers in the semi-arid, dry-land areas will be interested in a bulletin just issued by the North Dakota Experiment Station. It shows how new land should be handled in order to avoid spoiling for flax cropping in the future. In the western districts, where flax is generally grown on sod for the first crop, the farmers will be interested in securing this bulletin. It may be had free on application.

If the swine grower will figure a little, he will find that for growing swine wheat, at present prices, is a better and a cheaper feed than shorts or bran, at present prices. It does not always pay to follow tradition; a little figuring will often correct tradition.

This paper wishes the swine growers would send in reports of their new pig crop. The service bureau wishes to be put in position to furnish information in this matter.

The average life of a cherry orchard in Iowa is seventeen years.

Potash and Phosphoric Acid

Bulletin 91 of the bureau of soil of the United States Department of Agriculture says what follows with reference to the amount of potash and phosphoric acid in ordinary soil:

Recent work on the question of ground rocks and minerals such as the feldspars and micas, has shown that in nine soils from New York, Pennsylvania, Virginia, North Carolina, South Carolina and Alabama on an average of 260 tons of feldspar and 298 tons of mica per acre, to a depth of three feet, were present. Since these minerals are present in such large amounts, it is obviously not a paying proposition to add them to the soil. These two minerals contain almost 10 per cent of potash. This shows the large amount of potash already in the soil. Apatite, the phosphoric acid mineral, while present in considerably lesser amounts, is widely distributed.

These results show that the plant food element, potash, and very probably others, are already abundantly present in soils. No one doubts that fertilizers are beneficial; therefore the cause of the beneficial effects must be sought in another direction than in the theory of simply returning material which has been abstracted from the soil by crops.

It remains for future investigation to show precisely in what way commercial fertilizers will benefit. It should, however, be borne in mind that the actual amount of any element found in the soil, either by mineralogical or chemical investigation, will not be satisfactory to the farmer, since neither of these processes determines how much of these elements of fertility is in a condition to make it available for the use of plants. Future investigation may show that commercial fertilizers supply available plant food for the immediate use of plants, and so are necessary even in soils that contain any amount of such elements in crude form.

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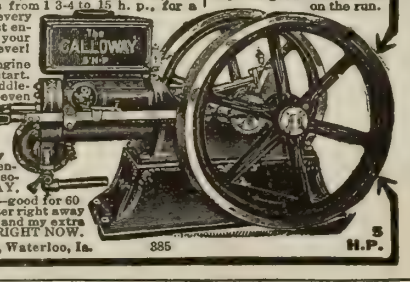

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Fine Wool Sheep in America

III—Distribution of Importations from Spain

THE extent of importation of the merino sheep into the United States differs greatly by the various authorities discussing this subject. The Vermont Merino Registering association, in its search for information, claims it has recorded evidence of 106 vessels carrying 15,767 sheep, which landed at various ports in the United States during the years 1810 and 1811. How many more were brought cannot be definitely stated. The trade in merinos at this period had attracted general interest owing to the high prices received for individual specimens, following the Humphrey importation of 1802, from $1,000 to $1,500 per head for the fine specimens not being an uncommon price, among these original merino enthusiasts. Consul Jarvis figured extensively in these importations and it is believed that up to this date there were very few, if any, sheep imported from Spain that did not belong to one or the other of the recognized cabanas of national reputation.

These Ewes, Bred and Owned by Joseph T. Steckey, Shoreham, Vt., Were Prize Winners at the Centennial Exposition in 1876

The basis of the present-day American merino is no doubt from the best Spanish merino blood of the old established cabanas. The contamination, if any exists, is due to the dishonest methods of the American flockmaster in substituting high grades for pure-breds where superior individual merit existed. The registry system is a guide and safeguard for the honest breeder to observe in following family lines of heredity; it does not, however, control the trickster or dishonest breeder or dealer in his substitution of animals or the changing of registry identity.

The starting of the pure-bred merino sheep industry in the United States was a business that did not at the outstart seem to demand or require any proof or evidence of purity of blood more than a certificate of sale and what the sheep was able to carry in its personal appearance. This in comparison with the common, native sheep of this country was so marked and positive, however, as to leave no question for dispute in establishing the identity of the two breeds, so great was the variance in physical makeup.

The Colonel David Humphrey's flock is credited as the beginning, the foundation of the merino sheep-breeding industry in the United States. This was followed by many other prominent flock owners who bought directly from the Humphrey flock or from later importations of Consul Jarvis.

Stephen Atwood of Watertown, Conn., who made his start by the purchase of one ewe from the Colonel Humphrey's flock in 1813, and bred her to rams of the Humphrey importation or their direct descendants until he had acquired a good-sized flock of pure-breds, became one of the most noted merino breeders for reliability of pedigree and pure-blooded sheep of any breeder in the United States. When the merino registering system was introduced it was an honor and credit to have sheep that traced to Stephen Atwood's flock, as this was a guarantee of pure merino blood, and a passport into any merino register. Mr. Atwood died in 1867, leaving a flock of undisputed breeding and reputation, upon which were founded throughout the country hundreds of flocks traceable directly or indirectly for their basis of breeding.

It is possible that the merinos that were imported in 1808 to 1811 were distributed by purchase and sale pretty generally over the New England states—New York, Virginia, Maryland and Pennsylvania. Connecticut, however, seemed to possess superior advantages as a headquarters for importers of the merino sheep and soon became the general dumping grounds for the merions as they came from Spain.

The Vermont farmers and sheep-growing interests seemed to have the disposition and faculty of owning and managing sheep and were active purchasers soon after Colonel Humphrey's importation in 1802. From 1808 to 1849 there was a constant introduction of the Atwood sheep from Connecticut into Vermont by the more enterprising breeders, who by this time became convinced that direct purchases from the Atwood flocks, the undisputed descendants of the Colonel Humphrey importation, meant the highest authority for purity of blood, or at least a locally established flock history, that but few, if any, of the importations had acquired.

The Jarvis flock was not questioned, yet the extent of the Jarvis importations demanded more explanation in order to establish its identity. While there has been in

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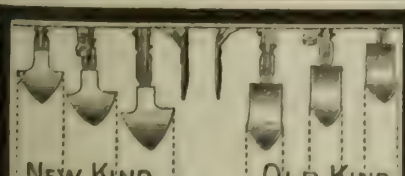

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Chas. Burmeister, Sutherland, Iowa.

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some instances difficulty to trace flock history to the Jarvis importations, there has not been any evidence that the Jarvis importations were not from the leading flocks or cabanas in Spain, and just as pure in their breeding as any sheep imported. The Jarvis sheep were taken quite extensively into Vermont as well as into other sheep-growing territory, and have in many instances been intermixed in their breeding with the Atwood blood without detriment to either family. The blood lines that at one time caused quite a wall to stand between the representatives of these two importations have practically been erased by good breeding and a closer observance of individuality in the sheep.

Among the flock owners of Vermont who became prominent in the early introduction of merino sheep into the state, 1808 to 1845, there is recorded the names of Mark Richards, Luther Richards, Amos W. Barnum, R. T. Robinson, Truman Chittenden, Richard Crowingshield, Horatio Seymour, Edwin Hammond, Prosper Elithorp, J. S. Pettibone, Jehial Beedle, Elijah Wright, Hon. Charles Rich, Justice Skinner, Leonard Beeble, Dr. Randall, Erastus R. Robinson, Tyler Stickney, N. H. Bottum , Frederick Button, David P. Holden, Eber R. Murry, Augustus Munger, S. T. Baker, James M. Ormsbee, D. and G. Cutting, Merrill Bingham, Zenas Skinner, A. L. Bingham, S. W. Jewett, David Cook, Charles B. Cook, R. P. Hall, W. M. Lincoln, W. S. Hammond, W. C. Wright, S. L. Bissell, L. C. Remele, Joseph Marsh, C. W. Browneli, William Gage, W. R. Sanford, L. G. Bingham, Alfred Hull, N. T. Sprague, Philo Jewett and E. N Bissell.

It is plain to be seen that Vermont became the merino sheep center, following the importations down to recent years. While there were many flocks established in Connecticut, New Hampshire and other New England states, Vermont took the lead from the start, and has been able to maintain a reputation for its skill and proficiency in breeding that no other similar area in the world can approach, either in uniform high quality of sheep or ability to put its produce out into the markets of the world.

The Vermont sheep peddler became a very conspicuous feature in the sheep trade over Ohio and other so-called western territory more than half a century ago. The introduction of the Vermont merino rams into western sheep-raising districts and into the western flocks, while sometimes sold at extravagant prices, more than their real value, was in the end the means of grading up the common sheep of the country much more rapidly than otherwise could have been accomplished. The country west has profited by the energy, enterprise and skill of the Vermont breeders in their wonderful improvement in building up quality and value in the Spanish merino sheep. A present-day comparison of the sheep and fleece with that of the Humphrey and Jarvis importations would scarcely be credited as being of the same blood and breeding.

The following importers, dealers, breeders and handlers of the Spanish merino sheep in the early period of fine wool sheep history, in the United States, and who contributed largely in the supply taken by the Vermont sheep breeders, were Colonel David Humphreys, Consul Jarvis, Stephen Atwood, Richard Crowningshield, Horatio Seymour, Daniel Bacon, John Nettleton, Andrew Cocks, Effingham Lawrence, Jacob N. Blakeslee, Joseph J. Bailey, Buck and Atwater, John A. Tainter, George Atwood, Jerry Smith, David Buffum and Captain Nathan Dorrs. The above sheep handlers were located principally in Connecticut and Rhode Island.

Better Breeding Sires for Kansas

State-Wide Campaign Through Farmers' Institutes

The farmers' institute course in Kansas for the month of April had the topic, "Better Sires for Kansas." This was made a general appeal all over the state, and through this concentration of thought and effort it was believed that great good would result in live stock improvement. The special features of discussion were outlined in the following questions:

What points should be considered in selecting a good bull of the beef type?

What points should be considered in selecting a good bull of the dairy type?

Where can animals of the right type be secured?

How long should one bull be used in the same herd?

How shall we co-operate in securing and using better sires in this community?

Why not extend the usefulness of good sires by community breeding and by exchange of animals?

This is an excellent idea to bring before all the people of the state, at the same time and the same subjects. It will stimulate increased interest among institute workers as well as arouse a sort of spirit of rivalry and contest among the local institute members and patrons.

The community plan of purchasing good sires, if rightly organized, is an excellent idea, as it gives better opportunities for securing first-class animals, and one sire may, when rightly managed, serve the purpose of three, four or half a dozen small farmers. The arranging for an exchange of sires is also a great saving in expense, where there is an understanding in advance. This is practiced to some extent in all communities where the farmer does not feel able to buy as good an animal as his judgment suggests he should use.

This entire proposition, however, depends upon the co-operative spirit that is cultivated among a community of farmers. It is usually most satisfactory to trade or exchange breeding, than to have partnership interests in breeding animals. If people were all alike, thought alike and could have the same spirit in carrying out the meaning of the Golden Rule, there would be great advantages from co-operative breeding.

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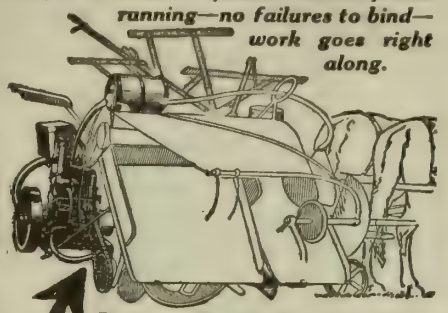

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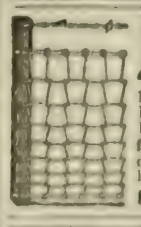

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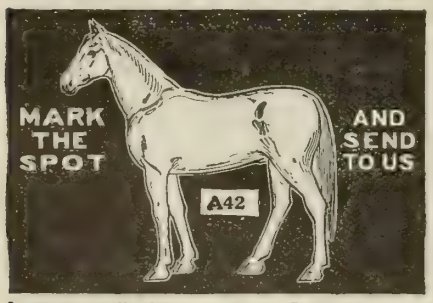

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Mexico's Volcano and Its Sulphuric Treasures

By Frank G. Carpenfer

MEXICO CITY—Do you want to buy a volcano? If so, come to Mexico and size up Popocatapetl. You may have to take your life in your hands on account of the Zapatistas and other rebels camped near its foot, but you will be moderately safe at the top. Popocatapetl is the highest smoking volcano on the North American continent, and I am told that as soon as matters are quiet it can be made to pay big dividends on the price now asked for it. The old mountain has been for sale, off and on, for the last twenty-five years. It was bought in 1904 by a syndicate of Americans, headed by Captain Charles Holt of New York. The consideration was $10,000,000 in Mexican money, and the American company had an authorized capital of $10,000,000 in gold. The plan was to work the enormous sulphur resources of the volcano and at the same time to supply ice to Mexico City from the ice fields which cover the peak. The principal forests about the base of the mountain were also to be converted into a beautiful park and an inclined railway to the top was to bring tourists here from all over the world. This sale was only half consummated. The title was disputed and the Mexicans could not deliver the goods. After several years the project was abandoned and the mountain came back to General Sanchez Ochoa, one of the great mining engineers of Mexico, who owned it these many years. I am told that the Pearson syndicate, backed by Lord Cowdray, has since considered the purchase, and that its plans include cogged railroads, not only to the top of the old "Popo," but also to Ixtaccihuatl, or "The White Woman," that mighty extinct volcano which rises into the clouds only a few miles away.

"Old Popo." Where This Man Stands at the Rim of the Crater is More Than Three Miles Above the Mexican Gulf

Sulphur for All the World

Popocatapetl itself is a live volcano, or, at best, it is only sleeping. Since the time of Cortez it has had ten mighty eruptions; it is the Vesuvius of America, and is liable to break out at any time in another great burst of fire and lava; its last eruption was in 1802, but it is still breathing brimstone fumes from the great holes in its crater. These holes are from seven to twelve inches in diameter, and they ooze liquid sulphur, making the crater a great brimstone factory.

The crater of old Popo is about a mile wide at the top and something like a thousand feet deep; it is shaped like a bell, the diameter at the bottom being one-fourth of a mile and the floor, which is pure sulphur, going down, it is said, a thousand feet deeper. The mountain is spitting out sulphur at the rate of more than a million tons per annum. Since the conquest of Mexico more than 100,000,000 tons have been taken out of it, and it is estimated that there is half as much more on the floor of the crater, running down to a depth of 500 feet.

The supply is far beyond the demands of all the world, and if it could be marketed it represents wealth beyond the dreams of avarice. The annual consumption of sulphur in the United States and Europe is perhaps 600,000 or 700,000 tons. The most of the product comes from Italy, and it sells for $20 a ton. If it could be supplied by Mexico it would mean a gross income of $14,000,000 a year, and the sulphur in sight at half the above rate would be worth a billion and a half of dollars. As Colonel Sellers said of his famous eye-water, "There's millions in it."

Mining the Sulphur

In case the mountain is sold, the mining of this sulphur will be by modern machinery, and the cost of bringing it to the market will be comparatively small. The millions of tons already produced have been dug up by the Indians and carried in bags by means of rope ladders out of the crater to a point where it could be drawn up with a windless and rope, worked from the rim.

As soon as the sulphur comes to the top it is handed over to men who place it on straw mats and slide with it down over the snow to the timber line, from where it is carried by horses and mules to the cars.

Although the crater is exceedingly hot, it is three miles above the sea, and its rim is bordered with perpetual snow. With the exception of the holes, its floor is solid, and the workmen can move about freely over it. Now and then water bursts in, and this, striking the floor, causes steam, which rises high over the mountain.

The World's Greatest Volcanoes

Popocatapetl is next to the highest point on the Mexican uplands, being only surpassed by Mount Orizaba. It is the fourth highest mountain in North America, kissing the clouds at 17,800 feet above the sea. The only mountains on our continent that are higher are Mount St. Elias and Mount McKinley, in Alaska, the latter being over 20,000 feet. Pike's Peak is more than 3,000 feet lower and Mount Washington not much more than one-third as high.

I have seen most of the world's great volcanoes. One of the best known is Stromboli, called the lighthouse of the Mediterranean sea, down the side of which lava is continually pouring. It is not far from Sicily, where Etna is now in mild eruption, and near Vesuvius, whose smoky cone is less than one-fourth as tall as old Popo. I have been on Vesuvius during a mild eruption and have seen the golden lava flowing down in narrow streams. One could cook an egg over them by holding it in a wire basket.

The Fire Island of Java

The island of Java is made up of so many volcanoes, the fires of

DR. TALKS ON FOOD
President of Board of Health

"What shall I eat?" is the daily inquiry the physician is met with. I do not hesitate to say that in my judgment a large percentage of disease is caused by poorly selected and improperly prepared food. My personal experience with the fully-cooked food, known as Grape-Nuts, enables me to speak freely of its merits.

"From overwork I suffered several years with malnutrition, palpitation of the heart and loss of sleep. Last summer I was led to experiment personally with the new food, which I used in conjunction with good, rich cow's milk. In a short time after I commenced its use the disagreeable symptoms disappeared, my heart's action became steady and normal, the functions of the stomach were properly carried out and I again slept as soundly and as well as in my youth.

"I look upon Grape-Nuts as a perfect food, and no one can gainsay but that it has a most prominent place in a rational, scientific system of feeding. Anyone who uses this food will soon be convinced of the soundness of the principle upon which it is manufactured and may thereby know the facts as to its true worth." Name given by Postum Co., Battle Creek, Mich.

"There's a reason," and it is explained in the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

lch you can see as you go along
coast, that it is called the fire
ind. Between it and Sumatra is
akatoa, the top of which blew off
out twenty-seven years ago with
explosion which was heard in
ithern Australia, 2,200 miles
ay. That eruption took away two-
lrds of the island, and the sea is
w 1,000 feet deep where the center
the mountain once stood. The
ggest volcanic crater in Java is in
e eastern part of the island; it is
own as the Sand sea; it is sur-
unded by craters and it has other
lcanoes in its center. I rode across
e Sand sea on a pony and climbed
the top of the Bromo volcano,
hich is still active within it.

Our Volcano Park

Some of the finest volcanoes are
ose of the Hawaiian islands, and
e most wonderful volcano park
iat can be imagined is that which
ncle Sam is now making on the
land of Hawaii; that island is com-
osed of volcanic materials and it
as been built up from the sea bot-
m; this mass of lava is now 14,000
eet above sea level and it extends
rom the bed of the ocean up to the
urface of the water, a distance of
6,000 feet more. Therefore, the
olcanic pile which ends in the cra-
er of Mauna Loa is really 30,000
eet high, or higher than Mount
Everest is above the level of the
Bay of Bengal. Mount Everest, in
he Himalayas, is the highest moun-
ain on earth. The crater of Mauna
oa, in our new park, is three miles
ong, two miles wide and a thousand
eet deep; the floor is hard, but quite
ot, and there are cracks through
hich you can see the hot liquid
ock far beneath.

Mother Earth's Volcanic Belts

All of the Sandwich islands are
olcanic, and, indeed, two-thirds of
he volcanoes of the world are said
o be upon islands; they seem to run
n certain belts over the globe. One
elt nearly encircles the Pacific,
irdling that ocean, as it were, with
ighty smokestacks, from which
ours forth steam. This belt begins
ith the southern part of South
merica and runs up through the
ndes to the Culebra cut, where
team has been oozing out of the
reat gash made for our canal. From
here the belt goes northward
hrough Central America and Mexico.
saw some of its steaming craters
ast winter while I was in Costa Rica
nd Guatemala, and we have it again
ere in Popocatapetl and the now
tea ing volcano not far away.

The belt widens in the United
tates, but there are no active vol-
anoes there, and it narrows again
hen it gets to Alaska. As it
eaches Asia it has spasmodic erup-
ions, now and then throwing an
sland up in the sea, only to take it
way a few months or years later.
The volcanic zone seems more active
s it goes south through Japan to
he Philippine islands, and thence on
o the Dutch East Indies, New
Guinea and New Zealand. The vol-
anoes of the West Indies are said to
e one of its branches, but those of
he Mediterranean are apparently
ndependent of it or of any other
olcanic zone.

There are some volcanoes in Af-
rica and many extinct ones in Asia.
Among the most beautiful volcanoes
of the world are Fujiyama, Japan;
Mount Egmont, in New Zealand, and the Moyon on Luzon, in the Philippine islands. They are all perfect cones.

Old "Popo" and the "White Woman"

There are few mountains, however, more beautiful than Popocatapetl and Ixtaccihuatl, or, as they are commonly called here, "Old Popo" and the "White Woman." And there are none so high which may be so easily ascended, and which pay so well for the trip. Both mountains are covered with snow, and, standing on the cathedral here in Mexico City any evening, you can see this snow turn to silver and then to burnished copper by the rays of the setting sun. "Popo" is a little more than a thousand feet higher than his sister, Old Izzy, and his form is, perhaps, more majestic.

Ixtaccihuatl is called the "White Woman" because the top of the mountain is shaped like the gigantic snowlike figure of a woman who lies on her back with her feet facing old Popo. As one stands on the cathedral he can plainly see the outlines of the head, with its protruding eye, the swelling breasts covered with snow and the rest of the snow-clad covering through which the mighty knees and feet seem to peep. The mountain is over 16,000 feet high and the figure makes one think of a giantess lying on a mighty bed and covered with white.

A Love Story of the Gods

According to the Aztec tradition, in the days of the beginning of things, a mighty god named Popocatapetl came to earth, and there fell in love with one of the prettiest of the Aztec maidens. The girl had a perfect form and her skin was as white as the driven snow. Old Popo made her his wife and took her to heaven to reign with him. She proved too handsome, however, and soon all of the young gods were running after her.

At last old Popo learned that she had been unfaithful to him, and he changed her into this mountain. As she turned to snow and lay dormant on the top of the rocky mass of his creation, he grew remorseful; his heart froze with regret and he assumed the form that he now has in the mountain of Popocatapetl. At times he grows angry, and then he spits forth the fire and brimstone that come out of the volcano. The natives say that the earthquakes are his groans and the steam and sulphur fumes his perpetual sighing.

Climbing Popocatapetl

The ascent of Popocatapetl can be made in about three days, at a cost of $25 or $30 in gold. One needs warm clothing, strong shoes and several good guides. You can ride on the railroad to the foot of the mountain, stopping at Amecameca, a town of 14,000, which is about a mile and a half above the sea. Here you can get your outfit and horses and by nightfall can reach a rest house, where you may sleep. This is Tlamacas, at about 12,800 feet above the sea. You will find it bitter cold about midnight and colder still toward morning. You rise early and at 7 a. m. are again upon horseback. Two hours later you have gone up 3,000 feet and are at about the altitude of Pike's Peak or Fujiyama in Japan. Your breath is now thin. You debate the worth of your thoughts and wether it will pay to use the strength needed to utter them. Your feet have grown heavy and you cannot walk fast.

The first part of your way is through loose, shifting, black sand, and the latter part is all snow. You are soon far up in the clouds, above the rest of the world, and if the day is clear you have magnificent views of the valley of Mexico and the great capital, which lies in a basin, surrounded by mountains. Higher still and the "White Woman" lies below you, and all around are the great hills which form the most striking features of the Mexican plateau. Most of the time you are in the clouds and now and then you can see the clouds both above and below you. They look like live things and you can watch them crawling to your feet and chasing each other from mountain to mountain. Now they envelop you in a mist and then pass onward and upward until they are lost in the crater.

As you rise, the snow, which is wet at the start, grows harder and dryer, and near the top there are pillars of ice, which tear your hands as you pull yourself from rock to rock. The glare hurts your eyes and you drop as you stand at last on the edge of the crater at one of the topmost points on the roof of the North American continent.

I stopped at Orizaba on my way from Mexico to Vera Cruz. The town lies on the slope of the highest peak on our continent, south of Alaska. This is Mount Orizaba, which is surpassed only by Mount McKinley.

Mount Orizaba is over 18,000 feet high and it is harder to ascend than Popocatapetl. The first men who ever reached the top were some of our American officers during the Mexican war, and the next man who went up was a Frenchman. He made the ascent in 1851, and found on the peak a tattered American flag floating from a staff, in which was cut the date 1848. A few years later this same Frenchman attempted a second ascent and nearly lost his life while doing so.

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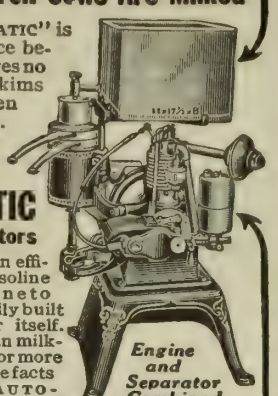
J. C. Reefer, the poultry expert, of 1844 Main street, Kansas City, Mo., is giving away a valuable book entitled "White Diarrhoea and How to Cure It." This remarkable book contains some new scientific facts on white diarrhoea and tells how to prepare a simple solution that cures this terrible disease over night. Every one interested in poultry should certainly write Mr. Reefer for one of these free books.

The Hand Cranked Separator is Doomed Wherever Ten Cows Are Milked

The "AUTOMATIC" is taking its place because it requires no cranking. Skims faster than ten men can milk. When milking is done skimming is done.



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BOCK'S WHITE WYANDOTTES

Last week's Twentieth Century Farmer cover page was a reproduction of a cockrel in my breeding pens. First prize winners at Sioux City, Des Moines and Omaha. Eggs for hatching.

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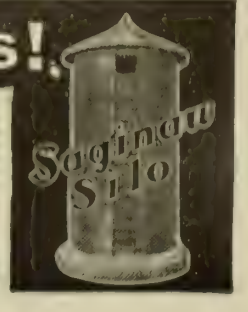

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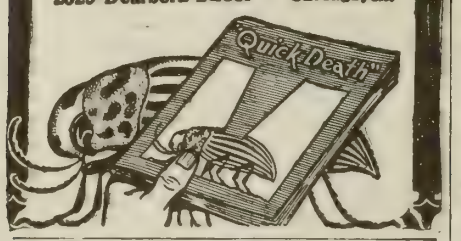

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Picked in September, sure growing, big yielding, Reid's Yellow Dent, Johnson County White, Leaming, Improved Silvermine, and Bloody Butcher, grown by us on Sunnyside Seed Farm which we own and operate ourselves. Send today for the free corn book giving full particulars, prices, etc.

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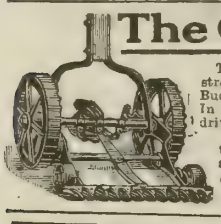

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Clipper Lawn Mower Co., Dixon, Illinois.

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FALL CITY NURSERY, Fall City, Neb.

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Reid's Yellow Dent, St. Charles White, Red or Bloody Butcher and University No. 3 (an excellent 90-day corn). This is strong, rugged seed of my own growing and selection. Can be certified by the Nebraska Pure Grain and Seed Growers' Association. Write for my new illustrated catalog.

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A new edition (Spring and Summer, 1913, issue) of EVERY WOMAN HER OWN DRESSMAKER, illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

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When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

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Description of Patterns

4715—Ladies' Kimono. Here is an excellent design for making a long kimono. This pattern can be made with the high or low neck, and with either long or short sleeves. Any of the crepe materials can be used to make this kimono with the trimming of contrasting material. The pattern 4715 is cut in sizes 32 to 44 inches bust measure. Medium size requires 6¾ yards of 36-inch material.

2952—Children's Sack Apron. This little apron affords complete protection to the frocks of the small girl, as it is made with high neck and long sleeves. By sewing up the back of the skirt from the waist down the apron may be made to serve as a dress in warm weather. The pattern 2952 is cut in sizes 2 to 12 years. Medium size requires 3¼ yards of 27-inch material.

5701—Ladies' Skirt. This skirt is cut in four pieces and is made with the Empire waistline. Serge, cheviot or broadcloth can be used to make this skirt. The pattern 5701 is cut in sizes 22 to 30 inches waist measure. Medium size requires 3⅞ yards of 36-inch material or 2¾ yards of 44-inch goods.

5863—Ladies' Skirt. This skirt can be used to complete a coat suit or it can be worn with a waist of the same material. It is cut in two pieces and closes at the front, or at the back, as preferred. Serge or broadcloth can be used to make this skirt. The pattern 5863 is cut in sizes 22 to 30 inches waist measure. Medium size requires 4¼ yards of 36-inch material.

4142—Ladies' Corset Cover. This corset cover is designed for flouncing. It has the V-shaped neck, front and back, and is made with a seam at the center back. The pattern 4142 is cut in sizes 32 to 44 inches bust measure. Medium size requires 2 yards of 16-inch flouncing.

4841—Ladies' Waist. This plain shirtwaist is one which can be made of some of the pretty silks which are so neat and serviceable, or it may be made of a good quality of messaline. The Gibson effect is obtained by the short tucks at the shoulders in front and the full length tucks at the back, while the finish of the neck, with a band, allows the use of various styles of collar. The pattern 4841 is cut in sizes 32 to 42 inches bust measure. Medium size requires 3¼ yards of 27-inch material.

The Graduating Dress

It is a handicap to our great system of public school education that many must yearly drop out from the high school work for the simple reason that they cannot afford to graduate. While we understand the feelings of wealthy parents in wishing the occasion to be one for their own, second only to the wedding day, yet this is not, or should not be, a social function. It is a part of our great public school educational system, and those who transform it into a display of finery thwart in a measure the general efficiency of our public school system.

Of late school officials have in many places taken the matter into their own hands, and as a result a limit is set beyond which no one is allowed to go for the graduating dress. Five dollars seems a popular amount for this limit. And while the maid desiring an expensive dressmaker will be disappointed, for the girl of moderate means the ruling comes with great relief.

Sheer goods, or plain muslins in simple pattern, are much more appropriate for the occasion than expensive silks and satins. They are within the means of the humblest. And those skilled with the needle find no difficulty in evolving elegant gowns from this material. Let it not be said that, after offering a good public school education, the gift is withdrawn just as the diploma is about to be handed out, because graduation requires dress so expensive that the poorer girls prefer not to graduate.

BESSIE L. PUTNAM.

Of Interest to Our Women Readers

Won't It Soon Be Spring?

ar Mother Earth, won't it soon be spring?
ts that a robin? I heard him sing!
eetly it came to me through the ground
that I woke from my slumber sound.
ere was a murmur as soft and sweet
patter and tiptoe of fairy feet;
ch grassblade is trembling in tiny sprout—
Mother Earth, may I please come out?

Mother Earth, in your heart of brown
ere I have lain in my sleeping gown—
ow I would cast away and thrill
to the world as a gold daffodil.
ow I would push through the ground that lies
ver my heart and below the skies;
ere is a message I long to bring.
ear Mother Earth, won't it soon be spring?

n't we set life to its gentle tune—
ipple and murmur and ebb and flow
nkle and whisper of life aglow?
ere I have lain in my slumber fast,
ow I'm awake. Is the winter past?
want to see skies and the birds a-wing.
ind Mother Earth, won't it soon be spring?

ear Mother Earth, I shall have to go;
laybe it's cold, and the frost and snow
Vill wither my leaves and blacken my gold,
ut I can't stay in your dark, brown mold.
m coming—I'm here! Oh, I had to see
What the brooklet would murmur to welcome me.
Hark; that's the robin—I hear him sing:
Daffodil, dear, you have brought the spring!"

—Lilian Lauferty.

Our Home Chat

Whether conditions are becoming worse, or whether our attention is being more called to them, is a question. But there is no question that our girls should be very carefully guarded and very carefully taught to look after themselves. Ignorance and innocence are no protection to a girl when the subtle white slavers are at work in the cities, and even invading the country. Transportation companies are becoming so aroused that they are making an effort to educate people to the dangers which threaten. They are printing cards of instruction for lone girl travelers. The advice is so good that every mother should make sure her daughter understands the simple safeguards which are summed up in these warnings:

Never speak to strangers.

Never ask the way of any but officials on duty.

Never stay to help a woman who suddenly faints at your feet. Call a policeman.

Never accept an invitation to join a Sunday school or Bible class given by a stranger.

Never go to a residence or address given by a stranger.

Never smell flowers, drink water or accept candy from strangers.

Never accept a situation without first making inquiries through some aid society.

Never enter a large town to stay over night without knowing a safe lodging.

In a city there is almost always a "travelers' aid," a woman employed by the Young Woman's Christian association, to help women and children. The Young Woman's Christian association will always recommend safe lodgings and give other asistance. The Salvation Army, though humble, never refuses aid, nor turns anyone away. Women, old or young, should not hesitate to seek help of these proper sources, but never from strangers.

THE EDITOR.

The Castor Oil Plant

Our grounds are sadly lacking in shrubbery, and to fill this very much-felt want I planted several castor oil plants about the lawn last year. The effect was very encouraging. The castor oil plant is an annual growing from seed, and it reached a height of fourteen feet upon our lawn. Grown as a single specimen in this way the castor oil plant attains a most beautiful size and shape. It produces a very tropical effect and is a subject of much admiration, even from a distance; its leaves are large and beautiful in color, having a wonderful glistening surface. We planted the seeds out of doors late in the spring. Growth is very prompt and fast. The seed itself is very attractive, being large and curiously shaped. They are of a mottled gray and brown color. We also planted several plants together and they made a beautiful mound of shining color, although they did not reach the height of the single specimens. Castor oil plants can also be planted thickly in rows and form a beautiful and effective hedge or screen. It is a very ornamental plant and should be used more often.

MARGARET GRIFFIN.

Making Maybaskets

Little folks look forward to May day with an expectancy that is in itself a joy. The child who has not made a variety of Maybaskets and hung them to its friends in the twilight of May day eve has missed something from his share of fun. A few cents' worth of crepe and tissue paper, a tube of paste and a little patience will work wonders.

The fringed basket is easy to make and very pretty. Small boxes of any shape, with a handle neatly attached, is all that is required for a foundation. Cut strips of paper three inches wide and fold them back and forth until there are several thicknesses, so they may be fringed all at once. Cover the box with fringed paper, twist paper about the handle and tie bows where it joins the box. A rose basket may be made by covering a small, round box with pink paper petals. Cornucopia baskets are made by folding a square of either doubled or heavy paper in cornucopia shape and finish with fringed paper. A kindergarten mat makes a pretty basket in this shape. The large envelope-shaped baskets made from a paper napkin, or of dainty wall paper, and trimmed with rosettes are very quickly made.

A charming basket, round in shape and cut from heavy wrapping paper ten or twelve inches across, is a very good size. Cut a larger circle from tissue of the desired color, cover the heavy paper with it, turning the edge over and pasting down. As soon as dry fold exactly through the middle, then three times more, crease well, then open it and make small holes close to the inner edge of every fold; in these run a silver cord or baby ribbon; flatten out the bottom of the basket and draw up cord until the sides are nearly straight, and tie. This makes a fluted shape. A handle of paper or ribbon may be added.

Maypole baskets are just slender cylinders of cardboard, with bottom and handle glued fast, and covered with strips in two colors in Maypole fashion. Picture tubing is just the thing for these, and the simplest baskets of all, and very dainty ones they make, too, are the ones made by cutting circles of tissue paper, putting two or more together, and fringe the edges; gather with a needle and thread about one inch from the edge. Decorate to suit the fancy with handles of braided or twisted paper and bows.

There are no hard and fast rules about making May baskets; no two need be alike. For a child's May day party, or even the grown-ups, nothing is nicer for favors than the dainty home-made baskets filled either with sweets or spring flowers. If they are flower-filled, line with a sheet of paraffine paper; add a bit of damp cotton to keep the flowers fresh.

MRS. GILBERT.

Young America

"Oh, dear!" sighed 5-year-old Gladys, seeing her father hurry down to breakfast, while she was still undergoing the agonies of the coiffure, "how soon it takes a man to dress himself!"

Look for a Boy Anywhere

David Grayson, writing one of his new "Adventures in Contentment" in the American Magazine, made this observation:

"Long ago I made a motto about boys: Look for a boy anywhere. Never be surprised when you shake a cherry tree if a boy drops out of it; never be disturbed when you think yourself in complete solitude if you discover a boy peering out at you from a fence corner."

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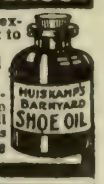
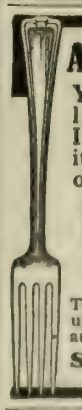


A Handsome Pattern



You will like the popular Cromwell pattern. It has grace and simplicity, and the appearance of solid silver. Ask for

1847 ROGERS BROS.

This brand is known as *"Silver Plate that Wears"*

To buy this ware is to get the utmost service and satisfaction and the heaviest silver plate.

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$10.20 Sweep Feed Grinder. | **$14.00** Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

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Seventh St., Topeka, Kansas

The Winged Message

Noah's messenger was a dove. In Solomon's time, pigeons were trained to carry messages. Brutus used them at the siege of Modena. They served the Turks in their fights against the Crusaders. In mediæval wars they were more useful than ever before.

France had a carrier-pigeon mail service, with messages reduced by photography and read through a microscope.

Even today carrier pigeons are utilized as news-bearers in isolated parts of Europe.

In America, the land of the telephone, the carrier pigeon is bred only for racing. The winged word has taken the place of the winged messenger.

Pigeons may fly more than a mile a minute, but the telephone is as quick as speech itself.

The dove is the emblem of peace. The telephone is the instrument of peace. The telephone lines of the Bell System unite a hundred million people in one national family.

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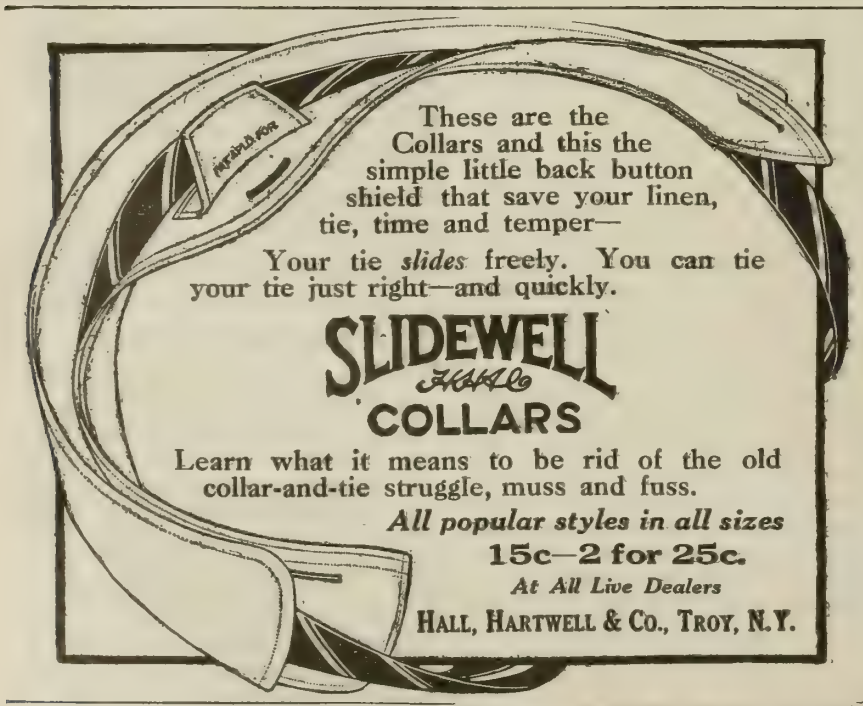
One Policy · *One System* *Universal Service*



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Lotz Bros., 121 N. Main St., St. Louis, Mo.

Stories by Our Young People

Stilts

My uncle made some stilts one day,
And let me have them for my play.
They hold me up so fine and high
I seem almost to touch the sky.
I know that I must surely be
As tall as grandpa's cherry tree;
And when I walk I seem to look
Just like the giants in my book.

Each step I take is like a mile!
I cross the pasture to the stile,
And wade the brook to reach the mill,
And travel up and down the hill.
Then in the field I walk all round,
And seem to fly across the ground,
And all my journeys quickly make
Because such monstrous steps I take!

I look about on every side
And see the big world stretching wide.
The fields and gardens fresh and gay,
The rivers flowing far away;
And when I call my voice rings out—
It roars and echoes all about.
At last I jump to earth and then—
I'm just a little boy again.

—Eleanor Cameron, in Youth's Companion.

The Editor's Corner

Prof. M. V. O'Shea of the University of Wisconsin has issued some statements in regard to smoking by boys. He says that records and figures show that about 90 per cent of the boys who fail in their studies in the grammar and high schools are smokers, and that practically all unruly boys smoke. Records show that boys who begin to smoke after entering high school begin to go down in their averages, and show a marked effect in lessening of mentality by tobacco.

Most boys do not start to smoke because they like it; it usually makes them sick; that is nature's way of protesting against the poison. The average boy who smokes does so because the boys he goes with do, and he wants to be just like the rest. This is one thing in which it pays to be "different;" it pays to keep the brain unimpaired for the work it must do through life. No boy would think of deliberately injuring his right hand, and the brain is of much greater importance.

THE EDITOR.

(Prize Story.)

Mayor and the Kitten

By Orvie Campbell, Aged 13, Hubbard, Neb. Original. Red.

Mayor is a large dog, and a smart one, too. It would take too long to tell all that he knows and does, but one short tale ought to be told. Each day Mayor takes a tin pail in his mouth and goes for milk. He always brings it home safe and never spills a drop. This is more than some boys can do. Once in a while, when Mayor comes out with the pail of milk, he finds the gate closed; this does not stop him; he gives a sharp look and jumps the fence, milk and all.

One day Mayor's master went away with all his folks. The dog was left to guard the house. There was a small kitten at home, too, and by noon she grew quite hungry. No food was left for her. She began to mew in pain. Now, what do you think Mayor did about it? The poor kitten could not eat the dog's bone, or maybe he would have left her a piece. As it was, he picked her up in his mouth and took her to the farm house where he got the milk. The folks at the farm praised Mayor and poured out a saucerful of milk for the poor kitten. When she drank enough the good dog picked her up once more, jumped the fence and went home with her. Now, was not this a very kind, as well as a wise, act for a dog?

(Honorable Mention.)

Gyp, Snip and Flyp

By Marie Dodd, Aged 11, Newkirk, Okl. Original. Blue.

Once there were three little fairies; their names were Gyp, Snip and Flyp. Gyp was the oldest, Snip came next and then Flyp, who was the youngest. One day they were walking down the river's side, when Flyp found a large buttercup; he thought he would go out on the river and take a boat ride and not tell his brothers where he was. So he got into his boat, but when he got out in the river his boat sprung a leak. He then wished he was with his brothers, who were picking flowers.

Gyp and Snip had not missed Flyp until this time, when Gyp said:

"I wonder where Flyp is; he must have strayed off up the river."

"We must go and look for him," said Snip. So they started up the river to find Flyp. When they had gone but a little distance Snip said:

"Who was that I heard calling for help?"

Just then Gyp looked down the river and saw Flyp. They both went to rescue him, and when they reached the land he said:

"I shall never go away again without you." And he never did.

Beauty and Her Pony

By Elmer Berke, Aged 14, DeKalb, Ill. Red.

One day papa went to a sale and bought an old pony; she was cream color and blind in one eye. The first year we had her she had a dear little colt that was very beautiful. She is now a dandy roadster. The next year Beauty had one more colt. When the colt was 2 weeks' old the mother died; then we had to raise her colt up on cow's milk and feed her oats and hay. She never got very large. She is 4 years old now. Every night and morning she would stay around the house and as soon as papa came out of the house she would run and kick him if he did not look out for her. We have a great deal of fun with her out in the pasture. Papa is talking about selling her for $100.

Additional Stories

RED—Lucile Potter, Blunt, S. D.; Willie Hahn, Keystone, Neb.; Robert Arneld, Keota, Okl.; John Shaver, Kirksville, Mo.; Mary Hain, Blair, Neb.; Lauren Maltby, Kirksville, Mo.; Joe Donat, Brainard, Neb.; Thelma Larson, Blackfoot, Idaho; Edith Toland, Lexington, Neb.; Paul Peterson, Wakefield, Neb.; Edwin Matzner, Gresham, Neb.

BLUE — Faynella Elmendorf, Rock Falls, Ill.; Zeraide Downey, Sumner, Neb.; Johnnie Strathman, West Side, Ia.; Mamie Kindig, Henderson, Ia.; Meree Rathjen, Garrison, Neb.; Elizabeth Reynolds, Curtis, Wash.; Wilma Bryant, Pendleton, Ore.; Jessie Bratt, Arapahoe, Neb.; Bernice Babbitt, Lyons, Neb.; Della Cupit, Ravenna, Neb.; Edith Campbell, Valley, Neb.; Lettie LeBar, Miller, Neb.; Cecil Russell, Meadow Grove, Neb.; Agnes Peterson, Popejoy, Ia.; Helen Smith, Vananda, Mont.; Ruthie Paine, Lyons, Neb.

The Twentieth Century Farmer

By Walter Ellis

THE TWENTIETH CENTURY FARMER is a title that may be applied to two things. First, the one who es and tills the soil in this day d age; and second, an agricultural per edited and published for the nefit of the farmers. Let us use a moment with the twentieth ntury farmer in its first meaning. its truest sense the twentieth cenrmer is the man who uses up-to-te methods of tilling the land, seting and planting the seeds and aping a golden harvest in the fall. ie twentieth century farmer is also farmer who knows all about soil id its contents, what it needs to oduce the best yield. He knows ow to care for stock—how and hat to feed the stock, and how uch food to give to the stock. In ort, the twentieth century farmer the up-to-the-minute farmer, who nows all about agriculture, and can re for the land in a profitable way. e is a well educated man in the rious lines of agriculture.

So much for that. Let us take up e twentieth century farmer as it applied in another sense. In this nse The Twentieth Century Farmer an agricultural paper, edited and blished for the benefit of the rmer and for the maintenance of e land. This paper is a good pa- r and serves its purpose in a good anner. In it may be found ointers on soil," "pointers on hat and how to plant seed," also ointers on how to care for stock." l of these suggestions are well orth the farmer's attention. By udying these he may become a bet- r farmer. These suggestions are ade plain, so that it is not hard for e to understand them.

If there is a certain implement a rmer wants to buy, he may turn the advertisement section of the per and will find just what he

WALTER M. ELLIS,
Broken Bow, Neb.

wants. If he wants seeds, etc., he will find just what he wants in the same section. Or, if a man wants to find a market for his stock and grain, in some other town, he has only to search the advertisements. A farmer can find illustrations and explanation of how to make certain articles, such as furniture, buildings, etc. If there is something a farmer does not understand, or if he wants to ask a question, he may send it in and it will be printed along with the answer.

In short, The Twentieth Century Farmer (paper) helps to make the twentieth century farmer, the man who tills the soil.

Note—Accompanying is an essay on The Twentieth Century Farmer written by Walter Ellis of Broken Bow, Neb., for a theme in his English work.

Home Grown Daffydils

The daffydil contest closes with this week's issue.

FIRST PRIZE—Zelpha Hender-, Havelock, Neb.: "Shoot and ke a grand stand, kernel," said farmer to his well drilled corn. "Shucks, you'll shock me," said stalk.

"If you don't dry up and fire," d the farmer, "I'll pull your ears l box them, and thrash you good l sound."

ECOND PRIZE Carl Swanson, ke Mills, Ia.: "Are you Hun- y?"

"Yes, Siam."

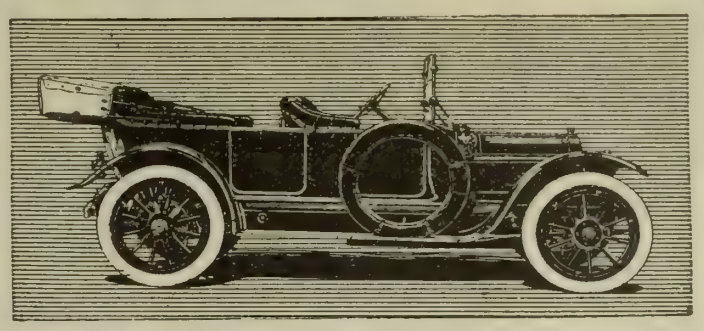
"Then I'll Fiji."

Bertha E. Hayes, Fayetteville, k.—"Alas, I have lost my lady's drops, and Job's tears were no terer than mine."

Good Roads Compositions

A gold medal to the school boy or l between the ages of 10 and 15 who writes the best composition, not to exceed 800 words, on the repair and maintenance of earth roads, is to be awarded by Logan Waller Page, director, office of public roads, United States Department of Agriculture, Washington, D. C. All compositions must be submitted to Mr. Page before May 15, 1913, and the medal will be awarded as soon thereafter as the compositions can be graded. The composition may be based on knowledge gained from books or other sources, but no quotations should be made.

Any child between the ages mentioned attending a country school may compete. Only one side of the paper must be written on; each page should be numbered; the name, age and address of the writer and the name and location of the school which he or she is attending must be plainly written at the top of the first page. The announcement of the composition has been sent to the superintendents of schools in the rural districts. No further information can be obtained from the office of public roads. This announcement should be plain to everyone, and all children will thus start on a basis of equality.



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We save through factory economies that are beyond the reach of others. And what we thus save provides these extra values.

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Westinghouse Electric Starter; Westinghouse Electric Lighting System for all Lamps; Side and Tail Lamps, Combination Oil and Electric; Warner Auto-Meter; Electric Horn; Rain Vision Ventilating Windshield; English Mohair Top, Side Curtains and Cover; 37x4½-inch Tires; Firestone Universal Quick-Detachable Demountable Rims; 124-inch Wheel Base; Three-Quarter Elliptic Springs; 4½x5¼-inch Cylinders; Brown-Lipe Transmission; Timken Full-Floating Axle; Rayfield Carburetor with Dash Adjustment; Bosch Magneto, Dual System Single Point Ignition. The usual Tools, Tire Repair Kit, Jack, etc. And in addition, Extra Tire and Tube on Rim, Extra Tube separate, Tire Cover, Tire Chains and Handy Work Light on long wire.

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Send me please, your Automobile Catalog.

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It's mighty fine! The best tobacco you ever tasted.

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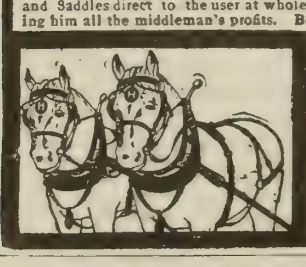

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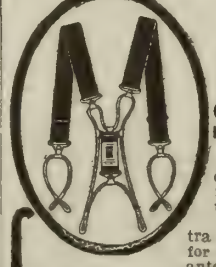

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Another Way to Exterminate Fleas

F. O. T., Ord, Neb.: I noticed in The Twentieth Century Farmer an inquiry concerning how to get rid of fleas, and wish to inform your inquirer that if he will use gas tar in large enough quantities about his outbuildings it will exterminate the fleas for all time.

Udder Trouble

F. K. N., Lander, Wyo.: I have a half Jersey and half Shorthorn cow, 4 years old, which has something the matter with the back half of her udder. The front teats milk all right, but I can get only half a teacupful of milk at a time from the back teats, then I wait a couple of seconds and she will give another small amount, and so on. This is her second calf, and the first time we had no trouble with her at all. She has been fresh about six weeks. A few days ago I turned her out, thinking it would help her, but it did not.

Answer—Massage daily is as good treatment as can be given for this trouble. Both hands should be used, beginning high on the udder and working downward. It is likely that some of the milk ducts are partly occluded.

Trouble with His Hogs

J. K., Ansley, Neb.: As my hogs are dying, would like to know what is the trouble and what to do for them. I lose one or two every week. I bought some pure-bred Poland-China sows and it seems to affect them most, as all that were taken sick have died. Had one red sow with the disease, but she got all right. I have been giving them slop with lye and carbolic acid and plenty of salt and fresh water. The disease seems to affect their heads, as they lie around, and when they do get up they act as if they were blind, or had pain in their heads. They are very constipated and the excretia is black. They do not seem to have much fever and do not drink much water. Do you think it is caused by something they are eating? Have turned them out in alfalfa pasture, which has not grown alfalfa for a number of years. There is a small weed growing in it, which they eat.

Answer—The letter does not give much of a clue to the trouble. It usually takes a careful post mortem to determine the cause of death. It is possible that these hogs are affected with a very slow type of cholera, which may last from one to three months in a herd, with considerable percentage of recovery. Again, this trouble may be caused by an excess of lye in the feed. The plant mentioned is not one which would cause death. If this trouble continues, it would be well to have some qualified veterinarian make a careful examination of the herd.

Absentee Landlord Editorial Pleases

J. H., Mead, Neb.: I wish to compliment you on your editorials on absentee landlordship; it is something un-American and cannot last. The man who works the land should own it, and will in time.

There never will be any permanency in farming until speculation stops. The higher-priced land get the greater number of tenant farmers we have and it makes it harde for the young man to purchase. Unless the young man can see som prospect of owning a farm he is no likely to stay on the farm, as th prospect of his remaining a tenan farmer is something that does no appeal to him.

Bitter Milk and Cream

T. J. P., Weston, Ia.: We bough a dark-colored Jersey cow last fall she was 5 years old; her milk an cream were sweet, and we coul churn in a few minutes. Now th milk, cream and butermilk are bit ter. The last few times I churne I had to churn so long, and finall the butter would not come at all Now the cow is drying up. Will yo tell me the cause for the milk bein bitter and the cream not makin butter? We now have a fresh cow red, 3 years old. We only have t churn a few minutes to bring th butter, but the buttermilk is bitte What is the cause of that? Th pans, churn and cream jar ar washed, scalded and aired. Any in formation will be gratefully receive

Answer—There are several cond tions that bring about bitter mill Sometimes it is caused by milkin up too close to calving; again, may be caused by something in th feed. Occasionally there is a bitte ness in the milk as it comes directl from the cow that cannot be e plained. It may also be caused b bacteria which may be in the ute sils, or may be in the dust which found in the cow's stable, or upo the hair of the cow, and these g into the milk at milking time. the milk as it comes from the co is not bitter, then we would suspe that it was caused by bacteria th get into the milk at milking time, it seems from the description th the utensils have been proper cared for.

Cane Seed

C. S. M., Goodwell, Okl.: Hav been reading The Twentieth Centur Farmer for some time and appreciat its valuable columns of informatio for the farmer. We are having fine rain here today, the first sinc last September, and we are enjoyin it. Wheat that was planted earl on land that had been summer tille is looking fine.

Will you please give some data o sorghum or cane seed? I hav about enough cane seed to thres out seventy-five or 100 bushels. would have to haul it seven miles t get it threshed, if at all, and the not get over 50 cents per bushel. would cost me 8 cents per bushel t thresh it. I can grind cane head in a crusher and do all the work a no extra cost. Threshed kaffir an maize is worth about 40 cents pe bushel, oats about the same. I hav horses, milch cows and hogs. Woul these ground sorghum heads mak good feed for the stock, especial the cows, or would it have a ten dency to dry up the cows? I hav heard that sorghum seed has th tendency. I could likely get th threshed at home in July or Augu when wheat is being threshed an hold it over until next year, but might not be worth any more the Now, what I want to know partic

y is the effect of this feed on hogs, horses and especially the s?

Answer—It probably would not to attempt to thresh the seed hold it over for next year's nting. The seed of sorghum, of fir corn and of milo maize loses vitality if kept very long after ng threshed out of the head. Wise wers leave the seed in the head il near planting time and then esh, thus preserving the vitality he feed.

s with all other feeds, it should be fed exclusively; that is, the nals should have an abundance ther feed to make up a full ra-. With the milch cows, it would well to feed a fair amount and erve the result, and then in-se or decrease the ration as ob-ration shows the need. It will be th much more for feed than for under the conditions here set h.

Stock Raising

. V., Edgar, Neb.: Live stock ing has been generally profitable ecent years. One reason for this ns to be that live stock raised by farmer is shipped by him ugh one set of commission men he packer, who is also the dis-uter. The packers use the daily ring of live stock immediately, ing a daily market. The price every day is governed in a large ee by supply, demand and qual-The market being open, simple above all, on the square, many ers buy unfinished stock for fu-feeding. This unfinished stock t especially desired by the pack-and this outside outlet for it ents its glutting the market and ing lower prices on quality of-gs.

ackers are to be given credit for high class of their products. y produce economically many ex-nt food products impossible for producer to produce.

ive stock is not gambled on di-ly by any exchange or board of e. The finished products, how-, are dealt in on the board of e, although not equally with ns. This is one reason why live k markets are improving over n markets.

he live stock market has quite a e range of fluctuation—from 5 3 or 10 cents, from 80 to 100 cent. This is not the case with hed products. There is no doubt more meat would be used at 10 s average price per pound for all than at 20 cents.

he logical way, it seems, to in-cheaper meat, and make stock ing profitable, would be to re-e packers to follow price fluc-ion of actual buying prices by esponding prices on all finished products. Take the packers' res for all different products, live stock at a low price for itable business, and establish a ng price for finished products on basis good for thirty days. This ld practically remove the fin-d products from the reach of rd of trade operations. All ab-mal supply would be immediately orbed and quick clearance and a market would result. No man-le shortage would exist. Stock ers could not create any long od of high prices, because live k must have ready clearance at proper time to be profitable. s plan would give a live, all-year rket. Competition would force lers to adjust their prices to buy-prices. There is no law to pre-t the packers from selling their products direct if dealers tried fix prices that were injurious to business. The packers are the t friends the farmer has, and I not see how an arrangement of kind would injure their busi-s in any way.

Answer—The plan proposed by this correspondent is an ideal plan, provided there were ideal trade conditions which it might fit. But there is no regular, steady demand for finished meat products; the amount consumed varies in different seasons, while the supply of live stock is more nearly constant. The result is that packers are obliged to store their finished products while waiting for a sufficient market demand for them. The real remedy for the high prices of meats does not lie so much with the packers as with present commercial methods. The elimination of unnecessary middle men and the control of prices fixed by retailers within reasonable and economic limitations seem to constitute the only feasible plan yet suggested.

Plant Lice in Spring

Some trees and shrubs are loaded every season with plant lice. On those affected last year one is likely to find now small, black, shiny eggs at the ends of the twigs. These can be seen on fruit and other trees, various ornamental shrubs and particularly on the buckthorn. As soon as the tender leaves begin to unfold on this shrub the eggs hatch and the leaves shortly become loaded with lice. Why not, therefore, trim the hedges and shrubs now, and burn the trimmings, burn as well all prunings of fruit trees? It is very well known that plant lice increase at a tremendous rate when once started; therefore each egg destroyed now means the death of hundreds of lice, and the consequent lessening of the work of spraying later.

Lime Sulphur Wash

A concentrated lime sulphur wash for use as a dormant spray may be made by diluting one gallon of concentrated lime sulphur with ten gallons of water. The concentrated lime sulphur is put on the market by many insecticide firms, or may be made at home in accordance with the following formula: Sulphur, eighty pounds; best stone lime, forty pounds; water, fifty gallons. Further information on the preparation and use of the lime sulphur wash may be found in Bulletin 121 of the Agricultural Experiment Station, University Farm, St. Paul, Minn.

Adjusting the Separator

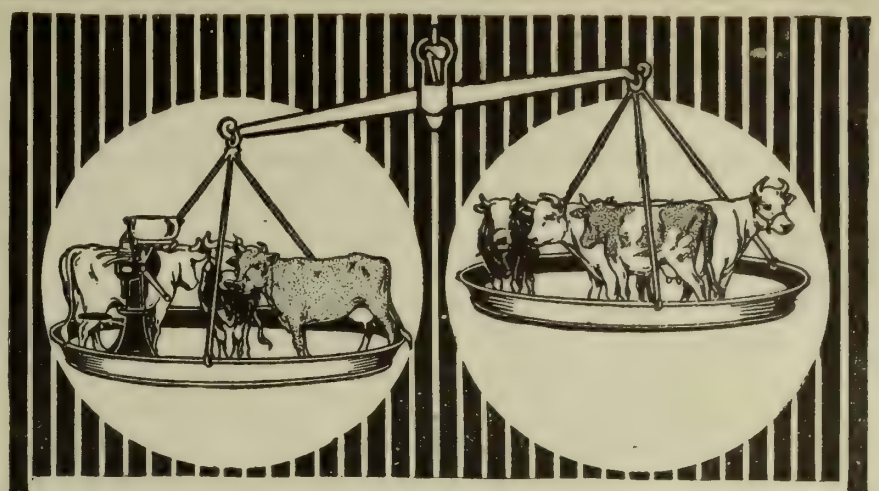
Adjust the separator to deliver a 35 to 40 per cent cream. This will give you the largest quantity of skim milk for feeding, the smallest quantity of cream to cool and take care of and deliver to the creamery, and cream of such per cent of fat will keep sweet longer than cream from 15 to 20 per cent. Cream above 40 per cent is quite heavy, and the loss of butter-fat in transferring it from one utensil to another is considerable.

Helping the Bride

When Mrs. Blank, who had always lived near the coast, was married she went to live in a small Kansas town.

Shortly after her arrival she called on her butcher and ordered a quart of scallops.

"Why, Mrs. Blank," said the dealer, "I guess you will find those at the dressmaker's, and," he added kindly, remembering that she was a bride, "I think they're sold by the yard."—Lippincott's.



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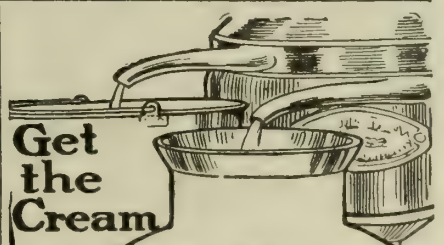

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For forty years the standard stock tonic and conditioner. Progressive stock owners cannot afford to do without it. 25c, 50c, $1; 25-lb. Pail, $3.50 Keep on hand for quick use

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Keep Brood Sows Well Conditioned With Merry War POWDERED Lye

Every hog raiser knows the importance of giving special care and attention to the health of his brood sows; for these animals are the pork producing plant of his farm. He knows he cannot expect strong, healthy litters from sickly, scrawny, poorly nourished brood sows. By feeding a small quantity of *Merry War POWDERED Lye* with the rations, the bowels are kept in normal condition, the blood at an even temperature, and at farrowing time fever will be allayed. The chances for a fine litter of healthy pigs will be greatly increased.

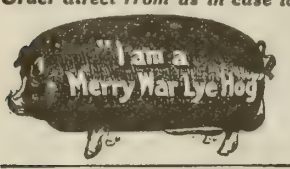
From weaning until marketing hogs should be kept on a *Merry War POWDERED Lye* diet—just a small quantity mixed with the feed. It *protects* hogs against cholera, destroys hog worms, keeps the hogs keen in appetite, adds weight—in short—*increases pork profits.* Don't experiment with ordinary lye. *It might prove dangerous. Merry War POWDERED Lye* is *specially* prepared and is a *safe* hog remedy and conditioner. The *experiences* of thousands of hog raisers *prove* my claims about *Merry War POWDERED Lye.* Here is a fair sample:

It Saved The Life of This Brood Sow

"I want you to know what Merry War Powdered Lye did for a valuable red Duroc Jersey sow of mine. When our sow took sick we did not know what was the matter with her. She looked just like the picture of the skinny hog in your ad., so we used a can of Merry War Powdered Lye and she was able to stand up in three days. When we began using Merry War Powdered Lye we expected to find her dead at any moment. She is now in good condition and I expect her to farrow at least 10 pigs the first of August."

MRS. A. P. SORENSEN, Otter Pond, Ky.

Prove this for yourself. Merry War POWDERED Lye is for sale at most dealers, 10c per can (*120 feeds*). It is convenient to buy in case lots—4 doz. cans, $4.80. *Costs only 5c per hog, per month* to feed regularly—by far the best and much the cheapest hog insurance you can buy. If your dealers can't supply you, write us, stating their names; we will see that you are supplied, also send you, free, a valuable booklet, *"How To Get The Biggest Profits From Hog Raising."* *Order direct from us in case lots (4 dozen cans $4.80) if your dealers won't supply you.*



E. MYERS LYE COMPANY,
Dept. 88 St. Louis, Mo.

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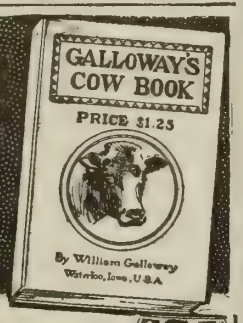
I Want To Send You This Valuable Cow Book Free!



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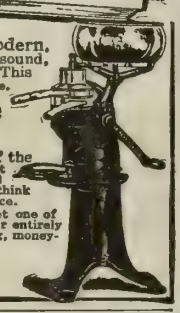

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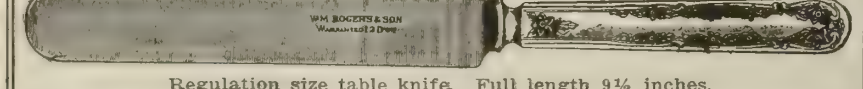

Regulation size table knife. Full length 9½ inches.

That you may obtain a complete set of Wm. Rogers & Sons' Silverware, The Twentieth Century Farmer has added knives to its great offer. Spoons and forks of this pattern have been offered before. (You can still get them.) Start now with the knives. Send 20 cents for each fork and knife and 10 cents for each spoon.

COUPON.
Please send my knife to

Name.....

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Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

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Reader Wants to Know of Some Sure Way of Starting the Poult

KATHERINE B. of Nebraska asks for some sure way of starting the poults. She says that one of her neighbors declares they do best if allowed to run wild and broadcast with their own real mothers, while others say they have best luck by keeping them close at home.

The answer to this first assertion is that it depends upon climate. In Nebraska's climate the earliest hatched turkeys must be well guarded against cold winds and any dampness, and this means limited range and large, clean, dry coops, with inclosures about, and sensible feeding, and close watch against lice.

One woman that I know, besides laying great stress on strong breeding stock and careful diet at first, really attributes her success to starting each poult on a grain of pepper for a first feed. She pokes one of these down the throat of each poult some hours before it is given its first feed. This may be just the thing to do, but in her case otherwise lies her success. To get the little dumb turks to eat enough at first, she places some wee chicks with them, and these teach them to eat, something they are sometimes slow to learn from a chicken hen.

Another woman attributes her good first start to keeping water away from the poults for four or five days and feeding them a little fresh lard each day after she allows them to drink. She makes claim that a turkey hen invariably fights her poults away from running water—at least until they are nearly a week old, and their mother ought to know what is best for them. The lard, she declares, furnishes animal matter and keeps the intestines as clear as a mild laxative may do. I know the lard to be all right, but as for the turkey hen knowing that drinking water is injurious at first I am not so sure of. Her act may be an instinct handed down from wild days, for enemies to any kind of animal life in the wild wait about drinking places for their prey, and the turkey is trying to fight her progeny back from water until she first makes sure there are no enemies in wait.

Again, certain large turkey keepers in extensive way make claim that if, with other intelligent care, you feed largely of chopped onions, and every day for a long time give the young poults each a drop or so of turpentine, they will not only escape gapes, but blackhead, and these are extremely fatal, as well as common, to young turkeys. This last extra care I can safely recommend.

IDA M. SHEPLER.

Fertilization of Eggs

The fertilization of turkey eggs differs radically from that of hen eggs. If hen's eggs are to be kept strongly fertile for nearly every egg, the fertilizing element must enter almost if not every day throughout the laying of what is called by old-time poultry keepers "a clutch," which means from thirteen to fifteen eggs for all the old barnlot breeds. After that number was laid, then the hen was usually ready to brood and quit laying. The newer breeds br and selected to lay are not so parti ular about stopping at this numbe If you will notice, also, you can ke entirely too many male birds. T many is no fault if the hens are far and wide range, but when it rainy or cold for several days at stretch—as it will be at times y until June—and the flock must be crowded in the scratching she then look out for the eggs laid afte for a short time at least, to sho many that are unfertilized. T reason is obvious. There are ways some roosters that are bos Shut up on stormy days, they nothing but quarrel and boss. The fellows should be penned to the selves stormy times, and but one two of the best-natured left wi the flock. Cutting off a bit of t upper bill, but not so as to blee will often remove this tendency boss and fight. One fertilization all that is necessary for turkey egg and why this is so is difficult to a swer. This one fertilization h been known to last over a rest wh the clutch was fully laid and to a pear in some of the first eggs laid the next clutch. It is best not trust too far to this last. Ea clutch must be fertilized.

A Back Yard Laying Contest

Robert A. Harrison, David Cit Neb.: I am pleased to record t following 100-day egg record fro two pens of pullets in my back yar Pen 1, composed of eighteen Apr hatched pullets and fifteen Jun hatched pullets, began laying N vember 10; time up February 2 total of days, 100; November la 39 eggs, December 346, January 49 February 547; total for this pe 1,429. Pen 2, composed of twen April-hatched pullets, November 1 eggs laid, December 363, Janua 328, February 345; total for p No. 2, 1,173; total for both pe 2,602 eggs. In pen No. 1 the pulle averaged 43 eggs plus per hen. pen No. 2 the pullets averaged eggs plus per hen.

Notes—The pullets were not lected; they were fed sprouted oa grains and ground bone. Pen 1 w housed in a two-story house, 14 feet. Pen No. 2 was housed in four-story house, 6x8 feet. Hous were equally warm, lighted and ve tilated.

Comment—An interesting a paying record. Two items regar ing the flock was deemed desira —the breed of the pullets and t height of the houses used; also, n the absence of animal food, beyo the ground bone. I. M. S.

Poultry Clippings

The day will come when farm will haul home poultry houses bu away from home, as they now hog houses.

In that day you will see rows chicken, geese or duck houses the small as you now see hog hous

How many hens can you keep certain sized houses, and safely? a leading poultry question.

For 200 hens you must not r a house less than 20x40 feet if y want to be sure of enough room.

And this does not include scratching shed, though the hens on good range.

IDA M. SHEPLER

Review of Live Stock Market

By A. C. Davenport

LAST week was certainly an off week for the sellers of all kinds of live stock. It seemed as if everything conspired to give the sellers the worst of it, and as result there was a very heavy shrinkge in values.

The heavy rains of the previous week ransformed country feed yards into eritable quagmires. Cattle were forced flounder about in bottomless mud and wners in hundreds of cases tried to olve the problem by shipping the cattle market. Hundreds of other feeders, reseeing that every minute of the comg week would be of the greatest value them, being the time for sowing oats nd preparing land for other crops, took me by the forelock and shipped their ttle last week while the ground was ill too wet to be worked. These two auses, first the desire to remove cattle om muddy feed yards and second the esire to get rid of cattle on feed before eginning active farm work, were sufcient to give to all the markets of the ountry larger receipts last week than r some time back.

When cattle are selling as high as they ave been all this year it is hardly necesary to state that buyers never fail to ke advantage of large receipts to in for themselves some temporary adntage in the way of reduced prices. ast week furnished no exception to the eneral rule and the markets everywhere roke sharply under the sudden influx fat stock. As a general thing the ecline for the week amounted to around cents, some kinds of cattle at some oints not showing quite so much loss that, while other kinds at other points owed considerable more. While such decline would usually mean a heavy ss to the country, considering the size the total shipments at leading points, e country had one thing in its favor. was the first week of really warm eather and the cattle filled better than ey have for a long time back. This ll, no doubt, made up to a considerable tent for the reduction in prices. Packs claim that their killing sheets did ot show very much reduction as comared with the previous week, when eather conditions were such that cattle led very little.

Every time there is a sharp break in e market there are always plenty of eak-kneed operators to renew that old ne of talk heard so much a year ago out this being a big country, about ere being plenty of cattle, etc. Notithstanding such talk on the part of e weak-kneed fraternity the bulls still aintain their belief in the cattle shortge and continue to affirm that if the untry will only use a fair amount judgment in marketing stock, there ill be no occasion for breaks like that last week. If the market is overaded through some combination of circumstances it will only be necessary, acrding to the bulls, for the country to old back its stock for a few days and low the market to recover the lost ound. In other words, according to e ideas of the bull contingent there is t the slightest reason why the country ould sell its cattle at prices materially wer than those prevailing on an averge during the last two months or more. ost as soon as the farmers can begin eld work you will again see light reipts of cattle and strong prices," is e way the bulls are putting it.

The same causes that induced free dipment of cattle last week also gave ading markets of the country heavy g runs. In the case of hogs there ay also have been another reason for rge shipments and that is that this the season of the year when good uns ought to materialize if ever. Buyers ok the same advantage in the hog arket that they did in the cattle maret and succeeded in creating a sharp reak in prices. The low point was eached about the middle of last week hen prices showed a decline of around 30 cents as compared with the high point of the previous week. Since that date a part of the decline has been recovered as receipts during the latter part of the week dropped off very materially. In fact, it would appear in the case of hogs to be largely a matter of receipts. As often as the country gets a little too anxious to sell and overloads the market buyers resort to their bear tactics and send prices downward. As the runs let up the market springs back again.

Prices on hogs have been so high all this year that it would hardly seem reasonable to expect them to go much higher. It would be still more unreasonable to expect them to go very much lower and remain there for any length of time as conditions are seemingly all in favor of the bull side. The statistics issued a few days since by the Department of Agriculture concerning the loss of live stock and the relative condition on April 1, were decidedly bullish so far as hogs are concerned. This report of the Agricultural department indicated that the losses of swine from disease have been unusually heavy, amounting to 110 per 1,000, as compared with eighty-nine the preceding year and fifty-four the average per 1,000 the last ten years. The loss of 110 per 1,000 with the estimate number of hogs on January 1, would indicate a total loss of approximately 6,736,000. It was estimated that 90 per cent of this loss was due to cholera.

Sellers of sheep and lambs suffered along with the sellers of other kinds of live stock. Sheep men seemed to be taken at the same time as cattle and hog men with an overwhelming desire to get rid of as much of their surplus stock as possible. Receipts accordingly at leading market points were entirely too large. Buyers gave a good exhibition of what they could do when the opportunity was presented in the way of reducing prices. Thus it happened that declines ranging all the way from 50 to 75 cents were reported from different points. There was no apparent reason for this break aside from that state, namely, that receipts were too large compared with the consuming demand.

There is some little fear at market points that this free liquidation of sheep and lambs may continue for a few days longer and if such should prove to be the case prices might go even lower than at present writing. There is also a feeling that the free liquidation of the last week or more will make serious inroads upon the total supply of cornfed sheep and lambs remaining in the country and that while heavy shipments may mean a loss to the shippers of the present, they will mean higher prices for those who are able to hold for the later market. Thus while the bulls are a little uncertain as to the immediate future of the market they have not as yet receded from the contention that higher prices will be realized before the close of the season than have been touched up to the present date.

Live Stock Notes

D. C. Lonegran of Florence, Neb., reports fifty-five spring pigs, sired by Big Victor, Gus's Price Last, L.'s Quality and others. He says his pigs are coming along in good shape and considers the outlook as being especially good all along the line.

George W. Schulz of Yutan, Neb., is advertising for sale one of his herd boars. This is Essex Colonel 118617. He is by High Colonel and out of a Russell's Critic dam. Mr. Schulz has a number of spring pigs by him and he is a good breeder. He has a good bone, heavy bone, plenty of length and is being sold for no fault. Write him for further information, mentioning this paper.

Shallenberger Makes $167 Average

The sale of Shorthorn cattle held at Alma, Neb., on April 10 by Hon. A. C. Shallenberger resulted in an average of $167 on the entire offering. A splendid crowd of breeders were in attendance but a severe storm raged all day, and as a result the local crowd was very small. Had it not been for this fact the results of the sale would have been a great deal more satisfactory. The top of the bull offering was $400, paid by R. C. Firme of Hastings, Neb., for the grand young bull Watchword, a son of Imp. Scottish Sentinel and out of the dam Imp. Maude 44th. The top of the females was Maude 56th. She went to Byron Parrish of Alma at $250. The offering was composed of a splendid lot of richly bred and hightly useful cattle in just good breeding condition. They will surely go out and do good for the men who bought them. Colonel Woods did the selling. Below will be found a list of those selling for $100 and over:

BULLS.

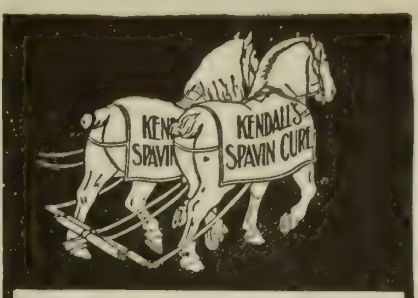
Lot No.		Price.
1	Finney Bros., McCool, Neb.	$280
2	Bert Moore, Bartley, Neb.	240
3	G. R. Young, Omaha	220
5	E. W. Cosgrove & Son., Farnam, Neb.	130
6	George Lyon, Nelson, Neb.	145
7	R. C. Firme, Hastings, Neb.	165
8	Charles Bobblett, Alma, Neb.	110
10	R. C. Firme	400
47	J. H. Harper, Bennett, Neb.	395

FEMALES.

11	Byron Parrish, Alma, Neb.	250
12	Frank Freeouf, Wilbur, Neb.	180
13	Barney Kauf, Alma, Neb.	215
14	E. W. Cosgrove & Son	240
15	Finney Bros.	205
16	Joe Walters, Alma, Neb.	100
17	G. R. Young, Omaha	150
18	G. R. Young	220
19	P. M. Everson, Alma	125
20	G. R. Young	150
21	Frank Freeouf	170
22	G. R. Young	130
23	Frank Freeouf	140
24	George Weely, Alma	130
25	H. H. Kuper, Humboldt, Neb.	160
26	Frank Freeouf	160
27	Frank Freeouf	135
28	Frank Freeouf	115
29	George Lyons, Nelson, Neb.	165
30	Frank Freeouf	145
31	George Lyons	150
32	George Lyons	145
33	C. M. Bobbett	200
34	P. M. Everson, Alma	120
36	Frank Freeouf	160
37	Byron Parrish	115
38	P. M. Everson	135
39	Bert Moore	120
41	G. R. Young	120
42	L. Midlaugh, Alma	100
43	L. Midlaugh	100

SUMMARY

9 bulls, $2,085; average	$231.70
33 females, $4,901; average	150.00
42 herd, $6,986; average	167.19



Lame Horses Put Back To Work Quick

TRY Kendall's Spavin Cure. It has *saved* a great many horses—has put them back to work even after they had been given up. Over 35 years of success has *proved* the merit of

KENDALL'S Spavin Cure

It is the old reliable remedy for splint, spavin, curb, ringbone, thoropin, bony growths, swellings, sprains and lameness from many different causes.

Its cost is so small a matter, compared to the value of a horse that you *cannot afford* to be without it.

Sold by druggists everywhere. $1.00 a bottle, 6 for $5.00. Get a copy of "A Treatise on the Horse" at your druggist's, or write

Dr. B. J. Kendall Company, Enosburg Falls. 3 Vermont

JERSEY CATTLE

Butter Profits

You ought to get more butter profits. Jersey Cattle mean more butter profits, because they yield more butter fat at less net cost of keep than any other breed.

THE JERSEY

excels in beauty of dairy type. She is a persistent milker. Jerseys are easily acclimated. They live long and keep healthy. They mean *steady* butter profits. Write now for Jersey facts. Free for the asking.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

SAVE $50 ON YOUR ENGINE—

Buy your Gasoline Engine direct from the factory with a postage stamp—at least get posted on our 5-year Guarantee and money-saving prices. Write for free trial offer and catalog. State style and size wanted.
WITTE IRON WORKS CO., 1556 Oakland Av., KansasCity, Mo.

ESSEX COL. FOR SALE

Will sell Essex Col. 118,617 by High Col; Dam by Russell's Critic. Have choice lot of pigs to show sired by him. Has good length, heavy bone, and well filled hams; price reasonable.
GEO. W. SHULTZ, - - YUTAN, NEB.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

O. I. C. HOGS

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." G. S. BENJAMIN RFD79 Portland, Mich.

Please mention The Twentieth Century Farmer when writing to advertisers.

HORSES AND MULES

FAIRVIEW FARM Percherons, Belgians, Shires, Mammoth Jacks and Jennets

SPECIAL PRICES—20 head Percheron and Shire Mares, 30 head Jennets—in lots to suit purchaser. No better breeding or individuality to be found anywhere. My prices will suit you. Come and see them, or write.
HENRY BECK, - - - - LITCHFIELD, NEBRASKA

DeClow Offers Bargains I have sold 146 head of Stallions, Mares and Jacks and have 74 head more to sell before the season closes. These are from a fresh importation and I am going to offer unheard of bargains in these in order to move them between now and May 15. Any party who wants a stallion, jack or full blooded mare can not miss this opportunity to buy cheap. W. L. DeClow, Jack and Stallion Importing Farm, Cedar Rapids, Ia.

PERCHERONS

6 home-grown 2 YEAR OLD STALLIONS. Making 1900 to 2100 lb horses, the BIG TYPE kind, best dapple and steel gray and blacks. I have these and want to sell them. Fred Chandler, R. 2, Charlton, Iowa.

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed.
Send for FREE Illustrated Booklets
Holstein Friesian Assn., Box 179, Battleboro, Vt.

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers	Just being bred to a son of a 24-pound dam
50 1½ year-old heifers	Bred to a high-class registered bull, to freshen
100 2 to 2½ year-old heifers	from September 1 to December 31, 1913
100 2½ to 3 year-old heifers	ing up ready to freshen soon, most of them in calf
250 matured cows, very heavy producers, springing from registered bulls	

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorey, Dept. B, Gilbert, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Canada Lands

We are offering thousands of acres of wild and improved farm lands in the Oxbow-Alameda district, Southeastern Sashkatchewan. If you want a choice farm at right prices and terms, write us for particulars.

Excursions to our lands leave St. Paul the first and third Wednesdays every month. Come direct to us and save commission. Excellent opportunities to secure A No. 1 farms where crops never fail. Don't delay.

Stewart Land Company
305 Jackson Street,
ST. PAUL, MINN.

YOUR OPPORTUNITY
is NOW In the Province of
SASKATCHEWAN
Western Canada

Do you desire to get a Free Homestead of 160 Acres of that well known Wheat Land? The area is becoming more limited but no less valuable.

New Districts have recently been opened up for settlement, and into these railroads are now being built. The day will soon come when there will be no Free Homesteading land left.

A Swift Current, Saskatchewan farmer writes:—"I came here on my homestead, March, 1906, with about $1000 worth of horses and machinery, and just $35 in cash. Today I have 900 acres of wheat, 300 acres of oats, and 50 acres of flax." Not bad for six years, but only an instance of what may be done in Western Canada, in Manitoba, Saskatchewan or Alberta.

Send at once for Literature, Maps, Railway Rates, etc., to

W. V. BENNETT,
Bee Bldg., Omaha, Neb.
or Address, Superintendent of Immigration
Ottawa, Ont., Canada

$1.50 PER ACRE DOWN
BALANCE 20 YEARS 5%

Rich cut-over lands near Bemidji, Blackduck and Kelliher, Minn. Lumbermen, Not Land Men—Hence Our Easy Terms. Write for full information, prices and descriptions.

Crookston Lumber Co., 852 Markham Bldg., Bemidji, Minn.

Orchardists are making
Fortunes in Fruit
in the famous Santa Clara Valley.
Farms, dairies, vineyards, orchards, stock and chicken ranches, large and small. *Write today for literature and list of places*
E. D. CRAWFORD & CO.
742 Market Street San Francisco

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento. **CALIFORNIA**

COME TO MINNESOTA
Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service
HODGSON & RINK, Fergus Falls, Minn.

YOU CAN BUY
ANY CUT
IN THE
Twentieth Century Farmer
for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

Investments

North Platte Lands for Homestead

BEGINNING October 1, the end of the present grazing season, the North Platte division will be eliminated from the Nebraska national forest. This area will then be open for settlement and entry under whatever conditions the secretary of the interior may impose. The North Platte division, which lies in Grant and Arthur counties, contains nearly 350,000 acres.

When the original boundaries of the Nebraska forest were established they included a great deal of public land which at that time was not considered available for agriculture. As a result of a report by the experts of the bureau of soils, in co-operation with the forest service, the land will become available for homesteads.

The soil experts say that approximately 30 per cent of the area is suitable for farming, in spite of the fact that it is in what is locally known as the sandhill region. There is no present stand of timber, and it was first proclaimed as a part of the National forest with the idea that trees could be made to grow there through artificial planting.

At the present time the land is occupied by stockmen under grazing permits from the forest service. It is for this reason that the time of elimination has been set forward to October 1.

For several years the forest service has been studying how to determine satisfactorily what lands within the forests are best suited to agriculture. The problem was held to be one that must be settled by agricultural and forest experts, working together to ascertain the comparative values involved. Because there was no money especially appropriated to carry on the work and many demands on the general funds, it was impossible to do much more than examine these lands which were actually applied for under the forest homestead act. The last congress, however, provided an appropriation to examine lands which might be considered agricultural, and this elimination is one of the first important results of that legislation.

A Neat Little Point

Alfred Noyes, the English poet—a poet notable for the fact that he actually makes a living out of poetry—said at a dinner in New York:

"Modern literature has grown subtle at the expense of strength. There is over much finesse in the work of today. We are continually making neat little points after the manner of the Baroness Burdett-Coutts.

"When the baroness was Miss Coutts, the great heiress, it was rumored that she was to wed the duke of Wellington. A friend asked the duke if the rumor was true, and the duke answered irritably:

"'I said Miss Angela Coutts deserves to be a duchess. I never said that I would make her one.'

"This observation of the duke's was repeated to the heiress. She flushed on hearing it, smiled a little bitterly, and remarked:

"'The duke should have said "could," not "would."'"—New York Herald.

No Trouble to Remember

"Hello! Is that the health department?"

"Yes."

"This is Snoodle—G. H. Snoodle, umpty, seven Ringbone avenue. Say, when are you going to send a garbage wagon around to this neighborhood?"

"It's impossible to say, Mr. Snoodle; we are doing the very best we can."

'But, great Scott, it has been six weeks and four days since anybody in this part of town has ever seen a garbage wagon!"

"How do you happen to remember so accurately, Mr. Snoodle?"

"That was the day, sir, as it happens, when I went on the water wagon, and I've been fighting the durnedest thirst you ever heard of every minute since!"—Chicago Tribune.

No More Losses

"How's your chicken farm?"

"Say, I'm glad you asked me. You know I told you it was mostly outgo with mighty little coming in? Well, I haven't lost a dollar on the outfit for a month or more."

"Fine. How does it happen?"

"Some thoughtful coop-breaker stole all the chickens."—Cleveland Plain Dealer.

...The Market Place...

POULTRY

Brahmas

LIGHT BRAHMA EGGS, $1 FOR 15, $5 for 100. Mrs. M. Wall, Eddyville, Neb.

LIGHT BRAHMA EGGS—15 FOR $1, 45 for $2.50, 10 for $5. Fair hatch guaranteed or another order at half price. Frank A. John, Bedford, Ia.

Cochins

PARTRIDGE COCHIN EGGS, 15 FOR $1. Albert Palmer, Arden, Neb.

Ducks

PURE WHITE INDIAN RUNNER ducks. We make a specialty of White Runners and can furnish you day-old ducklings and eggs from best American strain. They breed true to color; are wonderful layers of large white eggs—12 eggs, $3. Free circular. Double White Ranch, Hillhurst, Wash. Box 22-W.

ENGLISH STANDARD INDIAN RUNner duck eggs; 12, $1. Jennie Sloan, Boicourt, Kan.

EGGS—M. PEKIN DUCK—$1 PER setting. LeRoy Owen, Wayne, Neb.

An extra stroke of the pen when writing to advertisers on this page will state that you saw their advertisement in The Twentieth Century Farmer.

Hamburgs

SILVER-SPANGLED HAMBURG eggs—15 for $1, $4 per 100. Charles Voss & Son, Hubbard, Neb.

Houdans

HOUDANS AND WHITE ROCKS; eggs, $1 per setting, $5 per 100; satisfaction guaranteed. George J. Wolcott, Box 773, Central City, Neb.

Leghorns

ROSE COMB BROWN LEGHORNS—Pure, strong, good layers; 15 eggs, $1; 100, $4. Mrs. E. Fauquet, Wahoo, Neb.

ROSE COMB BROWN LEGHORN eggs, $5 per 100; safe delivery guaranteed. Walter Hogue, Fairfield, Neb.

ROSE COMB WHITE LEGHORN eggs, $1 for 15, $5 per 100. Mrs. Anna Nelson, Route 3, Genoa, Neb.

ROSE-COMB BROWN LEGHORN eggs. Otto Frahm, Calhoun, Neb.

ROSE COMB BROWN LEGHORNS, exhibition and laying strains. Circular free; range eggs, $5 per 100. Mrs. John Holzhey, Bendena, Kan.

ROSE-COMB BROWN LEGHORN eggs—15, 75c; 150, $5.00; carefully selecting and mating. Olga Hayek, Linwood, Neb.

SINGLE COMB BROWN AND WHITE Leghorns, White and Barred Rocks; eggs, $3 per 100. Barker Bros., Indianola, Ia.

SINGLE COMB BROWN LEGHORN eggs, $3.50 per 100; safe delivery guaranteed. Ray Briggs, Fairfield, Neb.

SINGLE COMB BROWN LEGHORN eggs for sale, from State Show winners. Send for mating list. Clarence B. Brown, Fairmont, Neb.

SINGLE-COMB WHITE LEGHORNS Foundation stock from best breeders in east. Eggs, $1 setting, $5 hundred. M. Ledlie, Holdrege, Neb.

EGGS — PRIZE-WINNING, HIGH-scoring S. C. White Leghorns, fine laying strain; farm range—$4 per 100. Maude Farrell, Glenville, Neb.

THOROUGHBRED R. C. B. LEGhorn eggs, 50c for 15 or $3 per 100. Maud Wert, Route 1, Box 76, Aurora, Neb.

ROSE COMB WHITE LEGHORN egg during season, $1 per 15, $5 per 100. Kaveney Bros., Linwood, Neb.

FOR SALE—SINGLE-COMB WHITE Leghorn eggs. Fannie Gilbert, Route 5, Lincoln, Neb.

SINGLE-COMB WHITE LEGHORN eggs; 15 for 75c, 100 for $3.50. Will Rockwell, Hubbard, Neb.

From a Black Langshan Breeder

Twentieth Century Farmer,
Omaha, Neb.

Gentlemen:—

Your paper is the best medium that we have ever used, and have used a great many.

JOHN T. NELSON,
North Loup, Neb., Feb. 4, 1913.

(His ad cost $1.00 a week.)

POULTRY

Langshans

EGGS FROM BLUE RIBBON STRAIN Black Langshans, won 12 firsts, 10 seconds, 2 silver cups. J. T. Nelson, North Loup, Neb.

BLACK LANGSHAN EGGS FOR hatching. C. C. Cunningham, Kennard, Neb.

BLACK LANGSHAN EGG CIRCULAR. Jake Hetrick, Wahoo, Neb.

BLACK LANGSHAN EGGS, $1 PER 15, $5 per 100; White Holland turkey eggs, $2 per 9. Mrs. J. W. Johnson, Loup City, Neb.

Plymouth Rocks

BARRED ROCK EGGS FROM choice laying strain; $5.00 per 100; $2.75 per 50; $1.50 per 15. Fred Kroeger, Carroll, Iowa.

WHITE ROCK EGGS, FISHEL AND Bickerdike strain. Ed Clauson, Mead, Neb.

EGGS FOR HATCHING, THOROUGHbred Barred Rocks, $3.50 per 100. Mrs. W. O. Brown, Fairmont, Neb.

HILLCREST BARRED ROCKS, Bradley strain; eggs, $1 for 15, $4 for 100; Indian Runner ducks, fawn and white, $1.25 for 13. D. T. Gantt, Crete, Neb.

BARRED ROCK EGGS, $1 PER 15, $4 per 100. W. D. Kelley, Valley, Neb.

HIGH-CLASS WHITE ROCKS, SINgle-comb Reds; eggs, $1 per 15, $3 per 50. Evergreen Farm, Beatrice, Neb.

MY BARRED PLYMOUTH ROCKS won first cock and cockerel at Muscatine, Richland, Ottumwa and Grinnell; eggs, $2.50 for 15. Theodore Seyb, Richland, Ia.

BARRED PLYMOUTH ROCK EGGS from choice stock and good laying strain. George Franklin, Axtell, Neb.

QUALITY BARRED ROCK EGGS, high scoring; $1.50 for 15, $2.75 for 30, $5 for 100. Everett Hardin, Knoxville, Ia.

THOROUGHBRED BARRED PLYmouth Rock eggs, 5c each. Miss Voorhees, Sweetwater, Neb.

WHITE ROCK EGGS, FISHEL strain; 15, $1.25; 50, $3; day-old chicks, 15c each. Miss Annie Hoes, St. Libory, Neb.

Orpingtons

KILLY EXCLUSIVE WHITE ORpington Farm, R. F. D., Omaha, Neb. Eggs from imported and prize-winning stock, $5, $3 and $2 per 15; $12 per 100.

EGGS FOR HATCHING SINGLE Comb Buff Orpingtons, Toulouse geese, Indian Runner ducks; mating list free. Peter Brehm, Harvard, Neb.

BUFF ORPINGTON EGGS, BY MAIL, reasonable; prize-winning stock. Frank Lewis, Gibbon, Neb.

SINGLE-COMB BUFF ORPINGTON eggs from prize winners. Mrs. Cook, Eddyville, Neb.

WHITE ORPINGTON EGGS FOR hatching, $1.50 per setting. William Langbehn, Avoca, Ia.

CRYSTAL WHITE AND BUFF ORpingtons; eggs from prize-winning stock; prices reasonable. Dr. W. E. Crane, Tilden, Neb.

Pigeons

HOMER PIGEONS, THOROUGHbred, mated and workers, $2 per pair up Address D. H. Brotchie, 5016 Florence Blvd., Omaha.

Rhode Island Reds

SINGLE COMB RHODE ISLAND Reds; eggs for hatching, $1 per 15, $5 per 100. Mrs. N. Brodahl, Box 3, Wahoo, Neb.

RHODE ISLAND REDS, WHITE, Black and Buff Opingtons; eggs $6.00 per 100. Lakenvelder's Indian Runner Duck and Toulouse Geese eggs. Write for catalog and free typewriter offer. Rose Lawn Farms, Fairfield, Neb.

R. C. R. I. REDS—A PRIZE-WINning strain, good in shape and size, as well as color. Mating list ready. Price in reach of all. L. A. Whitten, Fairmont, Neb.

SINGLE-COMB RHODE ISLAND Reds, Buschman-Pierce strain; eggs, $4, $3 and $2 per 15; satisfaction guaranteed. Hepp Bros., Greeley, Neb.

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

ROSE-COMB RHODE ISLAND REDS and Golden Wyandottes; eggs, $1, $1.50, $2 and $5 per 15. B. H. Mills, Tilden, Neb.

SINGLE-COMB REDS FROM THE Pioneer Red Farm, Red to the skin; chicks, 12½ cents; eggs, $1, $1.50 and $5 per hundred. Mrs. John Hall, Valley, Neb.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, May 3, 1913 | Number 647

You

Could Make More Money in the Fertile Northwest Along the

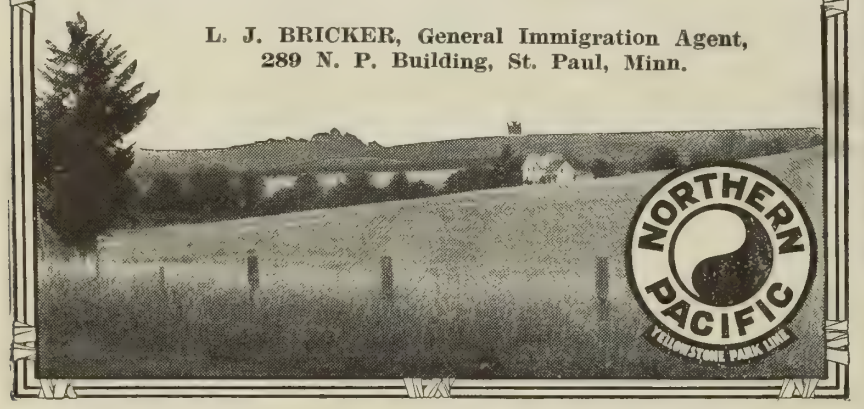
Northern Pacific Railway

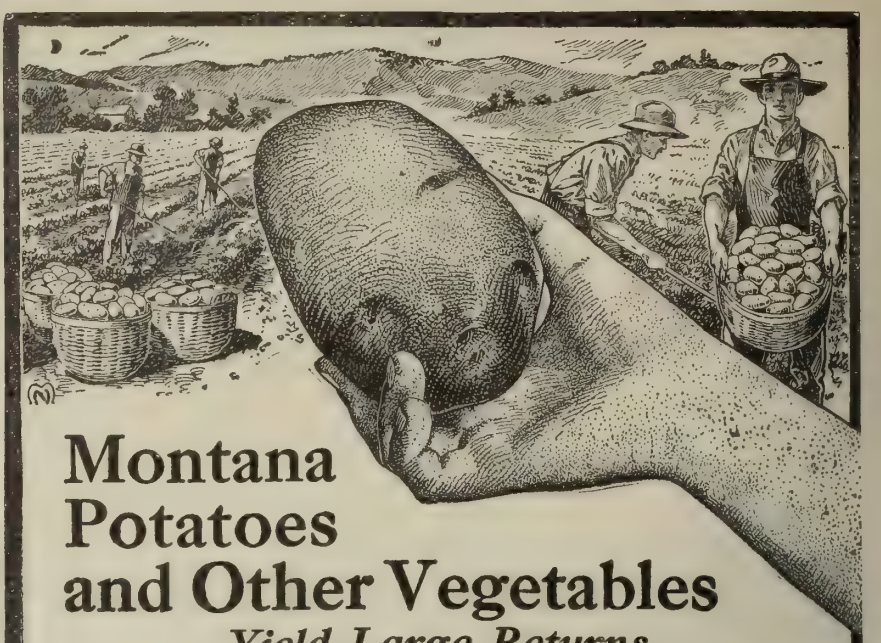
You will find opportunities here—on the farms, in the orchards, in the cities and towns—which cannot be excelled anywhere in the country.

Look into Minnesota, North Dakota, Montana, Idaho, Washington and Oregon. Learn of the great and varied resources of these "PROSPERITY STATES OF AMERICA." Here are wonderously fertile fields and valleys with markets close at hand and quickly reached. Here are cities growing at tremendous rate, because they have the right kind of country back of them.

Round-trip , low rate homeseekers' tickets are on sale expressly to enable you to investigate. Write today for literature. Say what state most interests you.

L. J. BRICKER, General Immigration Agent,
289 N. P. Building, St. Paul, Minn.





Montana Potatoes and Other Vegetables

Yield Large Returns

W. W. Sleight, of Willow Creek, Mont., writes: "About four years ago I took up a homestead of 160 acres. I had in crop last year 10 acres of potatoes and raised over 6,000 bushels. I had also all kinds of garden truck. I took up this land for nothing and land on which you can raise 600 bushels of potatoes to the acre and get 60c a bushel you can soon figure up how it has increased in value."

The following from J. A. Siffert, Three Forks, Mont.: "Am sending you a box of potatoes from Con Lane's farm near here. He has a little less than two acres and has 450 sacks. There are about two bushels in each sack."

These Are Not Unusual Instances

They are the rule, *not* the exception. What these and their men have done you can do. Make a new start *now*. Take up a government homestead under the new three year homestead act. There are millions of acres of land that can be homesteaded and millions of acres that can be bought at $15 to $45 per acre.

Low fares to this land of opportunity in effect on the first and third Tuesdays of every month via the

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Milwaukee & St. Paul
RAILWAY

This literature and full information free on request to

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O. E. SHANER, Immigration Agent
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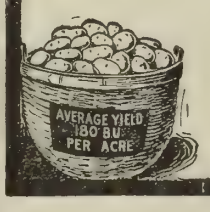

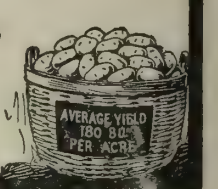

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have a world-wide reputation for high quality and our prices have made them famous.

FORTY YEARS'

experience selling to the consumer means success.

We ship for examination, guaranteeing safe delivery, satisfaction and to save you money.

Catalog shows all styles of pleasure vehicles and harness, pony vehicles and harness, spring wagons, delivery wagons and harness.

May we send you large catalog?

We also make the "Pratt" Automobiles.

Elkhart Carriage & Harness Mfg. Company
Elkhart, Indiana

Save $25

Genasco

THE TRINIDAD-LAKE-ASPHALT
Ready Roofing

The proof of roofing is in its waterproofing. Genasco Roofing is made of Nature's everlasting waterproofer—Trinidad Lake asphalt.

It is rain-proof, sun-proof, wind-proof, heat-proof, cold-proof, acid-proof, and alkali-proof. And that means also that it is expense-proof.

Ask your dealer for Genasco. Look for the hemisphere trademark on the roll. Mineral or smooth surface—several weights. The **Kant-leak Kleet** is a patent fastener and waterproofer for roofing seams. Write us for Good Roof Guide Book and samples, free.

The Barber Asphalt Paving Company **Philadelphia**

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

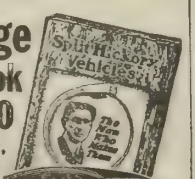
New York Chicago
San Francisco

Trinidad Lake

FREE Let Me Pay the Postage On My Buggy Bargain Book

My 1913 Offers Save You $25 to $40

Don't buy a buggy, surrey, phaeton, carriage, runabout, spring wagon, or set of harness till you see what sensational money-saving offers Phelps is making in his new 1913 Split Hickory Book. Over 140 styles—full and complete line of harness—all direct from factory—all highest quality ever turned out—all priced to save you $25.00 to $40.00 on your buggy. Don't forget—you get 30 Days' Free Road Trial and 2 Years' Guarantee.



Send In Your Name Now

Get Phelps' book first—post yourself on the latest buggy and harness facts—get the news about styles and prices—then compare with others and decide. Be sure to write now. Just a postal will do. Address

H. C. Phelps, Pres., The Ohio Carriage Mfg. Co., Station 48 , Columbus, Ohio

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CYCLONE FENCE CO.
WAUKEGAN ILLINOIS

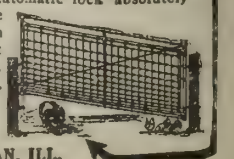
LEADS IN HIGH QUALITY AND LOW PRICE

CYCLONE ORNAMENTAL LAWN FENCE

Is extra heavy weight, sag-proof weave, close, even spacing of the picket wires, self-adjusting to uneven ground; easy to erect on wood or iron posts.

The enormous output of our factory, the biggest of its kind in the world, makes **Cyclone** the lowest priced high-grade fence you can buy.

CYCLONE VICTOR FARM GATES—HEAVILY GALVANIZED; the strongest gate made; has tubular steel frame free from holes; heavy wire fabric, rust-proof, automatic lock absolutely stock proof; raise device holds gate firm in any position at front or hinge end.



See your dealer about these goods; or write us for fine Free Illustrated Catalog.

CYCLONE FENCE CO.,
Dept. 82 • • WAUKEGAN, ILL.

Prattle of the Youngsters

Patience of Job

Willie—Pa, why do people talk about the patience of Job?

Henpeck — Because they don't know your father, my son.

None for Him

One mother who still considers Marcel waves as the most fashionable way of dressing the hair was at work on the job.

Her little 8-year-old girl was crouched on her father's lap, watching her mother. Every once in a while the baby fingers would slide over the smooth and glossy pate which is father's.

"No waves for you, father," she remarked. "You're all beach."

A Matter of Fact

This story is authentically told of a tiny girl in an eastern city under ardent cultivation by the suffragists. Some of the local leaders were distributing handbills of rainbow tints and the child, playing with her doll on the pavement, shyly asked for some.

"Are you a suffragist, little sister?" amusingly asked one of the women, cheerfully supplying the small maid with the desired "literature."

"'Course! Ain't I a woman?" was the unexpected reply.

A New Emotion

Five-year-old Billy was swinging on the front gate.

"How's mother this morning?" asked a passing neighbor cheerily. Billy looked serious.

"I don't fink she feels very good, Mrs. Brown. Her bestest rosebush is 'most spoiled, and she had to use lots of emotion."

Mrs. Brown looked sympathetic, but puzzled.

"Poor mother! Did it really make her cry?"

"No!" with scornful emphasis. "She just putted some soapsuds an' kerosene on the rosebush, to kill the bad little bugs."

"Oh, yes!" light dawned on the questioner; "emulsion."

"That's what I said," explained Billy patiently, "kerosene emotion."

Sympathy

One of the charming characteristics of childhood is a certain delicacy and tenderness of sympathy. An instance is furnished by a little story that Mr. A. J. Swinburne tells in his "Memories of a School Inspector."

A young curate in Lancashire who, although too well-bred to boast, was conscious of the world of difference he was effecting in a parish that had suffered from the slackness of a rector of the old school, once asked his catechism class:

"Tell me one of the people who wrote the Bible?"

"Master Heyes," answered the class, unhesitatingly naming the former rector.

Even the curate's iron self-control could not prevent a shadow of disappointment from passing over his face. After all his work so fruitful in results—that they should be as ignorant as that! But although the little girl just in front of him was not more than 5, her eye, keen as a robin's, had read his thoughts, and her tiny voice whispered:

"Please, sir, you 'elped 'im."—Youth's Companion.

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Long-Time Loans to the Farmer

AT OUR request, Dean H. C. Price of the Ohio Agricultural College has prepared a special article for The Twentieth Century Farmer, giving his views of how the German Land Mortgage association could be adapted to American conditions. Everyone who has given the matter any thought is agreed that no foreign system can be transplanted into this country and be expected to succeed. We must adapt European credit institutions to our conditions and to meet our needs.

How is this to be done? That is the question the man on the land in this country wants to have answered. He wants to know what can be done in the United States to accomplish the same results that have been accomplished in other countries. Dean Price, in his article, which will be published next week, gives three ways that land mortgage associations in this country might be organized and operated.

Bright and Breezy

Musical Ability

Oletimer—Is your married life one grand, sweet song?

Newlywed—Well, since our baby's been born it's been like an opera, full of grand marches, with loud calls for the author every night.

Mere Inadvertence

"One of the preachers comes forward with the declaration that the devil is not mentioned in the Old Testament."

"What of it?"

"Well, he claims that, there being no mention of him in the Old Testament, there can not be a devil."

"That's no proof. The Old Testament does not mention the Illinois legislature, but there is one."

Told to an Englishman

An English clergyman turned to a Scotsman and asked him:

"What would you be were you not a Scot?"

The Scotsman said: "Why, an Englishman, of course."

Then the clergyman turned to the gentleman from Ireland and asked him:

"And what would you be were you not an Irishman?"

The man thought for a moment and said:

"I'd be ashamed of mesilf."

Almost the Speed Limit

"No man is a coward—to himself," said the civil war veteran, oracularly.

"At Chattanooga one of the men in my company left early in the action and no one saw him till after the battle, when he appeared in camp unwounded and unabashed. Some of the boys accused him of running away, but he wouldn't admit it.

"'I only retreated in good order,' he declared.

"I heard of the matter and a few days later I asked him if he had any idea how fast he had retreated.'

"'Well, I'll tell you, cap'n,' he said. 'If I'd been at home and going after the doctor folks that see me passin' would have thought my wife was right sick!'"—Youth's Companion.

A Versatile Dog

Governor Brown of Georgia told of a friend who bought a dog "to chase burglars, cats and tramps," but no sooner had he been introduced in the domestic camp than wifey wanted him trained to carry newspapers and other things for the entertainment of society. Agreeable to his wife's wishes, my friend took the canine in hand and in a little while he had him so well trained that he would carry a package all over the town and keep it in his mouth until told to drop it. He had owned the dog about six months when he heard strange sounds in the dead of night, and, seizing his gun, he softly crept downstairs. The burglars were there, all right. "Where was the dog?" impatiently broke in one of the governor's audience. "Did he not bark?" "The dog was there," replied the governor, "but he was too busy to bark." "Busy!" exclaimed the others. "What was he doing?" "Carrying the lantern for the burglars while they ransacked the house," answered the governor.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Reprehensible Promotion of Creameries

V---Methods by Which Interests of Cream Producer Have Been Jeopardized

THIS paper is a farmer's paper. As far as lies within its power, it will promote and protect the interests of the farmer. Cream production is one of the forms of farm industry. Therefore, it falls within the province of this paper to promote and to protect the interests of the farmer in the matter of producing and marketing cream.

It is because these interests are being jeopardized by the reckless and disreputable promotion of small creameries that this paper has to say what it says with reference to this matter. The promotion of small creameries is not a new evil, nor is it limited exclusively to this territory. A generation ago a promoting company took out of this territory thousands upon thousands of dollars, in return for which it left practically nothing of permanent value. The same methods have been, and are being, employed in other parts of the country. The Farm Co-operator of Texas supplements the appeal of the dairymen's association of that state "to prevent the farmers being swindled by unscrupulous creamery organizers."

Necessary to Inform the Public

This matter has now gone to such an extent, and has existed for such a length of time, that it is necessary to inform the public, and especially the cream producer, with reference to the facts in the matter. To take a dollar from a man without having fairly earned it, or without having rendered an approximately equivalent return for it, is robbery. There are men in the penitentiary for less flagrant violations of business ethics than those exhibited by many of the creamery promoters. If this dollar is gained through misrepresentation, through taking advantage of ignorance on the part of the farmer of the specific matter in hand, it comes very close to the felony technically called "obtaining money by false representations." There is such a thing as business ethics, and persons or corporations that violate the law of business ethics should be brought rigidly to account. Among those that are most inclined to such violation are promoters, and especially those that are promoting in the name and under the color of co-operation.

What is to be said with reference to creamery promotion and its reprehensible methods would be pointless and inefficient, if it rested solely in general statements. The offense against the welfare of the cream producers is so great that it needs specific mention in order that the cream producer and his interests may be efficiently guarded.

Methods of Promotion

Among other companies that have been doing work in creamery promotion in this territory, perhaps none at the present time is more prominent than the Creamery Package company. Against this company, when regarded merely as a manufacturing and selling company, this paper has nothing to say. Considered on the same basis with its competitors, in the mere business of manufacturing and selling creamery supplies, its reputation is of the best, and it is entitled to unstinted praise. But the methods that it has employed in creamery promotion are reprehensible in many respects, and should be exposed and condemned.

First—The real promoters working in any locality, employed and paid by this company, represent that they are promoting co-operative creameries, and bring to their assistance all the arguments in favor of co-operation. And yet there has been only one co-operative creamery promoted in Nebraska. From this it would appear that the term "co-operation" is used merely as a bait in securing subscriptions to stock, and that the real interest of the company is fully served as soon as the creamery has been promoted and the money for it has been paid, without regard as to how it shall be operated in the future.

The western manager of the company asserts that the reason why these creameries are not co-operative is that the directors failed to place them on a co-operative basis after they were organized. But it may be asked, Why organize them on any other than a co-operative basis? If there is real devotion to the cause of co-operation, why not organize them in the first place as co-operative companies, instead of merely proprietary stock companies? It is as easy so to organize them as to organize a proprietary stock company.

This company circulates in this territory a pamphlet, probably originally intended for circulation only in Minnesota, in which it specifically outlines the method by which a true co-operative creamery should be organized. In this pamphlet the method is stated in detail, and the constitution and bylaws are set forth in full, by which co-operative creameries may be organized. Why has it not used the same plan in the Missouri valley?

State Co-operative Association a Misnomer

A state association of co-operative creameries would give color to the pretense that the company was working solely in the interests of co-operation. Accordingly, mainly through the influence of the western manager of the Creamery Package company, a state association of co-operative creameries was formed last year in Nebraska. This association at present comprises seven creameries. Of these seven creameries only two are co-operative and five are proprietary. In no sense are these last co-operative other than that in which all corporations are co-operative. This is using the term "co-operative" as a misnomer. It deceives the public, which does not understand all the facts. This is sailing under false colors. It will result to the disadvantage of co-operation and will help to postpone the day of the final triumph of co-operative principles.

That Wicked Burnap Company

Second—This company has hid its identity in promotion behind the name of the Burnap Building and Supply company of Toledo, Ohio. The people in any community are led to believe that the Burnap company is doing the promotion, and accordingly all the odium that arises from such promotion in the community is diverted from the Creamery Package company and laid at the door of the Burnap company. Communities in which such promotion has been done will be surprised to learn that the Burnap company is owned, operated and directed by the Creamery Package company. If the promotion of creameries were being done in strict accordance with business ethics, with real devotion to the cause of co-operation, and in a spirit of fair play by right and commendable methods, there would be no reason for concealing the real identity of the promoting company. Nothing is gained by it; much is lost by it. The people dealt with are deceived as to the real people with whom they are doing business. Deceit is a violation of ethical law, and violations of law always extort their penalties. This places the Creamery Package company in a position where it may say to aggrieved patrons:

"It is too bad. That wicked Burnap company should not have taken such advantage of your ignorance of creamery matters, and should not have charged you such an extortionate price for the promotion of your creamery. Of course, the equipment, in all cases, bears our name plate; we cannot help that. We are in the selling business, and when a promoter comes to us and wants to buy an equipment for a creamery, of course, we sell it to him, and it bears our name plate. You should not have had anything to do with promoters. Why didn't you take our advice? It is plainly printed on page 5 of the sixth edition of the pamphlet, 'Successful Creameries: How to Organize and Build Them.' And this pamphlet has been circulated here in Nebraska. This is what we say there: 'Do this work yourselves; don't let any creamery promoter induce you to sign a contract giving him authority to organize and build a creamery for you.' If you had followed this advice you would not be in your present position. Now you will have to do the best you can under the circumstances."

Fail to Follow Own Advice

When it is known that the Burnap company is only one form of activity of the Creamery Package company through which it is actively engaged in the promotion of creameries, this printed advice quoted is very significant of the business methods employed. Had the company itself followed the advice that it gives to the farmer in this matter, this paper would probably have nothing to say in the premises.

In several instances, the managers of creameries promoted in the name of the Burnap company announced as soon as they learned the identity of the real promoter that hereafter they would buy their creamery supplies from other companies engaged in manufacturing and selling supplies; that they would not do business with a company that deceived them as to its identity in any of its operations.

Third—This company, as a rule, extorts an exorbitant price for the entire outfit that it de-

livers as the result of promotion. The manager of the company stated that the expense of promotion would probably figure from 15 to 20 per cent. Prof. Frandsen, the head of the dairy department of the State University of Nebraska, gives figures, that have not yet been questioned, to show what a small creamery should cost. He says:

"The cost of a creamery building will be from $1,000 to $2,500, depending on the locality, kind of construction, cost of material and labor. Such a building usually consists of a main work room, engine and boiler room (including space for refrigerating machine), coal room, refrigerator, store room and office. Machinery for a gathered cream plant will cost approximately $1,200. If refrigerating machine is included, the cost will be from $800 to $1,000 more. The total cost of a creamery with complete equipment would, therefore, vary from $2,200 to $4,700 for a cream creamery."

Big Cost of Promotion

Most of the creameries promoted by this company in Nebraska have cost $6,500. Taking Prof. Frandsen's largest figure, $4,700, as the maximum cost of a small creamery, it will be seen that the company has received from them 38.3 per cent, instead of 15 or 20 per cent, as stated by the manager. Most of the creameries promoted in this territory by this company have been installed at a cost of $6,500. It is estimated by men of experience that have a knowledge of such matters that the majority of such $6,500 creameries might be put in, with just as good machinery, for $3,500. No comment is necessary on the business methods of a company that promotes creameries at such a figure.

Fourth—The promoters, in endeavoring to accomplish their end, make false statements and misrepresent facts. These promoters are the agents of the company, and are paid by them. The company is morally responsible for what they do and say. If it accepts business gained by misrepresentation and exaggeration, it cannot escape responsibility.

Manner of Taking Stock Subscriptions

Here follows a letter which shows the manner in which subscriptions to stock are gained through false representation:

"Your favor of recent date received, and I will give the details of the circumstances as nearly as I can remember. My father took $100 stock, more because it was a home concern, and because he wished to boost, than for any other reason. They stated that the Beatrice Creamery company made 50 per cent, and the man who is now secretary of the concern said that he would work for nothing if they gave him all they made over 15 per cent. He gets $100 per month as manager now. These glittering promises undoubtedly influenced my sisters and two cousins to put a little money into the concern."

Farmers know very little about the creamery business; and a smooth salesman, by misrepresentations, such as are cited above, can persuade them to subscribe for stock. By enlarging upon the exaggerated profits that will be sure to be made by the company, he persuades the farmer to become obligated for the payment of money, an obligation he would never assume if nothing but the truth were told him, and he were led only upon a full knowledge of all the facts. The Creamery Package company itself, in the quotation from its pamphlet already cited, indirectly reflects upon the integrity of such promotion as has here been described. A company that condemns itself needs no one else to condemn it.

Another Instance of Misrepresentation

Here's another instance of misrepresentation: On the same page of the pamphlet already quoted, in speaking about the number of cows necessary to make a creamery successful, the Creamery Package company says: "If less than 300 milch cows are secured, our advice is to drop the project. It might be possible to operate creameries with fewer cows, but it is so seldom done that the chances are against any community making a success of it." In this quotation only about half the number of cows actually necessary to make a small creamery profitable is set forth indirectly as sufficient for that purpose. In this territory anyone would be foolish to attempt successfully to operate a small creamery with less than from 500 to 600 cows. To minimize the number of cows necessary is misrepresentation. And this misrepresentation has been made over and over again in this territory by promoters in the employ of this company.

Incompetent Butter-makers

Fifth—The company sends out incompetent butter-makers, and in some instances the failure of the promoted company has been due to the incompetence and mismanagement of the butter-maker, provided according to the terms of the contract. This contract is adroitly drawn. In the first place, it says, as a rule, that the proposed creamery is to be operated on a co-operative basis. But, except in one instance in Nebraska, it has not organized a creamery on that basis. The contract calls for the company to furnish an "experienced" butter-maker. The promoters promise an "expert" butter-maker. Subscribers to the stock fail to note the difference between experienced and expert. If this promoting company were doing business according to right business principles, as soon as it found out that one of its butter-makers was not answering to the requirements, it would cease to employ him. One butter-maker that was sent out to a promoting creamery is said to have been able to make only No. 2 butter. He became not only butter-maker, but manager of the creamery. The board of directors, who knew nothing about the creamery business, and relied fully upon the capacity of the butter-maker, whom the promoting company had sent to them, accepted his advice in all matters. The result was that after running five months the creamery found itself more than $5,000 in debt. The butter-maker was then peremptorily discharged, because, as the officers stated, his management was "incompetent, extravagant and careless." This, it would seem, would be sufficient to warrant his discharge by the promoting company. If they did not know the facts, it was their business, as business men, to know them. Instead of discharging him, they sent him, as butter-maker, to another creamery, where he also failed to give satisfaction. Then, instead of discharging him, as they should have done, they sent this same man, twice discredited, into another territory to promote a creamery. At this writing he is still so engaged, notwithstanding the fact that more than a month ago the western manager for the Creamery Package company stated: "In the future we are going to work with Frandsen. We are going to work on the third proposition, eliminating the others entirely. We intend to say, 'We want to sell you a creamery outfit.' If they say, 'But we do not know how to organize a creamery association,' we will say, 'Let Frandsen help you then.'" He speaks here of the third proposition. The first proposition concerns itself with promotion; the second with organizing after promotion work had been done, and the third proposition consists merely of a selling proposition, without promotion of any kind. In this instance this manager continued to pursue a policy of business that he had definitely promised to abandon. So much for the good faith in such promises.

It would not be possible better to close such a discussion as this than by quoting from the

Sheep Feeding Near Big Stock Markets

Range Sheep Doing Odd Stunts in Country and City

THE accompanying combination picture illustrates the fact that sheep feeding near the great live stock markets is spreading into more and more territory in several states.

It used to be that the big flocks were heard of here and there, out a few miles from the slaughter houses, but the feeding in more recent years covers much more territory, in districts in which the farms produce considerable feed, which is fed to the sheep as the most profitable method of getting the most profit from the grain and roughage crops.

The big flock shown at the left is a bunch of 11,000 sheep kept on three farms in Chicago territory. The smaller bunch in the right-hand picture is shown cropping the grass in Washington park, Chicago. They are bought at the yards early in the summer, are allowed to pasture in the parks until late in the fall, when they are sold back to the packing firms, generally at some profit. In this instance the only object in buying the sheep was to keep the grass short.

All of the sheep mentioned are brought from the far west, mostly from Wyoming and Montana and other points along the Northwestern lines. It is now being planned to pasture western sheep on the cut-over and burned-over districts of Wisconsin and Minnesota to clean up the wild land. The sheep are kept on small tracts until the underbrush is nipped off, after which, in the spring, about the time the frost is coming out of the ground, the land is sown in red clover and crops of this roughage raised between the stumps.

pamphlet of the Creamery Package company, already alluded to. This paper would say to the farmer, as the Creamery Package people said to the farmers of Minnesota, "Have nothing whatever to do with promoters." One of the most successful co-operative creameries in Nebraska was promoted by the farmers themselves, without any help from outside. Any creamery may be so promoted if there is sufficient interest and demand for it. For a co-operative creamery to be successful in the best sense, the farmers themselves, the cream producers, must take the initiative. If they find that there is cream produced in a given community sufficient to make 100,000 pounds of butter a year, and if, in addition, there is sufficient community spirit to cause the farmers to remain constantly loyal to the new enterprise, then they are in a position themselves to promote and organize a co-operative creamery. In this promotion and organization they can have the assistance and the advice of the dairy department of their state university. This advice will not be commercialized, and will be candid and reliable. In Nebraska, Prof. Frandsen will be glad to render such communities any assistance within his power. In some towns in this territory there are as many as five separate cream receiving stations that together receive cream enough adequately to supply a local creamery. Such a local creamery, unanimously supported by the cream producers of the territory, would undoubtedly yield them a much larger profit. Under such circumstances, such a local creamery would be desirable, provided the community would agree unanimously to support it. No promoter, with his exaggerations and his misrepresentations, would be needed. Not less than $2,500 might be saved the community by dispensing with his service. The dairy department of any state university will render better service, will give more reliable information, without expense to the community. If the farmers do not understand the creamery business, let them ask advice of someone that does understand it—someone whose statements are not biased by commercialism.

Stump Ranching in the New Northwest

Stump Ranch in the Spokane Country

By O. H. Barnhill

NINE years ago a railroad laborer from Michigan arrived in the Flathead valley of northwestern Montana, with a wife, baby and $53, the latter representing the net savings of years of toil. The only government land then left in the valley was timber land, from which the saw-logs had been removed by lumbermen. A quarter section of rocky, hill land on the west shore of Flathead lake was filed on, a small log house built, an acre and a half of ground cleared and most of it planted to small fruit. The homesteader was then forced to resume his old employment of switching for a year, during which time he was in the hospital five weeks as the result of an accident. Enough money had been saved, however, to buy a team of horses, cow and cultivator. The next season $184 worth of strawberries were sold from a three-eighths acre patch, which was enlarged to half an acre, and $300 worth of berries sold the next year. The five-eighths acre patch of raspberries brought in $136 the second year and $250 the third year. The patch was later increased to one acre, and seven acres planted to fruit trees. The raising of strawberries has been discontinued on account of the difficulty of getting help at picking time. Snow takes the place of straw for winter mulching. The cost of clearing land, plowing and harrowing is estimated at $75 per acre.

Hardships of Homesteading

How about the hardships of this sort of homesteading? There were plenty of them. During the year when the husband was working on the railroad the wife remained alone on the homestead, three miles from the nearest neighbor. Groceries and other supplies were obtained by riding a horse through the timber nine miles to the nearest town—a saloon-surrounded sawmill village—carrying the baby on one knee and a basket of eggs on the other.

When the writer was secretary of the Big Fork Farmers' Institute he invited this plucky homesteader to tell something of the methods by which he had attained success. He came sixteen miles and delivered the goods. Having had no previous experience in farming, he was unhampered with the "good enough" idea, putting in practice the book-farming theories about giving everything the best possible care and attention, which are scorned by the average agriculturist as a waste of time and labor. Deep plowing, thorough cultivation, the utilization of every foot of plow land and every bit of manure, feeding all green stuff to cows and chickens, pasturing the waste land—these are some of the methods which spelled success.

A Stump Rancher's Success

E. J. Cramer, Somers, Mont., the homesteader referred to, is a regular exhibitor and premium getter at the Flathead fair, to which he hauls his finest fruits and other products thirty miles. All other enterprises for the advancement of agriculture receive the active support of Mr. Cramer, who now has eleven Jersey cattle, six young horses, a large barn, new nine-room house, a fine power launch for use on the lake, is out of debt and saving money to buy an automobile. The total value of the ranch and other property is around $8,000, which means an annual net profit of $1,000, starting with nothing on a stump homestead. Wages of $108 per month were received at railroad work, but practically nothing had been saved. It should scarcely be necessary to add that there is now no similar government land open to entry in the Flathead valley.

The foregoing instance is cited to illustrate the possibilities of stump ranching in the new northwest. That it is very exceptional is freely conceded, but it is the man—and his wife—who are exceptional, rather than the opportunity. There are many similar chances for success, which, however, is impossible of attainment without the perseverance, industry and business ability possessed by the parties above referred to. Moreover, every man is not adapted to the kind of work required, which takes, in addition to the qualities above mentioned, patience, love of detail, thoroughness and an infinite capacity for taking pains. The latter quality, by the way, has been given as a definition for genius.

The writer has known a number of stump ranchers who for many years have made nothing but a poor living, and a good share of that was gotten by working for wages. Their land cost them nothing, and many sold from $1,000 to $4,000 worth of saw timber. These failures, like the above success, were due to the men, not to unfavorable conditions. Poor management, shiftlessness, drinking and gambling, working only part of the time—these are some of the commonest causes of failure.

Extent of Logged-Off Lands

There are several million acres of logged-off lands in the Spokane country, which includes western Montana, northern Idaho and northeastern Washington. West of the Cascade mountains in Oregon and Washington there are 3,000,000 acres of similar land, the amount of which is increasing at the rate of a third of a million acres a year, despite the fact that 100,000 acres are cleared yearly. The price is from $5 per acre up. Twenty-five dollars per acre is perhaps a fair average for good stump land, well located, the bulk of which is held at $10 to $40. To one who is unacquainted with these lands it is difficult to convey an accurate idea of their character. Their intrinsic value ranges

(CONTINUED ON PAGE NINETEEN)

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The South Dakota Experiment Station has proved by experiment that large potatoes as seed produce 20 per cent more than small potatoes and culls.

Swine growers that have immunized their brood sows, to be on the safe side, should immunize their pigs at weaning time. The serum is a sure preventive, if properly used.

Rape, with a mixture of peas and oats, makes a first-class temporary hog pasture. Rape should be sown either early or late, as it does best in cool weather, and especially in cool nights.

Be liberal in feeding the calves, but not too liberal. Scours result from over-feeding, but may be cured by cutting the ration in half for a day or two, when the feed may be again increased.

Be sure that the brood mare, at foaling time, has plenty of room. If she is in a box stall, see that it is thoroughly disinfected as a preventive of navel infection. The open pasture is the best place for foaling.

Alfalfa wilt, a fungus disease of alfalfa, for which no cure or preventive is known, is rapidly spreading through alfalfa districts. It is due to a fungus that causes rot on the stems at the surface of the ground. This rot, weakening the vitality of the plant, causes wilt of the leaves and stems. In case wilt appears in a field, it is best to plow the field at once and put it in some other kind of crop at once. Rotation seems to be the only preventive.

Experiment Stations

One naturally wonders from reading the bulletins from the several state experiment stations precisely what purpose the stations are intending to subserve. From the mere fact that every state has its separate experiment station, it would naturally follow that each of such stations is intended to subserve the agriculture of its own state as the primary purpose. If this is not the real purpose, this is certainly what the real purpose should be; otherwise it would not be necessary to have such a station in each state.

If the purpose of the experiment station is simply to discover and elucidate scientific facts for the benefit of the scientist, one central experiment station might do all the work at a great deal less expense. It seems a waste of money to multiply stations and publish bulletins, some of them expensive, merely for circulation among scientists.

The primary purpose of the station, and of every one of its publications, should be to furnish practical help to the farmers of the several states. The members of the several faculties who cannot be brought to regard the work in this light should be given other fields of activity. Science is not an end in itself; it is merely a means to an end, and pseudo-science is nothing at all; it had better be kept out of print, notwithstanding the fact that it is only through bulletins that such half-scientists can get their names before the public. No bulletin should be published that does not add to the body of known scientific achievement. Even then it should be written in such a manner as to be of practical benefit to the farmer. Unless this is done it is not worth while to spend money in getting vapid and rehashed demonstrations into print.

The American Potato Crop

In the first place, the yield of potatoes per acre in the United States is less than half of what it is in either Great Britain or Germany. In the second place, the yield in this country is only half what it might be made if the selection of seed and the cultivation of the crop received the attention that they should. No one need fear a glut in the market from over-production here. Germany uses 28 per cent of its crop for table purposes, 40 per cent for stock foods, 12 per cent for seed, 4 per cent for starch, 6 per cent for alcohol, and it is estimated that 10 per cent becomes useless through decay. In this country, under conditions as they exist here, when there is a slim crop the price of potatoes is very high, and when there is an abundant crop the price is correspondingly low. Should the United States dispose of its potatoes in the way that Germany disposes of its crop, in a lean year, if there were not a sufficient amount for table purposes, the deficiency might be supplied from what is usually used for stock food. The use of potatoes for stock food would have a tendency to keep the market equitable and stable from year to year.

There is no crop grown in this country that is as remunerative and profitable as potatoes when they receive the proper attention. This paper is taking up the matter of supplying its readers with machinery for converting potatoes into stock food at the very lowest possible price. When the manufacture of potatoes into stock food becomes general throughout the potato-growing districts, it will greatly increase the profit to be derived from the crop, and make the market stable from year to year.

It will also assist in the development of much land that is now undeveloped. There is no place in the immense range regions of the west where potatoes may not be profitably grown under these conditions. Every stockman, when the industry is once established, will be able to raise the food by means of which he can finish his stock for the market. For this reason this paper is actively pressing the matter of securing proper machinery for the manufacture of potato stock foods.

One thing menaces the future prosperity of the industry—potato disease. To avoid this, and insure healthful potatoes in the future, it is necessary for every grower to grow his seed in his own seed plat, separate from the general crop, and be sure that he plants nothing but uninfected seed in uninfected soil.

Serum Demonstrations

The state of Kansas proposes to demonstrate the possibility of completely eradicating hog cholera. For this purpose, it has selected two localities, each in extent nearly the size of a county, and proposes to prove that it can eradicate hog cholera completely from these localities. The demonstration is in charge of the agricultural college of that state. The farmers in the localities co-operate to a man in the demonstration; that is, demonstrations will not be undertaken until the farmers have signified their willingness to co-operate. In these demonstrations the farmers must buy the serum that is used, and must observe strictly all the sanitary and police regulations that may be laid down by the college. The college itself will furnish, without expense to the farmer, operators and all necessary veterinary attendance. If it shall be proved that it is possible in this way absolutely to eradicate hog cholera within the limits of two widely separated counties, it follows that the adoption of the same regulations and the same method will eradicate the disease from the entire state, or from any territory, no matter how widely extended, that adopts and rigidly observes the same method.

It is to be hoped that other states will see the advisability of the adoption of such demonstration work, in order to convince the farmers, as a whole, and the legislative powers, who control the purse strings of the several states, that the great annual loss from hog cholera may be absolutely prevented if proper measures are taken.

The loss in live stock from disease during the last year is reported by the Department of Agriculture as follows: Hogs, $66,417,000; cattle, $64,783,000; sheep, $10,082,000, and horses, $63,817,000. This looks as though the state bureaus of animal health, by whatever name they are called, should begin to get busy.

A Farmers' Practical Club

There has been a great deal said about the organization of farmers' clubs and their practical value to communities. There have been many farmers' clubs organized and for lack of system in management have dwindled and died. A farmers' club in organization is not unlike any other association of persons engaged in mutual interests. The life of the club is in the social and educational work it is able to take up and carry on. As long as the club members are kept busy in planning, discussing and carrying into execution matters of interest and benefit to its membership it will have life and energy.

There are many matters of local and neighborhood interest that a well organized farmers' club can handle to better advantage than any other authority. The matter of public road improvement has been more successfully worked out by little neighborhood clubs than otherwise. The improved rural school, the country church, the improvement and decoration of the rural cemetery, are each better provided for and better looked after when the stimulant of organized neighborhood influence is prompting the action.

Prof. W. J. Kennedy of Iowa has outlined his views of how a farmers' club may be made useful and maintain interest. He says:

One of the most helpful and satisfactory kind of clubs is one composed of twelve families Such a club should meet at least once a month, and with a different family each month In this way each member would have the opportunity of entertaining the other members and their families at least once each year. These meetings should occupy the entire day. Everything on the farm and in the home should be carefully inspected and discussed. In this way helpful suggestions may be obtained. Occasionally an outside speaker might be secured to present some useful line of work. Provision should always be made for a helpful program, with ample time for discussions. Timely topics from the agricultural press, station and college bulletins should be presented for discussion. The secretary should arrange with the state college and other institutions to secure the loan of "pocket libraries" for the use of the members of the club. These libraries should contain interesting and useful reading material for the men, the women, the boys and girls.

The various local clubs should have a township organization composed of, say, the president and one other member of each local club. The various townships should form a county organization and the counties a state federation of farmers' clubs. The real work must be done in the individual clubs and the larger organizations will prove useful in dealing with matters of townships, county, state or nation-wide interest.

The organization of these clubs should be very largely volunteer in nature. It should not be the work of some professional organizer. In other words, no club should be started where the people do not want it. In these small clubs only people congenial to each other should belong to the same club. All must pull together for success.

The social and congenial qualities of the farmers' club is a feature that will bear consideration. Every farming community should have its social clubs, and these can be made to serve the purpose of the farmers' clubs. People will hunt out their congenial associates and visit with them. The recommendation of the farmers' club of twelve families given by Prof. Kennedy will be a good subject for farmers and their families to study and discuss.

An Absurd Test

The boards of health of most of he cities in the union have adopted egulations by which milk that con-ains more than a specified number f bacteria for every cubic centime-er of milk shall be regarded as un-wholesome, and prohibited from use s food. In Omaha the maximum umber of bacteria permitted in a ubic centimeter of milk used for ood is 150,000, though last month he number ran as low as 38,000. In ther cities the maximum number uns from 500,000 to 1,000,000 per entimeter. Milk that contains a reater number of bacteria per cubic entimeter than is specified by the egulations is regarded as unwhole-ome and is prohibited from use as ood.

From a strictly scientific and san-ary point of view, no regulation ould be more absurd. The whole-omeness of milk does not depend pon the limited number of bacteria hat it contains. There is no more ealthful or appetizing food than asteurized milk that has been in-culated with lactic acid bacteria, nd is known in the trade as fer-mil-c, viti-culture, or starter. This ood contains millions upon millions f bacteria, exceeding the million mit prescribed by health boards ver and over again. It is not the umber of germs that makes milk nhealthful. The probability is that he entire process of digestion is one f bacterial rather than chemical ac-vity. The whole digestive tract varms with millions upon millions f healthful bacteria. It is absurd o regard the number of bacteria in product as indicating unwhole-omeness.

It is the kind of bacteria, not the umber, that makes milk unwhole-ome. Milk that contains the low-st ordinary limit of bacteria, if it ontains a single germ of diphtheria, r of scarlet fever, or of typhoid ever, or of bubonic plague, or of uberculosis, is infinitely more dan-erous and unwholesome than milk hat contains millions upon millions f healthful bacteria. What is eeded to determine the wholesome-ess of milk is not a quantitative, ut a qualitative analysis; to ex-lude from use milk that contains isease germs, no matter how small number of them may be found.

Of course, in milk with a low acterial count, there is less proba-ility of disease germs being pres-nt, other things being equal, than nilk with a high bacterial count. ut probability is not enough; there nust be certainty. The thing to be uarded against is not the number f bacteria, but the kind of bacteria. The health boards of the various ities, if they wish to be scientifically xact, and if they wish to avoid the idicule of right-thinking scientific nen, will change their regulations o as to substitute a qualitative an-lysis for their present quantitative nalysis, which is too absurd for erious consideration.

The special commission appointed y Governor Deneen of Illinois to in-estigate pellagra, reports that the veight of evidence shows that the isease is due to infection with a iving micro-organism, and that the robable location for this infection is in the intestinal tract. It also reports that insufficient food, too little animal protein in the diet, may constitute a predisposition for contracting the disease. It also recommends that the dietary of state institutions be reformed so as to prevent this predisposition.

Live Stock Farming

The turning of everything into live stock, or live stock farming, is a present-day feature of land management that is commanding the attention of many close students of agricultural economic propositions. The high prices of farm lands are beginning to cause the land owner and prospective investor some thought and figuring to determine how a profit can be made that will equal the 5½ or 6 per cent loan.

The grain grower who depends almost entirely upon weather and climatic conditions for the success or failure of his crops has but little assurance of what is in store for him until his grain is in the market. Each year he is reducing the producing ability of his land, and in an emergency he has nothing on which he can secure a loan. Growing crops are even regarded hazardous and uncertain security.

The live stock farmer has a constant, tangible, every-day security that is recognized by all banks and money-lending institutions as first class, and will sell on short notice in a market that never closes. The live stock, when made the source of marketing the produce of the farm, leaves the fertility of the land on the farm. This is not sold or hauled off, as in the case of the crop, when it goes to market.

There is little to be presented against a system of management that produces something that is growing and increasing in value every day in the year—a product which, although depending entirely upon the produce of the land for its maintenance and development, yet when it is finished and leaves the farm leaves it clear of debt, not owing the land a cent.

The Fourth International Congress on School Hygiene will hold its next session in Buffalo, August 25 to 30. School hygiene has not received the attention that it should, and this congress is undertaking an invaluable work. It should have the sympathy and co-operation of everyone interested in promoting child health and in developing and strengthening child life.

Keep the horses shod, especially in front. It will save feed and add to their capacity for work.

Farmers Can Test Cows Free

A Twentieth Century Farmer Plan

Farmers may now test their cows free. The Twentieth Century Farmer is anxious to promote the keeping of better and more profitable cows on every farm in its territory. For this purpose, it suggested a scheme for cow testing, which is supplemental to the scheme adopted by the large cow testing associations, by which every farmer may be able to test his own cows. It also asked the several creameries operating within the Missouri valley territory to agree to make the tests of samples of milk furnished without expense to the farmer. They have liberally responded to the request.

Now, every farmer in the Missouri valley may have his samples of milk tested free of charge at his regular cream receiving stations. All that is necessary is to notify the man in charge of the cream receiving station that he is going to want samples of milk tested, and this man will notify the creamery for which he works of the demand, and the creamery will furnish the operator the necessary bottles for making the test, and will order him to make the test without expense to the farmer.

Every farmer that wishes to get rid of the loss producers in his herd, and keep on with the profit producers, should avail himself of this opportunity. The agricultural college of his state will furnish him a milk sheet on application without expense. All that will be necessary will be once a week or once a month to weigh the day's mess of each cow, take a sample of each cow's milk and have it tested for butter-fat at the cream receiving station.

This is the only way in which the value of a cow may be determined Some farmers think they know which are their best cows, but they are liable to be mistaken. In tests already conducted it has been proved that cows that were supposed to be the best were really the poorest profit producers in the herd. The only way to know of a certainty is to test the cow by weighing her milk and ascertaining the percentage of butter-fat in it.

We must have better cows if we are to maintain cows at a profit. Farmers should find out which are the profit losers and dispose of them, and save the get of only their best producers for future use. This matter should be taken in hand at the earliest opportunity.

Scrub and Pure-Bred

Said the scrub-bred cow to the high-bred cow,
"Say, you are an easy mark, I vow.
You eat no more than a scrub like me,
You're treated no better that I can see,
Yet you give the farmer three times as much
In payment for board and room and such;
Three times the milk, and it's better, too;
I'd hate to be such a fool as you."

Said the high-bred cow to the scrub-bred cow,
"I'd like to shirk, but I don't know how;
I'm not intending to pay so well,
And why I do I cannot tell;
I reckon it isn't for me to say;
I guess I was simply born that way;
No matter how hard to stop I try,
I keep on boosting the milk supply."

Said the scrub-bred cow to the high-bred cow,
"You're up against it, I'll allow;
You're padding the farmer's increment,
While I'm not making the dub a cent.
I know this much if I were he,
I'd banish all scrawny cows like me,
Who eat as much as their betters can,
And bunco their board from the farmer man

"But I'm not the farmer, and so I'm here,
Eating my head off year by year,
And I'll do it as long as I can, I vow."
Said the scrub-bred cow to the high-bred cow.

Cattle Feeding Methods

"Some new cattle feeding methods to be brought to the attention of 2,500 practical feeders of the state of Kansas." This is the announcement of the Kansas Agricultural College at Manhattan.

The animal husbandry department of the college announced last January that it had commenced a calf-feeding experiment which it would make known on May 2, 1913, a date designated by the college as "Cattle Feeders' Day." The wintering of calves, how it can be most successfully and economically carried on in the interest of both the calf and its owner, is the principle involved in this feeding operation.

This feeding proposition consists of feeding five lots of calves as nearly equal in age, size, quality and condition as possible when started. These five lots consist of ten each—high-grade Herefords, bred and raised in Kansas, and all from one herd.

The following statement is made in explanation of the experiment: "The purpose in the first three lots is to determine the comparative value of corn, kaffir and sorghum silage for wintering growing calves, by using cottonseed meal as a source of protein. In lot four alfalfa hay has been fed in such quantities that the total amount of protein consumed would be the same as in lot one. In other words, the comparison between lot one and lot four is one regarding alfalfa and cottonseed as a source of protein. In lot five the alfalfa has been limited to the same quantities as that eaten by lot four. Cane stover has been fed according to appetite, and in addition a sufficient amount of shelled corn has been fed to equal that contained in the silage fed to lot four."

The menu is as follows:

Lot 1—Corn silage according to appetite; one pound of cottonseed meal to calf daily.

Lot 2—Kaffir silage according to appetite; one pound of cottonseed meal.

Lot 3—Sorghum silage according to appetite; one pound of cottonseed meal.

Lot 4—Corn silage according to appetite.

Lot 5—Alfalfa hay according to appetite; corn stover according to appetite, and a limited ration of shelled corn.

These calves on May 2 ended a hundred-day feed on the ration accredited to each lot. The purpose is to direct a line of thought throughout the state upon uniformity and system in feeding; also to bring the feeders of the state in close touch with the college and its work. This is one of the essential factors just now in helping in the increase of beef production. Each calf has the basis of beef production. How much can each of these calves be made to yield when the proper means are applied in its development? It is the purpose of the college to not only demonstrate the possibilities of growth, but to make plain that it is within the province of every farmer and cattle grower to secure these results with his own calves, proportionate to the quality of cattle he produces.

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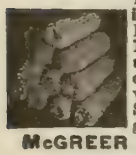

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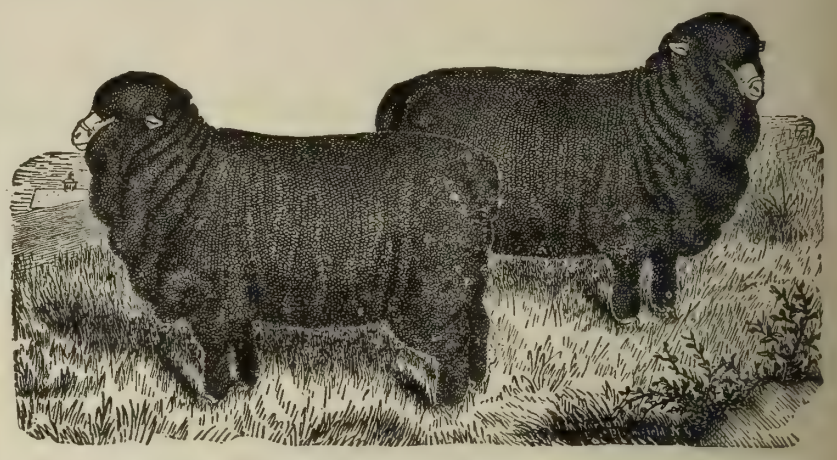
Fine Wool Sheep in America

IV—Introduction of Registry Association

IN THE importation of the Spanish merino sheep into the United States, the propriety of crossing or mixing of the blood of the various cabanas, or flocks, as they are bred and produced in Spain, became a matter of dispute, conjecture and uncertainty of opinion in the minds of some of the American sheep breeders. There was some variation in the fleece and general physical characteristics of the sheep of these various cabanas, but not enough to justify a separation or a belief that there could not be advantage had in admixture of blood. That there was considerable cross-breeding of these various families of Spanish merinos practiced by the American flockmasters there is little doubt. That great advantage in sheep improvement accrued in the efforts of breeders in this line of breeding is also strongly indorsed by some very good sheep authority, who observed the crosses and breeding practiced, regardless of whether they were Infantado, Paular, Escurial, Gaudaloupe, or what not, of the distinct governmental Spanish cabana distinction.



A Pair of Improved Spanish Merino Ewe Lambs of the Sanford Flock of Vermont, 1876

The crossing of the various families, or cabanas, of Spanish sheep after they came into this country was a feature that was criticised by some merino sheep breeders. This was not from any honest belief that there was any disadvantage in quality of mutton or fleece produced, but merely a prejudice against the violation of pedigree system in family breeding, or family history already established. This sentiment gave rise to the idea at one time of establishing societies or associations in the interest of flock owners whose flocks traced in their line of breeding back to Stephen Atwood's flock or Colonel Humphreys' importation, etc. Efforts of this kind were viewed as too exclusive to satisfy the demands and interests of the general array of pure-bred merino breeders.

The interest and speculative opportunity thus afforded sheep dealers in the importation of the Spanish merino sheep to America caused a great many persons to engage in the business and large numbers of sheep were bought and sold, and not all were sold with their original flock or cabana identity attached, but under the more general certificate of "pure Spanish merino blood." That this, with their general appearance of quality and breeding characteristics was sufficient guarantee can scarcely be disputed, as the best were easily procured for importation as the less desirable, and the judgment of the importer would naturally be to get the best quality available and, therefore, be within the limit of the best pure-bred flocks.

The opposition to the narrowing down to special fixed flocks and their establishment as a basis of pedigree was discouraged and the widening out to cover all reliable importations prior to 1812 was approved. This let in the period of extensive importation made by Consul William Jarvis and other reputable importers and breeders, who contributed to the foundation of flocks then laid throughout the eastern and New England states. The tracing of pedigree or evidence of purity of blood of a flock back to some of the importations prior to 1812 was the basis of requirement of the merino registering associations. This was the foundation which the pure-bred merino sheep of the United States was forced to adopt and has resulted in untold benefit in the improvement of the fine wool sheep.

The United States Merino Sheep Register, the first sheep register organized and put into operation in the United States, 1875, had a feature of qualification in its requirements of registry of individual animals that even today, thirty-eight years after its creation, should be the standard in every sheep register. This rule, in the first volume of the United States Merino Register, introduces its requirements as follows: "The merits of each animal does not only rest on the blood being kept pure and intensified by the inbreeding for centuries of the Spanish cabanas, but each animal, in order to obtain the honor of an individual record, must have innate merit approximating perfection to such a degree that it must stand, by the examination of the proper committee, above 80 on a scale of 100. Thus individual merit, as well as purity of blood, is required in the thor-

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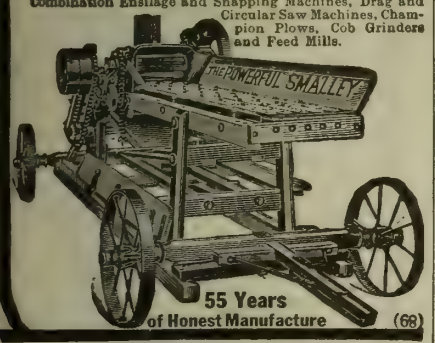

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oughbred stock, resulting in purity of blood being the only standard of excellence, without regard to individual merit."

It will be observed that this register has taken into consideration not only the recording of flocks on the basis of purity of blood and breeding, but the recording of individuals upon the basis of their individuality as perfect specimens, measured upon 100 points as a perfect score and 80 points as a requirement in securing individual recognition. Here is the real merit of the registry system. What does it amount to if you have a pedigree containing all the fine blood in existence if there is no animal with the pedigree to back it up? Individuality, the perfect animal, comes first, then the breeding for its support.

The scale of points, as adopted by this association, was classified and rated as follows:

First—Blood: A perfectly authenticated line of ancestry extending to one or more of the importations of merino sheep from Spain, made prior to 1812, without admixture of any other blood. Twenty points.

Second—Constitution: Eighteen points.

Third—Fleece: This includes quality, quantity, condition, etc. Thirteen points.

Fourth—Covering: Extent and evenness of the fleece over the body, length of staple, etc. Thirteen points.

Fifth—Form: Nine points.

Sixth—Size: Rams at full growth, 130 pounds and upward. Thirteen points.

Seventh—Head: Six points.

Eighth—Neck: Five points.

Ninth—Legs and feet. Four points.

Tenth—General appearance: Good carriage, bold, vigorous style, symmetrical style, etc. Four points.

A total of 100 points.

The adoption of a system of estimation of animals of this character by which the individual members of a flock seeking protection under the standard of its requirements are to pass inspection by a competent and honorable judge or board of experts was certainly a long step in the direction of sheep improvement. If all registers had been as exacting in their requirements of individual registration, and the individual registratnon had been made the governing principle in flock standing and qualification, instead of pedigree or breeding, where so often individuality counted for nothing and was so deficient and lacking in the essential qualities of a good animal, there would have been more good pure-bred sheep produced.

Tail-end, good-for-nothing, cheap pure-bred sheep were bought and sold, propagated by tail-end sheep breeders, just because they had the registry protection behind them. This class of sheep and sheep breeders should have been relegated to the open-grade flocks of the country until they qualified for registration by producing the standard animal.

The flock registry, based wholly upon the blood of ancestors, should have been made a secondary matter in the registry system, and should count only for what bearing it might have on influencing the purity of blood.

UNITED STATES TIRES

offset high cost of gasoline

Never before in the history of motoring have motorists received as much mileage from their tires as they are getting today from United States Tires.

The average mileage yielded by these tires has been raised to a point from 25 to 50 per cent above that ever reached by any tire maker previous to the organization of the United States Tire Company.

You men who drive in the country will be actually able to operate your cars for less money this year than you have ever been able to do before—this in spite of the continued rise in the price of gasoline.

You will be forced to pay a 50 per cent increase in the price of your fuel but you can save more than this on your tire mileage.

This is the most important service that has ever been rendered to motorists by any tire maker.

It will mean a saving of from forty to fifty dollars to every United States Tire user.

But, bear this in mind—you can't get this big reduction in tire expense—you can't off-set the high cost of gasoline without using United States Tires.

Cost no more than you are asked to pay for other kinds

UNITED STATES TIRE COMPANY, NEW YORK

United States Pneumatic Tires are guaranteed when filled with air at the recommended pressure and attached to a rim bearing either one or both of the accompanying inspection stamps. When filled with any substitute for air or attached to any other rims than those specified, our guarantee is withdrawn.

Be Sure You Get a Pure Leather Shoe

OVER 90% of all shoes sold for less than $4.00 contain *substitutes* for leather in the heels, counters and soles.

Why pay pure leather prices for such shoes when you never know they are adulterated until you wear them and find them unsatisfactory.

There is one way to be sure you are getting an honest leather shoe. Simply ask for "Star Brand" shoes with the star on the heel and the name on the sole.

"Star Brand" is the largest selling line of shoes in the world. Over seven million pairs sold during 1912. Every pair is honestly made of good leather. No substitutes for leather are ever used.

"Star Brand" shoes are made in over 750 styles in all the different leathers for men, women and children. A shoe to meet every demand, both as to style and grade.

Don't pay leather prices for paper shoes. Always ask for and insist upon having "Star Brand" shoes. Nearly 20,000 good merchants sell them. Don't just go into ANY store, but hunt up the "Star Brand" dealer or write to us for the name of the nearest merchant who sells them.

"Star Brand Shoes Are Better"

ROBERTS, JOHNSON & RAND
MANUFACTURERS Branch of International Shoe Co. ST. LOUIS

Satisfaction Guaranteed or Your Money Back.

We Pay Mail or Express Charges in the U. S.

CROSSBAR NAINSOOK WAIST 49c

NW49—A practical, dainty waist of fine, serviceable quality Crossbar Nainsook. Made in popular button-front style, smartly fashioned with prettily embroidered collar, pocket and cuffs, Gibson pleated shoulders, allowing liberal fullness. Splendid 79c value. (Sizes 32 to 44 bust.) Postpaid 49c

The "Standard" Charming New Clothes Are of Dependable Quality. Write today for your FREE Copy of the "Standard" Spring Bulletin

Embroidery Allover Dress.. $1.98

ND198 $1.98

ND198 — A remarkably handsome dress at a remarkably low price. Made entirely of good quality **all-over embroidery,** effectively trimmed with Val. laces and a beautiful Venise medallion. Laces also trim the sleeves and a wide lace insertion forms the belt and finishes the bottom. Worth fully $3.00. (Ladies' sizes, 34 to 44 Bust. Also misses', 14 to 18 years.) Special, postpaid.. $1.98

NC 198

Linene Coat $1.98

NC198—An attractively modelled 54-inch duster or motor coat of washable splendid wearing quality Tan Linene. Cut on modish, straight lines with one-piece back and seamless fronts, allowing becoming, graceful width. The fitted yoke and facings insure permanent shapeliness. The deep shawl collar and cuffs are inlaid with contrasting blue and trimmed with embroidered soutache and buttons. Three large combination buttons are used for closing. A rich money saving value. (Size 32 to 44 Bust.) Prepaid, $1.98

Standard Mail Order Co.
277 W. 17th St., New York, N. Y.

Work and Wages in Mexico

By Frank G. Carpenter

MEXICO CITY—Mexico will never have permanent peace until the peons are paid life-giving wages. As it is now it is more profitable to be in the army than to work on the farms, and unless President Huerto adopts the drastic policy of Porfirio Diaz the brigands and rebels will have no trouble in getting recruits.

The question of wages and labor was agitated during the administration of Madero, and his efforts to better labor conditions were one cause of his downfall. The present administration is trying to carry out some of the policies inaugurated by him and the indications are that the labor troubles are only at their beginning.

Wages in Mexico

I have some figures before me which come from the secretary of agriculture. He puts the daily wages now being paid on the farms at from 20 to 25 cents a day, but adds there are places out in the country where they are not more than half that amount. This is in American money, as are all the figures of this letter.

There are millions in Mexico who are working on the haciendas for less than 25 cents a day, and there are thousands in the factories who are being paid less than $1. In some of the mills the minimum wage is as low as 10 cents, and it runs from that to 45 cents, whereas in others, for the same kind of work, the wages run from 50 cents to $1. There are something like 40,000 laborers employed in the large factories, and their average wages per day are 50 cents gold.

The government is trying to remedy these conditions. It has established a department of labor, which has already dealt with seventy-five strikes, and it is now taxing the product of each factory on the basis of its hours of work and wages. The institutions are favored according to whether they conform to the government regulations or not. The administration is trying also to improve the condition of the laborers on the farms by giving back lands to the towns and gradually bringing about a division of the large estates. As to this, however, but little has yet been accomplished.

Fighting for a Ten-Hour Day

The fight of the men in the factories is for a ten-hour day, and they want to fix also a minimum wage for all parts of the republic. As it is now some of the factories are working from 5:30 o'clock in the morning until 9 o'clock in the evening. There is only one exception. This is on Saturday, when the hands are let off at 4 p. m. In the mills in which that rule prevails the cloth made is white cotton sheeting, and the regular output is about 1,800 pieces per day. The biggest cotton mills here are those of Orizaba; they employ 10,000 hands, the most of whom are native men and boys, less than 300 being women. The work is done with modern machinery and the company makes a large profit. It pays higher wages than those I have mentioned, and it has built 1,200 houses for its factory hands. There is another cotton factory in the state of Toluca, where most of the workmen are boys from 8 to 15 years of age. Here the average wage is about 20 cents a day, and until lately the hours have been long. Nearly everywhere the women are paid less than the men and the boys less than the women. This is so in the tobacco factories as well.

Public Letter Writer at Work—Mexico Has Twelve Millions Who Cannot Read or Write

What Mechanics Get

I had a talk last night with an American contractor who has been putting up buildings all over Mexico. He tells me that the ordinary mechanic's wage in the cities is from 50 cents to $1 a day. Carpenters get $1 for good work, and bricklayers and masons the same. In the coast towns, where there is plenty to do around the wharves, the wages are higher, but as a rule the higher the wages the less number of days of work furnished. The man who gets $1 a day will work only two or three days a week, and if he gets $2 he may work a while and then lay off for a month. A few weeks ago a contractor found

$25 to $40 SAVED

Here's the machine that fits in with my idea of what a separator ought to be — the right price and the right quality. The Beatrice stands alone on the separator market as the one high-grade separator at a fair-play price. Instead of paying $100 to $110, I paid $75 for 1000 pounds capacity. I have yet to find a more efficient and durable machine.

BEATRICE Cream Separator

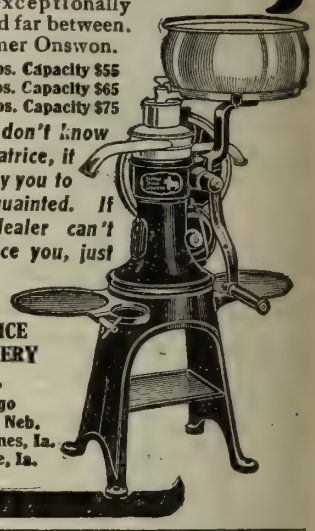
It's no trouble at all to keep it as clean as a new pin and perfectly sanitary. The patented device will clean the machine and make it spotless *in less than 2 minutes.*

The close skimming it does is surprising. My skimmed milk doesn't show a particle of cream. The occasions I have had to put my hand in my pocket for repairs have been exceptionally few and far between. —Farmer Onswon.

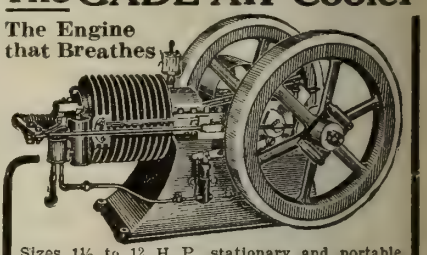
600 lbs. Capacity $55
800 lbs. Capacity $65
1000 lbs. Capacity $75

If you don't know the Beatrice, it will pay you to get acquainted. If your dealer can't introduce you, just write

THE BEATRICE CREAMERY CO.,
Chicago
Lincoln, Neb.
Des Moines, Ia.
Dubuque, Ia.



The GADE Air Cooler
The Engine that Breathes



Sizes 1½ to 12 H. P. stationary and portable. The initial price is not always the actual cost—the wise man will analyze the proposition. This especially holds true when purchasing a gasoline engine. Often times more is paid for repairs and upkeep than the original cost. The GADE is so simple in construction that upkeep is comparatively small. THIS IS IMPORTANT. No delays caused by breakdowns: no time wasted waiting for repairs. Saves every third gallon of gasoline. Ask why. Write now for descriptive matter and catalogue "T".

GADE BROS. MFG. CO., Iowa Falls, Ia.

Kalamazoo SILOS

"make good" because they're made good. And they've been getting better every year for 15 years. If you want to be treated right, order a Kalamazoo now. We prepay freight. Get our catalog; it tells the whole story. Address Dept. 16.

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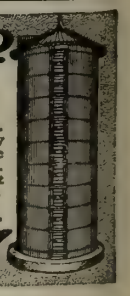

Shinn Lightning Rods

Are scientifically perfect. Give absolute protection Sold under $75,000 bond.

ASK YOUR DEALER

for Shinn rods. If he has none write me for full particulars about bond, my system of inspection by state inspectors and free catalog which tells why Shinn rods are best

W. C. SHINN, 107 16th St., LINCOLN, NEBRASKA

Mention The Twentieth Century Farmer.

at six of his men were doing so ell that he could raise their wages) per cent; they were receiving $1 day, and he gave them $1.50. The sult was that he got only three ays of work the next week, and he nally had to discharge the whole ang and bring in new men at the d rate of wages. He says the la- or is not so efficient as ours, and at one American will lay more icks than four Mexicans.

Labor on the Plantations

The laboring people on the haci- das or farms are far worse off an those of the cities. The aver- ge wages there run from 15 cents d upward per day, but millions of e farm hands and their families e in a state of debt slavery, get- ng little more than their clothing d food. The laws are such that ey dare not leave their masters ithout paying their debts, and as a sult they work along from hand to outh, receiving a little spending oney now and then, and increasing eir debts whenever they have a edding or a funeral. The only way ey can escape is by getting some- e to assume their debts, and this sometimes done by the neighbor- g haciendados or others who want orkmen and can find none in the arket. It is difficult to get a on away from his old master, and is is especialy so if he has been irly well treated.

How Money Talks in Mexico

And still I find that money talks ite as loudly here as on the other de of the boundary; at least it did not long ago for some Americans o were opening a rubber planta- on in the tropical lowlands, and ere hard up for labor. They of- red big wages, but in vain. All peons of the neighborhood were debt slavery to the owners of the tates about and the promises of e foreigners fell flat.

At last the Americans brought in veral bushels of new Mexican dol- rs and laid them in great piles on e table in the rude building which rmed their plantation office; they en called in the peons and showed em the money, saying that they d brought it there to pay off their bts for them and also that they d bushels of other dollars to pay em wages as well. They offered pay the debts of the peons pro- ded they would drop their present nployers and work for them, and e wages they proposed were higher an the peons ever had in the past. The sight of the money worked onders. The peons came over in body and were instructed by the mericans to get papers showing eir exact indebtedness; they did and the Americans then went with em to their old employers and saw at they were legally freed. The en were then able to contract, and eir contracts were registered with e officials of the district so that ey became legally bound to their merican employers

Peonage Still in Force

Nominally there is now no slavery Mexico, but really this form of bt slavery is still in existence. The ch estate owners have practically ntrolled the jefe-politicos, or local fficials, who can force the men to into the army, and it is through em that they have kept the Indians work. During the administration of Diaz it was the same with the factories, the jefe-politicos aiding in keeping the men on the job. The wiping out of this great labor-forcing machine is one of the questions agitated by the reformers of Mexico today, and it is the hope of the most advanced that it may be accomplished. The system has been complete and wide-reaching, and all sorts of methods have been employed to keep the peons in debt. Nearly every big estate has its store, where the Indian laborers can run bills of credit, and the same has been true of the factories and in the mines. The peon is naturally thriftless; he is like a child, and he will borrow all that he can. This is especially so at the times of weddings and funerals. A man will mortgage his future in order to have a big wedding outfit, and when deaths occur there is more debt on account of the funerals. It is now over forty years since peonage, or debt slavery, was abolished by law, but that law is a dead letter in many parts of the republic. There are back districts, such as mahogany camps, from which now and then come stories of flogging, and there is undoubtedly forced labor on certain of the big haciendas.

I heard the other night a story of how the innocent Indian is sometimes kept on the job. It shows a condition more corrupt than the worst practices of the American loan shark. In this instance one of the peons thought he would keep track of his indebtedness and had it marked down item by item in a book. He took this book to his master and asked him how it came that the foreman had charged him $15, when he had only received $5. The master called in the foreman, whereupon the foreman swore at the peon, saying:

"You ignorant fellow, can't you see you owe $15? First there was the $5 you asked me for; second, the $5 I gave you, and third, the $5 which was charged to your account. Now three times five is fifteen. You owe $15, and you must get out of here and go back to your work."

This is probably an overdrawn statement, but fraud could be easily perpetrated upon the peon by an unscrupulous master.

(Copyright, 1913, by Frank G. Carpenter.)

No-Rim-Cut Tires
10% Oversize

How Do We Afford Them?

You ask, perhaps, how tires like these can be sold at Goodyear prices.

The utmost in tires—the final result of 14 years of betterments.

Tires that can't rim-cut—tires 10 per cent oversize.

One process alone costs us a million dollars yearly more than processes generally used.

How are such tires—tires that give such mileage—sold as low as Goodyears? Let us tell you.

Our Cost

We are the world's largest tire builders. We build almost as many tires as any other two plants combined.

Our factories are new. Our equipment is modern. We have invented a wealth of labor-saving machinery. We employ efficiency experts.

Our capital cost is exceedingly low, due to small capitalization.

Grade for grade, our cost of making must be far below the rest.

Our Profit

Then our profit is kept at the minimum. To assure you of this, every year we advertise our profits. In times past this profit has averaged around 8½ per cent, out of which must come the interest on millions of capital invested. This year, with our reduced prices, we do not expect to exceed that.

Those are the reasons why tires like these can be sold at the Goodyear prices.

Lower Prices

Of course tires can be made to cost less. Tires can be sold at half our prices, yet pay a larger profit.

But tire cost means the cost per mile. Goodyears cost far less per mile than any other tire that's built.

The Evidence

This is shown by the fact that Goodyears far outsell the rest, after 2,000,000 have been used.

Our sales last year were larger than the previous 12 years put together.

That's the result of testing these tires on hundreds of thousands of cars. Men have proved enormous savings.

The No-Rim-Cut feature ends rim-cutting completely. The 10 per cent oversize, with the average car, adds 25 per cent to the tire mileage.

You will see these savings clearly when you test these tires.

GOODYEAR
AKRON, OHIO
No-Rim-Cut Tires
With or Without Non-Skid Treads

Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO
Branches and Agencies in 103 Principal Cities More Service Stations Than Any Other Tire
We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits
Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

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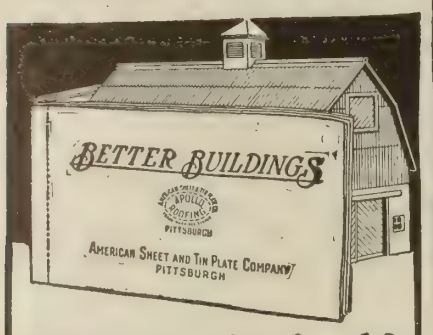

SEND to-day for this valuable book.

"BETTER BUILDINGS" contains valuable plans and information relative to all classes of farm buildings. It tells you how to secure the lowest rates of insurance, and construct good durable buildings at low cost, by using

APOLLO
Galvanized
Roofing and Siding
SOLD BY WEIGHT.

These products are strong, rigid, lasting. Look for the trade-mark on the top of each bundle. It is an assurance that you are getting galvanized sheets that are honestly manufactured, high in quality, and FULL WEIGHT. Write to-day for a free copy of "Better Buildings."

APOLLO Best Bloom Galvanized Sheets are unexcelled for Culverts, Tanks, Cisterns and all underground uses, as well as for Roofing and Siding. Accept no substitute for APOLLO.

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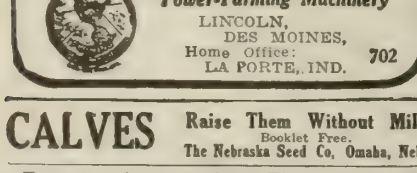

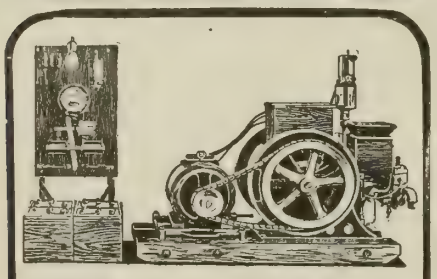

Electric Light

You can enjoy the comfort and convenience that electricity brings—a home equipped with better, safer light and handy power for the whole farm. The

Rumely Automatic Electric Lighting Plant

will furnish cheaper electricity than the kind city folks buy.

The Rumely Electric Lighting Plant is automatic from starting the engine to priming the carbureter—storage batteries fill automatically; automatic oiling system which starts and stops with the engine; heat coils and intake valves adjusted by governor at start.

This outfit will work for you with almost no trouble or care.

It's built to give satisfactory service at the lowest cost. New to you, maybe, but thoroughly tested.

The Rumely Automatic Electric Lighting Plant comes in five convenient sizes—to light 75 to 500 8-c.p. lamps.

It will pay you to investigate this outfit. Write for information and ask the name our of nearest dealer.

RUMELY PRODUCTS CO.
(Incorporoted)
Power-Farming Machinery
LINCOLN,
DES MOINES,
Home Office:
LA PORTE, IND. 702

CALVES Raise Them Without Milk
Booklet Free.
The Nebraska Seed Co, Omaha, Neb.

Be sure to mention The Twentieth Century Farmer when writing.

The Manufacturer and Inventor

Improved Agricultural Mechanical Devices

EVERY farmer needs a practical working knowledge of mechanical workings and laws. It is this kind of knowledge that will show him how to use his brains to help out his muscles. Many a farmer, through a lack of facilities to make instant practical application of mechanical principles, is obliged to expend a large amount of physical energy which might otherwise be saved. Many a man will tug and strain to pull up a fence post when, by the application of the lever, he might do the same labor in much less time and at much less expense of physical energy. The farmer with true mechanical insight can, by such methods, save his team as much as he would save himself under similar circumstances. Very frequently it happens that, through lack of proper mechanical adjustment, the plow is made to pull one horse heavier than is necessary to do the same work. This is an age of conservation, not merely of natural resources, but of power. The best farmer, other things being equal, is the one that can produce the greatest results with the expenditure of least energy.

Manufacturers of agricultural implements say that a large majority of farmers have not sufficient mechanical insight to give modern farm machinery a fair show. Many farmers will not believe this statement, and think that it casts undue reflection upon their knowledge of mechanics. But the wise ones among them will understand that there is always room for improvement, even with the most expert, and that the only man whom it is impossible to help is the man that thinks he knows it all already.

Some Curious Illustrations

In support of the manufacturers' contention, let an incident or two be noted. One farmer applied to his neighbor for help to find out what was the matter with his mowing machine. He said that the machine kept going in or out of gear without any apparent reason, and he would like to know what was the matter with it. The neighbor found that the lever for throwing the machine in or out of gear was attached to a casting that was bolted to the main frame of the machine. The bolts, holding it in position, had become loosened and one of them was lost, and consequently it could not be held either in gear or out of gear.

Another farmer wanted help to see why his binder would not tie bundles. It was found that the jaws of the knotter that held the twine were held in proper position by a bolt that had become worn, so that the burr was loose upon it. A lock nut was put on above the burr and removed the difficulty.

Another farmer bought a binder and took it eighteen miles into the country. The next morning he sent word that it would not tie a bundle, and that unless the seller came out before noon and fixed it he would load it up in the afternoon and take it back. The selling agent hired a livery team and drove the eighteen miles and found that the only trouble was that the farmer had failed to put any twine in the binder.

These men were all good men; had bought and paid for their farms and were in comfortable circumstances, in spite of their lack of knowledge of mechanical principles and of ways to apply them. Every farmer needs to have his mechanical instinct quickened; his knowledge of mechanical principles broadened and deepened and his interest in mechanics awakened. It is the purpose of this department, which is not a regular department of the paper, but which will appear at intervals, to contribute to this end. Its sole purpose is to help the farmer to an understanding of mechanical principles and to an economic application of them, and to awaken a living interest in mechanics. It is not the primary purpose to serve the manufacturer or the advertiser, though these will probably be indirectly benefited.

THIS department does not attempt to recommend any of the mechanical devices or inventions which may be mentioned, but instead aims only to point out the latest products of the world's manufacturers and inventors who are looking to the agricultural industry for their market. Contributions of interest are solicited.

Readers desiring more complete information upon any of the subjects or devices mentioned may in many cases find the advertisement of the manufacturer in another column of this magazine, but if not, they may obtain it by writing this department, enclosing postage for reply.

An invention has been perfected by which an ensilage cutter may be instantly reversed without the slightest strain, even when it is under the heaviest feeding. Reversing the feed becomes necessary when the feed rolls are overcrowded, or when foreign matter is likely to reach the knives. This invention makes it possible instantly to reverse without any strain upon the machinery. It will be appreciated by all users of silo fillers.

***

A man down in Texas, in the Panhandle district, where there is plenty of wind, has invented a wind tractor. The power is supplied by the wheel of a windmill mounted on trucks. With this machine he is able to cut a ten-inch furrow when the wind pressure is small. This is something unique.

***

It used to be thought that a gas tractor, in order to be efficient and practical, must be heavy and develop large horse power. There have lately been put upon the market two small tractors mounted on corn cultivators with which a man may cultivate corn without the use of horses. These machines will also furnish power for driving small machinery. It certainly would look funny to see a man cultivating corn without horses. But it is worth something to avoid the switching tails and the use of the lines in driving in fly time.

***

Down in Kansas they have a machine that goes into a field of standing grain and threshes it directly from the straw without cutting the straw. It delivers the grain in sacks, and works rapidly. It is said to thresh from twenty-five to thirty acres in one day. It is claimed that such a machine will reduce the cost of harvesting from about 14 cents to 2 cents per bushel.

***

Farmers who do their own carpenter work and find difficulty in making good joints at the corners will be interested to know that there have been placed upon the market metal corners which are easily applied, add strength to the building and give a neat and finished appearance to the job. These metal corners cover up the blunders of a farmer that cannot saw on a straight line.

***

They are getting ready to put upon the market a small tractor which will weigh only 6,000 pounds and yet deliver forty horse power. Such a machine should find ready market upon the smaller farms of the Missouri valley. It is an "all purpose" tractor and can be used not only for cultivating, but for all other purposes for which a tractor is adapted.

***

Several corn planters have now adopted a variable drop device by which, without stopping the horses and by the use of a lever, the planter may be made to drop two, three or four kernels in a hill, as the operator may desire. This will be found valuable for use in a field, the different parts of which vary in fertility. On the rich ground four kernels may be dropped, on poorer ground three kernels and on the poorest ground the amount of seed may be limited to two kernels to the hill. In the rolling country of the Missouri valley this device will be found to be of practical benefit.

***

The engine of a motorcycle is air-cooled by means of flanges attached to the cylinder. When two cylinders are used on the same motorcycle, if the flanges are set at right angles to the cylinder, much of the cooling power of the air is lost. One firm has devised the expedient of setting these flanges horizontally, no matter at what angle the cylinders are set. This vastly increases the cooling power of the air.

***

The farm engine has been perfected that will burn any kind of oil, even crude oil. It is said to be practicable. The expense of gasoline has kept many farmers from using engines. Crude oil will be much cheaper fuel.

***

One difficulty with the stave silo has been that, under high wind, they did not retain the perfect cylindrical form, but would become compressed into an elliptical form. An angle steel rib has been perfected which will keep the stave silo in cylindrical form, no matter what pressure is brought to bear upon it.

Original Stories by Our Young People

The Night Song

At night time, when I've looked at story books
Until my eyelids seem to kinder stick,
My mother lays her work down, and then looks
Up where the clock is goin' tickity-tick.
And then she laughs and kinder softly sings
A little song that's runnin' through my head.
This is the song—though her voice allus rings—
"It's time for little boys to be in bed."

I think I'm goin' to kick, but some way I
Jest smile back at her when that song is sung;
I shut the book and then I sorter fly
Right in her lap and feel her warm arms flung
Around my neck, and then I settle down
And rest a while before good night is said,
And hear her sing that call to Sleepy Town:
"It's time for little boys to be in bed."

Nobody else can sing it just her way,
No other voice can make it sound the same;
When I grow up and be a man, you watch. Some day
I'll write that song, and it'll bring me fame;
I'll make the music sorter soft and sweet and low,
The way she croons it when my eyes feel just like lead,
And this is how this song of songs will go:
"It's time for little boys to be in bed."

The Editor's Corner

I wonder if youngsters appreciate their hands, what they are good for, what purposes they serve, how they should be trained and what they should be made to do. It seems to be nature's order to develop the use of the hands before the development of the use of the mind. The child's hands are busy long before it can be said to have a mind, and with some children the only way in which it is possible to develop the mind is through the development of the activity of the hands.

The manner in which the hands are used will determine to a large extent the manner in which the mind will act. If a child is inexact and uncertain in the use of his hands, the chances are very great that he will be inexact and uncertain in all of his mental activity. One of the best ways in which to develop mental exactness is to train muscular exactness in the use of the hands.

So I want each youngster to make things with his hands, and make them with straight lines and square corners. In other words, to be exact in mechanical work, and this will help him to be exact in mental activity.

Every youngster has at his command, if he takes care of them, saw, hammer and nails, and can make things on the farm from a box trap to a place in which the wrens can build their nests. I want each youngster to get busy and build something useful and have it built with exactness, with mechanical simplicity and with the highest form possible of mechanical art. This will help in attaining the highest form of exactness in mental action, when the time for such action comes.

THE EDITOR.

(Prize Story.)

Essay on a Duck

By Leslie Fusselman, Aged 10, Schuyler, Neb. Blue.

The duck is a low, heavy-set bird, composed mostly of meat and feathers. He is a mighty poor singer, having a hoarse voice, caused by getting so many frogs in his neck. He likes water, and carries a toy balloon in his stomach to keep from sinking. The duck has only two legs, and they are set so far back on his running gear that they come pretty near missing the body.

Some ducks, when they get big, have curls on their tails and are called drakes. Drakes don't have to set or hatch, but just loaf, go swimming and eat. If I was to be a duck I'd rather be a drake.

(Honorable Mention.)

A Quarter

By Arnold Exo, Aged 13, Muscatine, Ia. Red.

I am a quarter, now in the bank with many other quarters. I am in the account of The Twentieth Century Farmer. I came from a farmer who was trying to learn to farm. He sent me, along with some other money, and we bought The Twentieth Century Farmer. The farmer is now prosperous, and I think it is because he gets this paper. That man does not begrudge the money.

I will now tell you some of my history. I was made in 1897. I passed through many hands, and once I stayed in a miser's chest until he died; then I was taken out by his greedy nephew and I traveled in many places, but I have never been so happy as I am now with The Twentieth Century Farmer.

Boys' Acre Corn Contest

The Nebraska State Board of Agriculture offers to the Nebraska boy over 10 and under 18 years of age, growing the largest yield of corn from one acre of Nebraska land during the year 1913—$25; the second, $20; third, $15; fourth, $10; fifth to eighth, $5 each; ninth to twelfth, $4 each, and thirteenth to sixteenth, $3 each; and to the boy growing the largest yield on an acre of land west of the east line of Boyd, Holt, Wheeler, Greeley, Howard, Hall Adams and Webster counties, $25; second, $15; third and fourth, $5 each; fifth and sixth, $4 each; seventh to tenth, $3 each, and eleventh to sixteenth, $2 each.

The entire labor of preparing the ground, planting, cultivating and harvesting of this acre of corn to be performed by the contestants who enter contest by recording his name in the office of W. R. Mellor, Secretary, Lincoln, not later than May 20, 1913.

The New Prize Contest

It is getting late for Daffydils, and they have bloomed their last in The Twentieth Century Farmer, but the contests are not over yet, for all that. Do you see the picture on this page? Well, look at it hard and then think about it a long time, for it is the subject of the new contest. What you are to do is to write a verse about it. The verse must contain four lines—no more. To the two writers of the best verses a book worth a dollar will be given. The announcement of the prize winners will be made in the issue of May 31. All verses must be received at this office by May 17.

Address your verses to "Picture Contest Editor." Write them out clearly and be sure to put your name and address on the letter. It is also well to state your age, as the age of the contestant will be considered in awarding the prizes.

Now let me tell you something about writing verses that some of you may not know. Just to begin each line with a capital and make two or more of the lines rhyme is not all there is to writing verse. You must get the meter right. Ask your teacher what meter is and have her explain it to you. I have not room to tell you all about it here, but will tell you a little. Suppose someone had sent in the following verse as a title for the picture:

We are starting on a journey,
And may not be back 'till late;
If we don't appear at dinner,
Just go right ahead. Don't wait.

Notice the same number of accented and unaccented syllables appear on each alternate line. Get someone to explain this to you, and then be careful to see that you get your accented syllables right. Now let us have ever so many verses submitted for the accompanying picture.

The Good Dog

By Vernon Gray, Aged 11, Bristol, Wis. Red.

One windy day, while Margaret was going to school, her pretty new blue velvet hat blew off; she was running down the street trying to catch it. A boy was just then coming out of his yard with his large dog, Sport. He said:

"Fetch it, Sport. Fetch it."

Sport bounded after it and in a few minutes had it in his mouth and was coming toward the boy.

"Take it to the little girl, Sport."

Sport brought it to the girl and wagged his tail, as much as to say, "Am I not a good dog?"

Additional Stories

BLUE—Francis Barry, Greeley, Neb.; Flora Tawzer, Arcadia, Neb.; Jean Stewart, Rockwell City, Ia.; Walter Williams, Alliance, Neb; Mabel Dial, Hershey, Neb.; Agnes Soltan, Hinsdale, Ia.; Lillie Larson, Clarion, Ia.; Calla Cole, Loup City, Neb; Emma Clayton, Hubbard, Neb.; Elsie Polk, Savoy, Ill; Sylvia Lowry, Niatoze, Kan

RED—Willie Bridges, Stanford, Ill; Wilber L. Hilgenbring, Quincy, Ill; Donald Myers, Hamlin, Ia; Mildred Sweet, Sargent, Neb; Thessa Partin, Elmore, Cal; Thelma Brundige, Litchfield, Neb.; Wallace Heintz, Flandreau, S. D.

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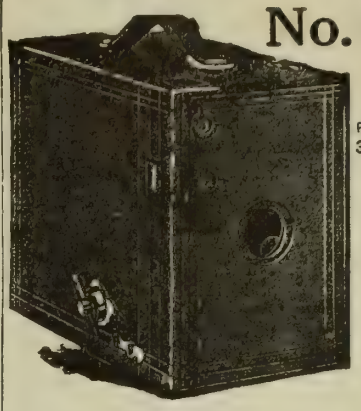

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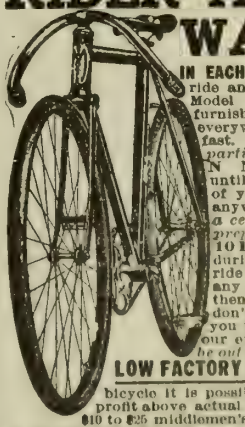

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Of Interest to Our Women Readers

Now I Lay Me Down to Sleep

Near the campfire's flickering light,
In my blanket bed I lie,
Gazing through the shades of night
And the twinkling stars on high.
O'er me spirits in the air
Silent vigils seem to keep,
As I breathe my childhood's prayer,
"Now I lay me down to sleep."

Sadly sings the whippoorwill
In the boughs of yonder tree;
Laughingly the dancing rill
Swells the midnight melody.
Foemen may be lurking near,
In the canyon, dark and deep.
Low I breathe in Jesus' ear,
"I pray Thee, Lord, my soul to keep."

'Mid those stars one face I see
(One the Savior turned away),
Mother, who in infancy
Taught my baby lips to pray.
Her sweet spirit hovers near,
In this lonely mountain brake,
Take me to her, Savior, dear,
"If I should die before I wake."

Fainter glows the flickering light,
As each ember slowly dies;
Plaintively the birds of night
Fill the air with sad'ning cries.
Over me they seem to cry,
"You may never more awake."
Low I lisp, "If I should die
I pray Thee, Lord, my soul to take."

Now I lay me down to sleep,
I pray, Thee, Lord, my soul to keep;
If I should die before I wake,
I pray Thee, Lord, my soul to take.

(Copy of the lines found in the knapsack of a soldier of the civil war, after he had been slain in battle. It is not known by whom the poem was written.)

Our Home Chat

Did you ever get up in the morning feeling cross and disagreeable, and have a strong desire all day long to hurt somebody's feelings? Now don't say you haven't, because every human being is like every other human being in some respects, and your family knows you have "cross streaks," even if you do not admit it yourself.

These unpleasant mornings—which, by the way, are even more unpleasant to you than to the other members of your family—always follow a day on which you have taxed your strength just beyond the limit, or eaten something unwholesome, or stayed too closely in the house, without sufficient air and exercise, or broken some other of Mother Nature's laws, and they are one of her little penalties.

The first thing you want to do when you catch yourself feeling disagreeable is to get a few deep, delicious breaths of good, fresh air. Even if you are busy getting breakfast, you can spare a minute or two for that, and it helps wonderfully. Then wait until someone makes a remark that gives you an opening for a most unpleasant answer—a disagreeable "dig"—and don't make it. Think up something particularly sweet and pleasant to say instead, and pretend you mean it. It is one of the hardest things in the world to do, but once the effort is made and thing accomplished, the whole day is changed.

Those people who always speak their minds take a great deal of credit to themselves for so doing, but a little hypocricy sometimes pays well. THE EDITOR.

Home-Made Toilet Powders

A woman can save considerable by making her toilet powders at home, and when she prepares them herself she knows they are safe to use. A good and safe powder for the face is made with the common prepared chalk. Get the best quality of chalk, put it in a china bowl and break the pieces into small bits; then cover with cold rainwater, stir it up well and let stand over night. Then pour all of that water off and pour more water on and stir it up again; let stand all day or night and repeat this four or five times. When the last water is poured off, place the dish in the sun until the chalk is thoroughly dried out. Keep the dish covered to keep out all dust, and when perfectly dry a little perfume and a little pink powder can be added if desired. The best covering for the dish is a piece of white cheesecloth.

Another good powder is made by mixing well together half a pound of pure rice powder, twelve drops of oil of rose and six grains of carmine. Mix and sift several times through a fine hair sieve. A cake of sulphur soap is excellent in itself for pimples and blackheads, but used by the same person with a powder containing mercury would ruin the complexion. Great care should be given to the selection of powders or pastes used for cleansing the teeth. There are several good powders that can be made at home and with very little trouble or expense. An excellent powder is made with one part each of pulverized castile soap and boric powder and two parts of precipitated chalk. This must be well mixed and sifted three or four times. For a greasy or shiny skin add boric powder to the prepared chalk. There is nothing better to use as a powder for perspiration than one part of the chalk and two parts of the boric powder. For young children use equal parts of pulverized starch and the boric powder well mixed, and if this is used every day it will prevent chapping and soreness of the skin.

A little of the dry boric powder sprinkled on the inside on the soles of the shoes every morning will absorb the moisture and make the shoes feel much easier on the feet. When the feet are irritated and hurt it causes numerous worried lines in the face, and this makes wrinkles.

MARTHA.

The Selection of Wall Paper

The season for housecleaning and wall papering is fast approaching, and it is none too early to begin to plan for the new wall covering. Although the selection of wall paper is largely a matter of personal taste, there are a few rules or truths that must be taken into consideration. The whole family should have something to say about the selection of wall paper and a final vote taken of three or four patterns sifted down from a possible fifteen. There are several little things which should govern the selection of colors and patterns., Deep and ornate borders should never be used in low rooms. Highly figured patterns are also bad for these rooms, or, in fact, anywhere, for they are very fatiguing and confusing, and the eye soon tires of them. Striped or plain papers have a tendency to add to the apparent height of a room. Gaudy and unusual patterns should be avoided, for they spoil the effect of the furniture.

A room occupied by an invalid should be papered in plain, restful colors, for a large-figured, confusing design will drive one almost frantic if they have to live with it all the time. A plain background is best where pictures are to be hung or where there is much bric-a-brac. Large figures and varied colors are too confusing for such rooms. Color plays a very important part in our health, happiness and comfort.

Each room should be treated in relation to the others around it so that conflicting colors will not spoil the harmony. With this idea in view, many people sucessfully treat an entire floor in one color. Colors sometimes make a room look larger or smaller than it really is. Red has a tendency to contract a room and make it cozy and small; that is why this color is used so much in dens. Green and brown do not seem to make any difference, but blues, yellows, tans, pinks and grays seem to add space. Yellow is a delightfully sunshiny color, very good for a north room. Red is a stimulating color, but should be in a well lighted room, as it absorbs light. Blue is usually a failure in a much used room, for it has a depressing quality. Green is restful, but, like red, absorbs light. Delicately tinted papers are the most expensive, for they fade easiest. Light, sunny rooms should have good, substantial colors. In the long run it pays best to get papers of a good grade, for where the hanging must be hired done it costs as much to hang the poor as the good, and the latter will last much longer. MARGARET GRIFFIN.

May Dishes

Dandelions—Gather only fresh plants and wash thoroughly; boil until tender, chop and season with salt, vinegar and butter. If too bitter to suit the taste, use half spinach or young beets—tops and all. If cooked with spinach, do not add that plant until dandelions are half cooked.

Spinach—Thoroughly wash and trim the spinach; place in boiling water; let it remain uncovered and cook about ten minutes; remove from fire, drain away every bit of the water; chop fine; season with salt, cream and butter. Heat well and serve at once.

Asparagus—Cut the pieces in bits and boil till tender; drain, and to two bunches add one-half cup of cream and one-quarter teaspoonful of salt. Simmer and serve like green peas.

Baked Rhubarb—Wash and cut in half-inch pieces. If young and tender it needs no peeling. Place in earthen baking dish with an equal amount of sugar, by weight, as of rhubarb. There will be juice enough without adding water. Bake until tender.

Egg Salad—Cut a slice from the small end of as many hard boiled eggs as needed; cut the edge of whites in points and then remove the yolks. A tiny slice cut from the other end will allow the egg to stand upright. Rub the yolks fine. Season with salt and prepared mustard, or with any good salad dressing. Refill the whites with this mixture. Arrange upon lettuce leaves and garnish with small white radishes. MRS. GILBERT.

tyles for Home Dressmaker

All Patterns on This Page Ten Cents Each

112—Misses' and Small Women's Dress. is dress is very simple to make. It made with a three-gored skirt which n be made with either the Empire or gulation waistline. Serge, cheviot or oadcloth or linen can be used to make s dress, with the cuffs of contrasting terial. The pattern 6112 is cut in sizes 16 and 18 years. Medium size requires ards of 36-inch material, with ¼-yard 24-inch satin for the cuffs.

942—Ladies' Shirtwaist. Here is a in, practical shirtwaist model for the man who wishes such a design for ear with her tailored suit. It is made th tucks at the shoulders, front and ck, those at the front being stitched bust depth, where they are released, d provide the necessary fullness. The ttern 5942 is cut in sizes 32 to 42 inches st measure. Medium size requires yards of 36-inch material.

917—Ladies' House Dress or Work pron. This garment can be used for her a house dress or for a work apron. can be made with either the round or uare neck. Linen or gingham can be ed to make this garment, with the llar, cuffs and belt of contrasting ma- rial. The pattern 5917 is cut in sizes 36, 40 and 44 inches bust measure. edium size requires 5¼ yards of 36-inch material, with ⅝-yard of 27-inch contrasting goods.

4817—Boys' Suit. The trousers of this suit are made without a fly. The outer dress is double-breasted and has a large ornamental collar. Contrasting material may be used for the collar, or it may be of the same goods as the balance of the suit. Linen or serge can be used to make this suit. The pattern 4817 is cut in sizes 2, 4 and 6 years. Medium size requires 3 yards of 36-inch material and ⅝-yard of contrasting material for the collar.

5947—Boys' Russian Suit. The blouse of this suit closes at the front in duchess style and is finished with a turn-down collar, which is made of contrasting material. The trousers are made in the regular fashion. Linen, gingham or serge can be used to make this suit. The pattern 5947 is cut in sizes 2, 4 and 6 years. Medium size requires 3 yards of 36-inch material, ⅜-yard of 27-inch contrasting goods.

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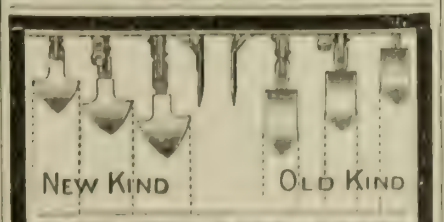

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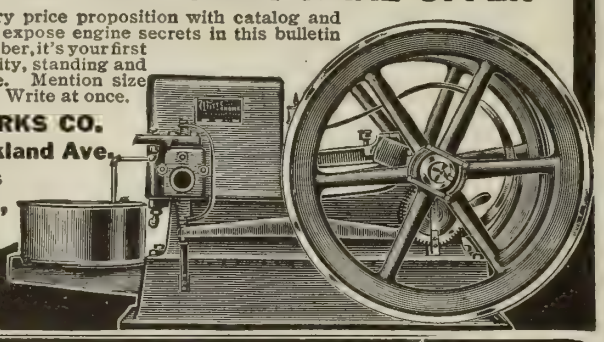

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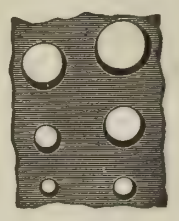

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

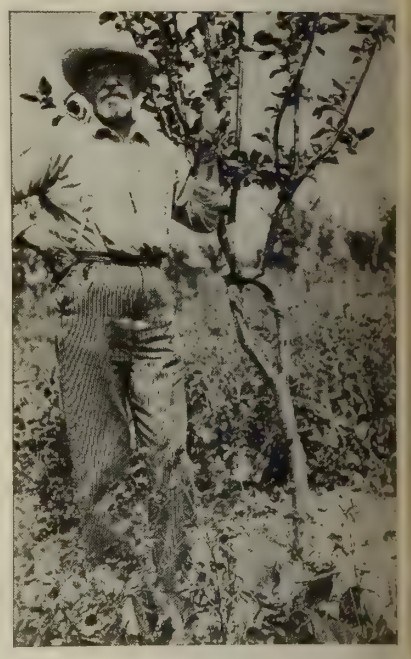
Protecting Fruit Trees

One Arkansas orchardist, Captain George T. Lincoln of Benton county, has solved the problem of how best, easiest and cheapest to protect fruit trees against the disasters of splitting apart and becoming partly dismantled after they have come into full bearing. His plan, which is proving more than satisfactory, is the bonding together of the main branches of the tree a short distance above the point of divergence from the bole. The bonding is accomplished by inducing tender branches to grow into strong ligatures, thus preventing the tree from being rent asunder by storm or weight of fruit. In the second year of the tree's life in the orchard the ligatures are started by twisting together the tender branches from adjacent or opposite main forks. After the twisting process the ligature is wrapped and held in place with soft cotton rags. By the end of the following growing season the bonding is thoroughly effective.

On his large and prosperous country place near Bentonville Captain Lincoln has ten acres of Grimes' Golden Pippin apple trees that will come into fruitage next year. Nearly every one of those 600 trees is protected and made strong by one or more ligatures. In some instances the bonding is from branch to branch, thus forming a complete circle about the lower portion of the spreading head, while in others the ligatures run criss-cross. Where the graft sent up but two branches, they have been forced to grow together in the form of an oval, the top beginning to spread from the point of contact above. The illustration shows such a tree, with Captain Lincoln standing by it.

Captain Lincoln is president of the Benton County Horticultural Society and one of the state's most progressive pomologists. He is the only orchardist in Arkansas who is making use of the ligature plan to any considerable extent.

B. F. HARPER.



Captain George T. Lincoln and One of His Grimes' Golden Pippin Apple Trees.

Toll Taken by Weeds

Did you ever stop to think of the tax you are paying to keep up the weed crop?

If the township would levy a tax on your crops equal to 25 per cent of the value, you would rebel in righteous indignation, wouldn't you? Yet a good many of us permit a stand of 25 per cent weeds to occupy our fields and think we are doing pretty good farming, too.

Why not grow grain, or roots, or some other good crop, where that weed tax is now growing? The weeds give no return. They draw more heavily on the water supply and plant food supply than paying crops. Paying crops and weeds cannot occupy land at the same time. Let us grow paying crops and get profits, rather than pay taxes.

Pound for pound, the plant food required by crops and by weeds is almost the same, but weeds are better food gatherers. The greatest difference comes when the question of water arises. Weeds not only require more water, but are able to get it. From 300 to 700 pounds of water are used in producing a pound of dry matter in our common crops. Weeds require even more. If it comes to a contest as to which will get it, the weeds will win.

W. M. PHILLIPS.

Get All the Milk

Careless milkers do not always get all the milk. It is a dangerous practice to leave the cow incompletely milked, as it not only robs the dairyman of the richest portion of the morning or evening supply, but damages the cow. If the milk is not all taken, so that the udder is completely empty, it tends to lessen her daily supply and shorten her period of lactation. It may require a little more time and patience to secure the last bit of milk from the udder, but this is as important as getting the first part, which comes easy. The cow that is only partly milked will soon be giving less milk. Clean milking does as much as anything to develop the cow into a heavy milker. This is especially true of the young cow or heifer with her first or second calf.

Boys and girls who are in a hurry to get off to school and are required to help with the milking should be cautioned about this fault, as it occurs very frequently with this class of milkers.

Disease Rampant in Potatoes

Potato planters had better watch out for disease In northern grown seed the Minnesota authorities admit that disease is rampant there in their potatoes, and urge that measures be taken to get rid of it.

Stump Ranching in the New Northwest

(CONTINUED FROM PAGE SEVEN.)

rom very valuable to practically orthless. The latter consists mainly f rocky, foothill land. The soils re of great variety, including the sual kinds and many more, such as ranite, red-shot and black-sticky, as hey are locally known.

There is always a ready market or hay, grain, butter, eggs and meat f all kinds. Live stock may gen-rally be included in this list, but hen it comes to fruits and vegeta-les the market is very uncertain. ometimes the demand is good and rices high, and at other times some arieties cannot be disposed of at ny price. The problem of these rops is largely in knowing what to aise and how to sell at good prices. ome remarkable successes have een made in growing fruits and egetables on cut-over lands.

Transportation Problem

The transportation problem is a erious one, railroads being few and ar between, and good wagon roads carce. This doesn't matter so much here live stock is the principal roduct, but where fruits and vege-ables are grown for money crops it s very important to be near a good own or shipping station. The stump anchers around Tillamook, north-estern Oregon, were forced to spe-ialize on cheese, having no railroad nd water transportation being too rregular for marketing even butter. . few months ago, however, a rail-oad from Tillamook to Portland as finished.

In a new country there are often requent rumors of railroads which re going to be built at once, but many years sometimes elapses before the track materializes. Even then the line may be abandoned, as was the case in two instances where nearly $2,000,000 had been spent on each enterprise.

There is something pathetic about the way farmers are deceived in railroads. Misled by false reports, they will locate far out on the frontier, or away back in the woods, and live there ten, twenty or thirty years before the railroad comes to their relief. Sometimes they are twenty-five or fifty miles from a shipping point, or 150, as in central Oregon. Anyone who locates ahead of a railroad is taking long chances, no matter how certain it seems that the road will be built at once.

An Equable Climate

The climate of the Spokane country is characterized by the absence of extremes of temperature, heavy, washing rains, hot nights, wind and electrical storms. The winters are long, but not severe; there is a good deal of snow in the winter, and damp, cloudy weather in the spring, which is the most disagreeable season of the year. The annual precipitation is from fifteen to twenty inches. The summers are dry and cool, the falls delightful. The climate of the coast country is very similar, although milder, with about double the rainfall and very little snow or freezing weather.

Note—This article will be concluded next week, the writer telling o the different methods used in getting rid of the stumps and clearing up the land.

"Healing Influences"

There can be no doubt that mental states exercise influence more or ess potent upon body functions. The nind directly influences the activity f the nerves and their susceptibil-ty, and the nerves influence the unctions of the various organs in he body. This fact is the funda-nental fact that serves as the basis or most of the philosophy of mental ealing. It is universally admitted hat certain diseases of the body and erves may be directly attributed to he mental state of the patient. En-husiasts in the matter of mental ealing claim that the mind is the ause of all disarrangements of body unction. Other people claim that his universal induction from a lim-ed number of admitted facts is il-ogical and unreliable. So the world oday is divided on the subject, and his division probably extends to the eaders of this paper. Those that elieve in and accept the universal nduction will find their belief trengthened and buttressed by the ook whose title stands at the head f this article. Students of expres-ion will find plenty of language uzzles in it and may exercise all heir power in trying to find out pre-cisely what the author is trying to ay in some of the sentences. The ook is published by the American School of Metaphysics of New York nd may be had of them for $1.50.

Cost of Raising Horses

Reports have been received from about 0,000 correspondents of the Bureau of Statistics of the Department of Agriculture upon the cost of raising colts on farms to the age of 3 years. The average for the United States is found to be $104.06; or, if we deduct the value of work done by the horse before he has passed his third year—namely, $7.52—the net cost is $96.54. This is 70.9 per cent of the selling value of such horses—$136.17.

The cost varies widely by states, from an average of $69.50 for New Mexico, $71.59 for Wyoming and $82.47 for Texas to $156.60 for Rhode Island, $149.98 for Connecticut and $141.80 for Massachusetts.

Itemized, the cost is made up as follows: Service fee, $12.95; value of time lost by mare in foaling, $10.06; breaking to halter, $2.22; veterinary service, $2.04; care and shelter, first year, $4.98; second year, $5.36; third year, $6.35. Cost of grain fed, first year, $4.98; second year, $7.14; third year, $9.56. Hay, first year, $4.14; second year, $6.61; third year, $8.48. Pasture, first year, $2.56; second year, $5.41; third year, $6.21. Other costs, $5.01; total, $104.06.

The total cost for all feed is $56.30, being $21.68 for grain, $19.23 for hay, $14.18 for pasture, and $1.21 for other feeds. The total cost of care and shelter is $16.69. Of the total cost 54 per cent is charged to feeds, 16 per cent to care and shelter and 30 per cent to other items, as enumerated.

As more than half the cost of raising a 3-year-old horse on the farm is chargeable to feeds, it is readily observed how important is the influence of variation in prices of foodstuffs upon such cost.

Detailed estimates by states will appear in the April Crop Reporter.

While the Coffee Cools

Some men get aboard the water wagon, then begin to look around for a good excuse to fall off.

No, Alonzo, a girl isn't necessarily a bird because she is pigeon-toed.

You probably look all right to your own friends—and the rest of the world doesn't care how you look.—Chicago News.

A straight from the shoulder message to separator buyers

Beware of separator salesmen who clain that their machine is "just like the De Laval" or "as good as the De Laval".

Such claims are absolutely false.

Such imitators juggle with words.

Instead of putting into their machine the experience and the workmanship and the material necessary to make a cream separator anything like as good as the De Laval they find it cheaper and easier to "claim everything" and make a bugbear of "price" to keep the buyer from discovering the mechanical shortcomings of their machines.

They go on Barnum's theory that the people like to be fooled and they don't care how they get your money just so long as they get it.

It is unfortunate that the separator business should be burdened with such unfair business methods but since it is it behooves every prospective separator buyer to use care and good judgment in the selection he makes.

Look well to the demonstrated ability of the concern that makes the machine to build a good separator. Avoid buying a machine whose makers have had little separator experience, or who are constantly changing from one makeshift type to another.

Talk with separator users who have learned by experience.

The more you investigate the more you will find that there is one and only one separator that stands in a class all by itself.

It was the pioneer cream separator in 1878 and it has been first ever since.

You will find that more machines of this make are being sold than all other makes combined.

You will find that 98% of the world's creameries use it exclusively.

You will find that every user of this machine is a booster.

You will find that its makers are so confident of its superiority that you may have a free trial of it alongside any other machine and judge for yourself as to which machine will serve you best.

This machine has over 1,500,000 satisfied users.

It will serve you best, save you most and last the longest.

If you want to be sure of making a good bargain buy a

De Laval Cream Separator

THE DE LAVAL SEPARATOR CO.

NEW YORK CHICAGO SAN FRANCISCO SEATTLE

5 Year Guarantee

98 cents

To advertise our business, make new friends and introduce our great catalogue of Elgin watches we will send this elegant watch to any address by mail postpaid for **Only 98 cents.** Regular gentlemen's size, open face, full engraved, high grade gold plate finish, Arabic or Roman dial, lever escapement, stem wind and stem set, a marvelously correct timekeeper and fully **Guaranteed for 5 Years.** Send this advertisement to us with your name and address and 98 cents and watch will be sent by return mail postpaid. Satisfaction guaranteed or money refunded. Remember, 98 cents is positively all you have to pay for this wonderful watch. Send 98 cents today. Address

R. E. CHALMERS & CO. 538 So. Dearborn St. **CHICAGO**

TELLS WHY CHICKS DIE

J. C. Reefer, the poultry expert, of 181 Main street, Kansas City, Mo., is giving away a valuable book entitled "White Diarrhoea and How to Cure It." This remarkable book contains some new scientific facts on white diarrhoea and tells how to prepare a simple solution that cures this terrible disease over night. Every one interested in poultry should certainly write Mr. Reefer for one of these free books.

BINDER TWINE

Factory to Farm. Want Farmer Agents.
Write quick **AUGUST POST, Moulton, Ia**

FREE LAND INFORMATION

You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply

All Steel Triple Wall Double Air Space Incubator.

It bears the label of the Fire Underwriters, which insures durability and protection. It is built entirely of metal, with the exception of the pressed fibre inner lining. Double air space on all sides, top and bottom. Send for our catalog showing the most complete line of Poultry Supplies in the United States.

MACOMB POULTRY SUPPLY CO.,
Box D, Macomb, Ill.

Eggs From Full Blood Stock Eggs

26 White or Brown Leghorn Eggs	$1.00
13 Barred or White Plymouth Rock Eggs	1.00
13 Silver or White Wyandotte Eggs	1.00
13 White Orpington Eggs	1.50
13 Rhode Island Red Eggs	1.00
13 Black Minorca Eggs	1.00
10 White Pekin Duck Eggs	1.00
10 Indian Runner Duck Eggs	1.00

100 Leghorn Eggs, $5. 100 White Orpington, $8. Others $6 per 100. Send 25c extra for each setting and we will ship by Parcel Post, prepaid. Otherwise by Express. Remit by Postal, or Express Order, on St. Louis.
W. F. CHAMBERLAIN, *(The Perfect Chick Feed Man)*
Dept. 19, KIRKWOOD, St. Louis County, Mo.

Pure Bred Seed Corn

Reid's Yellow Dent, St. Charles White, Red or Bloody Butcher and University No. 3 (an excellent 90-day corn). This is strong, rugged seed of my own growing and selection. Can be certified by the Nebraska Pure Grain and Seed Growers' Association. Write for my new illustrated catalog.
FRANK J. RIST, - Humboldt, Neb.

BROWN FENCE BIG BARGAINS in Fence. 150 styles—13 cents per rod up. We pay freight. Send for bargain fence book and sample to test—ALL FREE. THE BROWN FENCE & WIRE COMPANY, DEPT. 69 CLEVELAND, OHIO

Be sure to mention The Twentieth Century Farmer when communicating with advertisers on this page.

English Pen of Leghorns Leading International Egg-Laying Contest

The Sprightly English Leghorns Which Laid 250 Eggs in Twenty-Three Weeks

THE Leghorns are simply running away from the other breeds now in the international egg-laying competition at Connecticut college. Their forty-seven pens—more than three times as many as of any other breed entered—include one of browns, three of buffs and the rest of whites, and the average per pen for the first twenty-two weeks has been 263 eggs. This is equaled by the Wyandottes and excelled by the Rhode Island Reds, which have averaged 284 for thirteen pens—but the pen average for the twenty-second week was only twenty-one for the Reds and twenty-two for the Wyandottes, while the Leghorns averaged 23.8 eggs per pen for the entire forty-seven!

The Plymouth Rocks have made a total average of 237 for these twenty-two weeks and the Orpingtons 247, but the average for the last of the twenty-two was only 20.5 eggs for the Rocks and 7.7 for the Orpingtons.

Death from Meat Scrap

You will notice in the poor kinds of meat scrap an abundance of fine-cut hair. As meat scrap is made up of scraps of all kinds—left-overs of the butchershop and pieces of meat or gristle with bits of the hairy skin go into this pile—this accounts for the hair in the grindup. Even the very best of meat scrap may contain some of this cut-up hair. Little attention is paid to these hairs in the meat scrap by most feeders of this product so long as the meat scrap seemed good and untainted. If it were not the taint received the blame for the slow, lingering deaths of the chicks, greatest when quite young. But, after a while, some extensive keepers of young fowls began to suspicion these hairs in the scrap as a cause of trouble. Many examinations proved the suspicion well founded, for the hairs, lodging and bunching in the gizzard, refused to move out. The gizzard being the chick's stomach in proper, the result only could be death.

In these cases either a better grade of meat scrap, free of hair, or nearly so, was demanded, or the owner resorted to sifting the scrap through some improvised sieve. The sieve held back the coarser scrap and with these the bits of hair.

Only too often when chicks die wholesale it is not from some malignant disease or lice, but from some error in feeding. Flocks of chicks have been known to die from eating commercial chick feed simply composed of grains, kept over until it had taken on some musty poison. The digestive organs of a chick are, in common with most young things, delicate, sensitive affairs.

IDA M. SHEPLER.

Poultry Clippings

The good of a scratching shed is shown in bad, rainy weather. You save its cost over and over by the chickens you save from colds.

There is no doubt but that some of the cheaper and lately introduced incubators, running one gallon of oil, do as good work as the old and well established.

And while a gallon of oil in these may suffice to hatch fifty, or it may be a hundred, chicks, it gives more even heat in a cold room to add some more oil before the end of the hatch.

The handiness of some of the incubators carrying more oil at a time than the small lampful strikes one, and so do the brooders they put out with these.

Turkeys are safer on an automobile road than chickens, for a turkey runs to the side of the road at sight of danger, while, too often, a chicken keeps to the road and tries to outrun the automobile.

Chickens are not so dull of comprehension here as one might judge, for the fear of an automobile and how to avoid it gradually gets born into the flock. This I know by experience.

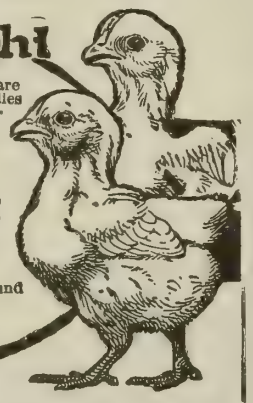
My chickens now get killed oftener by buggies. A buggy, I suppose, seems such a slow-moving vehicle beside the many automobiles they must avoid that they risk, at times, too long getting out of the way. IDA M. SHEPLER.

The Main Point

"Pop, what is the difference between an artist and an artisan?"

"An artisan, my son, can usually make at least $3 a day."—Judge.

Feed Growing Chicks Right



They must be furnished with the right kind of material if they are to make satisfactory growth of muscle, bone and feather. Profit lies in quick growth and early maturity. Rush those cockerels to marketable size and turn them into cash before prices fall. Get the pullets completely developed and ready to fill the nests with fall and winter eggs.

Pratts Baby Chick Food

contains just the necessary ingredients to give them during the first three weeks the best possible start, at a cost of 1c per chick. In boxes and bags, 25c, 50c, $1 up. After the third week mix

Pratts Poultry Regulator

in the ration to aid digestion and make the greatest gain for every pound of feed consumed. 25c, 50c, $1. 25-lb. Pail, $2.50.
"Your money back if it fails."
Our products are sold by dealers everywhere, or
PRATT FOOD COMPANY
Philadelphia Chicago

Young Chicks

At this time, when millions and millions of little chicks, turkeys and ducks will be incubated into the world, every available human agency will be employed to combat the deadly influences of Gapes, Cholera, Indigestion, Legweariness and hundreds of other fatal poultry diseases. Success depends upon your ability to conquer these diseases. Dr. Hess (M.D., D.V.S.), just twenty years ago, was puzzling over this same proposition and the prescription shown herewith is his solution. It represents

DR. HESS POULTRY PAN-A-CE-A

and no one can dispute the absolute, positive value of the remedy for the above-named poultry diseases, because the best authority on earth recommends them. Don't lose your flock after it arrives—insure and protect the lives of your little chicks with poultry Pan-a-ce-a.

Our Proposition. Feed Poultry Pan-a-ce-a all spring and summer. If you are not satisfied beyond a shadow of doubt that it has cured your chicks of gapes, cholera, legweariness and the like, the dealer is required to refund your money. 1½ lbs. 25c. (mail or express prepaid, 40c); 5 lbs. 60c; 12 lbs. $1.25; 25-lb. pail $2.50. Except in Canada and the extreme West.

DR. HESS & CLARK
Ashland, Ohio

Dr. Hess Poultry Pan-a-ce-a contains:
Potassium Nitrate. An Eliminant.
Nux Vomica. A Nerve Tonic
Quassia. A Bitter Stomachic and Appetizer.
Hyposulphite of Soda. An Internal Antiseptic.
Iron (Sulphate). A Blood Builder.
Iron (Red Oxide). A Blood Builder.
Carbonate of Lime. An Antacid and shell forming.
Sodium Chloride. An Appetizer and Cleanser.
Under the supervision of Dr. Hess (M.D., D.V.S.) the above is carefully compounded and blended with just enough cereal meal to make a perfect mixture.

Dr. Hess Stock Tonic puts horses, cattle, hogs and sheep in the pink of condition. After the long winter on dry feed stock need a tonic. Besides, Dr. Hess Stock Tonic saves feed by increasing digestion. By the old methods of feeding stockmen had to let the hogs follow the steers in order to save some of the grain wasted through non-digestion. It is possible to save a part of this by strengthening the digestive organs. Sold on a liberal money-back guarantee. 100 lbs. $5.00; 25-lb. pail $1.60 (except in Canada and extreme West and South). Send 2c for Dr. Hess Stock Book.

FREE. Dr. Hess (M.D., D.V.S.) will at any time prescribe for your ailing animals free of charge if you will send him full details. Mention this paper and send 2c stamp. 96-page Veterinary Book also free.

INSTANT LOUSE KILLER KILLS LICE

Review of Live Stock Market

By A. C. Davenport

THE bears had the best of it in most branches of the live stock trade last week, especially as regards the hog market. It seemed as if the buyers were iddenly taken with the idea of organizng an aggressive bear campaign. Their lans worked out so well that the bulls ere completely put to rout and by the nd of the week most of them had either one over to the enemy or gone into hidng so that at the present writing it reuires something stronger than an ordiary field glass to sight a bull.

The bears chose a most opportune moent for their raid when conditions were ne most favorable for them that they ave been at any time since the begining of the year. Readers of market reorts are well aware that for months ack the hog market has been suported chiefly by shippers on eastern ccount. Packers all along have been earish, but have been unable to put the arket down because of the free buying shippers. Last week the eastern shipng demand slumped badly it being aparent that the eastern trade was reliving the bulk of its supply from local rowers in the east. The shippers had sooner dropped out or reduced their uying than packers began their raid. y a free use of the tactics that they now how to utilize so effectively the arket declined rapidly and at present riting is around 20@25c lower than the ose of the previous week.

In spite of the fact that the five big arkets of the country show a decrease hog receipts of over a million head nce the beginning of the year with even markets showing a decrease of a illion and a quarter head, the bulls have come panic stricken and it is possible the present writing to find many who e willing to concede a drop to $8 for gs on the basis of Omaha for the not stant future. The change in sentiment most radical from what it was a week two ago when it was possible to find any well informed operators on the arket predicting $9 hogs.

The bears are basing their predictions a still further drop in values on the aim that the high prices have caused owers in every section of the country save every pig possible and that these gs are now reaching the market stage. is also claimed that the way provisions e selling hogs now being slaughtered gure out a loss and that either provions must advance or hogs decline. The ntention that stocks of provisions are ry moderate is met by the bears with e argument that prices are high and at consumption is more or less curtailed reason of that fact. Packers are also porting a lighter demand than usual om the south, while the buyers on ipping account claim that more hogs e being raised for home consumption the old eastern states than was the se not long ago.

It will be readily understood om what has been said that he bears are well fortified with rguments and that the packrs are going to put forth every ffort possible to break the narket, their tactics at the resent time being very much he same as were employed just revious to the opening of the inter packing season last fall Whether these tactics will prove uccessful remains to be seen, s several things might happen o spoil their plans, such as a evival of the shipping demand As a matter of course, the size f the receipts from the country will have a material bearing pon the future course of the narket, but the packers before now have demonstrated heir ability as market smashrs even in the face of moderate eceipts. Former bulls are conoling themselves with the hought that hogs can go to 8 at Omaha and even a little nder that figure and still be igh.

Cattle suffered a sharp reverse last week, but the break appeared to be only the natural outcome of very liberal receipts at large market centers. For some weeks the cattle market has been playing see-saw—up one week and down the next. Thus the week just closed was a down week, although the market was sharply higher at the opening. With cattle, however, the bull contingent is still standing firm and thus far no signs of weakness have been shown. They point out that current prices on cattle are very high and that low weeks are to be expected under prevailing conditions. As often as the market makes a sharp advance the country turns loose a big bunch of cattle and prices rapidly decline until the country shuts off the supply when the market springs back almost immediately. According to the bull crowd—by the way, most cattlemen are bulls—it is only necessary for the country to string out its shipments and avoid gluts.

During the last two or three weeks the country has apparently been more anxious to unload fat cattle than for a long time back. This anxiety has been due apparently to no lack of faith in the future of the market, but to a variety of causes prominent among the number being muddy feed yards, increasing scarcity of feed and correspondingly higher prices and furthermore a desire to be rid of the cattle before the rush of spring work comes on. It is generally felt that as soon as the farmers get busy with their crops there will be a natural tendency to defer shipments of cattle and many on this theory are looking for very moderate receipts for the near future.

Sheep and lambs showed an improvement last week, being the only kind of stock to show an advance. The cause was due to moderate receipts at practically all market points and to the fair consuming demand. There is a feeling among sheepmen that prices at present writing are about as high as they can be expected to go in the very near future, in fact, as many of them put it, about as high as consumers will stand for and still take a sufficient quantity of the product to keep pace with the receipts. However, most operators are still claiming that there is a possibility of still higher prices before the close of the cornfed season, but as a rule this advance is not expected until very near the windup of the season's business. Current prices are satisfactory to the selling interests and the trade as a whole is in a good healthy condition. Some days the movement is a little slow as might be expected when prices are so high, but all in all trade as far as sheep and lambs are concerned is good. For the year to date there has been a falling off in the receipts at the five leading markets of 364,000 head, a loss of almost 100,000 head per month as compared with a year ago. While these figures are not large enough to occasion very much comment they are large enough to have some little influence on the trade.

Live Stock Notes

W. L. DeClow of Cedar Rapids, Ia., writing under date of April 12, says: "I have sold 146 head of stallions, mares and Jacks and have seventy-four more to sell before the season closes. I am so anxious to dispose of this stock (which consists of freshly imported animals) that I am going to offer the greatest bargains in stallions, jacks and mares that have ever been offered by any importer. Any person wanting a stallion, mare or jack cannot afford to miss this opportunity to buy cheap. I have one large importation which arrived February 20, only part of which is sold; also have another importation which will arrive April 24. I will sell all at customer's prices." Here is an opportunity to get something worth while from one of the largest importing and breeding plants in America. If you are in the market for something in this line, write Mr. DeClow, mentioning The Twentieth Century Farmer.

C. D. Wheeler of St. Edward, Neb., known all over Nebraska for the big, smooth, heavy-boned type of Poland-Chinas he breeds, writes us that he has eighty head of spring pigs. These pigs are sired by M. & M.'s Mastiff, by Meese's Mastiff, and Great Hadley, by Big Hadley. In these two boars we believe Mr. Wheeler has two as good boars as are in service in any one herd in the west. They are not only splendid individuals themselves, but they are first-class breeders, and they each come from a line of ancestry that has been making big-type Poland-China history in Nebraska.

We call the attention of our readers to the change in the advertisement of Henry Beck of Litchfield, Neb., in this issue of The Twentieth Century Farmer. Mr. Beck is proprietor of Fairview Farm and is offering stallions and jacks and jennets at prices that surely ought to appeal to anyone wanting anything in this line. Everything is pasture raised and consequently thoroughly acclimated and consequently strong and rugged for breeding purposes. Look up his ad. elsewhere and write him for further particulars. Mention this paper.

W. V. Harvey of Culbertson, Neb., writes us that he has sixty head of Hampshire spring pigs at this time and still others to follow. They are coming along in first class form, and if all goes well he will have something worth while to offer later on in the season. These pigs are sired by John Bunny 11181 and Everett True III 8153. They are out of dams carrying the blood of Pat Maloy, De Kalb's King IV and Bon Bon Beauty, representing some of the very best blood lines of the breed

L. J. Kuzel of Howells, Neb., breeder of Duroc-Jerseys, has one of the good herds of Nebraska. He has 125 head of spring pigs so far and says the outlook was never better with him. His pigs are sired by King Echo Top, Proud Wonder Junior, Model Wonder 3d and Crimson Boy. Mr. Kuzel is a splendid caretaker and will no doubt have something mighty good to show the boys this fall.

Robert A. Schug, breeder of Poland-Chinas at Coleridge, Neb., has 110 spring pigs sired by Nebraska Model, Big Kind and Great Columbus. Mr. Schug has one of the outstanding good herds in northeastern Nebraska and will no doubt be to the front this season with something to please the eye of the man who is in the market for some strictly first-class good type Polands.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam

Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Barnett System

GUARANTEED LIGHTNING PROTECTION

FARMERS! Have your buildings any protection from the unexpected dangers of lightning? If not, we ask you to investigate the Barnett System of Copper Cable Lightning Rods. Our rods are over 98% pure copper. Are scientifically made and endorsed by Mutual Insurance Companies. Guaranteed to protect. Investigate!

Write today for catalog and booklet explaining the Barnett System and prices. We want honest and reliable agents in every territory not already taken up. Special terms to agents. Investigate! Address

Jos. Barnett & Co., Dept. 32, Riverside, Ia.

Special Terms to Honest Agents

GOVERNMENT Positions are easy to get. My free booklet, X-78, tells how. Write today —NOW. EARL HOPKINS, Washington, D. C.

Be sure to mention The Twentieth Century Farmer when communicating with advertisers on this page.

Dodges Storms

The Althouse-Wheeler Vaneless Windmill

Automatically adjusts its wings and allows the heavy gales to blow through—yet it has ability to get power from the lightest breezes. Gives steady power—safe—long service—made of highest quality materials. Self-regulating—oil it only once a year. For forty years a big success.

Send your name at once for book and price. Don't miss this.

Althouse-Wheeler Co.
8 Washington St.
Waupun, Wis.

Mail Postal NOW

Pigs Without Worms

I'll Stop Your Losses from Worms—I'll Prove It 60 Days Before You Pay

Little pigs only a few weeks old are often found loaded with worms. Hogs of all ages suffer from these deadly parasites. Then cholera, swine plague and other contagious diseases get in their destructive work. Stock troubled with worms don't thrive. They cough, have fever, act dull, and don't gain a pound. Your feed is wasted; your profits are stolen; your animals frequently die, causing total loss of many dollars. I'll stop all this **quick** with Sal-Vet, the great worm destroyer and conditioner. I have done it for thousands of others. I'll do it for you, before you pay me a penny, if you will just send me the coupon.

SAL-VET

Read This Letter: "Have fed Sal-Vet to my hogs, and last June ... Neighbors, both sides of me, east and west, have had cholera. One west of me, on adjoining farm, lost about 40 hogs and quit. The one east, on adjoining farm, lost all he had, excepting four." A. J. HOFFMAN, Temple, Ohio

Send No Money Just the Coupon

If you will fill out the coupon, tell me how many head of stock you have—mail it to me, I'll ship enough Sal-Vet to last them 60 days. You simply pay the small freight charge when it arrives, and when the 60 days are up report results. If it does not rid all your stock of the deadly stomach and free intestinal worms, I'll cancel the charge. You won't owe me a cent.

Prices 40 lbs. $2.75, 100 lbs. $5.00, 200 lbs. $9.00, 300 lbs. $13.00, 500 lbs. $21.12. No orders filled less than 40 lbs. on 60 day trial offer

Sidney R. Feil, Pres. THE S. R. FEIL CO., Dept. TF Cleveland, Ohio

Shipments for 60 days trial are based on 1 lb. of Sal-Vet for each sheep or hog, 4 lbs. for each horse or head of cattle as near as possible without breaking regular size packages.

SIDNEY R. FEIL, Pres. THE S. R. FEIL CO., Cleveland, Ohio
Ship me enough SAL-VET to last my stock 60 days. I will pay the the freight and report results in 60 days and will then pay for it if in done what you are to cancel the charge.

Name .....
P. O. .....
Shipping Sta. .....
Hogs .....
Sheep .....
Cattle .....
Horses .....
T.F. 1913

Some of N. E. Mulick's Holstein-Freisian Cattle

Investments

Dairy Farm as an Investment

N. E. Mulick, one of the most prominent breeders of Holstein-Friesian cattle, left Wisconsin and settled near Princeton, Sacramento Valley, California. Of this section he says:

A cow will produce 100 pounds of milk 60 per cent cheaper on one of our small farms in the famous Sacramento Valley, California, than she will in any of the eastern dairy states, and the butter-fat which she produces will bring from 4 to 6 cents more a pound. The Sacramento Valley is an ideal home for the Holstein cow and I am sure that the dairy world will soon look to this valley for the world's record stock. There is certainly a bright future for the practical dairyman in this valley. It is hardly possible to estimate the advantages of dairying in a country where green feed can be raised the year round, as compared with Wisconsin, where they have to stable their stock at least six months in the year.

Here there is plenty of competition for all the cream produced in this valley, for there are various creameries in the vicinity, bidding for the butter-fat. The domestic and foreign demand for butter will never likely be glutted so that the selling price will be not only high, but everlasting, the same in summer as in winter. When you take into consideration what can be done and the very little risk there is in doing it, it would seem that a dairy farm here must be a grand investment.

The Ohio Flood

The flood that struck the great Miami valley Tuesday, March 25, submerged a most beautiful farming district for 150 miles, extending a hitherto peaceful stream from an average width of 200 feet to five to six miles. The principal cities and towns affected in this valley were Piqua, Troy, Dayton, Miamisburg, Franklin, Middletown and Hamilton, and a number of small villages.

Dayton, with a population of 140,000, the Gem City of the valley, received a baptism of from a few inches to twenty-four feet of water, covering an area of from twelve to fifteen square miles of factories, beautiful stores and residences, piling lighter formed buildings against the more substantial ones until certain districts could scarcely be recognized. Streets were impassible, and what had been the pride of a sturdy, hard-working people, representing a generation of effort, was in a few hours a tangled mass of debris.

No pen will ever be able to describe the horror of the nights of Tuesday, March 25, and Wednesday, March 26. Throughout the residence, as well as the business section, the people were caught in their houses, stores and shops, and were driven from the second floors of their residences to the attics, and from the attics to the roofs.

Tuesday and Wednesday nights rain fell in torrents, and the city was in darkness except for the lights of fires that lighted up the heavens, and the roar of the flood, the cry of the distressed for help, the downpour of rain, the raging of fires, made up a scene that will never be forgotten.

Thursday the flood began to subside, and the rain turned to snow and freezing cold, and the rescuing of the people went vigorously forward. Within two weeks 75 per cent of the factories have resumed operation.

Every man, woman and child who could work in Dayton has worked, and are facing the future with a fortitude that must win back what they have lost. While the property loss has been estimated at $100,000,000, the loss of life was remarkably small and will not exceed 250 lives.

Dayton will make good every obligation she has made. Her people are working as a unit as never before and will come out of this a better city than ever. Ninety per cent of her factories are now able to fill their orders, and what is needed is not charity, but orders, to keep the factory people employed.

Pointed Paragraphs

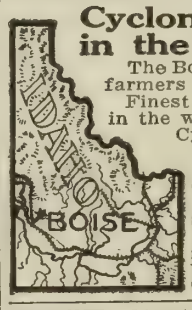
Bread cast upon the waters is seldom buttered.

A short answer is often followed by a long silence.

Too many eye-openers will also put a man to sleep.

Many a bad end results from trying to be a "good fellow."

Cyclones Unknown in the Boise Valley



The Boise Valley, Idaho, needs farmers and dairymen.
Finest dairy and hog country in the world.
Cyclones, hailstorms and floods unknown.
No extremely hot or cold weather.
Very little wind. Rich soil, abundant water.
Splendid opportunities for farmers with $5,000 or more. Write Boise Commercial Club, Boise, Idaho.

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento, **CALIFORNIA**

COME TO MINNESOTA

Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.
HODGSON & RINK, Fergus Falls, Minn.

O. I. C. HOGS

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." **C. S. BENJAMIN** RFD79 Portland, Mich.

From a Barred Rock Breeder.

Twentieth Century Farmer,
Omaha, Neb.
Gentlemen:—
I am sending you another classified ad for the "Market Place," as the other brought good results.
MRS. B. TAFT
Norfolk, Neb., March 21 1913.
(Her ad cost $1.00 a week.)

HORSES AND MULES

FAIRVIEW FARM : : Percheron, Belgian and Shire Stallions, Mammoth Jacks and Jennets

Some extra good home-bred Stallions, Percherons and Shires, coming 3 to 5 years old, all pasture raised. Thirty head of Jennets of all ages that I will sell at democratic prices for the next 30 days to close them out Everything sold with a breeding guarantee.
HENRY BECK, - - - - LITCHFIELD, NEBRASKA

DeClow Offers Bargains I have sold 146 head of Stallions, Mares and Jacks and have 74 head more to sell before the season closes. These are from a fresh importation and I am going to offer unheard of bargains in these in order to move them between now and May 15. Any party who wants a stallion, jack or full blooded mare can not miss this opportunity to buy cheap. **W. L. DeClow, Jack and Stallion Importing Farm, Cedar Rapids, Ia.**

PERCHERONS

6 home-grown 3-YEAR OLD STALLIONS. Making 1900 to 2100 lb. horses, the BIG TYPE. Richest dapple and steel grays and blacks. I have these and want to sell them. Fred Chandler, R. 7, Charlton, Iowa.

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed.
Send for FREE Illustrated Booklets.
Holstein-Friesian Assn., Box 179, Battleboro, Vt.

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers..... } Just being bred to a son of a 24-pound dam.
50 1½-year-old heifers..... }
100 2 to 2½-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.
100 2½ to 3-year-old heifers..... }
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.
A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb

Choice Holstein Calves

Ten heifers and three bulls, 7-8ths to 31-32ds pure, 3 to 4 weeks old, beautifully marked and from heavy milkers, $20.00 each, crated and delivered to express office, for shipment anywhere. Write Edgewood Farm, Whitewater, Wis. Route 10.

... The Market Place ...

POULTRY

Brahmas

LIGHT BRAHMA EGGS, $1 FOR 15, $5 for 100. Mrs. M. Wall, Eddyville, Neb.

LIGHT BRAHMA EGGS—15 FOR $1, 45 for $2.50, 10 for $5. Fair hatch guaranteed or another order at half price. Frank A. John, Bedford, Ia.

CHOICE LIGHT BRAHMAS—EGGS, 30 for $1.25, 50 for $2. Mrs. A. J. Applegate, Gilmore City, Ia.

Cochins

PARTRIDGE COCHIN EGGS, 15 FOR $1. Albert Palmer, Arden, Neb.

Ducks

INDIAN RUNNER EGGS, $1.25 PER 13. White Leghorns. Agnes Young, Loveland, Ia.

Houdans

HOUDANS AND WHITE ROCKS; eggs, $1 per setting, $5 per 100; satisfaction guaranteed. George J. Wolcott, Box 773, Central City, Neb.

Leghorns

ROSE COMB BROWN LEGHORNS—Pure, strong, good layers; 15 eggs, $1; 100, $4. Mrs. E. Fauquet, Wahoo, Neb.

ROSE COMB BROWN LEGHORN eggs, $5 per 100; safe delivery guaranteed. Walter Hogue, Fairfield, Neb.

ROSE-COMB BROWN LEGHORN eggs. Otto Frahm, Calhoun, Neb.

ROSE-COMB BROWN LEGHORN eggs—15, 75c; 150, $5.00; carefully selecting and mating. Olga Hayek, Linwood, Neb.

SINGLE COMB BROWN AND WHITE Leghorns, White and Barred Rocks; eggs, $3 per 100. Barker Bros., Indianola, Ia.

SINGLE COMB BROWN LEGHORN eggs, $3.50 per 100; safe delivery guaranteed. Ray Briggs, Fairfield, Neb.

SINGLE COMB BROWN LEGHORN eggs for sale, from State Show winners. Send for mating list. Clarence B. Brown, Fairmont, Neb.

FOR SALE—SINGLE-COMB WHITE Leghorn eggs. Fannie Gilbert, Route 5, Lincoln, Neb.

SINGLE-COMB WHITE LEGHORN eggs; 15 for 75c, 100 for $3.50. Will Rockwell, Hubbard, Neb.

Langshans

BLACK LANGSHAN EGGS FOR hatching. C. C. Cunningham, Kennard, Neb.

BLACK LANGSHAN EGG CIRCULAR. Jake Hetrick, Wahoo, Neb.

BLUE RIBBON STRAIN BLACK Langshans; won 12 firsts, 10 seconds, 2 silver cups at the leading shows; eggs, $1 per 15, $5 per 100 from flock. Order at once from this ad. J. T. Nelson, North Loup, Neb.

POULTRY

Langshans

BIG, GREENISH, GLOSSY BLACK Langshan—black eyes, scored 92 to 96—cockerels, $2.50 and $5; eggs, 15 cents, guaranteed. H. Osterfoss, Hedrick, Ia.

Minorcas

CHOICE BLACK MINORCA, BUFF Leghorn, Buff Orpington eggs cheap. Frank A. Agnew, South Omaha, Neb.

Plymouth Rocks

BARRED ROCK EGGS FROM choice laying strain; $5.00 per 100; $2.75 per 50; $1.50 per 15. Fred Kroeger, Carroll, Iowa.

WHITE ROCK EGGS, FISHEL AND Bickerdike strain. Ed Clauson, Mead, Neb.

THOROUGHBRED WHITE ROCK eggs, heavy layers, 75c setting; 100, $4. Geo. Hellbusch, Belgrade, Neb.

EGGS FOR HATCHING, THOROUGHbred Barred Rocks, $3.50 per 100. Mrs. W. S. Brown, Fairmont, Neb.

HILLCREST BARRED ROCKS, Bradley strain; eggs, $1 for 15, $4 for 100; Indian Runner ducks, fawn and white, $1.25 for 13. D. T. Gantt, Crete, Neb.

BARRED ROCK EGGS, $1 PER 15, $4 per 100. W. D. Kelley, Valley, Neb.

BARRED PLYMOUTH ROCK EGGS from choice stock and good laying strain. George Franklin, Axtell, Neb.

QUALITY BARRED ROCK EGGS, high scoring; $1.50 for 15, $2.75 for 30, $5 for 100. Everett Hardin, Knoxville, Ia.

BUFF PLYMOUTH ROCK EGGS—$1 per 15. Roy E. Thompson, Normal, Neb.

BARRED ROCK ONLY, CHOICE, pure-bred stock—100 eggs, $4; 50, $2.50. Satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

Orpingtons

KILLY EXCLUSIVE WHITE ORpington Farm, R. F. D., Omaha, Neb. Eggs from imported and prize-winning stock, $5, $3 and $2 per 15; $12 per 100.

EGGS FOR HATCHING SINGLE Comb Buff Orpingtons, Toulouse geese, Indian Runner ducks; mating list free. Peter Brehm, Harvard, Neb.

CRYSTAL WHITE AND BUFF ORpingtons; eggs from prize-winning stock; prices reasonable. Dr. W. E. Crane, Tilden, Neb.

EGGS FOR HATCHING — SINGLE-comb Buff and White Orpingtons—$1 per 15, $5 per 100. C. H. Lessman, Wayne, Neb.

EGGS FROM SINGLE-COMB CRYStal White Orpingtons—$1.50 per 15, $8 per 100. No better birds anywhere. L. H. Klinge, Grand Island, Neb.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, May 10, 1913 | Number 648

There Is A Specially Prepared Lye That Prevents Hog Cholera

E. Myers, President, E. Myers Lye Co.

It didn't "just happen" that *Merry War POWDERED Lye* has *proved* itself, by the *actual experience* of thousands of farmers to be the *safest preventive of hog cholera, destroyer of worms* and the best hog *conditioner and fattener* the world has ever known. Far from it—that is exactly what I meant it *should* do—what I have been earnestly striving to make it do during the past 20 years. Therefore I know what I am talking about when I say that *Merry War POWDERED Lye* is just what I claim it to be—*a POWDERED lye, specially prepared, that will prevent hog cholera, destroy worms, condition and fatten hogs!*

Don't be persuaded to try an ordinary, old fashioned lye as a *possible* preventive of hog cholera. At best it would be a doubtful, and perhaps a *dangerous* experiment. The use of *Merry War POWDERED Lye* is *not* an experiment. *Experience* has *proved* my claims for it. Plain directions for feeding to hogs are printed on the label. These directions are *not* guess work. They give, as the right quantity, one-half can to a barrel of swill or drinking water and *Merry War POWDERED Lye* should be used in that proportion *daily* to obtain the desired results.

That's mighty cheap hog insurance—*only 5c a month*—to *protect* a hog from *cholera*, and *worms, to keep him fat, sleek, healthy*, turning all feed into *juicy fat*—so you can market at the *highest* price. Letters from hundreds of farmers tell how *Merry War POWDERED Lye saved* their hogs and *increased* their pork profits. Here is a sample:

"I have about 40 hogs and I have been feeding them *Merry War POWDERED Lye* the past three months and believe it will do all you claim. Hogs have been dying all around me, but I have not had any sick."

A. C. AIELSON, Vicksburg, Miss.

Now Prove All This For Your Own Self *Most dealers handle Merry War POWDERED Lye; 10c per can* **(120 feeds).**

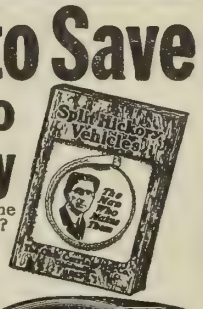
It's convenient to buy by the case, four dozen cans, $4.80. If yours can't supply you write us stating dealers' names—we will see that you are supplied and send you, FREE, a valuable booklet on "How to Get the Biggest Profits from Hog Raising." YOU MAY ORDER DIRECT FROM US AT $4.80 PER CASE OF 48 CANS if your dealers won't supply you.

E. MYERS LYE COMPANY,
Dept. 88 St. Louis, Mo.

Which Kind Do You Want?

Let Me Pay The Postage To You—On My Big Free Book

Do You Want to Save $25.00 TO $40.00 On Your New Buggy

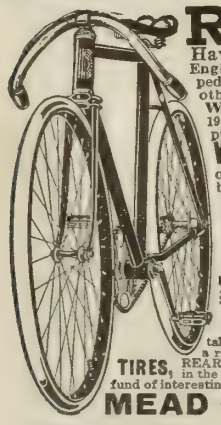


Phelps says he'll save you $25 to $40 on a genuine Split Hickory. Is it worth a postal to find out? Is it worth a postal to see the 140 styles of vehicles and complete line of harness all shown in Phelps' new book. Is it worth a postal to learn the *reasons why* 167,000 *other* people bought

SPLIT HICKORY

vehicles? Phelps sells direct from his own factory—on 30 days' Free Road Test—2 years guarantee. You keep all the middle profits—you take no risk—everything is clearly photographed and accurately described and all *guaranteed*. Why not get Phelps' book so you can compare with others. Phelps pays postage if you write him a letter or postal. Just say "Send Book."

H. C. Phelps, Pres., The Ohio Carriage Mfg. Co.
Station 48 Columbus, Ohio



RANGER BICYCLES

Have **puncture-proof** tires, imported Brampton **roller chains**, imported English flanged sprockets, English featherweight steel **mud guards**, imported Brampton pedals, motor style saddles, bars and grips, and other distinctive features possessed by no other bicycle. No effort or expense has been spared to make the **"Ranger" the World's Best Bicycle.** Improved factory methods and greatly increased output for 1913 enable us to make a *marvelous new price offer.* Something *very special* to the first purchasers in each town. Write us about it *today.*

WE SHIP ON APPROVAL *without a cent in advance,* to any person, anywhere in the United States, and *prepay the freight.* We only ask you to examine and try the **"Ranger"** without a cent expense to yourself before you think of buying any other bicycle.

10 DAYS FREE TRIAL is allowed on every **"Ranger"** bicycle, *Not a cent cost* to you if you do not wish to keep it after riding it for ten days and putting it to every possible test. Our "RANGER" bicycles are of such high quality, handsome appearance and low price that we are willing to ship it to you, pay all expenses, let you examine and try it and leave it entirely to you whether you wish to keep it or not.

LOW FACTORY PRICES Our great output, perfected methods and machinery enable us to offer you direct from the factory the best bicycle ever produced at a price that will be a revelation to you. DO NOT BUY a Bicycle or a pair of Tires until you receive our large complete catalog and learn our direct FACTORY PRICE and REMARKABLE SPECIAL OFFER. SECOND-HAND BICYCLES—a limited number taken in trade by our Chicago retail stores will be closed out at once, at $3 to $8 EACH. Descriptive bargain list mailed free.

RIDER AGENTS WANTED in every town and locality to ride and exhibit a sample 1913 "RANGER" bicycle furnished by us. In your spare time you can take many orders for our bicycles, tires and sundries. WRITE AT ONCE for our large Catalogue and a remarkable SPECIAL PROPOSITION we will make you on the first 1913 models going to your town.

TIRES, REAR WHEELS with COASTER BRAKE, INNER TUBES, LAMPS, cyclometers, parts, repairs, everything in the bicycle line at HALF USUAL PRICES. DO NOT WAIT—write today for our Large Catalogue—a great fund of interesting matter and useful bicycle information. It only costs a postal to get everything. WRITE IT NOW.

MEAD CYCLE CO., Dept. M186, CHICAGO, ILL.

Beauty-Strength-Durability - Easy To Erect - Cost Less THAN Wood

CYCLONE FENCES AND GATES

This is the standard lawn fence of America—the fence of Quality and Economy. Gives the home permanent protection and makes the ground look attractive and prosperous.

CYCLONE LAWN FENCE is made of the best quality, large, heavily galvanized, rust-proof wire, woven by the exclusive Cyclone *sag proof* method. Easy to put up—self adjusting to uneven ground—may be erected on wood or iron posts. Made in many patterns.

CYCLONE VICTOR FARM GATE is heavily galvanized and built different from any other. You can raise it to any position and it stays there; automatic lock is absolutely stock proof. Strong, tubular steel frames; Fabric of heavy rust-proof wire held firm by stretcher bar; no holes to weaken frame.

Catalog Free. Write today. **CYCLONE FENCE CO., • Dept. 82 WAUKEGAN, ILL.**

Hay Forks that Make Work Easier

E. C. SIMMONS KEEN KUTTER TRADE MARK REG. CUTLERY AND TOOLS U.S. PAT. OFF.

You warm up to Keen Kutter Hay Forks the minute you handle them, because they're balanced properly, got swing to them, and they work *with* you. That's what is called Keen Kutter "hang"—that scientific workmanship that makes for better, easier and quicker work.

KEEN KUTTER *Quality Tools*

are made of the highest grade steel and each tool is accurately tempered to stand its required work. The handles of Keen Kutter tools are fashioned from straight-grained lumber and bent handles are *really* bent—steam bent. This insures remarkable durability.

If you buy any tool bearing the Keen Kutter trade mark and it does not prove absolutely perfect, your dealer will refund your money.

"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered. —E. C. SIMMONS.

If not at your dealer's, write us.

SIMMONS HARDWARE CO., Inc.
St. Louis, New York, Philadelphia, Toledo, Minneapolis, Sioux City, Wichita.

98 CENTS POST PAID

To advertise our business, make new friends and introduce our big catalogue of Elgin watches we will send this elegant watch postpaid for **only 98 cents.** Gent's size, high grade gold plate finish, lever escapement, stem wind and stem set, accurate time keeper, fully **Guaranteed for 5 Years.** Send 98 cents today and watch will be sent by return mail. Satisfaction guaranteed or money refunded. **HUNTER WATCH CO., Dept. 21 CHICAGO, ILL.**

ASSOCIATED ADVERTISING CLUBS OF AMERICA — TRUTH — 1913 AAC of A

YOUR Kind of Advertising Will be Boosted at Baltimore

You may not think that you are much of an advertiser—but you are—nothing is sold without advertising of some kind. Do you want to learn what is being done in your line of advertising—trade paper, technical paper, direct-by-mail advertising—whatever method of publicity you use? Do you want to hear addresses from the men who have made the big American successes in advertising and merchandising of all kinds? Do you want to meet 10,000 live, progressive, thinking men—buyers of advertising—the men who are responsible for the industrial progress and supremacy of the United States? If so, go to the ninth

Annual Convention of the Associated Advertising Clubs

of America. This great Convention will be held in Baltimore, June 8th to 13th. Open meetings, held every day, will be full of inspiration, education, and information on every branch of merchandising. Delegates from 135 American and Canadian clubs will be present, as well as delegations from Great Britain, Germany and other foreign countries. Baltimore will more than sustain her enviable reputation for bountiful hospitality in a series of splendid evening entertainments of wide variety and delightful possibilities.

You will be welcome whether you are a member of an advertising club or not. Make up your mind now to go; write to the address below for information as to the program, hotel accommodations, etc.

Associated Advertising Clubs of America
Convention Bureau
1 North Calvert Street Baltimore, Md.

Prattle of the Youngsters

One Disadvantage

"I'd like to know how to read."

"Oh, I wouldn't. When you know how to read they give you a lot of books without any pictures."

Often Proved

"Paw, what is a 'deadly parallel?'"

"The railway tracks at any grade crossing, Bobby."—Chicago Tribune.

A Horrible Example

Dolly—But I don't want to wash my face, grandma.

Grandma—But you must, dear. When I was a little girl I always washed my face.

Dolly—Yes, and just look at it now.

We Wonder?

"I am a good reader of faces," she said one day at luncheon. "On first sight of a person I form my opinion of that person's character. And I am never wrong."

"Mother," her little boy called shrilly from the other end of the long table, where he sat with his nurse.

"Well, what is it, my son?" said the mother indulgently.

"Mother," he piped, "I want to know what was your opinion when you first saw me?"

Talented

Young Raymond had talent for drawing, of which he was undeniably proud. One evening he sat at the table, busy with his pencil.

"What are you drawing, Raymond?" his mother inquired.

"I'm drawing a picture of God."

"But, Raymond, you mustn't do that. Nobody knows how He looks."

"Well, they will when I get this finished."—Lippincott's.

An Office Necessity

The little tots in a private kindergarten had been unusually noisy and the nearly distracted teacher was puzzled to think of some way to restore order. Finally she thought of a scheme.

"Boys, I want you to pretend that you are business men and that this is your office and that you have lots of work to get out today," she said.

"All right," said one precocious little 5-year-old, "I will if you will let Nellie be my stenographer."—Indianapolis News.

He Named Them

They were talking about school youngsters the other day, when James Whitcomb Riley said that while little Willie may not always know his lessons, he is usually there with a ready response.

"In a public school down my way," smilingly continued Mr. Riley, "the teacher was recently instructing the pupils on the Arctic zone. She told them all about the freezy place and then waded in to ask the usual questions.

" 'Can any little boy or girl,' said she, 'name me ten animals that live in the Arctic zone?'

" 'Yessum,' was the prompt reply of Jimmie Jones, 'I can, Miss Mary.'

" 'All right, James,' returned the teacher, encouragingly, 'you may name them.'

" 'Five Polar bears and five seals,' declared Jimmie with great emphasis."

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Potato Industry of Missouri Valley

THE potato industry of the Missouri valley is worth considering. A crop that may be made to produce a revenue of at least $50 to the acre is worth thinking about, and worth studying. The potato industry in this section is menaced by disease. Extra care and extra labor will be required for a very few years in order to put potato growing on a perfectly healthy basis. This involves care in the selection of seed, that all seed used shall be free from disease and that it shall be vigorous and virile.

The next issue of this paper will contain a description of the manner in which such seed should be produced. This description is not based on theory, but on practice. It outlines the method pursued by some of the most successful potato growers of the country who have produced not only the largest amount, but the finest quality, of tubers. It is commended to the confidence of all potato growers.

Bright and Breezy

A Connoisseur of Works

"Perhaps you are familiar with the works of Ingersoll?" smilingly inquired the book salesman, as he reached for the sample bindings.

"Sure, I am," replied Mr. Goldberg, the jeweler; "undt it's a good vatch for der money!"—Lippincott's.

Cheaper

"I thought your father wasn't going to send you back to college?"

"That's so. Dad did kick on the expense, but I threatened to stay at home and help run the business, and then he decided that a college course would be a lot cheaper."—Cleveland Plain Dealer.

A Vegetable Hen

A young Boston college woman was following the suburbanite about his place and doing her best to show her full appreciation of the semi-rural beauty of the establishment. On visiting the hen yard she became enraptured. One hen was unusually well marked. "Oh!" the young woman exclaimed enthusiastically, "what beautiful foilage that hen has!"

How Clever

She was hurriedly adjusting her veil and had but a few moments in which to catch her car. "Oh, dear," she murmured, "I can't find a pin anywhere. I wonder where all the pins go to, anyway?" "That's a difficult question to answer," replied her practical husband, who was standing by. "Because they are always pointed in one direction and headed in another."

Losing Faith

Old Lady—I don't believe this sure-cure tonic is a-goin' to do me any good.

Friend—It's highly spoken of in the papers.

Old Lady—Yes; but I've taken forty-seven bottles and I don't feel a bit better. I tell you what it is, Sarah, I'm beginning to think these newspaper editors don't know everything.

To Identify the Corpse

In the blanks which life insurance companies provide their medical examiners for use in recording the data of the examination of the applicant for insurance, they provide a space for personal marks which may be used to identify the insured after death. A western company recently received a report from an examining physician with the following in the identification blank: "He has a strong Cornish accent."

Made the Chief Understand

A Kansas City minister, visiting an Indian reservation in Idaho, inquired of a government agent where the missionary could be found.

"The chief can probably tell you," replied the agent, pointing out his tent. "Clasp your hands, look heavenward and ask, 'Jesus man?' He will understand you, doubtless."

The reverend gentleman did as directed.

"I presume you are seeking the missionary?" replied the Indian in excellent English. "Please be seated, sir. He will be in presently. If you will excuse me I will go down to the agency and lambast into unconsciousness that fool clerk who directed you."

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Land Mortgage Credit System in America

Proposed Plan for a State Land Mortgage Bank Which is an Adaptation of the European Plan

By H. C. Price

MUCH has been written about the European system of rural credit, and everyone who has given the matter any thought is agreed that no foreign system can be transplanted to this country and be expected to succeed. We must adapt the European credit institutions to our conditions and to meet our needs. One of the most important institutions developed has been the land mortgage associations to furnish long-time loans on farm real estate.

The editors of The Twentieth Century Farmer have asked me to give my views of how the land mortgage association could be adapted to American conditions.

What we need to accomplish by a rural credit system based on land mortgages are (1) to convert farm mortgages in securities that are readily negotiable; (2) to provide long-time loans that are repaid on the amortization plan (annual or semi-annual installments), and which cannot be called in except for cause; (3) to convert the farm mortgages into standard securities that will be accepted for all classes of investments; (4) to secure a rate of interest commensurate with the security given; (5) to provide that loans may be made and repaid with a minimum expense and loss of time on the part of the farmer.

Three Ways to Do It

How is this to be done? That is the question the man on the land in this country wants to have answered. He wants to know what can be done in the United States to accomplish the same results as have been accomplished in other countries.

There are three ways in which land mortgage associations in this country might be organized and operated to accomplish the same results as the European land mortgage associations; that is, make loans and issue mortgage bonds, in exchange for the mortgages accepted, on farm land. First, to form a co-operative association of land owners who desire to borrow capital on their farms, just as the German Landschaften societies are organized. Although from a theoretical standpoint this is the ideal organization, and for nearly a century and a half has been in successful operation in Germany, yet, for American conditions, unused as our farmers are to co-operative organization, to hope to bring about the successful organization of a land mortgage association through co-operation, I believe, is visionary.

The Second Method

The second method is to leave the organization of such institution to private initiative as our building and loan associations in the cities have been developed, or the land mortgage banks of Germany are operated, which are associations doing business similar to the Landschaften societies, but are stock companies instead of co-operative companies. There are several drawbacks to leaving the organization of such institutions to private initiative.

In the first place, there is not enough prospective profit to induce private interests to undertake to develop anything like a general system. In some localities there would be successful private organizations, just as we now have, but there is no reason to believe that such organizations would become anything like general.

In the second place, an association organized by private interests will be operated in the interests of those who loan money rather than those who borrow, and farmers cannot expect to get any great relief through such organizations. There is still another drawback to privately organized land mortgage associations—the success of such institutions as a means of extending credit depends upon the confidence the investing public has in the bonds that they issue. It is reasonable to expect that in the beginning investor and borrower would hesitate to do business with such institutions, and any system that is left to develop by means of such organizations would make little progress.

What is Considered a Feasible Way

The third way that land mortgage associations might be organized, and accomplish everything that has been accomplished by the German Landschaften societies, and to my mind the only feasible plan for American conditions, is for the respective states to organize and operate land mortgage associations. Such a plan would involve the establishing of a state land mortgage bank as a state institution, for the purpose of furnishing an adequate system of credit for farm owners in the state through the sale of bonds secured by mortgages on farm real estate. The bank itself would not have the funds with which to make the loans, but in exchange for accepted mortgages would issue bonds of equal amount in denominations of $25, $50, $100, $250, $500 and $1,000, and bearing interest at 3, 3½, 4 and 4½ per cent, the denomination of the bonds and the rate of interest they bore to be optional with the borrower.

The borrower could either take these bonds and sell them himself, or have them sold through his local bank, or have the state bank sell them for him. The farmer borrowing in this way would pay on his loan the same rate of interest as the bonds issued in exchange for his mortgage bear, plus ½ per cent to pay the operating expenses of the state bank and to build up a reserve fund. The German Landschaften allow only ¼ per cent for this purpose, but we will put it at ½ per cent to be conservative.

Paying Off the Mortgage

In addition to this would be added the per cent, or fraction of a per cent, that is to apply to the amortization of the principal. For example, a farmer makes application for a loan of $1,000. His application is granted and he is given in exchange for his mortgage ten $100 bonds bearing 4 per cent interest; these are sold at par, so that he realizes $1,000 in money. He pays 4 per cent, and ½ per cent to pay operating expenses of the bank, and he wants to pay enough additional with his interest to pay off his loan in twenty-five years, in which case it would be necessary for him to pay in all $33.52 semi-annually, or the equivalent of 6.7 per cent semi-annually.

A land mortgage association organized as a state institution would at once give its bonds the standing of state or municipal bonds, and they would command as favorable rates of interest. They would also command the confidence of investors, as the bonds of privately or co-operatively organized associations could not do.

Objection That May Be Raised

The objection may be raised that such a plan means that the state is going into the banking business. But such institutions would not carry on a commercial banking business; they would simply be the intermediary between borrower and lender; they would be entirely self-supporting and would simply mean that the state had taken over a fundamental public utility, namely, converting farm real estate securities into a more stable, uniform, secure and negotiable form that would be of mutual advantage to both investor and borrower. It would be a matter of prime importance to the public welfare, because it would provide a means of developing our agriculture and increasing our agricultural production far beyond what is possible under our present conditions.

A single state land mortgage association located in the capital of a state would be too far removed from the farmers which it is supposed to serve. To meet this difficulty a branch association of the state association should be established in every county seat. The county is the natural unit of such an organization. Land titles are registered and taxes are paid at the county seat, and it is not so far removed from the farmer but what he could go in person and arrange for his loan. The loans would be granted, the titles examined and the mortgages accepted by the county branch office, but the issuing of bonds should be limited to the state organization. Such an organization would give the advantages of centralization and would standardize the bonds issued within a state. At the same time it would give the advantage of decentralization in carrying on the business and taking it close to the individual farmer.

Question of Possible Loss

The question of possible loss on the part of the state on account of bad loans naturally arises. In the German Landschaften there have been practically no losses since they have been organized. The risk of losses would always depend upon the care with which loans are made and the proportion of the value of the property loaned. In most of the German associations the maximum amount loaned is two-thirds the assessed value of the land for taxation purposes, but when they were first organized the loans [illegible]

Stump Ranching in the New Northwest

Vivid Description of Methods Used in Getting Rid of Stumps—Concluded from Last Week

Grain Field Eleven Miles North of Spokane, Wash., that Was a Virgin Forest Five Years Ago

By O. H. Barnhill

THE stumps left by the loggers are generally pine and fir. In some sections there are also spruce, tamarack and cedar. Their size ranges from two to four feet in diameter—a few being two to four feet—in the Spokane country, to twice as large in the coast country. How to get rid of these stumps is the crux of the whole problem of getting cutover lands into cultivation. A stump puller is all right for the smaller stumps, but the big ones must be either blown out with dynamite, burned out or pulled out with steam power. The latter method is sometimes used by lumber companies on the coast, who use donkey engines in logging.

The writer has had some experience in dynamiting stumps in Montana and found it a very expensive process. Forty per cent powder was used, costing about $18 per hundred pounds, three sticks to the pound. Each stump required from half a dozen to a dozen sticks. These were placed as far under the stump as possible, in a hole generally made with a crowbar, but sometimes with an auger, and set off with cap and fuse. A common mistake is to use too little powder. Here is one place where it doesn't pay to economize. Dry, pitch-pine stumps can sometimes be burned out after being split up with dynamite, but this is generally unsatisfactory, because roots and stubs are apt to be left in the ground. The best way is to blow out as much of the stump as possible with powder and then grub out the remaining roots, using a stump puller on those which are too large for hand work.

Dynamite is dangerous stuff to handle and should be used with extreme caution. The commonest cause of accidents is thawing out dynamite, which freezes at 45 degrees Fahrenheit, in warm water, on which nitroglycerin collects, and explodes when struck or jarred. Keep out of the smoke and fumes of burnt dynamite or it will give you a terrible headache.

The Char-Pitting Process

For many years the system of char-pitting stumps has been practiced in the coast country. The principle is the same as that utilized in making charcoal—that wood will be reduced to a coal if almost all the air is kept from the fire, even where an open fire would not burn. The plan, however, is not to make charcoal out of the stump, but to give the fire just a little more air than in making charcoal, so the latter will be consumed. When the smoke from the burning stump is of a dark blue color it is a sign that the fire hasn't quite enough air and that the wood is only being charred.

The details of char-pitting stumps can only be learned by practice, but enough can be explained on paper to enable the worker to get a good start. The bark is first removed around the base of the stump to a height of about twelve inches. It is sometimes necessary to dig down into the ground a little, and in sandy soils it is best to dig a trench a foot deep. Short pieces of dry wood are next stood on end all around the stump and then these are covered with dirt to a depth of three or four inches. A little kindling placed next to the ground will aid in leading the fire around the stump. On the windward side the fire is started at a place where the sap-wood has been chopped away to give the fire a chance at the heart-wood. When the fire has got a good start, say a quarter or half hour, it is covered up with dirt, leaving a small air-hole at the bottom. In starting a fire down in a trench it is a good plan to first pile a little dry sawdust around next to the stump and pour over the former a gallon or two of crude oil, which costs $3 a barrel. Sandy soil does not make an effective covering for the fire, being a conductor of heat, and where stumps are burned in such soil it is necessary to haul in loam or clay. As the fire burns into the stump the dirt should be pushed over, so as to keep it pretty well covered up. After the fires get to going well, which will be in a day or two, it will only be necessary to fix them night and morning. Large stumps will burn out in less than a week, clear down into the ground.

Prof. Sparks of the Washington State Experiment Station burned out 100 large stumps by the foregoing method at an average cost of 40 cents each, counting his time at 25 cents an hour. Others have taken out stumps for 25 to 35 cents each. Without questioning the truthfulness of these figures, it may be said that if stumps could be taken out for double, or even treble, the prices named there would be a veritable revolution in the clearing of stump land, millions of acres of which would soon be put under the plow. Many who try char-pitting have failed to make the system work. Others say it destroys a lot of the best top soil and consumes large quantities of valuable stovewood.

In southwestern Washington there is in use another system of char-pitting. A hole is dug down under the stump or largest root during the winter season and allowed to dry out until the following August, when a fire is started in the bottom of the hole and covered up when it gets to burning good. Sometimes a hole is bored through a big root to create a draft.

Seeding Down the Timber Pasture

The first step in clearing cut-over land is to burn the "slashing," as the treetops and other debris left by the loggers is called. The remaining small trees should be cut down, felling them all in one direction as near as possible. The underbrush should also be cut and the larger treetops leveled down. The burning is best done in August or September, and requires a permit from the state forester. A strip ten or twelve feet wide should first be cleared around the tract to be burned, removing all logs and brush. This strip should be carefully burned and back-fires started, burning against the wind as much as possible. The cleared strip will make it easy to build a fence, which is the next work in order.

All ground which is not to be put into cultivation at once should be seeded down. If the slashing has been burned when sufficiently dry, the ground will be covered with ashes, which make a good seed-bed. On the coast the seed should be sown early in the fall. Timothy is the best all-round grass for timber pasture. Sow ten pounds per acre. It is well, however, to sow a mixture of seeds, using for permanent pasture eight pounds of Italian rye grass, three of timothy, five of orchard grass, five of red clover and one of white clover. For permanent pasture substitute blue-grass for the timothy. The former takes two or three years to get established, but nothing stands continued tramping better.

Angora Goats Used in Large Numbers

Angora goats are wonderfully effective in killing out brush on cut-over land, and large numbers are used for that purpose in western Oregon. Their mohair and meat also yield a good profit. Sheep are next in value for pasturing timber lands. Horses and cattle do not tramp out the grass as bad as sheep and goats, however.

It is a common mistake to attempt to cultivate timber land without first giving it a good burning over and then pasturing closely for a few years. The latter method kills out most of the brush and rots the small roots, which otherwise seriously interfere with cultivation. It is all right to clear out a very few acres at

once for a garden patch and orchard, but it doesn't pay to put large fields into cultivation until the brush has been pretty well killed out.

Cost of Clearing Stump Land

It is impossible to give any accurate estimate of the cost of clearing stump land, because there is such a wide difference in the character of such land. In the Spokane country $50 to $100 per acre would probably be a fair estimate, while in the coast country the cost is apt to run up to double these figures. However, it all depends upon the land and the way the work is done. The easiest timber land to clear is that which lumbermen class as "open yellow pine," because there is not much brush or small trees to bother with.

Diversified crops and intensive cultivation should be the practice of the stump rancher. After large fields are gotten under the plow, he may specialize along certain lines, but at first he must do a little of various kinds of farming, making a living out of the odds and ends of agriculture. A few acres, well tilled, should be his motto. A team of good horses to do the heavy work, a few good dairy cows, a litter of pigs, a flock of sheep or goats, a few stands of bees, a hundred hens—these are all profitable partners for the stump rancher and will keep him busy every day in the year when not engaged in clearing or crop work. Get an orchard started as soon as possible. Plant the small fruits and vegetables previously mentioned, and raise hay and grain on all the land which cannot be put into fruits and vegetables and given the best possible care and cultivation. Save the best timber for posts and firewood, of which a plentiful supply should always be kept on hand. Strange as it may seem, good, dry stove-wood is one of the scarcest articles on the average stump ranch in western Montana.

Methods of the Centralized Creameries

VI--Uneconomic Business Practices for Which the Cream Producer Ultimately Has to Pay

ECONOMIC laws are sure ultimately to fulfill their destiny. Violations of economic law are certain ultimately to be visited by the proper penalties. It is useless to try to abrogate economic law. The development of industry is directly in line with the requirements of economic law. One might as well try to keep back the ocean with a broom as to try to prevent progress in industrial economics. The situation in which the centralizers in this territory at present find themselves is ample proof of the truth of the statement just set forth.

A bad general economic condition produces other conditions under which it is practically impossible to comply with the demands of economic law. Oversupply in any commodity always creates a bad economic condition. There is an oversupply of centralized creameries in this territory. There are more centralized creameries here than are necessary to handle economically the cream product of this territory. The result is a general bad economic condition, under which all centralizers are operating. The first result of this bad economic condition is a strenuous competition in endeavoring to secure as much of the cream produced as is possible by each competitor. In this strenuous competition the principles of economic law are ignored, and it often happens that the demands of moral law are set at defiance. The attention of the reader is now called to the specific violations of economic law that the excess in the number of centralizing plants in this territory has caused and made apparent.

Overhead Expense Eats Up Profits

First—There is not in this territory sufficient cream produced at certain seasons of the year to enable all the centralizers—and there are fifteen different centralizers operating in this territory—to run at profitable capacity during the entire year. There is here a scant and a flush season in the production of cream. The overhead expense in operating creameries during the season of scant cream production makes large inroads upon the profits of operation during the flush season. Those that are in a position to know assert that it would be necessary to reduce the number of centralized creameries from fifteen to five in order that each of the five might operate at a profit during the scant season.

The centralizers themselves are to blame for this over-supply of centralized plants. In the early day they paid so little for cream, and made money so fast, that it attracted too much capital into the business to enable each of the plants to make money on the total operations of the year, and at the same time pay a fair price for cream. Had the early centralizers foreseen what would ultimately be the result of their greed; had they, from the beginning, paid a fair price for the cream they received, and had they limited in this way their profits to conform to the fair demands of economic industry, this over-supply would not be found today. In this over-supply the centralizers are reaping the harvest from the seed sown in the early day.

There is only one way out. There is only one method by which, in strict accordance with economic law, this over-supply may be reduced. That way will prove to be a vindication of economic law itself. Let the centralizers put the business at once on a basis that will enable operators strictly to conform with the demands of economic law and with moral law as well. It is a law of nature that in the struggle for existence only the fittest survive. In the struggle for existence among the centralizers only the most efficient will survive, and the least efficient will be forced to the wall, and the excess in the supply of centralized plants will be reduced so as to conform to the strict requirements of economic law. The sooner the centralizers themselves act upon this suggestion, the sooner the atmosphere will be cleared, and the business put upon the right basis. Either they must do this, or economic conditions will sooner or later put them all out of business. Here it will be found that economic righteousness is the only method of self-preservation.

Expense of Gathering Cream

Second—In the intense competition to secure all the cream possible, cream receiving stations have been multiplied, and as a result there has been a multiplication of unnecessary, uneconomic, overhead expense in the matter of gathering cream. There are many towns in the Missouri valley in which there may be found as many as five, and often more, cream receiving stations. The expense of a cream receiving station includes the salary paid to the man that receives the cream, rent of building, equipment and deterioration. The creameries, as a rule, average to pay at least 2 cents on every pound of butter-fat received as salary to the receiver; in some cases it is much more than this, in other cases less. The average expense of each creamery for its cream receiving station in towns where there are five or more such stations will not fall much below $800 per year. Five receiving stations in a town, then, means an expense for receiving cream of $4,000 per year at such a town. This $4,000 would support and make profitable, extremely profitable, a co-operative creamery, and from the profits of such a creamery the cream producer would receive much more for his cream than it is possible for him to receive under the present system. The expenses of the cream receiving station always come out of the cream producer. They are taken into account in figuring how much the creamery will pay for cream.

Farmer No Longer an Easy Mark

Unless the method of operation of the centralizers is changed in such a way as to avoid this unnecessary and uneconomic expense, the time is not far distant when every cream producer will see that he might as well save himself this expense by co-operating with other cream producers, and manufacturing his cream into a marketable product. The farmer is no longer an easy mark: he is beginning to figure for himself. He, in the future, is sure to go in the direction that promises him the greatest profit. If the centralizers are wise, and wish to preserve their business, they will pay such prices for cream, and reduce expenses in receiving it to such a figure as to convince the public that they themselves, and they alone, offer the most profitable market for cream.

Another Violation of Economic Law

Third—The centralizers pay the same price for "rotten cream" that they pay for good cream. "Rotten cream" is not worth as much as good cream. But one of two things is true—either they pay too much for the "rotten cream" or they do not pay enough for the good cream. No matter which horn of this dilemma they choose, there is still a violation of the demands of economic law. This violation involves also a violation of the principles of good citizenship. It constitutes a civic wrong. By paying full price for an inferior article, it leads the producers to be content with furnishing an inferior article. The best citizenship requires the greatest possible production of the very best product. This is necessary to the fullest development of the resources of the country. A method that virtually puts a price on inferior production and on shiftlessness and carelessness and disreputableness in production is guilty of violating the principles of good citizenship, is guilty of civic wrong.

Leads to Disreputable Practices

Fourth—This extreme competition to secure all the cream possible leads to another economic and civic wrong. The cream receiver at the cream receiving station is anxious to secure as many patrons as possible. In order to do this, in many cases, he has adopted disreputable and felonious practices. In order to stand in well with his patrons and to secure as many new patrons as possible for his station, he gives to his cream a higher test than is sanctioned either by the facts or by the law. Accordingly, he pays the farmer for more butter-fat than the farmer delivers. His employer is thus forced to pay for more butter-fat than he actually receives. This is not merely uneconomic; it is illegal as well. The creamery that countenances such practices on the part of its cream receivers is guilty of complicity in an illegal and uneconomic practice. Such a creamery is not entitled to the respect or the confidence of the business world. It violates fundamental principles of business ethics, and cannot be too severely condemned.

It is pleasing to note that certain centralizers are bitterly opposed to this practice, and are not tolerating it in their employes. Others assert that it is their desire that the state authorities having such matters in charge shall begin immediately a stringent campaign against such practices, and shall promptly cancel the permit of any cream tester whose tests are not strictly in accordance with the law in the matter. The centralized creameries constitute a large part of the industrial work force of this territory. They should stand in the front rank

(CONTINUED ON PAGE EIGHTEEN)

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You cannot expect uniformity in the size, shape and general appearance of your live stock if you keep scrub sires.

The old-fashioned farmer who used to "homeward plod his weary way" now skirts over the landscape in a handsome sulky plow.

The medical men are getting by the ears. We already hear talk of a medical trust. Go to it, brethren. While you are fighting, your patients may have some kind of a show.

The man who feeds what he has raised on his own place, carefully husbands the manure and puts it back onto the land is the man who will buy his neighbor's farm in the future, while the man who hauls all he raises to the elevator is the man who, sooner or later, will sell his farm.

This use of "per capita wealth" as an argument for boosting a state is very cheap and, with thoughtful men, produces an effect contrary to what its promulgators intend. It reminds one of the story of the man that was driving a bunch of fifty cattle along the road. "That's a fine bunch," said a stranger who came up. "Whom do they belong to?" "To me and my neighbor," said the man in charge. "How many does your neighbor own?" was asked. "Forty-nine," was the reply. It is not the per capita wealth, but the equitable distribution of that wealth, that shows prosperity. There are absolute despotisms with a high rate of "per capita" wealth.

A Method for Farm Loans

The special attention of all readers is called to an article by Prof. Price that appears on another page of this paper regarding a method for making long-time loans to farmers at low rates of interest. By this method the state becomes the guarantor of the loan, so that the bonds issued for the loan can be marketed with the same facility and at the same rate that state and municipal bonds obtain. Against a possible objection that the state should not go into the banking business, it may be replied that this plan, if adopted, will place the state, not in the banking business, but merely in the position of a guarantor of the bonds.

This paper would be glad to have as many readers as possible express their opinion as to the wisdom and practicability of adopting such a plan as this for securing cheaper, long-time loans for the farmer. This matter is coming forcibly to the attention of the legislatures of the various states in the near future and it is well to have the opinions of people well formulated in advance of any such attempted legislation. One thing must be insisted upon—this matter of cheap farm loans must be kept out of the hands of the banks and within the control either of the farmers themselves or of the state at large.

Co-Operation in Denmark

Denmark is about one-fourth the size of Wisconsin, and has 240,000 farms. Most of these of necessity are small farms. They vary from one and one-half to 150 acres in size. In such a limited territory most of the creameries are whole-milk creameries. The Danish-American bulletin gives the following facts with reference to co-operative creameries in Denmark, showing how they are organized, and how they dispose of their product:

"Agricultural co-operation in Denmark began in 1882 with the co-operative creamery of Olgod, West Jutland. The movement spread rapidly. In 1908 there were 1,101 co-operative creameries, handling practically all the milk in the country.

"In organizing a co-operative creamery in Denmark each member enters into a contract to supply all the product of his herd to the society for a fixed period, usually ten to fifteen years. All the capital is procured by raising a loan on unlimited liability. As a rule, there is no reserve fund, but the loan is paid out of net profits during the period for which all contracts are drawn. The general policy is controlled by the members, each having one vote, and by an executive committee elected at this meeting. The creamery is managed by a competent butter-maker, appointed by this committee.

"Each member is paid at stated intervals for the butter-fat he has furnished. He receives for his product, not the market price at the time of payment, but the lowest price which had prevailed during the period. Accordingly, a profit accumulates which is divided among the farmers at the end of the year in proportion to the amount of butter-fat furnished. The skimmed milk returned to members is charged against them at a fixed price sufficient to cover all working expenses.

"The co-operative creameries dispense with the middle men and dispose of their produce themselves. For this purpose butter export associations have been formed. An attempt is made to maintain a high quality of output. They are conducted on a sound commercial basis, and their managers often draw high salaries. As early as 1908 the turnover of the six export associations then established amounted to over $40,000,000. At the present time this little nation ships about $1,000,000 worth of butter to England every week."

The Danish plan of operation might very easily be modified to meet conditions in the Missouri valley.

Nebraska Serum Cheaper

Beginning May 1, 1913, the price of hog cholera serum and virus at the Nebraska Experiment station will be 1¼-cent per cubic centimeter. Farmers that intend to make use of serum in immunizing their herds will be glad to learn of this reduction in price. There is now no reason why any farmer should fail to protect his hogs against cholera. The serum is an absolute protection if properly used. The price at which it is now sold makes it the cheapest possible insurance for hogs. From this time on, if cholera again assumes dangerous proportions in the state, the swine growers will have no one but themselves to thank for it.

This reduces the price of serum practically to cost. The Twentieth Century Farmer has been urging that each of the states in the Missouri valley territory sell serum to the farmers at cost. It is glad to announce that its suggestions have been practically complied with in all the Missouri valley states.

Activity in Institute Work

The Iowa Agricultural Extention department reports its farmers' institute course of lectures closed for this season, with 1,000 lectures and demonstrations during the nine months. There were held 288 different institutes, where 553 lectures were delivered and 365 demonstrations given. There were in attendance 67,156 men, women, boys and girls. Every county in the state was entered in some form of the work; in many several institutes were held.

Iowa conducts its farmers' institutes in co-operation with its state associations. The secretary of the State Board of Agriculture, A. R. Corey of Des Moines, is secretary of the State Association of Farmers' Institutes. This is a duty that the State Board of Agriculure of Iowa places upon its secretary. It means something to be secretary of the Iowa State Board of Agriculture. Practically every feature of state agricultural organization is put under the supervision and guidance of the State Board of Agriculture, and the secretary has the official oversight of this work through the direction and responsibility of the state board members.

Why Leafy Potato Plants

The most nutritive part of the potato, the part that gives to the potato its excellent flavor, is the part that contains the greatest number of starch cells. If anyone will cut a potato through the middle he will notice that the potato substance is not homogeneous. Around the outside of the potato, just beneath the skin, is a layer, separated from the inner layers by a vascular semi-fibrous partition that is visible on close examination. This outer layer is called the corticel, and contains most of the starch of the potato. The best potatoes have this corticel layer thick instead of thin—that is, have more starch than the others.

The principal chemical element of starch is carbon. The potato plant gets all of its carbon from the air through the leaves, none of it from the soil. The leaves have the power to dissociate the carbon from the carbon dioxide in the air, and store much of this carbon in the tuber. The larger the leaf capacity and vigor, the more carbon it will be possible for the plant to utilize from the air. If the leaf growth is scanty, or if it is injured and lessened by either insects or disease, the less carbon will the plant be able to take from the air and store in the tuber. This is the reason why a liberal leaf growth in the plant is necessary in order to produce the highest quality in the tuber. It is also the reason why every grower should protect his plant from the ravages of insects.

Farm Uses of Asphalt

In the form of prepared roofing it makes a covering of positive and lasting waterproof qualities, and has the added advantage of being in such form that any handy man about the farm can apply it to any of the buildings.

Then the asphalt prepared in the form of cement is invaluable for rendering damp-proof the walls of cellars, dairy houses, concrete floors or any similar surface.

Again, we find that asphalt paint does invaluable work in protecting all kinds of iron and steel work, such as fences, girders and the like, from rust and all corroding influences.

And in yet another form, as a wood preserver, natural asphalt effects almost incalculable savings.

Fence posts dipped and impregnated with it can be made to last indefinitely. The same can be said of planks or lumber of any kind which are likely to be used in damp places. In fact, natural asphalt has come to be relied upon for thorough waterproofing anywhere—above ground or below.

Arrangements have been made for futurity classes at the next international live stock exposition. Four hundred dollars have been appropriated for the exhibition of each of the four draft breeds. This, when added to the entrance money paid by the exhibitors, will be a handsome sum for yearlings. This is a step in the right direction, because it places the prize, not so much on individual merit as on the capacity to produce individual merit.

The Tenancy Evil

The multiplication of farm tenants, who hold their tenancy from year to year, constitutes the most serious bar to agricultural development. The man that rents his land from year to year at a specified price is interested merely in getting as much out of the land as possible, regardless of the condition in which he leaves the land. Such a tenant is forced by self-interest, under the conditions under which he holds this land, into being a soil robber. No inducement is offered to him to keep up the fertility of the land he cultivates. Whatever he does in this way, if he does anything, is sure to inure to the benefit, not of himself, but of the next tenant. If fertility of soil is to be conserved, and this is the most important item in the policy of conservation, some method must be adopted for abrogating the present system of farm tenancy.

Denmark, more than a dozen years ago, saw the need of doing something to prevent the evils that necessarily follow in the wake of farm tenancy. They have, at last, perfected a system of laws that meet the emergency. In Denmark, today, a laborer or a tenant who can provide one-tenth of the purchase price of land is enabled by the state to purchase, and the state gives him a long term of years, at a low rate of interest, in which to pay the balance of the price of the land. A non-resident land owner is a menace to the future prosperity of the state. Sooner or later all our states must take this problem in hand for solution. Land should not be permitted to become subject matter for speculation. The state should assume the right to condemn such land at a fair valuation, and should then sell it to men who will themselves cultivate it and make it produce, and these purchasers should be assisted by the state, so that, with small capital, they may be able to purchase such land, being allowed a long term of years, at a low rate of interest, in which to make full payment. When this is done, the true policy of conservation will be carried into effect, and the production of each state will be vastly increased. As production increases, prosperity will also increase. By the right law of reason no man has a right to own land unless he uses it any more than he has a right to own a certain amount of air. Both air and land are the common property of all.

Practical Farm Education

Out of the large army of the farmer boys grown up on the farms of the country there is but a small number, by inclination and educational qualification, eligible to enter the agricultural college. There is a small per cent of those who enroll as students in the higher educational institutions of the country that ever get back to the stern realities of practical farm life.

The best material from which to make practical farmers, as a general rule, is the boys who are content to stay on the farm at the sacrifice of the higher educational advantages. This has been the experience and observation of educators. To provide for this condition the Kansas Agricultural college has arranged a system of instruction and education which will be available to boys and men distinct from the college, in that each year's work is practical and separate, and it admits students from both grade and rural schools. Its aim is to train for practical work instead of preparing to enter an academy or college.

For the men there is practical work in agriculture, farm mechanics and farm repair work, and the only cultural studies carried through the courses are English and mathematics, and both these branches are carried from a practical standpoint. The new school will be handled by the regular teaching force. Any young man or woman who can have just one year's practical work will be given the best possible chances at the agricultural college.

For the girls there is a training in agriculture, orcharding, poultry, domestic science and art, and all with relation to practical work in the home, instead of entrance into colleges or teaching.

This is carrying the benefits of an agricultural college as nearly onto the farm and into the home as it is possible to do it. The instruction that the majority of farmers and farmers' boys most need is to be shown how to do the work, how to handle the tools, how to prepare for the crops and how to handle the crops, and every feature of farm work that is to be carried on about the farm. These things, to a very great extent, are already understood, in a way, by the present-day common farmer—that is, the non-agricultural college man. All persons familiar with farming operations must concede that this move is practical and that it is getting right down to the class of farmers that can appreciate it, and will profit by it. The men and boys who are on the farm, and who are intending to make farming their life work and occupation, are the people to instruct.

Summary of Nebraska Laws

Of Interest to Farmers and Live Stock Shippers

Following are some of the new laws enacted by the Nebraska legislature which affect the agricultural and live stock interests of the state:

Shippers Ride Free

S. F. 174—By Grace of Harlan: Requires transportation for live stock shippers to market and return for shipment of a single car (former law, two cars).

Stock Shippers Ride in Coach

H. R. 174—By Anderson of Boyd: Provides that stock shippers who travel more than seventy-five miles with stock shipments must be given transportation in a coach with standard seats (old law 100 miles limit); penalty increased from $10 per day violation to $100. Emergency.

Agricultural Statistics

H. R. 350—By Scott of Hamilton: Transfers collection and publication of agricultural and farm labor statistics from labor bureau to Board of Agriculture; no appropriation. Emergency.

Defines State Conservation

H. R. 391—By Norton of Polk: Defines work of state conservation and soil survey—(a), To make a survey of natural resources; (b), to report upon water power and road building; (c), to study operation of leading industries; (d), to serve as an information bureau, under direction of University Board of Regents; given police power for field work.

Road Dragging

H. R. 288—By Richardson of Lancaster: Provides for systematic road dragging; county board to divide county into dragging districts, to appoint a superintendent in each precinct or township, at a wage of not over $2.50 per day; county board to furnish road drag, paid for out of county road fund; dragging to be paid for at not to exceed 75 cents per mile, by an eight-foot drag, with four horses, or 60 cents per mile with a seven-foot drag and two or three horses; county board may levy not to exceed 1 mill a year for a special "county road dragging fund."

Agricultural High Schools

S. F. 27—By Shumway of Dixon: State aid for high schools which teach agriculture, home economics and manual training, not to exceed $3,000 in any one year, conditioned on maintenance of at least five acres for experimental purposes, applies to any high school accredited by state university, to a consolidated rural high school or to a county high school.

Live Stock Sanitary Board

H. R. 21—By Morris of Cherry: Establishing a live stock sanitary board of five members, to be appointed by the governor, one member to be actually engaged in breeding horses, one cattle, one swine and one representative of South Omaha stock yards; board to serve without pay; duties to investigate live stock conditions and take precautions to prevent diseases; board has right of compulsory quarantine; board recommends to governor an appointee as state veterinarian, at $2,500 (now $1,800) and assistants.

Prevention of Insects

H. R. 171—By Van Deusen of Washington: Gives state entomologist authority to inspect nursery stock and premises, to destroy insects and to take precautions to prevent further propagation of destructive insects; compulsory; expenses paid by fees of not less than $5, nor more than $10.

County Farm Demonstrator

H. R. 524 — By Brott, Hasik and Ayers: Permits county boards to appropriate money for a county farm demonstrator, upon petition of 10 per cent of farm land owners, appointment to be on advice of university extension department.

Stallion Registration

H. R. 387—By Stephen of Merrick: Reenacts stallion registration law declared unconstitutional; exempts stallions which have been examined five times; gives governor, state treasurer and commissioner of public lands and buildings authority, with power to appoint an inspector. Emergency.

Binding Twine Plant

H. R. 282—By Grueber of Thayer: Appropriates $35,000 for a binding twine plant at state penitentiary; no appropriation for working capital.

Diversion of Water

S. F. 11—By Bushee of Kimball: Provides penalties for diverting or otherwise interfering with an irrigation canal; if amount of water diverted or damage amounts to less than $20, imprisonment for not more than thirty days or fine of not over $500; if damaged greater than $20, imprisonment in penitentiary for from one to three years. Emergency.

Jurisdiction of Irrigation Board

S. F. 260—By Hoagland of Lincoln: Gives the State Board of Irrigation original jurisdiction in all matters pertaining to water rights for irrigation, power or other useful purposes, both water and drainage, appeal in such matters to be direct to the state supreme court instead of to district court, prescribes procedure.

Use of Seepage Water

H. R. 53—By Storm of Scottsbluff: Permits the use of seepage water when such use does not damage any other property, not to exceed three feet to the acre. Emergency.

Cost of Raising Weeds

A noted botanist of Iowa is credited with the statement that the state of Iowa is losing $25,000,000 a year because of the failure to eradicate noxious weeds. Just what basis of estimate has been used in arriving at this conclusion is not given. It no doubt is like many professional assertions arrived at by a "casual glance of inspection." It matters not, however, as to the accuracy of the statement: it serves the purpose of calling attention to the great waste of land, of soil, in the growing of a useless crop, a useless product—not only useless, but damaging to every feature of cultivated crops. Weeds are the one special feature of hindrance and annoyance in crop cultivation.

Noxious weed nuisance costs practically as much labor each year to keep down and under subjection, in most cultivated crops, as the labor in growing the crop would cost independent of weed extermination or weed suppression. The suppression of noxious weeds on most farms is not a systematic attack for extermination, but a spasmodic attack to suppress where crop demands make it compulsory in order that the crop be given a chance to struggle through to maturity, though seriously handicapped by reason of the weed interference.

State laws providing for noxious weed extermination are on the statute books of all agricultural states, or should be, even though not enforced. It is a good thing to be reminded that we are responsible, in the sense of the law, for the spread of noxious weeds from their growth on the public highways that pass through our farms, each land owner being held accountable for the suppression of the weed nuisance, so far as his land relation to the public road is concerned.

The futile effort at weed extermination on most farms, however, has made the public highway observance a ridiculous farce so far as the means of spread in a neighborhood are concerned, as the inclosed weed patches on the farms are usually a larger growthed, stronger, better quality of weed than that produced along the roadways, which are usually looked after by the road supervisors when all other means fail.

It might be a good study for the farmer to take up the loss of soil fertility that he is permitting through the means of weed growth. It is possible to eradicate weeds by careful cultivation and observation of the waste spots about the farm, in view of harvesting the weed crop at the proper time for killing the plant. It is not, however, so easy a matter to keep clear of weed seed where grass seeds are bought and brought onto the farm for seed purposes.

The most serious bar to co-operative effort among farmers is the distrust that most farmers feel for each other. Some farmers stand aloof from their brethren, apparently in order to prove that they know more about their business than others do. Here is a fact that they must all learn, that their interests are all mutual, identical, and that they must work together in harmony if they are ever to secure and protect all their rights.

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Silver Bell	All Aboard for Blanket Bay
Oceana Roll	Put Y'r Arms Around Me Honey
I Want A Girl	Killarney My Home O'er Sea
Kiss Me My Honey	Come Josephine in Fly'g M'hine
Star of the East	Dreams of Long Ago by Caruso
Railroad Rag	There's Mother Old & Gray, etc.
Baby Rose	Silver Threads Among the Gold
Mysterious Rag	Alexander's Rag Time Band
Daisies Won't Tell	Put on Your Old Gray Bonnet
Steam Boat Bill	When Autumn Leaves are Fall-g
Some of These Days	Meet Me Tonight in Dreamland
You Beautiful Doll	Brass Band Ephraham Jones
Casey Jones	Where River Shannon Flows
College Rag	In All Dreams I Dream of You

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Meditation, by Morrison	Star of Sea, Reverie
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Silver Bell, Two-Step	Moon Winks, Three-Step
Napoleon's Last Charge	Maple Leaf, Rag
Red Wing, Two-Step	Beautiful Star of Heaven
Turkey in the Straw	Ben-Hur Chariot Race
Drifting Leaves, Reverie	Wedding of Winds, Waltz
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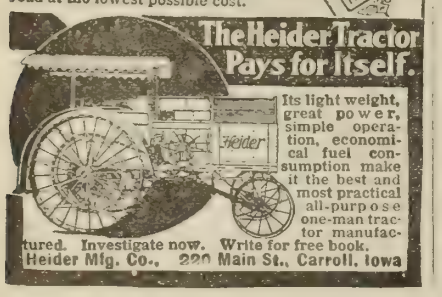

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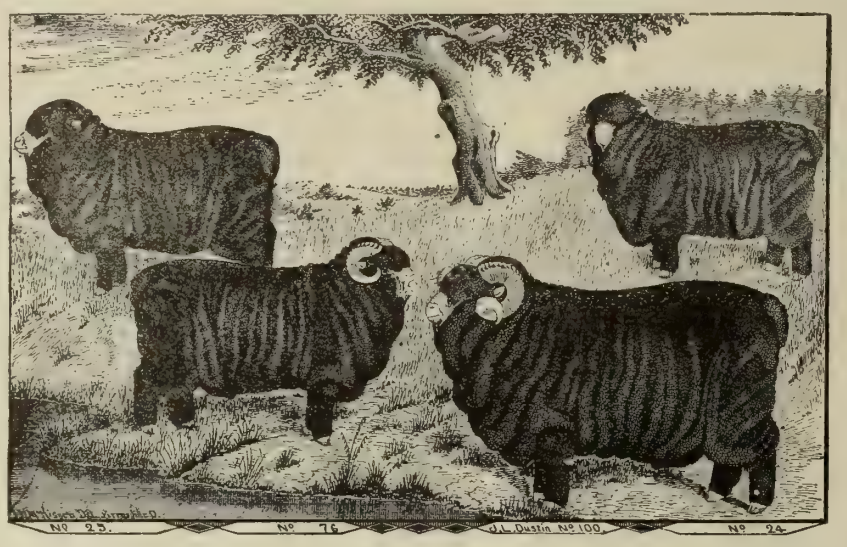
Fine Wool Sheep in America

V---Breeding and Improvement of Merino

THE progress made in the breeding and improvement of the merino sheep in the United States, following the period of activity in importation prior to 1812, was little less than marvelous, so extraordinary were the results in change of type and the improvement in fleece, both in quantity of wool, length of staple, density and oil. The smooth, plain sheep of the early days of importation, down to the period of the big, wrinkly ram and ewe, with a fleece representing several times the weight of their Spanish ancestors, was a transformation that stands to the credit of the American breeder in skill and ingenuity that has no equal.



Group of Fashionable Merinos of Thirty Years Ago Bred by J. L. Dustin of Ohio

Almost from the beginning of the merino sheep industry in the United States there developed a variation of idea, or difference of opinion in the minds of breeders, as to type of sheep best suited to the demands for wool and mutton. The plain character of the general Spanish representative did not exactly suit the fancy of some interested sheep breeders, neither did the strict adherence to the exclusive cabana breeding practiced in Spain for so many generations. The idea of so close in-breeding was not endorsed, and the tendency was in some instances to cross-breed the various Spanish families as they came to this country. Just to what extent this was done can only be guessed at. But with the old western sheep breeders and handlers, who frequently visited the eastern flocks in view of laying in their supply of sales sheep, there were evidences sufficient of great change in the character of flocks that came in a single season to start them to thinking. It was all for the betterment of sheep character, however, and no protest was offered.

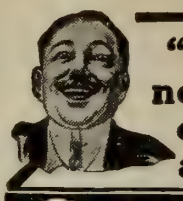
The present-day division of type of wrinkly, medium wrinkly and plain, smooth sheep no doubt was in the minds of many of the old breeders away back in the early days of merino breeding, as the progress made in moving up to these extreme types was little less than marvelous, where the tendency directed and encouraged the creations of this variation of type in the merino. The wisdom of cross-breeding the various families or cabanas, as they were represented before coming to this county, no doubt has been the means of great improvement in constitution and fleece qualities in the American merino.

That there was engaged in the merino sheep industry in Vermont and other eastern districts the best talent in the country for this work there has never been any disposition on the part of anyone to question or dispute. The Yankee sheep breeder was the appellation by which the the Vermont sheep man was known for many years throughout the states west. It was through the activity of these breeders and dealers that the merino became so generally distributed over the now thickly populated sheep and wool-growing states to the west.

Too much credit, nor too much praise, cannot be attributed to the pioneer sheepmen of the New England and the eastern states for the energy, skill and perseverance that were given the breeding and improvement of the merino. This period of activity commenced back at the time of the first distribution of these sheep over this district of country and continued for more than half a century, and until the whole country became a thickly populated sheep-producing district.

The first merino sheep coming west into Ohio, Pennsylvania and West Virginia were known as and called the Vermont merino sheep, Spanish merino and Vermont merino sheep were synonymous terms used in speaking of this class of sheep west of the mountains, the latter being generally used in speaking of the merino. It was not until within the last thirty years that the name Vermont ceased to have a commanding influence in the nativity of a ram or a bunch of good ewes.

The organization of the state registering associations, and the stimulating effect that this enterprise seemed to have among the best



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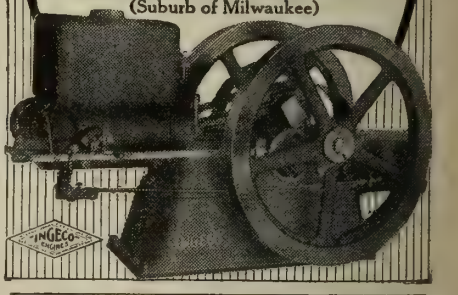

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Seventh St., Topeka, Kansas

breeders of merino sheep throughout the central states, seemed to awaken the western breeders to a realization that they possessed as good blood and breeding in their own flocks as could be found in America. This period of reckoning with the title of pedigree that the registering system enforced upon merino sheep breeders everywhere brought the pure-bred sheep owners to one common standard of measurement, to a basis upon which blood and breeding was the feature of test by which the sheep were judged and passed.

Many breeders who had pure-bred sheep, but carelessly bred and handled, flocks that were on the decline in quality, and had been for several generations of sheep, were prompted to better selection of breeding rams, better care of breeding flocks and a general reform in quality was observed everywhere among the registered sheep. Increased demand and increased sales were the experience among the sheep owners who were able to establish pedigree evidence sufficient to pass their flocks into the register.

The old breeder, who had steadfastly adhered to his flock and as persistently strived for improvement in quality sheep and fleece, was rewarded by a demand for all his surplus, and at prices that paid him well for his attention and labor. Thousands of new flocks were started in districts and states where formerly only a few scattering breeders of pure-bred sheep were located.

Among the flock owners of Vermont who became prominent as breeders and improvers of the merino sheep were Edwin Hammond, J. Thurman Rich, Tyler Stickney, W. R. Sanford, L. C. Remele, W. R. Remele, H. S. Brookins, S. W. Jewett, A. L. Bingham, Merrill Bingham, Charles Rich, V. Rich, Elisha Rich, Albert Chapman, S. L. Bissell, E. N. Bissell, D. G. Cutting, Prosper Elithorp, George Campbell, A. E. Puller, Charles Sandford, F. D. Barton, E. R. Robinson, C. D. Lane, N. H. Bottum, E. A. Birchard, B. B. Tottingham, R. J. Jones, Victor Wright, R. P. Hall, E. S. Stowell, F. H. Dean, M. B. Williamson, H. W. Hammond, E. Sanford, S. S. Rockwell, C. E. Cook, L. P. Clark, C. N. Hayward, H. C. Burwell, S. G. Holyyoke, J. H. Sprague, E. S. Dana, S. S. Gibbs, J. H. Mead, A. E. Perkins, J. T. Stickney, William Lane, Henry Lane, A. A. Farnsworth, C. E. Crane, J. J. Crane, Hamond & Hall, J. B. Cherbino, H. Thorp, M. R. Atwood, O. C. Bacon, E. Barnum, C. E. Bush, Truman Brookins, B. L. Buell, D. W. Childs, M. J. Ellsworth, H. Giddings, E. S. Hall, George Hammond, E. L. Moore, E. Townsend, F. G. Wright, Silas Wright, Nathan Cushing, John A. James, D. F. Doty, A. H. Hubbard and Dean & Jennings.

Controlling Corn-Root Lice

For several years past the corn-root louse has been increasing in Nebraska, and during the past two seasons its injuries have been especially severe, many fields of corn having been badly damaged or ruined by it. Prof. Swenk of the Nebraska Experiment Station has this to say in regard to the pest:

"Cornfields injured last year will certainly be reattacked more or less this year if replanted to corn. This is because the louse passes the winter in the egg stage in the cornfields in the nests of the little brown cornfield ant, and when these eggs hatch, early in April, the ants place the newly hatched lice first on the foxtail and other cornfield weeds and later on the newly sprouted corn. If corn is planted on new ground, which is not stocked with the eggs of the lice, the plants will practically escape attack.

"The injury by these lice can be greatly reduced by thorough cultivation. The best plan is to plow early and follow by frequent applications with the disk or harrow until the corn is planted. On fields to be listed cultivation should begin in the spring and continue up to corn planting time to obtain the same results. This cultivation breaks up the ant nests and scatters the eggs of ant and louse alike through the dirt, while by preventing the springing up of weeds before the corn is planted the lice which hatch early are starved out.

"It may be added that these measures of control against the corn-root lice also have an advantageous effect in reducing more or less the attacks of cutworms, white grubs, wireworms and several other corn pests."

A colored philosopher is reported to have said: "Life, my breddren, is mos'ly made up of praying for rain and then wishin' it would clar off."—Presbyterian.

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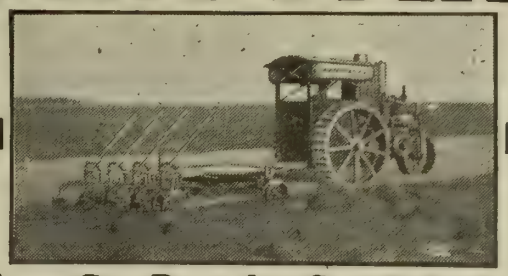

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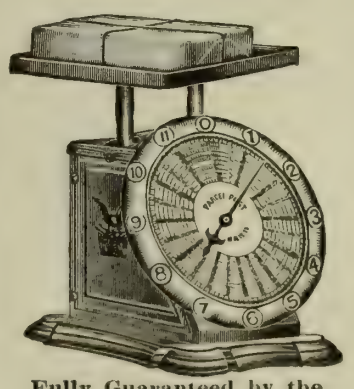

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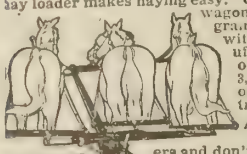

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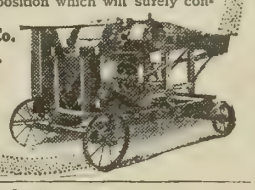

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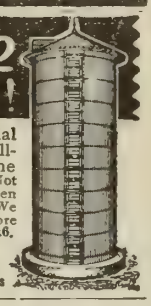

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Travels Among Aztecs of the Past and Present

By Frank G. Carpenter

MEXICO might be called a land of blood. It was so in the days of the Aztecs; it was so many times during the days of the Spaniards, and it has been so during these terrible days of Madero and Huerto. In this letter I write of the bloody times of the past. I have just come from the National museum, where I have photographed the sacrificial stone which was in use when Cortez came, and which was one of the bloodiest shrines upon earth.

World's Greatest Battleground

I say bloody shrine, and I mean it. This stone, so small that it would not fill the parlor of a flat renting

The Great Calendar Stone, Which Weighs Fifty Tons—Aztec Calendar Below

for $30 a month, has been the site of more battles than any other spot of its size in the world. Upon it have flowed streams of blood greater than those of the recent war between Bulgaria and Turkey, and all the deaths of the recent revolution here are nothing in comparison with those who have died on this block of granite. It was upon it that the Spaniards saw the Aztecs kill their captured brothers. The fight between the Spaniards and the Mexicans was at its height when Cortez saw the Aztec priests lead the Spanish captives up the steps of the mighty mound which stood just above where this stone now rests and lay them upon it preparatory to cutting out their hearts. The captives were stripped to their waists and Cortez could tell them by the contrast of their white skins against those of the copper-colored masters. The Spaniards' heads were adorned with feathers, and they were made to dance as they went up. As soon as they were stripped their naked bodies were laid upon the stone; then came a flash of the knife and a moment later the priests held up their bloody hearts and threw them to that horrid idol, the Aztec god of war, which you may see here against the wall of this same museum.

The archeologists are now working on the history of these ancient times; they are finding new tablets bearing hieroglyphics and the exploration is going on among the ruined cities as far south as Guatemala. I have already written of the work our Archeological society is doing at Quirigua. That relates to the Mayans. The Aztecs came later and we have better information as to them; their records show that 72,000 captives were killed on this sacrificial stone in one day; that was shortly before Columbus discovered America. The prisoners were selected by lot, and they formed a procession about two miles long. In one of the buildings near the Teocali, the great altar of the Aztecs, the Spaniards with Cortez found 136,000 skulls, taken from those who had been thus killed. Among them were men, women and children.

On the Sacrificial Stone

But let me tell you how the stone looks. We know it is authentic, for the records say that it was thrown down by Cortez, and thus became a part of the ruins of Montezuma's capital. That was over 400 years ago. The stone lay buried for more than three centuries, but about 100 years ago it was dug up, and the authorities ordered it to be broken to pieces, that it might be used for paving the city. One of the priests objected, however, and it was saved.

There is nothing that brings one closer to the Aztecs. The stone is perfectly round, and its rim is covered with carvings; in the center of the top is a hole as big as a tin wash basin, with a groove running out to the rim; that hole was used to catch the blood of the victims which flowed over through the groove into a great stone bowl, which also is here to be seen.

The Aztecs had a ritual concerning their sacrifices, and the most distinguished of the captives were often given a chance to fight for their lives. Separate and apart from the stone of sacrifice was a gladiatorial stone with a ring in its top, upon which the captive, stripped to the skin, fought under the eyes of the king and other spectators; he was chained to the stone and given a wooden sword and shield. Thus equipped, he contended with a soldier, who was armed with a sword of obsidian, a glasslike substance made from a kind of volcanic lava. The obsidian weapon had a razorlike edge, and the contest consequently was very unequal. Nevertheless, the wooden sword sometimes prevailed, and the man won his freedom. If he failed or was wounded his body was carried to the stone of sacrifice and there offered to the war god of the Aztecs.

Aztec Cruelties Past and Present

Standing beside this stone and looking back into the past, the cruelties perpetrated by the rebels of today in some of the mountain districts are not strange. The stories have not been published in the American papers, but they come from reliable sources. In one case, for instance, some brigands, having captured their enemy, stripped him to the skin, tied him to a tree and then shot at him again and again. They were careful of their aim so as to wound, but not kill. After the man was cut almost to pieces by the bullets he was taken down and, his legs being tied by ropes to two differnt horses, he was torn apart. That was the work of the half-breed descendants of the Aztecs.

The full-blooded Aztecs of four centuries ago had tortures equally cruel, and their most famous sacrifice was typical of them. This occurred once every year, when the most handsome youth that could be found was the victim. It was neces-

sary that he should be physically perfect, and the priests who made the selection insisted on his being without blemish and in possession of all the graces of youth. He was chosen a year prior to the sacrifice, and from that time until his death he lived like a prince. He was wined and dined and had four of the most beautiful girls in the land as his mistresses. He was the great young man of his time, and with music and feasting upon flowery beds of ease he rode gayly to his doom.

When the final day came he said goodbye to his sweethearts, and, decorated with flowers, took his place on this sacrificial stone. Then the priests, dressed in red, drove their knives into his breast and pulled out his heart; they held it aloft before the eyes of the multitude and they fell on their knees and shouted out their adoration. Later on the body was cut into pieces and distributed to the more favored of the people, who cooked and served it on their dining tables as the tidbit of the year.

Cannibalism Among the Aztecs

Prescott is my authority that this was the only kind of cannibalism that was practiced by the Aztecs, and he says that the cannibal feasts were served up in royal style. The cooking was done by the best of culinary artists, and men and women came together to discuss the horrible menu.

Human sacrifices began in Mexico 200 or 300 years before the Spaniards landed, and at the time of the conquest it has been estimated that the annual sacrifices were about 50,000. In addition to the Teocali in Mexico City there were pyramids and mounds in different parts of the country and sacrifices increased in number whenever drouth, plagues or other calamities came.

An Aztec God

The idol in whose honor much of the sacrificing took place was the god of war and of bloodshed, whose chief representation is here in the National museum. This is a block of stone nine feet in height covered with carving; it represents a squatty figure with a great flat head, out of the top of which peeps two cylindrical eyes, above four little horns which serve as the noses. The mouth is large and the head rests without a neck on the shoulders. This statue stood not far from the sacrificial stone when Cortez, in company with King Montezuma, first saw it; it was then covered with gold and studded with jewels; golden serpents were wound about its waist, and a necklace of human heads and hearts, life-size, made of gold and silver, encircled the neck. Before it a pan of incense was burning, and in this pan the hearts of three human beings were roasting. After the Spaniards had conquered they tore off the gold, silver and jewels; they threw down the statue, and it was years later that it was brought forth as an archeological relic.

Mexico City Excavations

The Mexicans of today are thoroughly alive to the archeological possibilities of their own country; they are anxious to have it explored, and have given concessions to foreigners to do much of the work. Not a few have been given to Americans connected with the Smithsonian institution and our societies of archeology, and they have made great discoveries. The Mexicans themselves have done a great deal; their work began with a vicero who lived more than 100 years ago. He ordered that all the relics dug up in Mexico City should be sent to the university and from there they came to the National museum. Maximillian was also interested in such investigations and Diaz encouraged them.

There is no doubt but that a great many interesting things still lie under the Mexican capital. Every time a new sewer is dug or a great foundation excavated something new is discovered. I have before me a print made by Mr. Waite, the American photographer, of a great stone tiger which was unearthed a year or so ago, and he tells me that he frequently makes pictures of similar objects which come from the drainage and sewer excavations. The sacrificial stone was found buried near the southwest corner of the cathedral, and the Aztec calendar stone, which is also in the museum, was originally found under the earth in the great plaza. When it was taken up the archbishop of Mexico feared that it might be worshipped by the Indians, and he ordered that it be buried again; later on it was again excavated and cemented onto the base of one of the cathedral towers, where it remained until twenty-seven years ago, at which time it was removed to the museum.

How They Kept the Time

This calendar stone gives some idea of the advanced civilization possessed by the Aztecs. It was used as a sun dial and calendar, and the hieroglyphics upon it are supposed to represent the years, months and days. The archeologists disagree as to the exact meaning of some of the idographs, but certain figures are thought to correspond with the year A. D. 1479, and others show that the ancient Indians knew how to adjust their festivals by the movements of the heavenly bodies.

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Watch These Things

By R. E. Olds, Designer

The leading cars this year have these features in them. They are things you should insist on.

Left Drive

Practically all the great cars of 1913 have the left-side drive. That means, of course, that others must adopt it.

They don't have projecting side lamps. They use electric set-in dash lights, as used on Reo the Fifth.

They are not under-tired. Skimpy tires, which double one's tire bills, are now much out-of-date.

Better Parts

Then today's idea among leading makers is to build enduring cars. To cut down cost of upkeep.

The best cars now, for years and years, will run as well as new. But that isn't so with cars hurried and skimped—cars merely made to sell.

Note what it means to build a really honest car.

Reo the Fifth is built of steel made to formula—steel that we analyze twice.

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Each driving part, as a margin of safety, is 50 per cent overcapacity.

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A $75 magneto—a doubly-heated carburetor—tires 34x4.

Parts are ground over and over to get utter exactness. Engines are tested for 48 hours. Cars are built slowly and carefully. There are countless tests and inspections.

Every Reo the Fifth marks the best I know after 26 years of car building.

New Control

And it has the new control. All the gear shifting is done by a single rod between the two front seats. It is done by moving this rod only three inches in each of four directions.

There are no levers, side or center. Both brakes are operated by foot pedals. So both front doors are clear.

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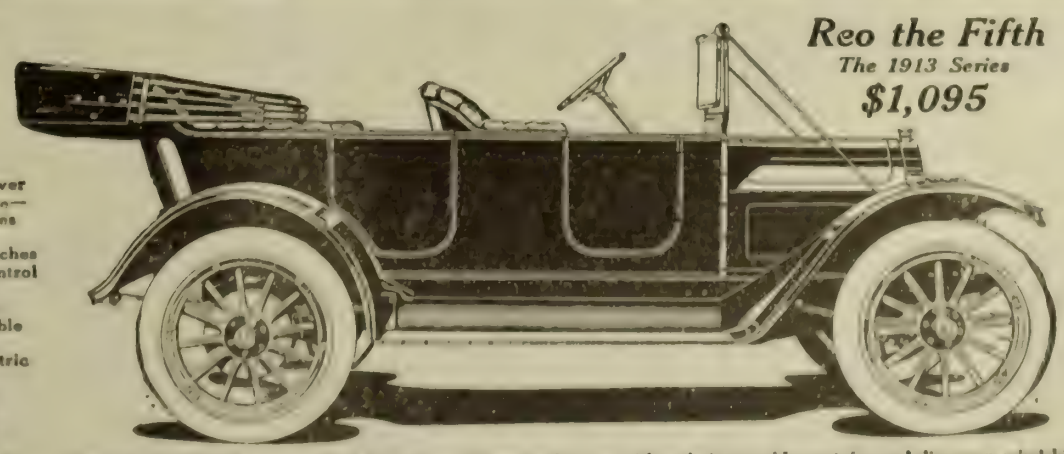

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Original Stories by Our Young People

In Apple-Tree Town

ee wise men lived in Apple-Tree Town,
wise each wore a big, big frown.
they couldn't tell whether
Ahem! Ahem!
apple seed points to the
Flower or stem.
sad but true
t none of them knew;
you? Do you? Do you?
—Carrie Shaw Rice.

The Editor's Corner

Iowa boys and girls have a wide ɔice of clubs in which to work this ing. For both boys and girls re is the potato club and the ıltry courses of the Iowa Boys' l Girls' club. In the Potato club h contestant will raise one-hth-acre of potatoes, the awards ng based upon the yield obtained m this amount, the profit on the estment, the exhibit of one peck hill-selected seed potatoes and the tory of how the crop was raised. The work in the poultry courses too lengthy to be outlined here, sisting of two and four-year rses.

The boys entering in the Acre rn club will raise one acre of corn m pure-bred seed, carefully se-ting and testing every ear of seed n. The awards will be based on acre yield, showing of profit on estment and work, exhibit of best ears of corn and the history of crop.

The girls are not left out in the n for club work; they may enter Garden and Canning club, to se one-tenth-acre, chiefly toma-s, with a few other vegetables. ıb members are required to can plus products. The awards will based on quality, quantity, vari-of canned products, profit on in-tment and written history of how tomato crop was raised.

Enrollment in any of these clubs ıy be made through the county perintendent, the teacher or other ıb leader, or directly with E. C. shop, state agent, Ames, Ia. En-llment blanks and enrollment rds will be furnished by the county perintendent in counties where the unty superintendent has a county ganization of the Garden and Can-ng club. In counties not organ-d application for supplies should made to the state agent.

Supplies furnished by the state d by the government are sent free. embers may compete for national d state prizes as well as for county d district prizes offered. Those rolling will receive full instruc-ons as to procedure.

(Prize Story.)

Our Pet

Earl Schoels, Aged 11, Cheyenne, Wyo. Original. Red.

We have a great pet, a brindle ılldog. His name is Taboo, and y sister and I think a great deal him. One day the dog catcher t our pet and put him in the ound. Taboo often remained away om home, so we thought nothing it. But when night came we be-n to be worried. We never were ithout him at night. This evening pper was ready and we could not e him around anywhere, so we sat own and talked about our pet and ondered where he could be. The ext day we visited the pound, and there we found Taboo. He was so glad to see us that he jumped all over us. We brought him home and bought a nice, new collar for him and put his license tag on it. Taboo seemed very pleased. For two days he would not leave the yard; he was ashamed of having been in jail. But now he doesn't mind and doesn't run when he sees the catcher go by in his wagon, but proudly displays his new tag. We are proud of our pet, and next year he will have a tag to show the dog catcher on his first visit.

(Honorable Mention.)

The Three Fishes

By Vernon Gray, Aged 11, Bristol, Wis. Original. Red.

One day Mr. Greene went to the store and purchased three small gold fish, of which he became very fond after a time. He put them in a small brook and they swam around in the cool, clear water. The brook in which Mr. Greene put the fish opened into a very large pond. Mr. Greene did not want the fish to go into the large pond, so he stood in the water where the brook flowed into the pond, slapping the water with a stick with all his might, so the fish would not swim into the pond.

"Now, I think they must understand me," said Mr. Greene, after hitting the water for about half an hour. After he had gone the three fish came together and shook their heads and wondered why Mr. Greene did not want them to go into the large pond.

"I'm not going to mind him," said the first fish.

"He is crazy," said the second.

But the third fish said he was going to stay in the brook. His brother laughed at him because he would not come with them. As soon as the two fish entered the large pond a fish sprang upon them and ate them up. Mr. Greene was sorry they did not mind him, and I guess the two fish were, too.

Mr. and Mrs. Duck

By Roma Simpson, Aged 10, May, Okl. Blue.

Mr. and Mrs. Duck went down to the creek to get a drink, but when they got there Mr. Duck said

"The water is not deep enough to swim, let us to to the river, but you will have to look out for Mr. Skunk."

So they went on to the river. When they got there Mr. Skunk was there; he whirled this way and that way after Mr. and Mrs. Duck; after while he caught Mrs. Duck and started to run away with her. Mr. Duck run along after them; after a while he got close enough that he could catch Mr. Skunk's tail. He reached out and bit it. Mr. Skunk whirled around, but he forgot to hang on to Mrs. Duck, and she got loose. Then Mr. and Mrs. Duck went back to the river and took their swim; then they hurried back to the old farm yard to tell of their journey.

A Horse and an Oak

By Francis Kirchner, Aged 11, Herndon, Kan. Red.

Once a horse was working in a cornfield, when he came to an oak tree; he was glad to get in some shade. He said to the tree:

"I am more useful to a man than you are. I can draw carriages for men and sow wheat."

The oak tree said that he could do more than that:

"I can be a big ship and a number of people can ride across the ocean on it. When they cut me down they can make nice houses out of me. I can now give shade to the people in the hot summer."

Additional Stories

BLUE: Bessie Willer, Crawford, Neb.; Earl Scarborough, Copper Hill, Ark.; Fern Tillotson, Cascade, S. D.; Nellie Van Drielen, Fallon, Nev.; Sadie Theis, Madera, Cal.; Eddie Moore, Pine Bluffs, Wyo.; Viola Nelson, Ida Grove, Ia.; Fannie Hoggard, Marshfield, Mo.; Carrie Landstedt, Guide Rock, Neb.; Vina Hatch, Bangs, Tex.; Mabel Chilson, Herndon, Kan.; Mollie Singer, Clovis, N. M.; Bethel Barrett, Winifred, Kan.

RED: Leal Talbot, Brainard, Neb.; Esther Barnes, Friend, Neb.; Avis Hunter, Aurora, Neb.; Luella Olson, Axtell, Neb.; Carrie Tallon, Ulysses, Neb.; Wallace Heintz, Flordreau, S. D.; Bonnie Smith, Laurel, Neb.; Grace Stephenson, Carlsbad, N. M.

Wasted Talent

Friend—You are wasting your time painting pictures, old chap.

Artist—But I sell my pictures.

Friend—That proves what I said. It shows that you could sell anything, so why not take up something there's big money in?—Boston Transcript.

Prize Contest Picture

This is a picture about which you are to write a four-line verse. Prize books will be given for the best two verses. Announcement of the prize winners will be made in the issue of May 31. All verses must be received at this office by May 17.

Address your verses to "Picture Contest Editor," Twentieth Century Farmer. Write them out clearly and be sure to put your name and address on the letter. It is also well to state your age, as the age of the contestant will be considered in awarding the prizes.

For the Telephone For the Gas Engine

Costs Less Than a Half Bushel of Corn

At a cost of a few pennies for each French Dry Battery—less than the price of half a bushel of corn—you can have a supply of electricity "on tap" always.

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French Dry Batteries will save you endless time, miles of steps and lots of money. The next time you fill up that dangerous kerosene lantern and "hike" for the barn in the dark, remember that French Dry Batteries in an electric flasher would supply the necessary light. Think of the advantage of having a telephone line from the house to the barn, or being able to open the front gate without leaving the porch and dozens of other conveniences. There's no dirt, delay and inefficiency with a French Dry Battery—the "juice" is there right on the job ready for instant use.

These marvelous batteries are scientifically constructed packages of electricity. They are *special* purpose batteries built for a *special* job. Thousands of auto owners insist on the French "Auto Special"—the dry-cell battery with the *blue* label. The *green* labeled French Telephone Cells are for all household uses.

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French Dry Batteries give a strong current for a *long* period. Ordinary batteries give a weak current for a *short* time and then quit altogether. French Dry Batteries *save time* for a *long time*. Your dealer will tell you the particular French Battery you need. If you want to know more about these wonderful French Dry Batteries and how they can help you do your farm work, send your name and address on a postal. We'll answer by return mail. Write tonight.

FRENCH BATTERY & CARBON CO.
5 Tenth Street, MADISON, WIS.

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brings into your home, you wouldn't be without one for a single day.

There is a Victor dealer right in your neighborhood who will gladly play your favorite music.

Write us today for catalogs of the Victor-Victrola ($15 to $200) and the Victor ($10 to $100). Easy terms can be arranged with the dealer if desired.

Victor Talking Machine Co.
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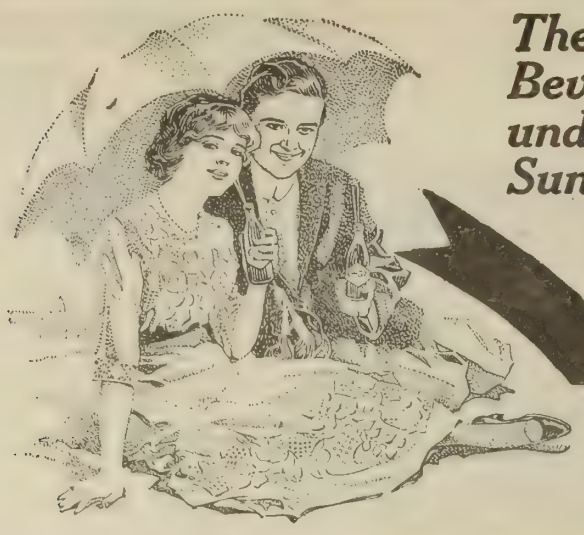

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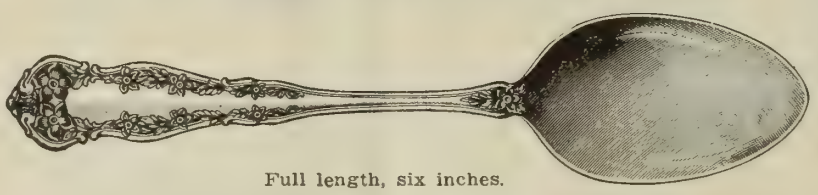

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A new edition (Spring and Summer, 1913, issue) of **EVERY WOMAN HER OWN DRESSMAKER,** illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

Pattern Department,
Twentieth Century Farmer,
Omaha, Neb.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

5906—Misses' and Small Women's Dress. This charming frock is designed for the miss and small woman and is one of the best styles of the season. It has the fashionable front closing and is made with revers at the bottom. Serge or linen can be used to make this dress, with the revers and turned-back cuffs trimmed with braid. The pattern 5906 is cut in sizes 14, 16 and 18 years. Medium size requires 6½ yards of 27-inch material.

3117—Boys' Shirt Blouse. This practical shirt blouse is made entirely plain, with back yoke and removable turn-down collar. It is a good, sensible style and one that can be easily laundered. Cambric, madras or linen can be used to make this blouse. The pattern 3117 is cut in sizes 4 to 16 years. Medium size requires 1¾ yards of 36-inch material.

5903—Ladies' Dress. The lines of this stylish frock are excellent, though the model is a simple one. It has the fashionable and convenient front closing and is made with a three-piece skirt. Serge or linen can be used to make this dress. The pattern 5903 is cut in sizes 32 to 42 inches bust measure. Medium size requires 4¾ yards of 36-inch material.

4593—Children's Rompers. Every small girl and boy needs a pair of rompers to play in, and here is an excellent pattern for making them. The garment is cut in one piece. Two tucks at the shoulders give the necessary fullness. Gingham or percale can be used to make this garment. The pattern 4593 is cut in sizes 1, 3 and 5 years. Medium size requires 1½ yards of 36-inch material.

5872—Ladies' Two-Piece Skirt. In this design we have a charming two-piece skirt which can be developed for separate wear or as part of a coat suit. The pattern 5872 is cut in sizes 22 to 30 inches waist measure. Medium size requires 3¾ yards of 36-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Pleased with Patterns

I received the patterns ordered from you and like them better than any patterns I ever used; they fit perfectly and are so easy to make. Am sending for two more. MRS. W. P. NEIFORT.

Nebraska.

Of Interest to Our Women Readers

Spring

I hear the wild geese honking
From out the misty night—
A sound of moving armies
On-sweeping in their might;
The river ice is drifting
Beneath their northward flight.

I hear the bluebird plaintive
From out the morning sky
Or see his wings a-twinkle
That with the azure vie;
No other bird more welcome,
No more prophetic cry.

I hear the sparrow's ditty
Anear my study door;
A simple song of gladness
That winter days are o'er;
My heart is singing with him,
I love him more and more.

I hear the starling fluting
His liquid "O-wa-lee";
I hear the downy drumming
His vernal reveille;
From out the maple orchard
The nuthatch calls to me.

O, spring is surely coming
Her courtiers fill the air;
Each morn are new arrivals,
Each night her ways prepare;
I scent her fragrant garments
Her foot is on the stair.

—John Burroughs.

Our Home Chat

It is early, but not too soon, to gin plans for the summer vaca-on. It is not to be taken at this sy season, of course, when house-eaning, chickens and garden are demanding extra attention, un-s the vacation consists of an oc-sional day off. Even in the bus-t season a day off, if possible to ure, is a good investment; a day's it an outing to the river, where hing is good, or even a quiet pic-in the woods, will work wonders way of refreshment and relaxa-n. The return to the regular nd of pressing work and duties ll be made with renewed energy d enthusiasm.

But when the rush season is over, d there is a time of waiting before e next harvest approaches, is the ne for a real vacation. This is ch easier managed if planned for in advance; and if something ould prevent it, you will at least ve had the fun of planning. Few vel enough, and fewer still travel th their eyes open and their minds rt to remember what they see. A ving trip, even, about the county, ing opportunity to notice meth-s of farming and ways of living, y prove of lasting benefit. The y of taking the vacation may dif-with every person, but every per-n who devotes herself to one work eds at some time during the year period of change and relaxation. e wife and mother in the farm me carries great responsibility and rk, and she owes it to herself and nily to take that rest which will ure her life and health and well ng.

THE EDITOR.

Gardening

Time is fast approaching when we ll gladly grasp our hoes and pre-re the ground and carefully plant e tiny seeds that mean so much to

One can raise a large supply of getables on a small surface if all rightly planned. A nice patch of rnips may be raised in the early tato patch, for as early potatoes e dug sooner than lots of the gar-n, the turnips may be left to ma-re. When radishes are pulled for neal a few seeds may be dropped o the holes where the radishes are ken out and in a short time new es will be ready to eat. The same with lettuce; seeds may be dropped to replace the plants that are taken out.

Vine cucumbers can be trained to climb the fence or poles and bear many cucumbers when there is not much room on the ground. Sweet corn can be raised and between rows beans planted, using the cornstalk for poles on which to climb. Tomatoes that are racked by driving three stakes in the ground and tying the vines with strings to the stakes take up less room and are not allowed to lie on the ground and rot. Keep the small tendrils or shoot trimmed and you will reap a larger crop of ripe tomatoes and will have fewer vines.

MRS. L. C. HEATH.

Iowa.

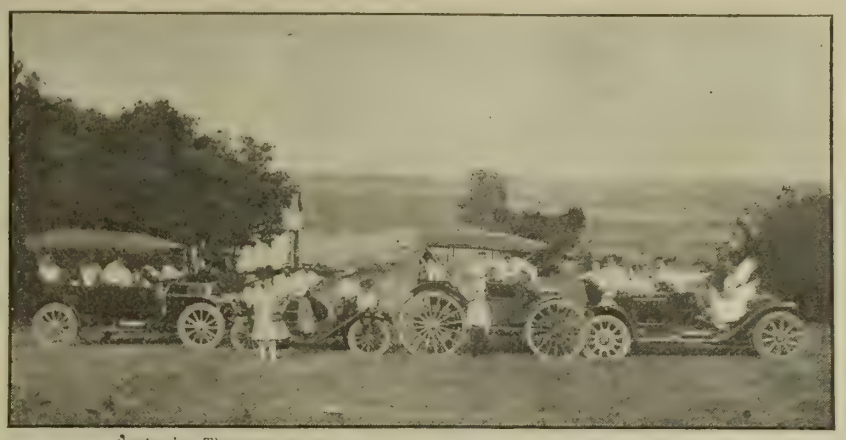


Photo by Thorvald Sorensen

How Nebraska Farmers Go Visiting on Sunday Afternoon

From left to right, the autos belong to Mrs. Dorothea Sorensen, Henry Henriksen, C. W. Jensen and N. C. Hansen. All are Danes engaged in farming in the Danish settlement around St. Ansgar's Danish Lutheran church, seven and one-half miles southwest of Lindsay, Neb.

Pay Bills By Checks

It is still common for farmers to buy groceries, hardware, lumber, etc., on credit, then make payments at their own convenience. Merchants are slow to send monthly statements of accounts to farmers, and some do not do so even at close of year. This credit problem does not favor business for dealer or creditor, and to borrow a sum for running accounts would prove beneficial to both.

Settlements should be made monthly, however, and checks, not cash, should be used, as the check is a receipt in lieu of no other. Misunderstandings in bills often occur. One lady told me this happened every month in her account. If checks be used as partial payments where both credit and cash accounts are in practice, the check as evidence may save the farmer money. Recently such a check saved us several dollars.

It is said that women find this check system inconvenient. It need not be so, for the merchant will fill the blanks and the woman need only place her husband's signature, then her own, and her check will be honored by the bank if she be in good standing with her husband

WILBUR KRISTENSON.

Hints on Churning

When cream has been brought to the churning stage the butter can easily be spoiled by using an improper way of churning. The old-fashioned dasher churn has made much good butter in the hands of experts, but the butter-fat is in the form of small globules and the dash breaks these, forming grease instead of butter. A revolving churn does not break the globules and, therefore, is to be preferred. Another thing to be observed is the rapidity with which cream is churned. Too much agitation is harmful. Churn gently. The butter should come in about thirty minutes. When the globules of butter reach the size of a grain of wheat, stop churning; let stand ten or fifteen minutes, then draw off as much buttermilk as possible without wasting the butter.

Next, pour in a small pailful of cold water, turn the churn a few times and pour off. Repeat the operation twice. In the third pailful of water dissolve a handful of salt and let stand over the butter for fifteen minutes. By thoroughly washing the butter certain elements are removed that cannot be well worked out. When the last pailful of water has been drawn off take the butter out into a bowl. As you take the butter from the churn sprinkle a little salt on each ladleful. In this way you can thoroughly mix the salt with the butter. Use nothing but the very best grade of salt. One-half-ounce of salt for each pound of butter is about the proper amount to use. Work the butter until the milk and water has been well removed, then set the butter in a cool place until it has become hardened sufficiently to mold into bricks.

You will now have a product that will command top prices in any market. If the local consumers do not take all of it, the remainder can be packed in tubs and shipped where it will meet with a ready sale. Comparatively little more labor is required than in the making of a poor grade. There is always a market for the best, while the poorer grades go begging for want of buyers. It is easy to be seen which kind is the most profitable.

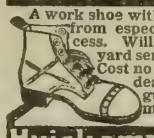
W. H. UNDERWOOD.

Easier

Elsie—After I wash my face I look in the mirror to see if it's clean. Don't you?

Bobby—Don't have to. I look at the towel.

A Non-Rotting Manure Proof Shoe for Farmers



A work shoe with style and perfect fit. Made well from especially tanned leather by special process. Will not rot or crack through from barnyard service. Nothing like it on the market. Cost no more than ordinary shoes. Ask your dealer for them. Each pair absolutely guaranteed by manufacturer to stand manure and barnyard acids.

Huiskamp's Barnyard Shoes Are Guaranteed Farm Shoes

Free Bottle Barnyard Shoe Oil.

If you have never worn Barnyard shoes write us for Free bottle Barnyard non-rotting preparation. Send your dealer's name. Try it on any shoe. It will convince you that Barnyard shoes are what you need.

HUISKAMP BROS. CO.
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ALFALFA GROWERS

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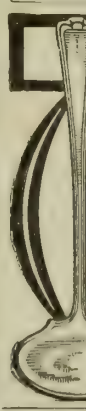
LININGER IMPLEMENT CO.,
OMAHA, NEB.

Beautiful Silver



The Cromwell pattern, illustrated here, is much admired by all who love beautiful silver. Ask for

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and you will get the heaviest grade of plate. Famous for over 65 years for its durability and beauty.

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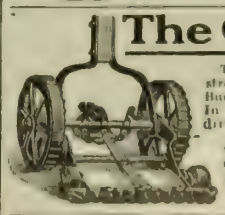

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If your dealers do not keep them, let us know and we will send circulars and prices.

Clipper Lawn Mower Co., Dixon, Illinois.

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placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over, will not soil or injure anything. Guaranteed effective. Sold by dealers or 6 sent prepaid for $1.

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Reid's Yellow Dent, St. Charles White Dent, Black Butcher and Cuzco Flint. Can be planted in May. Will mature in 90 days. Ripened on the Nebraska high prairie and seed tested. Write for my new free illustrated catalog.

FRANK J. RIST, - Humboldt, Neb.

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The De Laval satisfies, pleases and makes money for its more than a million and a half owners.

There are probably quite a number of your neighbors who are using cream separators and in most communities a majority of these machines are De Lavals.

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If the evidence of your neighbors who use and recommend the De Laval is not enough to convince you of De Laval superiority, have the local De Laval agent put one in on trial for you and try any other machine you want to alongside of the De Laval.

Let the De Laval start saving your cream right now, this spring. It will soon pay for itself.

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Improved Powers Boring and Drilling Machine

Bores 100 ft. in 10 hours. One man can run it; a team operates it and easily moves it over any road; Bores slate, coal, soapstone—everything except hard rock, and it drills that. No tower or staking—rotates its own drill.

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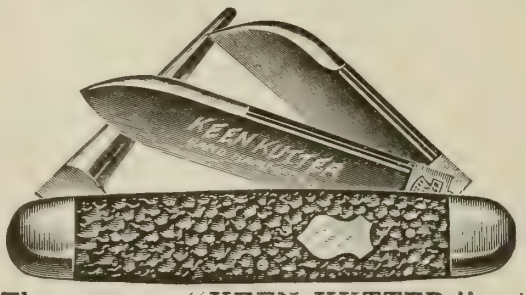
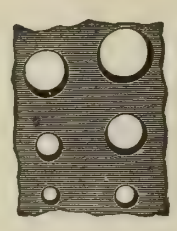
LISLE M'F'G. CO., - - Box 420 Clarinda, Iowa.

Do You Know the Value of a KEEN KUTTER Pocketknife?





The name, "KEEN KUTTER," stamped on every blade, is a positive guarantee of its unexcelled quality.

The regular selling price of this knife is $1.50. Ask any dealer; he will tell you the same.

This particular knife is designed for the special use of farmers, stockmen and sportsmen, on account of the Leather Belt Punch Blade for making various-sized holes in leather for buckles, rivets, belt lacing, etc.

WE WANT YOU TO HAVE ONE

Send us $1.50 for a year's subscription to THE TWENTIETH CENTURY FARMER and we will send you the KNIFE FREE.

The Twentieth Century Farmer, Omaha, Neb.

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

Methods of the Centralized Creameries

(CONTINUED FROM PAGE SEVEN)

as exemplifications of what strict adherence to business ethics and to the demands of good citizenship require. Until they, as a whole, abrogate this disreputable, this dishonorable, practice, they cannot command the respect of the public. It is up to them, and the public will hold them responsible.

Producer and Centralizer Involved

Fifth—Paying the same price for "rotten cream" that is paid for good cream involves other economic losses not based directly upon the quality of the cream. It costs more to manufacture "rotten cream" into butter than it does good cream. The "rotten cream" has to undergo a special process of neutralization and aeration in order to produce from it butter that can be marketed at any price. When all has been done that is possible to make this "rotten cream" sanitary and capable of producing a marketable product, the product that is finally produced is of low quality and commands a low price in the market. It will thus be seen that between the cow that produces the milk and the market that receives the butter there are serious economic losses, in which both producer and centralizer are involved, and which the centralizer may remedy by taking proper action.

Loss in Transportation

Sixth—There is a preventable loss through deterioriation in quality of cream that is caused by present methods of transportation over long distances during warm weather. This loss might be prevented in a large measure by shipping such cream only in refrigerator cars. One big railroad system that operates in this territory, on all of its main lines, and on some of its branch lines, uses refrigerator cars exclusively for the transportation of cream. The other railroads as yet have made no such provision. The milk supply of the large cities is uniformly shipped in refrigerator cars. There is no reason why cream might not be so shipped, and thus prevent this unnecessary loss through deterioriation in quality. The evolution of the butter-making business will ultimately bring about either the shipment of cream during warm weather exclusively in refrigerator cars, with plenty of ice to keep it at a low temperature, or the decentralization of the business in such a way as to provide manufacturing plants at such points as will render shipments over long distances unnecessary. It is the duty of the centralizer, in the interest of the cream producers, to take this matter in hand and prevent this loss.

Seventh—The same price is paid for cream on which transportation rates for long-distance shipments have to be paid by the creamery as is paid for cream that is subject to low transportation rates on account of short-distance shipment. This is inequitable, unjust, uneconomic. Cream that has to be shipped 500 miles to the creamery is not worth as much at the cream receiving station as cream that has to be shipped only twenty miles. Either too much is paid in one case or too little in the other. It is inequitable that the cream producer should not profit by his location. It is uneconomic to pay as much for a product to which is attached a large expense for transportation as is paid for a product that carries only a small expense for transportation.

Use of the By-Product

Eighth — Another economic loss arises from the fact that most of the creameries fail to make any adequate economic use of their by-product. Buttermilk is the by-product of the creamery. Most of the creameries sell all they can of it at 50 cents a barrel. It is worth much more than this for feed, and much more may be gotten out of it. Most of the centralized creameries sell in this way all they can, and the balance of it goes into the sewer, a distinct, easily computable waste and loss. An economically conducted business prevents all unnecessary waste.

Different Prices at Different Places

It is generally supposed that the centralizers pay the same price for cream at all of their receiving stations. When the difference in cost of transportation is taken into account, it is generally supposed that the anti-discrimination laws in the several states force them to do this. Unfortunately, this supposition is not well founded. The anti-discrimination laws usually have a joker in them that makes a hole in the law so big that the centralizers can walk abreast through this hole without touching the edges. These laws generally provide that any purchaser may meet competition. This provision lets down the bars. In Nebraska the anti-discrimination law has recently been amended so that the burden of proof is on the centralizer to show that he has not violated the law. This, however, makes very little practical difference. The centralizers pay different prices at various stations, accordingly as the exigencies of the cream situation in the different localities demand. Where competition is very keen, comparatively high prices are paid, and where there is not very much competition, comparatively very low prices are paid. They seem to act on the principle of paying a high price where they must pay it in order to get the cream, and at other localities they pay no more than they are obliged to pay in order to get it. This practice is unbusinesslike, uneconomic, and in the end will defeat itself.

All these breaches of economic law are in a measure forced upon the centralizers by the condition in which they find themselves. It is the result of having too many centralized creameries for the amount of cream produced. In every instance, however, unfortunately, the loss that arises from these breaches of economic law must and do come out of the income of the cream producers. Sooner or later, the cream producer is bound to learn these facts, and when he learns them he will take all measures possible in order to protect his own interests. The centralizers, if they are wise, if they are working for the permanency of their business, will forestall him in this matter.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Just Starting in Cattle

. M. B., Nebraska: I am start- in the cattle raising business, eving it to be a profitable indus- at present prices of beef and k cattle. I want to start with ut a dozen cows and increase my l from these. What would you ommend in breed of cows and in hod of raising the calves, let n run with the mothers or feed n by hand? I have not much ey to invest; have 160 acres of d land to devote to pasture and ing of crops for feed.

nswer—In the first place, your of starting in the cattle busi- s at this time is a good one. Cat- are going to be higher and con- e high for many years. The first irement is to get young cows, of good quality as possible and as rly one breed as possible. Then a pure-bred bull of the breed intend to follow. The idea is to d uniformity, get a bunch of es as nearly of one type and ap- rance as can be. The breeding of cattle is implied in this discus- , then a beef breed is the one idered.

he grading up to a high stand- of milk producers is one of the ortant features in this enterprise. recommendation is one of milk- these cows, separating the cream selling it and feeding the calves he skim milk. This, of course, emplates some labor; in fact, e a bit of labor. But the cream orth a lot of money, and will g in a fine profit for the labor loyed.

here is another feature intro- d here, and that is the feeding raising of the calves. This may nade a profit or a loss, just as direct the care and feeding of calf. If the calves are put onto milk, fed to them cold or sour both, you will have starved, ted, sickly calves that will re- in a loss to the enterprise. You no doubt heard of skim-milk s — pot-bellied, sickly little gs that would not grow and ed to get smaller the older they The calf is not to fault for this; the ignorance of the calf feeder lf raiser.

soon as the milk of the cow is o use, wean the calf and start skim milk by giving it two ts three times a day, with a tea- full of oilmeal mush or jelly d to each feed. This is made irring into a half gallon of boil- water a teacup full of oilmeal. n this has cooked for a few min- set it to one side to cool. This ed oilmeal jelly can be used by ing not to exceed a cupful into kim milk allowance for the calf. replaces the butter-fat taken the whole milk by the sep- or and sold as cream. The skim should always be warmed a lit- before given to the calf. A very way is to add a pint of boiling r to the feed. Never let the intended for the calf get sour efore the importance of feeding the sepatator milk the same day it is drawn from the cow.

Special attention must be given to the sanitation of the pails the calf is fed from. The pail should be scalded out once a day at least to keep it from getting sour and causing indigestion and scours. The skim-milk calf should also have access to a trough, where some corn-meal is kept for the special purpose of attracting attention of the calf. It will soon get started to eating a little, and by this and good pasture advantages the calf need not fall below the calf that is fully raised on its mother, and you have the separator cream for the expense of milking the cows.

There is good money in your dozen-cow proposition. The choice heifer calves may be saved out each year and added to the herd; thus a full-capacity milking herd can be produced, and a fine lot of steers also developed each year into beef.

Homesteading in South Dakota

J. E. S., Oelrichs, S. D.: I am sending you a small photo of my family and myself in our alfalfa field, just as we were putting the mower into it for the first time.

We are in the Horsehead valley, near Oelrichs, Fall River county, South Dakota. We used to think farming in this part of the world could not be very profitable, and devoted our time and energy to cattle raising on the open range of Uncle Sam's acres. But the influx of homesteaders changed our mode of earning a livelihood. We turned our attention to the cultivation of the soil. The ground on which this alfalfa is growing had never produced a crop (except prairie dogs). In 1911 we broke the sod, backset it and seeded it to alfalfa. In 1912 we harvested about four tons per acre, in three cuttings. On this same farm we had a field of corn which yielded about thirty bushels per acre. The average would have been larger had not the early frost caught one variety before it was ripe. We had no photos taken of the cornfield, but will have some taken of the ears of corn if it would interest your readers.

Alfalfa Field at Oelrichs, S. D.

We notice the chart of corn-growing territory which appeared in your columns a few weeks ago does not embrace this country. That is because you have not found us out yet.

Comment—This is doing pretty well, and makes a fine showing for a region that some people still assert is good for nothing except cattle. Western Nebraska and South Dakota are coming into their own, as the picture shown herewith amply proves.

Secretary Coburn has just issued his first report on the Kansas wheat crop for the current year. The total acreage of wheat in Kansas for the present year is 7,636,282 acres. The failures constitute only 6.27 per cent; the condition of the remainder of the crop on April 19 was 86.98 per cent. Since these data were gathered Kansas has had a soaking rain, and this seems to insure the greatest wheat crop in the history of the state.

The Biggest Thing in the Clock Business

Big Ben is the biggest thing today in the alarm clock business.

He is only two years and a half old, but he's already getting more work from the States than any clock alive.

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Big Ben stands seven inches tall. He is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings *five minutes steadily or ten intermittently*. If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is $2.50 anywhere in the States, $3.00 anywhere in Canada. If you can't find him at your jeweler's, a money order mailed to *Westclox, La Salle, Illinois*, will send him anywhere you say, express charges prepaid.

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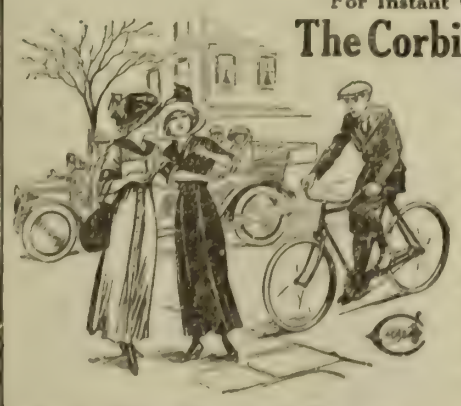

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Markings of Rhode Island Reds What to Do with the Cockerels

IN ANSWER to queries by Mrs. A. G. K., Stratton, Colo., will say the markings of the standard Rose-Comb Rhode Island Red is: Color, neck of male, bright red, top of neck a brilliant red; hen, neck red, with a dark ticking on ends of hackle feathers; back for both sexes, bright red; wing bows, red; primaries, upper web, red; lower web, black, with an edging of red; primary coverts, black; secondaries of wings, lower web, red, the remainder of these wing feathers black, but when wings are folded the top must show a harmonious red; breast for both, a rich red; tail for the hen, black, except two top feathers, which may be red; tail for male, a greenish black, shading to red as they approach the saddle feathers; shanks and toes, a rich yellow, although a line of red may run down the sides of the leg to the toes; red eyes; very red comb and wattles. I could not describe the shape so that you would understand. You study this from prize specimens in the show ring, or by good drawings of the breed. Standard weight is eight and one-half pounds for cock, seven and one-half for cockerel, six and one-half for hen, five for pullet.

The pure-bred may show up a light salmon color, or with ear lobes half white, or with white feathers here and there or in the tail, but these, though pure-bred, will not qualify as breeders or prize winners.

Little chicks are usually marked when a few days old. Once in a while the holes punched in the web will grow up, but not if you have made a plain, round hole and taken away that much of the web. Punch again if you notice the hole has closed, but it isn't likely to.

It is all right to let the rooster run with the mixed hens also, if you know the eggs laid by the thoroughbreds. The eggs of these six hens must be all right if the rooster himself is a thoroughbred of their own kind.

The Young Cockerels

At a recent poultry conference in the department of a certain world-known agricultural college the young cockerel question came up for discussion. What to do with these, and do it in most profitable manner, was the leading query. The estimate of cockerels in any extensive flock was based on the ruling that to raise a flock of 500 pullets there must be at least 1,000 birds bred. The farmer usually clumps up these cockerels that represent the other half and throws them upon the market, and usually at a time when the market is glutted with birds. Therefore, it is a low price he gets, and these birds scarcely pay expense for their raising up to a saleable age, and their sisters are expected to make up this loss by extra egg production.

How to make these cockerels pay for their keep and bring a surplus over was discussed from all sides. To do this the raising of the small breeds had somehow gone into disrepute in many places, because the cockerels of the majority of the great egg breeds are too small to bring much even at the good prices of the earliest market. This question alone had caused the farmers in most cases to demand a general utility fowl that not only carried size and weight, but good laying power. In these breeds the cockerels, being of good size, bring greater profit if sold under or up to a five-pound weight.

Keeping these cockerels, the best of them, and disposing of them as breeders at, for the majority, a dollar apiece, was one point brought forward. Special markets was another, but special markets are not for all farmers. Caponizing found ready acceptance as nearest hitting a good margin of profit over the keep of cockerels, although this would hold good only with the larger breeds. It is useless to expect any profit in caponizing a Hamburg, Leghorn or the small breeds, and even some of the medium-sized breeds will not produce a paying capon unless the question of feed cuts no figure.

The conference finally agreed that if you did not caponize the cockerels, then getting them off your hands at the earliest markets was next best mode of profit, and for those hatched later in the summer selling them off at their earliest market weight was a good plan. If they are not to be caponized or advertised for breeders, then sell them by the time they reach from one and a half to two pounds apiece.

IDA M. SHEPLER.

Some Cornell Poultry Findings

If it were not that such men as Prof. Rice, head of the poultry department at Cornell, both in the past and present, had devoted years to practical poultry investigation, the majority of poultry keepers would still be keeping poultry in the same old careless way, with no respect whatever for the busy, paying little hen, many of which lay over twenty-five times their weight in eggs if kept into their third year. Here are some of the last year's summing up of Cornell findings:

"That a hen, as a rule, lays largest number of eggs in her first year, slightly lower than this in her second year and decidedly a smaller number in her third year than in her second. This is trap nest showings covering a number of years.

"But this is not always the case, for it was shown that some hens did poorly in the first and second years of their life to make a large and splendid record in the third year, then nearly quit off laying. Or, there were cases where they laid their highest number of eggs in the second year. Again, a hen which lays very heavily the first year is more than likely to slow down in her second year's laying, then outdo the first year's record in her third year's record.

"If a hen lays eggs in large numbers through three years, she undoubtedly holds great vitality and bodily power, and it is from these hens strong and enduring laying flocks can best be built up.

"Hens that are low producers lay eggs when they are cheapest, an conditions most favorable. Grea producers, however, lay most unde unfavorable weather, and when egg are highest.

"Hens that lay heavily the firs year can be profitably carried ove for three years. A hen's tempera ture changes with the weather. Cap sules containing certain colorin matter fed to laying hens color th yelk of the egg shortly after enter ing the body. Hens that were neve broody laid on an average 105 egg more than the broody hens. The pe cent of vitality between incubator hatched and hen-hatched chick showed too little difference t notice."

Chicks That Count

It is only live chicks that count—that is, the chicks you can keep alive. Why not save some of the money you get for eggs and the sale of chickens and provide yourself with a couple of lamp-heated hovers? If you are bound to stay in the chicken business, then get some tools of your trade. What you get this year is tools for many another year. Haven't you heard chicks cheeping in many a farm house this spring, setting you crazy with their cheeps? Haven't you known poultry-keeping women to keep up a hen and her brood of chicks in a box in the house until the spring warmth set in? How much better to not make yourself so much bother when there are galvanized iron hovers with lamps attached, or made to set in them, that you can safely set out in boxes, and by their aid give your chicks room and heat both. Brooder hover and lamp that you can pick up and sit around anywhere, and not be pestered with cheeping chicks and hens in a box in the house. Look up the advertisements and pick you out a couple, and know the comfort of having your early, or even later, chicks cheaply provided with a better heat than an old hen can give them. You will have more early live chicks to count when fall comes.

Chick for Experiment Work

As the chicken comes quickly into life and maturity, it proves a favored animal for experiment work. All of its habits are closely noticed and compared by those of biological turn of mind. Trap nests and close consideration have shown that nearly all hens have a certain time in the hour to lay, not all laying at the same hour by any means. "Why is this?" was asked, and some poultry scientists set out to know why. A well known poultry breeder of England—a woman—now declares that she has found a reason by keeping tag of many hens from cradle to grave. She says that a hen lays an egg exactly almost to the minute she first stepped from the shell. If that was in the morning, she lays in the morning; or, if at night, very early in the morning. If in the afternoon, then, that is her time. Well, what difference, just so she lays?

The Fuzzy One

"Who can describe a caterpillar?" asked the teacher.

"I can, teacher," shouted Tommy.

"Well, Tommy, what is it?"

"An upholstered worm."—Ladies' Home Journal.

Review of Live Stock Market

By A. C. Davenport

THE bulls in the hog trade who took to the woods a week ago, as mentioned in these columns at the time, are still in hiding. Now and then it is possible to nd a kind of half-hearted bull who will nture the opinion that "possibly they e not going to get hogs down as they ought they would," but that is about e most bullish talk that one can hear the market at the present time. The eling generally prevails that packers ill continue their bear tactics and that ices will be forced to a somewhat wer basis than now prevails. This feelg is based on the assumption that there e a good many hogs in the country to me during May and June, and on the rther assumption that the shipping deand will not be sufficiently large to event packers from carrying out their signs against the market.

Bears Still in Control

Up until the last week or ten days the lls have had everything pretty much eir own way. Since the beginning of e year hogs have steadily risen in lue. During the month of January the erage selling price of hogs on the basis the Omaha market was $7.10@7.35, or average of $7.45 for the whole month the basis of Chicago. In February e markets steadily advanced, going to 00 and beyond, the average of all sales Chicago that month being $8.15. In rch the hogs sold on the basis of naha at an average of $8.20 to $8.90, and April a still further advance was ored, the average on all grades at Chigo being $9.05, with other markets in e same proportion.

t will be seen from these figures that, noted, it has been a bull year up until last week in April, when the buyers gan raiding the market. How long the esent bear movement will continue no , as a matter of course, can say, but bears themselves have great hopes of lding prices down, and even putting en considerably lower than at present ring May and June, when liberal repts are to be expected. At the same e the position of the market is in ny ways statistically strong; for exple, the five big markets of the coun show a decrease for the four months the year of over 1,00,000 head, as comred with the corresponding period of year. Taking the eleven largest marts, there is a falling off this year of r 2,000,000 head, as compared with last r. On the other hand, comparing the r months of this year with the corrending period of 1911, we have a gain slightly over a half million head in receipts this year, and continuing the nparison back to 1910, we find that this r's receipts show a gain of a little r a million and a half head. In this nection it will be of interest to note t at the close of April hogs were sell- 5@75c higher than they were at the ne time in 1912, and around $2.50 per ndred higher than in 1911, but 80@85c er than at the close of April, 1910. At beginning of April, 1910, hogs on the ds of Omaha were selling above $10.50. hese figures are of the very greatest erest at the present time, but after do not throw very much light on the mediate future of the hog market, for reason that it looks very much as packers had made up their minds to prices down and the only thing that uds in their way is the shipping dend. Should this prove to be moderat packers will unquestionably be able have things very much their own y, provided, of course, receipts prove to anything like as large as anticipated. the other hand, a good shipping dend would be a great support to the rket and is the only thing feared by bears.

Cattle Receipts Are Liberal

attle receipts during the early part of week just closed were very liberal most all market points and the bers k advantage of it to gain substantial cessions from the high prices previly prevailing. Later on in the week, receipts became lighter, much of the decline, and at some points all of it, was recovered, leaving the market about where it was at the close of the previous week.

The bulls are still very much in evidence in the cattle trade. There has been a fear among a good many that the country was becoming over-anxious to sell and hence might overload the markets, the same as was the case just before the holidays, producing a sharp break in prices. Still, almost without exception, operators on the market are firmly convinced that there are none too many cattle on feed to supply the trade and that good strong prices ought to prevail throughout the balance of the corn-fed season. Undue haste on the part of shippers may bring about sharp breaks, but no one expects breaks of that kind to continue for any great length of time under conditions now prevailing.

The year to date has witnessed a bull market Prices at the beginning of January were the lowest that they have been any time thus far this year, the relatively low price at that time having been due to the severe slump occasioned by excessive shipments just previous to the holidays. Since the beginning of the year prices have strengthened up, the average for March and April having been considerably higher than for January and February.

April Sheep Prices Higher

The sheep market has not been a very good actor during the last few days. It is generally conceded that supplies are pretty well shipped out of the country, but as always happens about this season of the year a large percentage of the available fat stock is being held in the big feeding barns outside of Chicago, where it is in plain sight of buyers and where it exerts a constant bear influence. The market, however, taking the year to date as a whole, has been very good and as a rule satisfactory to the selling interests. It has been at least satisfactory to the extent that feeders have generally made a fair margin of profit on their season's operations. Prices during April on both sheep and lambs averaged from 40c to 60c higher than during the month of April, 1912.

Prices on both sheep and lambs are so high that no one is predicting further advances for the near future, although, as a matter of course, everyone realizes that near the close of the season there always is a possibility of the market making a spurt.

Breeders' Notes

Krueger's Durocs.

While in the vicinity of Beemer, Neb., last week, we called on Gus Krueger of that place and spent a very enjoyable few hours in looking over his herd of Duroc-Jerseys. Mr. Krueger has one of the good herds of northern Nebraska and his lineup for this year at the present time looks mighty good. He has fifty-two head of spring pigs coming along in good shape and ninety head of fall pigs that are especially good. Spring pigs are sired by Prince Muncie Colonel, A. Professor, Critic B., Belle's Crimson Wonder, B. & L.'s Wonder, Fancy Wonder and B. L.'s Model, by Golden Model 4th. Fall pigs are practically all by Prince Muncie Colonel and were farrowed from September 1 to November 1. Mr. Krueger will show at the state fair this year, if all goes well, and should have an especially strong lineup, especially in the junior, senior and aged sow classes. Keep his herd in mind and watch these columns for further particulars.

Moderow Has 150 Spring Pigs.

Our old friend William Moderow of Beemer, Neb., has 150 head of spring pigs at this time, and we believe that they are the best bunch we have seen on the farm at any one time for several years. Mr. Moderow has been one of the strong boosters for the red hog breeders in the west during the last few years. In fact, he has probably done as much as any other one man to help make Nebraska history in the west. He has always been a firm believer in the idea that the best is none too good and when he felt in need of something to add to his herd to the line of breeding stock he has established got and secured the best at any price always to be a secondary consideration. In all probability a greater variety of popular blood lines can be found in this herd than in any other herd in the country. Forty-five head of his spring pigs are sired by B. & G.'s Wonder, the reserve champion boar at the Nebraska state fair this year and an undeniably strong contestant for first honors this fall if everything goes well. This boar is proving a remarkably strong breeder and his get will certainly meet with favor. About forty head are sired by Chief Select 2d and Blue Ribbon Model, two boars that stand right up close to the front rank both as breeders and from the standpoint of individuality. Besides these, he also has litters sired by Critic B., Queen's Wonder, R. L.'s Model, Melina's Wonder, Long Gano, Proud Colonel, Valley King and others. He also has seventy head of fall pigs sired mostly by Blue Ribbon Model. Mr. Moderow will have something to say through these columns at a later date. If you are anticipating wanting anything in his line, write him, mentioning this paper.

Wallace's Durocs.

While at Wisner last week we found Clarence Wallace of that place with sixty spring pigs on hand, and also thirty-five head of specially growthy fall gilts. Mr. Wallace has the reputation of producing some of the biggest, smoothest, growthiest, heavy-boned Durocs in Nebraska. He has been a most discriminating buyer of the very best breeding stock and has been a consistent winner of the Nebraska state fair for a number of years, in competition with the very best herds in the country. If all goes well, he will be found in line as usual during the coming season. In this connection, we want to say that Mr. Wallace is offering for sale one of his herd boars, Sensation Wonder 2d. This boar is a big, smooth, strong-backed fellow, wtih a well sprung rib, exceptionally straight on his legs and feet and has a fine masculine head. He is proving himself to be a remarkable strong breeder and would not be for sale were it not for the fact that Mr. Wallace is using his full brother in the herd. Sensation Wonder 2d weighed 730 pounds at fair time last fall. He is by Wallace's Wonder and out of the great brood sow Sensation Girl, by Chief Sensation. Mr. Wallace is pricing this boar worth the money and we hope that some good breeder will pick him up for a herd boar, as we believe he is good enough to go into any herd. Write him for further particulars, mentioning this paper.

Ninty-five Little Red Fellows.

Robert Leisy, the well known young breeder of Duroc-Jersey hogs at Wisner, Neb., has ninety-five head of pigs of March and April farrow that constitute about as good a bunch as we have seen so far this season. They are in splendid condition and are coming along in fine shape. They are sired by Sioux King, Golden Model 15th, Echo's Crimson Wonder, B. & L.'s Wonder, Critic B., Model Boy, R. L.'s Model, and others. Mr. Leisy had one of the very best bunches sold last winter, and from the present outlook, he will have a mighty good lineup for the coming season. On account of not being able to use him further, he is offering for sale one of his herd boars, Model Boy. This hog was a winner of fourth at the Nebraska State fair last year and is an all-around good individual, with well sprung ribs, good strong arched back, extra good bone, and right up on his feet, and with a good head and ear. Mr. Leisy has plenty of his get to show and there can be no doubt about his being a first-class breeder. Here is a chance for some man to get in and get a first-class herd boar well worth the money. Write him for further particulars, mentioning this paper.

Duroc Jersey Fall Males.

We desire to call your attention in this issue to the advertisement of Henry Stuthman of Pilger, Neb., who is offering for sale some very choice Duroc-Jersey fall males. We called on Mr. Stuthman a few days ago and personally inspected his herd. He has quite a number of these males, and among them are several that are good enough to go into any pure-bred herd. They are not in high flesh, but are in just good, fair breeding condition. They are sired mostly by Melina's Wonder, a few being by Valley Forge, champion boar of Iowa and Nebraska. Mr. Stuthman is certainly pricing these males worth the money. If you are in need of anything in this line, write him for further particulars, mentioning this paper. He has about 125 spring pigs at this time sired by Melina's Wonder, Colonel Tipping, Crimson Wonder, Select Chief Select 2d, Invincible Chief, B. & G.'s Wonder and others. It will be remembered that it was Mr. Stuthman who topped the sale of William Moderow last winter on the great brood sow, Sweet Pose 2d, considered by many competent judges to be one of the very best sows sold at public auction in recent years. She was bred to B. & G.'s Wonder, reserve champion boar of the Nebraska State fair last year, and has a litter of eight extra good pigs at this time, consisting of six males and three gilts. Just keep your eye on this litter for future references.

Kane Has the Goods.

J. J. Kane of Wisner, Neb. can show about ninety head of little Durocs that are just about as good as can be found anywhere. They are in a fleshy thrifty condition, and in point of individuality and popularity of blood lines they are second to none. They are sired by Invincible Chief, Chief Invincible, Wonder Model, B. & G.'s Wonder, Chief Select 2d, Golden Model 15th, Wonder's Chief, Dale and Golden Wonder Orion. One of the choicest litters is by Chief Invincible and out of the dam, Van Patton's Maid, by Echo Top King. Another specially good litter is by Chief Select, out of the dam, Model B., by Colonel Tipy. Mr. Kane never makes very much noise about what he has in his herd, but you can just about figure that any time you drop around you will find something there of especial interest. He has a number of litters at this time that we believe are the equal, if not the superior, of any we have seen so far this season. We could not help but notice the character of the pigs sired by the young herd boar, Chief Invincible. They have remarkable stretch, lots of style, good heads and ears and extraordinary heavy boned. If we are not mistaken, Mr. Kane will have something mighty good to offer, sired by this boar, this fall. Keep his herd in mind and watch these columns for further announcement.

Herman Toelle's Durocs.

One hundred and thirty head is the quota of spring pigs we found in the herd of Herman Toelle at West Point, Neb., last week. Mr. Toelle has one of the best arranged hog breednig plants to be found anywhere in Nebraska. He has recently added to his equipment sixteen individual houses, 7x7, and each one occupying a lot with possibly a quarter of an acre of ground. We found every one of these filled with a sow and her lifter, and we want to say that we believe it is one of the finest arrangements that we have seen in many a day. We hope to give a reproduction of this in an illustration in a later issue. Mr. Toelle has won considerable attention in the last few years through the character of the breeding stock he has been purchasing to place in his herd. He is part owner with William Moderow of Beemer of the two great hogs B. & G.'s Wonder and Chief Select II, both being considered two of the best young boars out last season. Mr. Toelle has a number of mighty good pigs sired by each of these boars. He also has others sired by Fancy Wonder, Invincible Chief, Colonel Tippy Again, Prince Critic, Blue Ribbon Model and others. He has a line-up of fall sows that he is holding aver for next winter sales that are about as good as we have seen in any one herd, number considered. Among these are a couple of gilts sired by Blue Ribbon Model that we believe will give a mighty good account of themselves this fall. Mr. Toelle will probably be at the fairs with a line-up of good stuff and he, in conjunction with Mr. Moderow, will probable bring out B. & G.'s Wonder, reserve champion of Nebraska last year. Keep his herd in mind for future reference.

SAVE-THE-HORSE
(Trade Mark Registered.)

THE TIME IS NOW

All the winter long, the troubled owner of a lame horse reads our advertisements. Then, day after day slips away, while he talks, laments, listens, takes advice and hesitating —FAILS TO ACT—till the Springtime is on him and his horse is not yet able to work. Meantime the thrifty, prosperous, resolute man, reads, considers the evidence carefully —Decides Promptly— and his horse is put to work while being cured. That's exactly what happens every year.

We Originated the treatment of horses by mail—Under Signed Contract to Return Money if Remedy Fails—and every minute of every day for seventeen years our advice and treatments have been on the way wherever mails go and horses are. Our charges are moderate. Write.

Our Latest Save-The-Horse BOOK is a Mind Settler—Tells How to Test for Spavin—What to Do for a Lame Horse—Covers 58 Forms of Lameness—Illustrated. Just write describing your case and we will send our—BOOK—Sample Contract and Advice—ALL FREE—to (Horse Owners and Managers—Only.)

TROY CHEMICAL CO 10 Commerce Ave., Binghamton, N. Y.

Druggists everywhere sell Save-the-Horse WITH CONTRACT or sent by us Express Prepaid.

$1.00—UNTIL JUNE 1st—$1.00

We will send postpaid anywhere in the U. S. A.

The Novelty Farm Account Book,

a complete [illegible] of receipts, [illegible] and expenses, [illegible] Record [illegible] Inventory [illegible] Profit and Loss [illegible]

THE NOVELTY SUPPLY COMPANY
Holyoke, Mass.

DUROC FALL BOARS

I have a number of extra good fall boars for sale sired by Melina's Wonder, model [illegible] Valley Forge champion [illegible] and [illegible] I have [illegible] for sale. [illegible]

HENRY STUTHMAN, Pilger, Neb.

The above illustration shows the George N. Davis farm, thirty miles north of Princeton, California, in the Sacramento Valley, and his seven acres of peaches, planted in 1910. In 1912 his peach crop paid him better than $300 per acre. No fertilizer was used. His nine acres of alfalfa yielded 108 tons, or twelve tons per acre—six cuttings of two tons each. Who can say that such crops do not pay?

Land Mortgage Credit System

(CONTINUED FROM PAGE FIVE.)

were usually limited to one-half the value.

In establishing such a system it would be necessary for the state to appropriate sufficient funds to establish the system and to provide a reserve fund to guarantee bonds in addition to the mortgages held by the association, this initial appropriation to be paid back from the earnings of the association within a reasonable length of time.

Such a plan would not involve the objection of government loans or subsidy; it would simply mean that the state furnished the machinery for converting farm mortgages into negotiable securities that would be accepted by the banks or capitalists on the same basis as they now accept state and municipal and government bonds; it would furnish an impartial institution operated in the interest of the borrower as much as the lender; it would give an opportunity for supply and demand to fix interest rates and the farmers of America to have a land credit system second to none in the world.

Nebraska Apple Crop

In Nebraska there are at the present time about 2,700,000 bearing apple trees. In 1912 these produced more than 7,000,000 bushels of apples, about six bushels apiece for each man, woman and child in the state. This is more than enough for home consumption, yet we find apples from Colorado and the Pacific northwest retailing in our Nebraska stores at higher prices than the major part of our own apples will bring.

The reason is simple. In the Pacific northwest men make a business of raising apples; in Nebraska we let the apples grow. If they win in the fight against the apple scab and coddling moth, we harvest the crop; if not, we say that apples are not much of a crop here, and either do without or buy fruit from sprayed trees.

Apples from Nebraska orchards which have been sprayed and cared for have often competed with apples from other states and won. It is simply a matter of care and not of luck.

Nebraska bulletin No. 119 discusses the results obtained by spraying Nebraska orchards, and gives complete directions for the preparation and use of spray materials. It may be obtained free by addressing Nebraska Experiment Station, Lincoln.

Live Stock Notes

We desire to call attention in this issue to the advertisement of Edgewood Farm, Whitewater, Wis. They are advertising Holstein heifers and bulls for sale at prices that certainly ought to appeal to anyone wanting something in this line. These heifers and bulls are from seven-eighths to thirty-one thirty-seconds pure, are from 3 to 4 weeks old and will be crated and placed on board cars at $20 each. Mr. Orrie Coburn, the proprietor of Edgewood Farm, in writing us, says: "I am getting from eight to ten exceptionally fine calves each week, all bred up from registered sires and matured dams, and are from the best producers for the past eighteen to twenty years. They are perfectly marked and just the right age to ship nicely at little expense. Many farmers would like to start in this dairy breed, but as cows and heifers sell so high they feel that they cannot afford to get a carload on account of the large expense of shipping only a few at car rates.' Mr. Coburn's suggestions along this line are very good, and we trust that any of our readers who are looking for something of this kind will make it a point to write him for further particulars, mentioning The Twentieth Century Farmer.

Our old friend Jeff Current, Hildreth, Neb., reports fifty spring pigs sired by Crimson Wonder 112723 and Current's Colonel 119217. They are out of dams carrying the blood lines of Golden Model II, Advancer, Watt's Model, Golden Model, Ohio Chief, H. A.'s Choice Goods and others. Mr. Current breeds a useful type of hogs and is one of the best caretakers in the business and will no doubt be very much in evidence about state fair time. If you are going to be in the market for a herd boar this fall we would advise you to keep his herd in mind. If you are out his way do not hesitate to call on him for you will always find him ready to extoll the merits of the Duroc-Jersey.

J. A. Schaldecker of Grafton, Neb., writes us that he has seventy-five spring pigs so far, sired by Big Sensation and B.'s Great Hadley. They are out of sows carrying the blood lines of Long Wonder, Expansion, King Look, Grand Look, King Mastodon, Jr., and others. Mr. Schaldecker says he does not believe that he has ever raised a more thrifty, big-boned lot of pigs than he has at the present time. Keep his herd in mind for future reference and when in need of anything in his line, write him, mentioning this paper.

J. O. Bayne of Aurora, Neb., breeder of Duroc-Jerseys, has seventy-five pigs sired by Colonel Gano, Queen's Colonel, B. & R.'s Wonder, Wonder Improved, Model Again and others. The blood lines represented in the dams of these pigs are par excellent. Some of those more prominent are Watt's Model, H. A.'s Choice Goods, Uneeda's Crimson Wonder, B. & R.'s Wonder, Wonder Improved, Echo Wilkes, Kruger's Model and others. Mr. Bayne says that his herd has been free from disease so far this season and that the outlook for the coming year is very bright.

To the Point

The man of few words is usually married.

When a fellow owns a smart dog he does a lot of barking.

Does his satanic majesty look like his pictures on the billboards?

Being a fast young man enables one to run through a fortune in record time.

Canada Lands

We are offering thousands of acres of wild and improved farm lands in the Oxbow-Alameda district, Southeastern Sashkatchewan. If you want a choice farm at right prices and terms, write us for particulars.

Excursions to our lands leave St. Paul the first and third Wednesdays every month. Come direct to us and save commission. Excellent opportunities to secure A No. 1 farms where crops never fail. Don't delay.

Stewart Land Company
305 Jackson Street,
ST. PAUL, MINN.

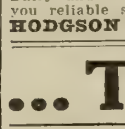
HORSES AND MULES

FAIRVIEW FARM : :

Percheron, Belgian and Shire Stallions, Mammoth Jacks and Jennets

Some extra good home-bred Stallions, Percherons and Shires, coming 3 to 5 years old, all pasture raised. Thirty head of Jennets of all ages that I will sell at democratic prices for the next 30 days to close them out. Everything sold with a breeding guarantee.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA



PERCHERONS

6 home-grown 3-YEAR OLD STALLIONS. Making 1900 to 2100 lb. horses, the BIG TYPE. Richest dapple and steel grays and blacks. I have these and want to sell them. Fred Chandler, R. 7, Charlton, Iowa.

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed.
Send for FREE Illustrated Booklets.
Holstein-Friesian Assn., Box 179, Battleboro, Vt.

SALE OF HOLSTEINS

I will sell the following high-grade Holsteins. They have plenty of quality and breeding and are in good condition:

50 yearling heifers.....
50 1½-year-old heifers..... } Just being bred to a son of a 24-pound dam.
100 2 to 2½-year-old heifers.....
100 2½ to 3-year-old heifers..... } Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.
250 matured cows, very heavy producers, springing up ready to freshen soon; most of them in calf from registered bulls.

A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

RED POLLED CATTLE

Bulls of serviceable age, females; all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb

Choice Holstein Calves

Ten heifers and three bulls, 7-8ths to 31-32ds pure, 3 to 4 weeks old, beautifully marked and from heavy milkers, $20.00 each, crated and delivered to express office, for shipment anywhere. Write Edgewood Farm, Whitewater, Wis. Route 10.

Why Foreswear

Your Allegiance to "Uncle Sam"

and take up your abode where the growing season is short and the climate is rigorous, when the very best land that the sun shines on is in the United States, and where, in many places, you can work out doors all the year 'round?

If you think of moving from your present location, ask me where to obtain good land at reasonable prices. Say what State you prefer, and I will send information to you free.

R. A. SMITH,
Colonization and Industrial Agent, Union Pacific Railroad Co., Room 110 Union Pacific Building,
OMAHA, NEB.

They Keep It Up

There are some cattle that give more milk when they are fresh than a Jersey, but there isn't any breed that gives as rich milk as

The Jersey

at as small feeding cost, nor is there any breed of cattle that will *keep it up* like Jerseys will, *year in and year out.* That's why you ought to buy Jerseys to increase your herd's efficiency. Send for Jersey facts.

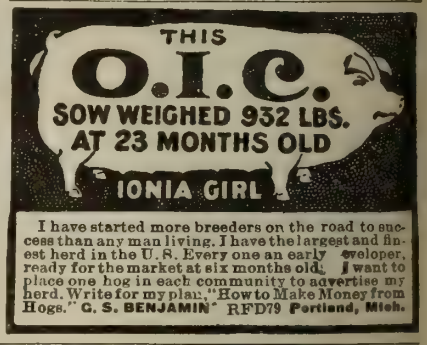
AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Development Association, Sacramento. **CALIFORNIA**

COME TO MINNESOTA

Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.
HODGSON & RINK, Fergus Falls, Minn.

O. I. C. HOGS



I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." **G. S. BENJAMIN RFD79 Portland, Mich.**

...The Market Place...

SEEDS

ALFALFA SEED, NEBRASKA-grown, for sale by S. Hunziker, Sutton, Neb.

ALFALFA A SPECIALTY; CANE, millet, kaffir corn, cow peas, seed corn, etc. Full line field and garden seeds. Write for samples and prices. A. P. Scofield, Council Bluffs, Ia.

LIVE STOCK

350 MULE-FOOTED HOGS OF ALL ages for sale; also ponies and seed corn. John Dunlap, Williamsport, Ohio.

DOGS

WHITE SPITZ-ESQUIMAUX PUPpies, beauties; low prices. E. Brack, Havensville, Kan.

From A
Rhode Island Red Breeder

Twentieth Century Farmer,

Please discontinue my ad and send bill. I have had good results. Am getting more orders for eggs than I can fill.

J. W. Abraham,
Apr. 30, 1913. Valley, Neb.

(His ad cost $1.00 per week.)

COMMISSION MERCHANTS

POULTRY, EGGS AND BUTTER wanted, highest market price; egg cases furnished free. Perry & Co., Omaha.

PATENTS

PATENT YOUR IDEAS; THEY MAY bring you wealth; 64-page Patent Book free. Fitzgerald & Co., Dept. L, Washington, D. C. Established 1880.

LUMBER

FIR LUMBER—STRONG, DURABLE, for general house building. Attractive as interior trim. Send bill for estimate. Large saving. Write today. Keystone Lumber Co., Tacoma, Wash.

SCHOOLS AND COLLEGES

WE TEACH YOU TO OPERATE AND repair automobiles; training on vulcanizers, drill presses, lathes; pattern making, moulding, brazing and driving. Free catalogue. Lincoln Auto School, 2352 O St., Lincoln, Neb

MISCELLANEOUS

YOUNG MAN, WOULD YOU ACCEPT and wear a fine tailor-made suit just for showing it to your friends? Or a slip-on raincoat free? Could you use $5 a day for a little spare time? Perhaps we can offer you a steady job. Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Co., Dept. 321, Chicago.

DON'T FORGET TO BE AT CRAWford, Neb., $ $ $ June 26, 27 and 28, 1913. $ $ $

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Cpoy | Omaha May 17, 1913 | Number 649

SWP

Your farm is more valuable if your farm buildings look well and are well preserved

The way to keep them so is to keep them well painted, and the easiest best and most economical way to do this is with S W P (Sherwin-Williams Paint Prepared.)

Easiest because S W P comes ready to use—thoroughly ground, mixed and put up in sealed cans—and because it can be had from dealers everywhere, any time.

Best and most economical because it spreads over the largest possible surface and lasts for the longest possible time.

SWP takes hold of the surface and keeps its hold through sun-glare and snow and rain. It is made of pure lead, pure zinc and pure linseed oil, combined with the necessary driers and coloring matter. It is scientifically prepared to give the greatest possible satisfaction.

Before you do any painting, be sure to send for our booklet, "Paints and Varnishes for the Farm." It gives much valuable information in small space and will help you to decide what paint to use in different places. Write us for this booklet today.

SHERWIN-WILLIAMS PAINTS & VARNISHES

Best dealers everywhere. Address all inquiries to The Sherwin-Williams Co., 692 Canal Road, Cleveland, Ohio

Genasco

THE TRINIDAD-LAKE-ASPHALT

Ready Roofing

Make your roof leak-proof to stay. Lay Genasco and you'll have a roof that makes you free from care and saves your repair-money.

Genasco lasts because the natural oils of Trinidad Lake Asphalt gives it resisting lasting life. It doesn't dry out and crack like ordinary roofing made of imitation "asphalt".

Get Genasco of your dealer. Several weights. Mineral or smooth surface. The **Kant-leak Kleet** for smooth-surface Genasco keeps the seams watertight without cement, and prevents nail-leaks. Write us for Book and samples. Free.

The Barber Asphalt Paving Company

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

New York **Philadelphia** Chicago San Francisco

Trinidad Lake

An Honest Built Shoe For Farm Work

Shoes honestly built from top to sole by expert workmen and from most durable, manure proof leathers. Our trade mark on the sole guarantees the greatest possible shoe value.

"World's Work" Shoe **Booklet Free**

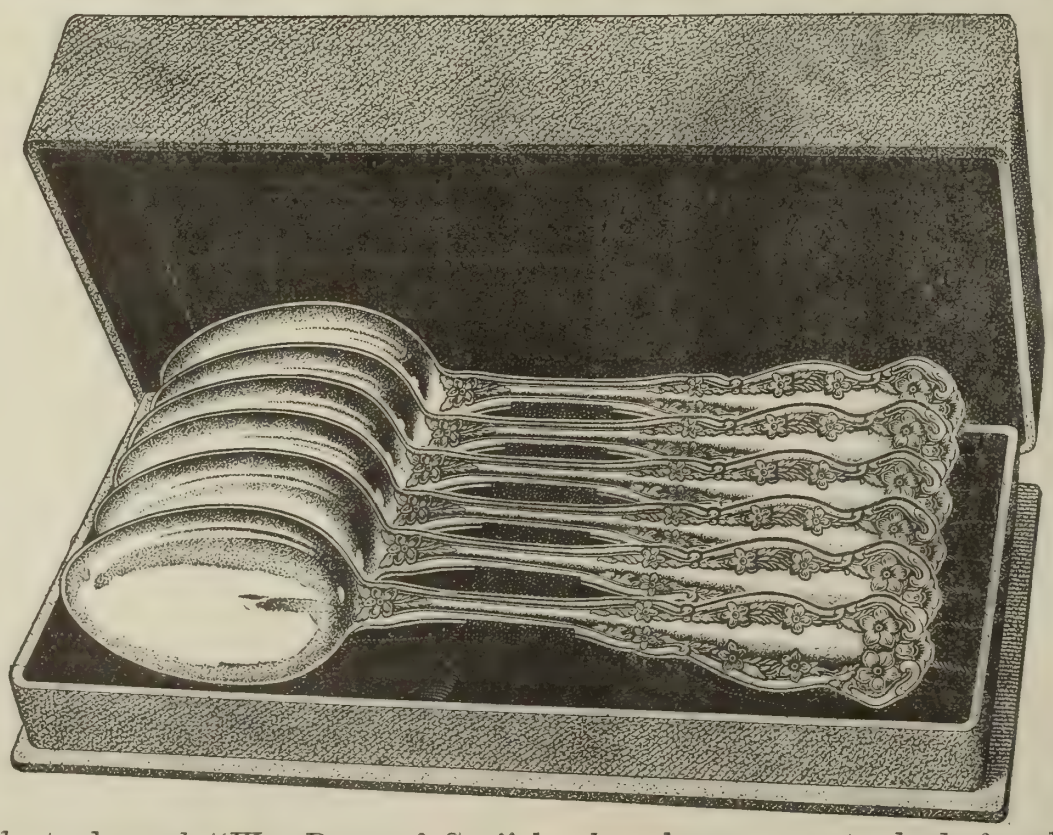
The shoe shown in this advertisement is one of 125 different styles—No. 5504 Price **$3.00**. Ask your dealer for **"World's Work" Shoes.** Send to us for descriptive booklet with directions how to secure a pair. Enclose two two-cent stamps and we will also send you a Handy Pocket Sharpening Stone—mention your dealer's name. **C. GOTZIAN & CO.. Dept. F, Saint Paul, Minn.**

"World's Work" Shoe

Wm. Rogers & Son Guaranteed Silverware

Free to Subscribers of The Twentieth Century Farmer

This Set of Six Teaspoons in Handsome Green Lined Case Will Be Given Free With One Year's Subscription.



Le Necassaire Pattern Teaspoons, Exactly Like Cut. The Kind of Silverware Everyone Wants.

Silverware bearing the trade mark "Wm. Rogers & Son" has been known as a standard of quality for over 40 years and is backed by the makers' unqualified guarantee of satisfaction.

Send us your subscription for one year to **THE TWENTIETH CENTURY FARMER** with price, $1.50, and we will send you this beautiful set of Teaspoons Free, all charges paid.

THE TWENTIETH CENTURY FARMER, Omaha, Neb.

Prattle of the Youngsters

A Question of Etiquette

"The horse and the cow is in the ld," read the teacher. "Mary, at is wrong with that sentence?" Mary was evidently more versed the rules of politeness than in the es of grammar, for she answered mptly:

"The lady should be mentioned st."—Youth's Companion.

Fine for Mamma.

Little Sarah was watching her ther, who was ironing some linen. "Is it hard work to iron, mamma?" e asked.

"Pretty hard, sometimes," the ther replied.

The little girl was thoughtful a ment, then she exclaimed:

"Oh, mamma, wouldn't it be fine you had married a Chinese laun- man?"

She Felt Safe

A bright little girl, aged 4, and r brother, aged 6, were spending e night with their aunt. When dtime came the aunt asked them w they said their prayers. The le boy answered.

"Sometimes I say them to Mud- 's knees and sometimes to the e of the bed."

"And how about you, little girl?" ked the aunt.

"I don't need to say any; I sleep h daddy."

Not on the Map

Joan was a most conscientious pu- , eight years old. During one of school study periods the teacher iced her searching a large atlas ently with a most puzzled expres- n. After a few minutes she asked child what she was looking for. "Oh," said the anxious student, s Kane said we were to find all places spoken of in the history son on the map, and it says that lumbus was at the Point of rvation,' and I can't find it any- eres!"—Youth's Companion.

Right Color, Anyway

There is a very polite child at the ce where the chief justice of the ited States supreme court spends summers. She has always taken at pride in addressing him as he ses in his comfortable old-fash- ed carriage. A passerby was used to hear her say as the ngster bowed low to the distin- shed visitor.

"Good morning, Judge White," l then turn hesitatingly in the di- tion of the old darky driver, who l also acknowledged the salute, l say:

"Good morning, Judge Black."

Revenge

James, 4 years old, had been ghty to the point of evoking a pping from his long-suffering ther, and all day long a desire for enge rankled in his little bosom. length bedtime came and, kneel- beside her, he implored a bless- for each member of the family lividually, she alone being con- cuous by her absence. Then, ris- from his devout posture, the lit- suppliant fixed a keenly tri- phant look upon her face, saying, he turned to climb into bed:

"I s'pose you noticed you wasn't it."—Harper's Bazar.

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Successful Co-operative Creameries

ATTENTION is called to a series of sketches which will give the history and development of several successful co-operative creameries operating within this territory. Readers will be pleased to note that in every instance the two conditions indispensable to the success of co-operative creameries are fully met. There has been sufficient cream produced in the neighborhood to give a reasonable profit after all overhead expenses have been paid, and the community loyal enough to the enterprise in each case to insure a sufficient amount of this raw material.

It will probably happen that success in this form of co-operation will lead to the development of other lines of co-operative effort. Minnesota already operates successfully a co-operative laundry in connection with the co-operative creamery, and the wives of the patrons of the creamery will thereby be saved the labor and the vexation of "wash day," and are given opportunity to devote themselves to other lines of effort. It is to be hoped that each one of these beginnings of co-operation will grow into a more extended application of co-operative principles.

Bright and Breezy

One Improvement

On arriving at a wayside station between Sligo and Eniskillen the traveler remarked to the chief official: "I observe your service has improved lately." "Can't see it," replied the station-master, stoically. "Oh, I can," said the traveler, "your trains are able to whistle without stopping now."

How He Proved It

They were trying an Irishman charged with a petty offense, when the judge asked: "Have you anyone in court who will vouch for your good character?"

"Yis, your honor," quickly responded the Celt; "there's the sheriff there."

Whereupon the sheriff evinced signs of great amazement.

"Why, your honor," declared he, "I don't even know the man."

"Observe, your honor," said the Irishman triumphantly — "observe that I've lived in the country for twelve years an' the sheriff doesn't know me! Ain't that a character for ye?"

Not Alike at All

A story of the late Sir Laurence Alma-Tadema concerns the close resemblance between him and George Du Maurier. A lady sitting beside Du Maurier at dinner one night refused, says a writer in the Argonaut, to acknowledge any resemblance.

"You know, Mr. Alma-Tadema," said she, "I think it is absurd to say that you and Mr. Du Maurier are so awfully alike. There is really no resemblance at all. Don't you agree with me?"

"Quite," replied the author of "Trilby," "but, you see, I happen to be Mr. Du Maurier."

A Funeral Note

There is at least one Boston banker who has a measured admiration for Thomas Lawson. "He is always full of quibs," says the banker. "Not long ago I attended the funeral of a millionaire financier—one of those real 'high financiers' whose low methods Lawson loves to turn the light on. I arrived at the funeral a little late. I took a seat beside Lawson and whispered: 'How far has the service gone?'

"Lawson, nodding toward the clergyman in the pulpit, whispered back: 'Just opened for the defense.'"

A Lack of Obstacles

A Scotsman who had worked for many years on the railroads among the Highlands of Scotland went to the United States in his later years and settled on a section of homestead land on the plains of the far west.

Soon after his arrival, says Tit-Bits, there was a project for a railway through the district. The Scotsman was applied to as a man of experience in such matters.

"Hoot, mon," he said to the spokesman of the delegation, "ye canna build a railway across this country."

"Why not, Mr. Ferguson?"

"Why not?" repeated Ferguson, with an air of effectually settling the whole matter. "Why not? Dinna ye see the country's as flat as a floor and ye hae nae place whatever to run your toonels through?"

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Price Paid for Butter-fat by Centralizers

It Must Be Increased if the Business is to Be Made Permanent

ANY business is short-lived unless it meets prices made by competitors. Inadequate prices paid for raw material in any industry are certain to bring competitors into the field. In the creamery business the manufacturing interest that pays for cream the highest price consistent with a reasonable profit is certain to outdistance its competitors that pay an inadequate price. In the creamery industry there is competition among the centralizers themselves, and this competition is so acute as to lead to flagrant violations of economic law, as well as of business ethics, and the centralizers now, as a class, are being met by a new competition in the form of the co-operative creameries. If it comes to an issue as to which of these two competitors, the centralized or the co-operative creameries, will ultimately possess the field, the victory will lie with the one that offers and pays to the cream producer the highest price for cream consistent with a reasonable profit.

The centralizers have not done this in the past. They are now face to face with a new situation and must be prepared to meet the new competition. This fact, however, should be borne in mind by all readers, that over a very large part of the Missouri valley the centralizers, whatever their methods may be, will for years to come furnish the best market for cream. In the part of the territory here referred to cream production is in such a low state of development and the cream produced is so scant in quantity that it is impossible at present for the co-operative creameries to succeed. But wherever there is sufficient production of cream and sufficient unity of action among the farmers to make possible the profitable operation of a co-operative creamery, the centralizers will have to meet their competition or abandon the field. Even in territory where the centralizers are the only occupants of the field, if they are to do the fair thing by the cream producer, they will advance the price that they pay for cream.

This statement is based upon the following considerations: First, the overrun in the manufacture of butter is sufficient to afford a fair profit when there is the same price paid for cream delivered at the creamery that is paid in the open market for No. 1 butter. There is a chemical overrun of 25 per cent or more in the manufacture of butter. If to eighty pounds of pure butter-fat there be added sixteen pounds of water, the amount that the law allows, three pounds of salt and one pound of buttermilk, or casein, the result would be 100 pounds of butter. This means that twenty pounds of other material has been added to the eighty pounds of butter-fat. Twenty pounds is 25 per cent of eighty pounds, so that there is an overrun, in case only three pounds of salt is used, of 25 per cent. If more salt is used the overrun will be greater. But there is more or less unavoidable waste in the manufacture of butter. When this waste is allowed for, what is left is called the commercial overrun, and amounts on an average to 22.5 per cent.

For the sake of making the matter clear, let it be supposed that the centralizer pays the same price per pound for butter-fat that he receives for No. 1 butter in tubs on the open market. Suppose he buys 100 pounds of butter-fat at 30 cents a pound; this would cost him $30. From this 100 pounds of butter-fat, with the 22½ per cent overrun, he would manufacture 122½ pounds of butter. If he sold this butter at the same price per pound that he paid for the butter-fat, it would bring him in, for the $30 that he invested, a return of $36.75, or a gross receipt over the outlay of $6.75. It is taken for granted that the big centralizer, with all his facilities for manufacturing, can make butter at as low a manufacturing cost as the small co-operative creamery. If he cannot do this he had better go out of business. Annual reports of co-operative creameries show that they manufacture butter in the tub, ready for market, at a cost of about 2 cents a pound. The freight rate on carload lots of butter from Omaha to Chicago, which is one of the great butter-distributing points, is less than ½-cent a pound. But to be liberal, suppose it be regarded as ½-cent a pound; then the cost of manufacturing butter in tubs, plus the freight to Chicago, would be 2½ cents a pound, or, to be exact, $3 for every 122.5 pounds of butter. This, deducted from the gross receipts over the outlay, namely, $6.75, would leave a profit of $3.75 on 100 pounds of butter fat, or .0375 on every pound. This is a profit of 11.6 per cent, which is certainly a good, round profit, even when the same price is paid for butter-fat that is received for butter. When the price for butter-fat falls below the price of No. 1 butter the profit is correspondingly increased.

Second—In the parts of Wisconsin, Illinois and Indiana in which the centralizers operate they pay more per pound for butter-fat than they receive per pound for butter in tubs ready for the market. In these states, when the market price of No. 1 butter is 25 cents, the centralizers pay 1 cent more for butter-fat than the market price for No. 1 butter. When the price of butter advances higher than 25 cents the difference between what they pay for butter-fat and what they receive for butter is correspondingly larger. This is because the higher the price of butter, the more the overrun is worth. When butter is 25 cents a pound the 22.5 pounds overrun on 100 pounds of butter-fat is worth $5.625. When the price of butter advances to 30 cents the overrun on 100 pounds of butter-fat is worth $6.75. When butter advances to 35 cents a pound the overrun on 100 pounds is worth $7.87. This enables them, as the price of butter advances, to advance the price they pay for butter-fat above the price they receive for butter.

Table Showing Net Profit When More than the Market Price of Butter is Paid for Butter-fat

Market price of butter	Price paid for butter-fat	Price of 100 lbs. butter-fat	Lbs. butter made from 100 lbs. butter-fat	Gross receipts for butter made from 100 lbs. butter-fat	Gross gain from 100 lbs. butter-fat	Mfg. costs and freight to Chicago on 122½ lbs. butter	Net gain on 100 lbs. butter-fat	Net gain per lb.
.20	.20	$20.00	122.5	$24.50	$4.50	$3.00	$1.50	.015
.25	.26	26.00	122.5	30.625	4.625	3.00	1.625	.01625
.30	.32	32.00	122.5	36.75	4.75	3.00	1.75	.0175
.35	.38	38.00	122.5	42.875	4.875	3.00	1.875	.01875

The accompanying table shows that when the market price for butter is .20, if the same price be paid for butter-fat, the profit received for the butter made from one pound of butter-fat, after the cost of manufacturing and of freight to Chicago have been paid, will be .015. When the market price of butter is .25, if .01 be paid for butter-fat more than the market price, the profit per pound on butter-fat will be .01625. When the market price of butter is .30, if .02 more than this be paid per pound for butter-fat, the profit will be .0175. When the price of butter is .35, if .03 more than this be paid for butter-fat, the net profit will be .01875. From this it appears that it is more profitable for the butter-maker to pay .38 for butter-fat when the market price of butter is .35 than it is to pay .20 for butter-fat when the market price for butter is .20.

When asked why they cannot operate in this territory on the same basis, the centralizers reply that, in the first place, the cream that the centralizers receive in the territory already alluded to is received in better condition, and is consequently worth more than the cream received in this territory. Besides, there is such an oversupply of centralized creameries in this territory that the overhead expense of operation during the season of scant cream supply makes too great inroads into the profits of operation during the season of full supply. To which it may be answered that the centralizers themselves have made the conditions which they

assert render impossible and unprofitable operations conducted on the same basis as in Wisconsin, Illinois and Indiana. The chief concern of this paper is that the cream producer shall receivve an adequate price for the cream that he sells. As the centralizers have made conditions that render this impossible, it is up to the centralizers to change these conditions if they are to give to the cream producer a fair price for his product. Unless they do this, the cream producer will turn to co-operation as his only chance for receiving a fair price for his product.

Third—The profits made by well managed, efficient, small creameries, operated on the proprietary basis, prove that the centralizers, with their facilities for economic production, should pay more for butter-fat than they are paying. It is admitted that extremely low prices for butter-fat paid by centralizers are being gradually abandoned. The centralizers today pay for butter-fat nearer the market price of butter than they have ever done before. In one small town in Nebraska, two and a half years ago, the centralizers were paying 6 cents for butter-fat below the price of No. 1 butter. A small independent proprietary creamery was established, which began at once to pay for butter-fat the price of No. 1 butter. All the centralizers, with one exception, withdrew from the town. After a while the independent creamery came to an understanding with the remaining cream receiver, and both paid, and continued to pay, for butter-fat 1 cent below the price of No. 1 butter. The cream receiver reports that he has shipped out during the last year 11,000 gallons of cream. The independent creamery receives three-fourths of its supply of cream from its stockholders and the balance from non-stockholders. At the price it pays for butter-fat—1 cent below the price of No. 1 butter—it will yield a profit during the year just closing of more than $25 on every $100 worth of stock. Will the centralizers admit that, with all their facilities, with their scientific experts, with their thoroughly systematized methods, this little country creamery can make a bigger profit than they? Such an admission would lead to the multiplication of such little creameries.

Fourth—There are at present four co-operative creameries in operation in Nebraska. Until within a very short time there have been only three operating upon the co-operative basis. The average price paid by centralizers to patrons at the cream receiving stations during the year 1912 was $0.26562. During this same season Riverton averaged to pay $0.28916. During January, February and March of this year it paid 4 cents more than the centralizers in the same territory. Germantown, which is a whole-milk plant, averaged to pay $0.302, and Dannebrog $0.2825. During the same time eight co-operative creameries in southwestern Iowa averaged to pay cream patrons $0.3006. No further statement is needed to prove that the centralizers must advance the price they pay for cream if they are to maintain themselves in the competition with either small proprietary or co-operative creameries.

The chief advantage that the small creamery, either proprietary or co-operative, has over the centralizer operating in the same territory is to be found in the fact that it saves to the cream producer the unnecessary and uneconomic expense involved in operating cream receiving stations. Strict economic operation will ultimately result in abolishing the cream receiving station, with its attendant uneconomic expense, and the substitution of some other method for gathering cream. One thing is certain—the centralizer must pay to the cream producer as much as the cream producer can get through patronizing a local co-operative creamery or the local co-operative creamery will be most certainly installed and occupy the field. As soon as the centralizers place their business upon an economic basis and operate strictly in conformity with the demands of economic law, they will be in a better position to meet the competition of small plants within their territory.

Let no one forget the debt that this whole territory owes to the centralizers for the influence they have had in building up the dairy industry of the territory through offering a market for dairy products. Let no one forget the beneficial effect that the centralizers have had upon the market price of tub butter through publicity and the promotion of the sale of butter in packages, which has helped to increase the market price of all butter. Let no one forget while considering this whole matter to give everybody concerned in the industry fair play. The centralizers find themselves in an unfortunate and desperate economic situation. They must themselves remedy this if their business is to be made permanent. Let no one forget that the best and most far-seeing among them realizes that they occupy a false economic position, and will be only too glad to see the evils of the situation corrected, and will do their best to assist in correcting them. At the same time, let not the centralizers forget that they must give to the cream producer for his product a price commensurate with what he may receive through other channels, or he will look elsewhere for a market for his cream.

To a large part of the territory comprised within the Missouri valley, the centralizer, whatever may be his methods, is indispensable, and offers the only available market for cream. In another part of this territory he already has the competition of the small creamery. Through the remainder of the territory, where he now operates exclusively, he will be certain to invite the competition of the small creamery unless he pays an adequate price for cream to the cream producer. This paper believes that many, if not all, ineconomies may be prevented by proper action on the part of the centralizers. It also believes that there is room for improvement in the processes of manufacturing butter which will reduce the manufacturing cost. It feels assured that careful study and experimentation in this direction by centralizers will lead to vast improvement in these particulars. It will carefully watch the developments of the future. It will endeavor in every way within its power to safeguard and promote the interests of the cream producer and the development of the dairy industry.

Profitable Cows for the Dairy Farmer

HERE is a picture of the kind of cows that will make any dairy profitable. It is poor business for a farmer to spend time and labor in milking cows that do not yield a profit above the expense for keep. There are two ways in which a farmer may prevent this economic loss, and these two ways should be used in conjunction; each may be made to supplement the other. In the first place the wise farmer, the farmer that is a good business manager, will take advantage of the opportunity now secured for him by The Twentieth Century Farmer to have the milk of his cows tested without expense to him. Then by weighing the amount of milk given by each cow, and noting the amount of butter-fat produced by each as determined by the test, he can easily find out which of his cows are profit producers. He can then eliminate from his herd those that do not pay for the trouble and expense expended upon them, and keep only those that yield him a fair profit. It is to be hoped that the cream producers generally throughout this territory will adopt this method for improving the producing capacity of their herds. But they should use all means to improve the quality of their herds, and one of the best, surest and most quickly realized means is to improve their herds through careful breeding. This paper would not recommend the ordinary farmer to invest money in pure-bred cows, but it does recommend that they improve their herds through the use of pure-bred sires of the best dairy type. For this purpose no breed is better adapted than the Holstein. Co-operative effort in this direction will largely lessen expense. If four farmers should each buy a pure-bred bull of this description and at the end of two years should change bulls with one another, each might have the use of a pure-bred bull for eight years at the expense of a single animal.

Some Plain Facts About Seed Potatoes

Matters That the Planter Must Consider if the Industry is to Continue

THE potato industry of the entire country is confronted by a very grave situation. It is menaced by disease, not one disease alone, but by several. If the industry is to be profitably continued methods must be adopted for freeing it absolutely from this menace. The question for every potato planter at the present time is, not how large a crop of potatoes he may grow—and this is a very important question—but how may he grow potatoes free from disease, so that his future crops and his future production will no longer be threatened by extinction? Let this be repeated: For the next few years the supreme question will be not how many potatoes, but what kind of potatoes, are to be grown? Until this question of disease is removed quality will be of prime importance, quantity merely of secondary importance. Unless the potato growers are made to realize the gravity of the situation, and are persuaded to take the necessary steps to protect themselves and their industry, potato growing in this country will cease to be profitable.

Whoever speaks or writes upon this subject should do so only with a vision broad enough to take in all conditions. One writer, a professor in an experiment station, by the way, with regard merely to the amount of production, and totally ignoring the matter of disease, which it is his supreme duty to consider of first importance, recommends potato planters to plant only northern grown seed, and asserts, what is undoubtedly true under the methods of seed selection and cultivation employed, that the production from native-grown seed has deteriorated to 50 per cent of the normal production within seven years. To which it may be replied that a healthy half crop is better for the potato industry than a diseased whole crop. To this same assertion it may be further replied that proper care in the growing and in the selecting of native-grown seed will prevent, in a large measure, if not entirely, this deterioration in production.

It may be safely asserted that most of the potato diseases throughout the country are due to the fact that growers purchased their seed at a distance, and brought in disease with the seed so purchased. The chief objection against buying potato seed is that the purchaser is never certain as to how much disease he buys with his seed potatoes. Throughout this territory it is customary to advise growers to buy seed from Minnesota, from the Red River Valley of the North. With reference to these northern potatoes the following is quoted from Dr. E. M. Freeman, plant pathologist of the Minnesota university farm:

"Potato diseases were especially serious last year, and the attention of every potato grower in the state is earnestly called to this question. The Minnesota potato crop is large, and especially valuable on account of the sale of seed potatoes. The diseases, particularly those of the soil, are commencing to gain a foothold in this state, as is bound to happen when potatoes are raised as extensively as they are here. Now is the time to combat these diseases, before the state gets a bad reputation for diseased potatoes."

According to this excellent authority, the wise planter will shun seed potatoes that come from infected localities, and one cannot tell what localities are not infected. Disease seems to be universally prevalent.

Now the only way in which a planter can be sure that he is free from disease is to grow his own seed. The only way in which he can be certain to maintain the vigor of his crop is to grow his own seed in a seed plat entirely separate from the general crop, giving to this seed plat extra care, both in the selection of seed and in the cultivation and tending of the seed crop. In order to be sure that the vitality and vigor of the seed so grown is maintained to the highest point, the seed from the time that it is taken from the ground until it is again planted should receive special care. In what follows advice will be given as to the very best method for securing these results, a method that is sure to give better returns than any other at present practiced.

The seed plat should be planted not earlier than the first of July. This will give the plants opportunity for vegetable growth, and will allow them to set their tubers during the period of the September rains, so that the best results may be obtained. The seed should be planted whole—that is, uncut. To cut a potato impairs its vitality. This point should need no argument. Nature is wiser even than professors. Nature, mutilated, is always weaker than nature in its original condition. These seed pieces should be planted not more than twelve inches apart, and deeply planted at that, so as to force the development of as large a number as possible of middle-sized tubers. The plat should be carefully watched during the period of growth, and all vines that show indications of weakness, or of disease, should promptly be eradicated. At digging time the seed should be carefully selected. Those that are truest to type, show the best form and the most vigor should be reserved for planting the seed plat for another year. The balance of the seed plat crop should be used for planting the main crop the following season.

Care of the Seed Plat Crop

Both varieties of seed potatoes, both for the seed plat and those for the next year's main crop, should immediately, upon digging, be placed in cold storage at a temperature of not less than 34 degrees and not more than 36 degrees. They should remain in storage until planting time the next season. Such placing in storage preserves the vigor and vitality of the tuber; it prevents sprouting, which more than anything else, unless it be cutting the potato, lowers the vitality of the seed piece and weakens its subsequent growth and its capacity for production. These potatoes, with very little care and at comparatively very little expense, may be shipped to the nearest cold storage plant until such time as they may be needed. The potato planter will find upon trial that the expense involved in this method of caring for his seed potatoes is many times repaid by the greater production they are sure to give him. Seed potatoes should never be selected from the main potato crop, if the best results are to be secured.

All that will be necessary in the way of the first seed selection for the seed plat will be for the planter to be sure, and when sure is said, it means sure, certain, that he plants only uninfected seed on uninfected ground. The same reason that urges the planting only of whole tubers in the seed plat urges with equal force the use of only whole tubers for the main crop.

If in the seed plat the tubers are planted reasonably close together, two results follow. Such planting will force the setting of a large number of tubers, and these will be set and developed under conditions adverse to the fullest development of the crop. These tubers, grown under such adverse conditions, when planted under more favorable conditions, as to distance in the row and as to the method of cultivation, and as to seasonal advantages, will show an increased vigor and a larger production in the general crop.

What is stated here is nothing new, but has been carefully worked out and proved by some of the most successful potato growers in this territory. It has been done in the field, not with a roll-top desk and a typewriter. Any farmer will find it to his advantage to act strictly in accordance with the suggestions here set forth. Something must be done if the potato industry is to thrive. In this method it will pay to take pains, pay to be to some little expense. Those that doubt the wisdom of these suggestions, doubt whether what is here set forth is really a solution of potato difficulties, may amply prove it to their own satisfaction by trying the plan here recommended.

Solomon Ray---A Hard, Close Man

A hard, close man was Solomon Ray;
Nothing of value he gave away.
He hoarded and saved, he pinched and shaved,
And the more he had the more he craved.

***

The hard-earned dollars he toiled to gain
Brought him nothing but toil and pain;
For little he spent, and all that went
Came back to him with twenty per cent.

***

Such was the life of Solomon Ray;
The years went by and his hair grew gray,
His cheeks grew thin and his heart within
Grew hard as the dollars he worked to win.

***

But he died one day, as all men must,
For life is fleeting and man but dust:
The heirs were gay who laid him away,
And this was the end of Solomon Ray.

***

They quarreled now who had little cared
For Solomon Ray while his life was spared:
His lands were sold and his hard-earned gold
All went to the lawyers, I am told.

***

Yet men will cheat, will pinch and save,
Nor take their treasures beyond the grave:
Their gold some day will melt away
Li' e the selfish savings of Solomon Ray.

Eugene J. Hall.

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The scarcity of farm labor and the high price that laborers are demanding are leading farmers to dispense with them to a large extent by changing work with one another. This is the beginning, the very foundation of co-operation. Let the movement grow and extend in all directions. It saves money and promotes efficiency.

The farmer complains of having higher rates of interest to pay at his country bank than is charged the city business man by the city bank, and the Department of Agriculture corroberates the assertion, from information it has gathered on the subject, of interest rates to farmers in the various western states. This seems strange and almost unaccountable when one considers that the country banks are generally owned by the retired farmers of the community. A western farmer's experience and training with money borrowing and banks should make him highly qualified for the banking business.

Good law is supposed to be concentrated common sense. The popular supposition is set aside by the courts in some of their decisions. For example, a retailer may sell a product that the law of the state declares mislabeled, provided he himself imports it into the state and the labeling does not conflict with federal law. But if he buys it of a jobber within the state, or if it is manufactured within the state, it is illegal for him to sell the same product. Have the states a right to protect themselves by pure food legislation, or does this right belong exclusively to the federal government?

The Elgin Butter Market

It is about time for the Elgin "butter market," so called, to stop giving out quotations on the price of butter. The sales on the Elgin board no longer represent the market value of butter. The method of establishing some of these quotations puts them outside the limit of respectable commercial consideration. A couple of men will go out from Chicago to Elgin and on the "board," so called, one of them will sell to the other a few tubs of butter at a price already, in all probability, agreed upon between them before they left Chicago. And this price paid in this kind of a sale and for this inconsiderable amount of butter is quoted as the Elgin price for that day. It bears hardly a resemblance to the market price in Chicago, in New York, in Boston or in any of the other large eastern distributing points for butter. It is a price purely artificially made, and sustains no relation to the demand for butter as related to the supply. It is about time to wipe it off the slate and blackboards and cease to give it consideration.

So long as this state of affairs continues no intelligent person will have the least respect for such quotations. Already some of the largest manufacturers and dealers in butter have definitely and finally abandoned all consideration of Elgin quotations and the commercial world at large will soon take similar action. It is time to put an end to the farce as long as it deceives nobody and accomplishes nothing.

Economy in Use of Feeds

The economy of feed production is strongly advocated as a business proposition. The growing of larger crops on a given acreage, by means of better cultivation and the use of better tools, implements and machinery for plowing, planting, cultivating, harvesting, storage, etc., are all endorsed by the scientific and practical farmer of the present time. It is conceded that a nearer approach to intensive farming is needed in crop management.

The harvesting and storage of crops, so as to save for feed uses the largest possible per cent of feed value that the crop can yield, is a feature that is not overlooked by the present-day up-to-date farmer and live stock producer. For the entire success of the proposition from the farmer's and feeder's standpoint, it is not alone necessary to observe care in order to produce the most and the best from a certain acreage and at a certain cost of production, but these crops and feeds must be economically used.

It is one thing to produce, but an entirely different thing to economically dispose of, or feed out a crop. Because a large crop has been produced, at a comparatively low cost, is no reason why there should be lax methods employed in its disposition. Right here is where an opportunity for profit is presented. Feed crops have a cash value, sometimes more, sometimes less, but always have a ready-money basis, and every pound wasted, carelessly disposed of, or damaged so as to lessen its feed value or sale quality, is a loss to production.

If in the storage of a green crop of corn, by silo, there can be a saving of feed on the farm, an economy of cost in feeds, then the silo is an economical storage that will justify its cost and its use. This method of crop storage is proving its value, and has attained a position in feed economy that needs no argument. There is need, however, to use economy in the use of silage, in the way it is fed out to stock. If it is a good and valuable feed for stock, then it should be carefully dealt out so as to make it go as far as possible without waste and at the same time fully satisfy the feed requirements of the animals.

Clean feed boxes, bunks or troughs, conveniently arranged, are in the line of feed economy. The appliances for feeding all kinds of feed to the various kinds and classes of animals is an economical necessity in order to carry on properly the economy of production and distribution of the feed products of the farm.

Buying Stock Cows

Never in the history of the central stock yards, and especialy at Omaha and Kansas City, has there been so strong a demand for stock cows and heifers of the kind that can be turned to breeding purposes. Many of these purchases are made by the farmers themselves, who intend to add these females to their breeding herds. Others are by dealers who are taking them out to sell to farmers who want only a few—less than a carload. The tendency now is to stock up with the young cow stuff, since the milk cow and fresh cow demand seems to have no limit through the country districts.

The man who wants cows must want them bad enough to pay more for them than the packer or the feeder, or he will not get them. The unusual demand for beef that now exists has set up a new precedent in cattle demand, something this country has never before seen. Cows—just any kind of cows—are in demand, not as canners, not as dairy stock alone and not as stock for the single purpose of raising calves alone, but for every purpose for which a cow can be used. Everybody wants her, and this demand must increase until the breeding proposition prevails over all the other demands and the scarcity is relieved by a greatly increased population of cattle of all kinds, both steers and heifers, or cows.

One reason why people distrust each other is because they do not know one another very well. Let them get thoroughly acquainted and they will find that most people at bottom are good fellows. Good fellowship is too rare a thing to allow any of it to get away. Cultivate it. It is the great unifying force. It is an old adage that "two heads are better than one, even if one is a sheep's head." Every right-thinking man will be willing to furnish the sheep's head end of the proposition if anything may be gained by it.

Strange how the dandelion survives all those sure-kill extinguishers.

Way to Even Up Wool Tariff

It never pays, in the long run, to raise or produce a medium or inferior article of grain, fruit, vegetable or animal on the farm. This is a working principle that every farmer and producer should understand and strenuously observe in his breeding and feeding operations.

In the raising and handling of sheep there are just two important factors entering into the business proposition—mutton and wool. The more weight of carcass you can produce, the more mutton you have to sell. The more wool you can grow on the sheep, the more money you can make from this source of revenue. It is, therefore, easily understood that the keeping of a class of sheep that will produce a big carcass and a big fleece of wool will return a larger revenue than will be returned from the class of sheep with a smaller product. It is well, also, to understand that an animal of this class, well fed and well grown, will produce more meat and more wool than one not so well provided for.

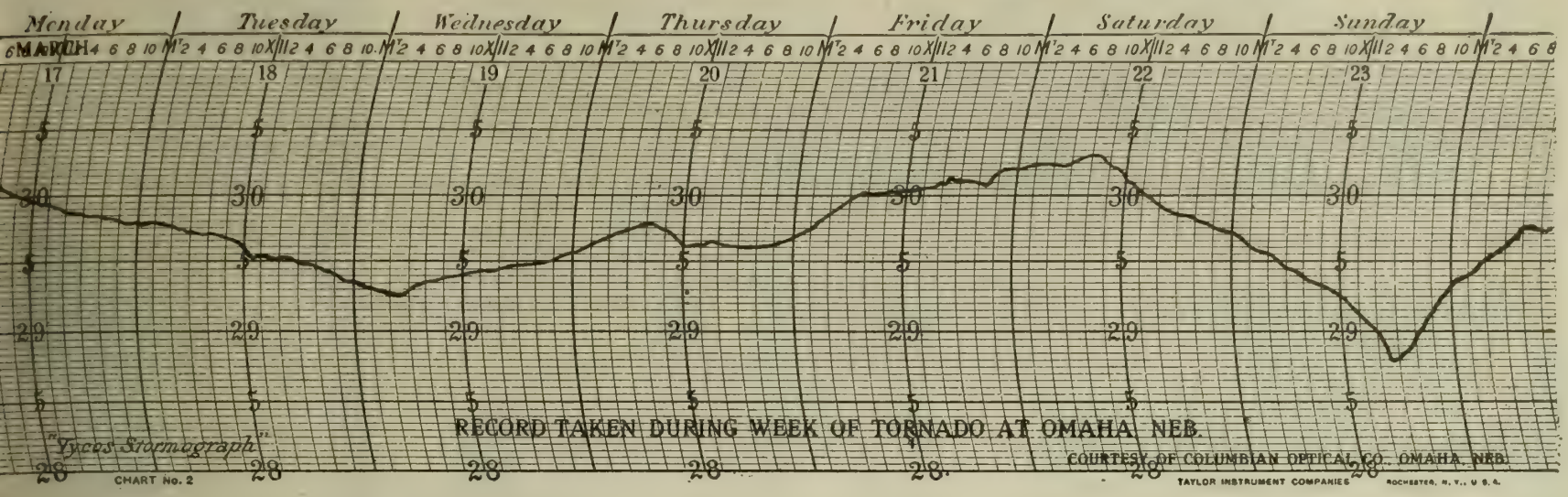
There are sheep of all capacities, some more, some less. It will not pay to produce and keep on the farm the light-fleeced sheep when you can just as easily, and at no more expense of maintenance, have the sheep that will produce two or three or four pounds more of wool. Whatever difference the tariff legislation exerts in reduction of wool price, just add to the fleece-producing capacity of the sheep to equal it. This can be done without sacrifice in mutton quality or quantity. The demand will be for better sheep, better mutton quality and increased wool production. There is no use to say this cannot be done. It can be done, and should have been done long ago, independent of tariff or no tariff.

The country is full of sheep, comparatively speaking, that are not capacitated to full production of fleece—not by one-half, a large per cent of them, and others running from this up to a very complete fleece in weight and quality. It costs no more to keep a good sheep than one poor in quality. They consume practically the same expense of feed, but one is capacitated to convert the feed into a line of production that pays back, in wool or mutton, a larger per cent than the other.

A new dangerous enemy of cotton, known as the pink boll worm, which is widely distributed in Egypt, India and other cotton-producing areas, may find its way to the United States. It is liable to be introduced in cotton seed, as the insect lives within the seed in a dormant condition for about six months. The Department of Agriculture will hold a hearing preliminary to establishing a quarantine on all seed that is liable to be so infected.

Do editors have to be punished for being editors? Every peach tree that the editor has seen, except his own trees, was loaded with blossoms. His do not have a blossom, not even a smell. Is this because he is an editor, or because his peach orchard was not located right. If the editor has any friends, they will send him some peaches to make up for this discrimination.

Barometer Record Taken Week Preceding Tornado at Omaha



This cut shows the record of the e and fall of the barometer at naha during the week preceding e recent tornado, up to noon of the y following the tornado. The re- arkable thing about the cut is the gradual fall of the barometer from 8 o'clock Saturday morning, when it registered 30.3 inches, until about 5:30 o'clock Sunday night, just preceding the tornado. The lowest point reached just before the tornado was 28.8 inches. What is remarkable is the steady decline for about eighteen hours preceding the storm. Such a decline, had it been generally known, should have given general warning of approaching trouble. Wednesday morning, about 5 o'clock, the barometer reached a relatively low point, and some precipitation was the result. This is the only record taken at Omaha during the week. It is furnished through the courtesy of the Columbian Optical company of Omaha.

On Auto Driving

Your friend, the seasoned autoist, ll tell you that he can spot the een chauffeur every time he meets n in the highway, and sometimes in fact, with many it is quite com- on—the seasoned autoist, just for n, of course, will give the green nd a bad scare by shaving his ma- ine as closely as possible without collision. He will give him just ough of the road to get by, and at at at great effort to the inexperi- ced driver.

This, of course, is all fun, just a tle joke of the road, and, like a od many such jokes, can be appre- ted only by the joker. Some seri- s accidents have happened this y, and others will happen unless e thing is stopped. If fair warn- does not stop it, perhaps a few od object lessons in police court ght. It is easy enough for auto- bilists to happen into accidents thout doing anything to precipi- e them. The green hand, who, no ubt, it is easy to detect, should be en every possible advantage.

They Look Good Now

A strong demand makes things k better and covers up objection- le features that under different nditions of trade could scarcely tolerated. This principle of easurement is true in all lines of ade, but especially is it empha- ed in the live stock industry when e supply goes down to the bottom d there is practically nothing in w when the urgency is greatest. This is said to be illustrated by e hog supply in the corn-growing stricts of Missouri—plenty of corn, t a shortage of hogs. The Mis- uri farmers, who have been in the bit of joking about the razor-back gs of Arkansas—the Ozarks, as y frequently term them—are now iefly slipping down into that dis- ct of country and buying these in, lank porkers, all ages and sizes, ipping them up to Missouri's ypt, vaccinating them against hog olera and feeding them at great ofit. These hogs, when fat, are not discriminated against by the packers. "They look good now," both to the farmer who feeds them and the packer who buys them, and the bacon demand clamors for razor-back sidemeat.

May Go Too Far

It is well not to arouse a sleeping lion. A man would be foolish to stir up a hornet's nest when the hornets are quiet. The Retail Lumber Dealers' Association acts as though it were trying to do both of these things. Governor McGovern of Wisconsin has introduced into the Wisconsin legislature a bill for a market commission to devise means for aiding the farmer in disposing of his products to better advantage, and at the same time for lowering the cost to the consumer.

The Retail Lumber Dealers' Association is making a strenuous effort to defeat the bill, because its members fear that part of it which concerns lowering the cost to the consumer. They had better not stir this matter up too much or they may get more publicity than they desire.

Whenever the lumber consumers of the country learn the extent of the profits extorted by the retail lumber dealers, they will turn their attention to the mail-order houses that sell lumber, and make a great saving in what they pay for lumber. Better keep quiet, gentlemen. There is a hen on the nest; don't disturb her.

What is "Western Nebraska?"

To begin with, North Platte is not "western Nebraska." North Platte lies only about forty miles west of the middle line that divides the state into eastern and western Nebraska. "Western Nebraska" begins at the 102 degree of longitude, more than a whole degree of longitude west of North Platte.

"Western Nebraska" differs from the North Platte territory in both soil and meteorological conditions. North Platte is in no sense representative of it. The Nebraska State Experiment station has published a bulletin entitled "Growing Crops in Western Nebraska," which concerns itself solely with crop experiments at North Platte. The title is a misnomer. There are two classes of people that will perhaps read this bulletin—those that know the geographical divisions of the state, and its varying agricultural conditions, and those that do not know them. The latter class will be misled by the title of this bulletin. The former class cannot help feeling a lessened respect for and confidence in the institution that puts out a bulletin under such a misleading title. Why not let the title indicate the contents of the bulletin? Why not have it read "Growing Crops at the North Platte Experimental Substation?" This would tell the simple truth, and would deceive or mislead nobody.

It is suggested for the benefit of strangers traveling by rail through this territory that business houses having signs facing the railroad place upon the signs, so that it may be read by travelers, the name of their town and of their state. For illustration, a sign might read: "Adam Strong, Boots and Shoes, Turlington, Neb." This would give the desired information and help to make traveling pleasant.

In Montana, where corn for feed is scarce, they are profitably fattening steers on a ration of syrup and alfalfa, beet pulp and a modicum of corn. The syrup-alfalfa costs $12 a ton, the beet pulp 50 cents per ton, and the corn $1.09 per hundred pounds. There were 140 head of steers in the feed lot. Hogs ran under them to clean up the waste. A net profit of $861.40 was made from the entire feeding.

Alkali land that is underlaid with hardpan may be redeemed by breaking up the hardpan so that the water may wash the alkali down into the lower soil, where it will be out of the way. Dynamite furnishes the best means for doing this.

The Butter Market

Recently, within a week, the market price of butter dropped 5 cents. Many people are asking why. Some critics evidently think that the butter market is manipulated and that the price may arbitrarily be raised or lowered at the option of the manipulators. More thoughtful people realize that, with all the manipulation possible, the relation of supply to demand is a governing factor.

There were two influences that brought about this result. On the one hand were the manufacturers of butter, who wished to get all their supply of butter on the market before the season of flush supply should lower the price. On the other hand were the buyers, who realized that the season of flush supply was at hand, and refused anything but a low price, preferring to delay their orders until the flush supply should bring down the price. These two causes operating together had more to do with the sudden falling of the price than all the manipulators combined.

Here would have been a splendid opportunity for the advocates of cold storage to demonstrate their capacity to produce an equable and stable market throughout the season. By placing butter in storage instead of throwing it upon the market they might keep the available supply at a point low enough to command a profitable price on the market and prevent such violent fluctuations in value. Such a use of cold storage would be fully appreciated by the cream producers who are just entering upon the season of a bountiful supply. It is for the interest of butter manufacturers to co-operate with cream producers for their mutual benefit.

During the last year, out of every thousand hogs, Missouri lost 175, Florida 150, Georgia 165, Iowa and Arkansas each 160, Mississippi 154, Indiana 150, Illinois 140, Kansas 120, and Nebraska, Alabama and Louisiana 110. Probably 90 per cent of this loss was due to hog cholera.

Dipping Sheep

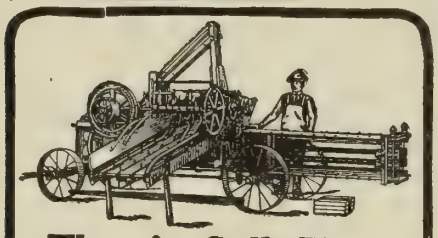
is only one kind of cleaning up needed at this time of year. Dr. Hess Dip and Disinfectant kills ticks, disinfects the skin and fleece, cures scab, mange and all parasitic skin diseases. Is just the thing to put in the hog wallow. Keeps its strength and hogs can free themselves of lice, at the same time heal and prevent skin diseases. Besides

Dr. Hess Dip and Disinfectant

cleans up and purifies the premises. It should be sprinkled in the poultry house and yard, poured into sinks, drains, and used everywhere where filth accumulates. It has hundreds of uses and should be kept in every home. It is absolutely uniform in strength, meets the U. S. Government requirements as an official dip for sheep scab, is non-poisonous—and costs nearly nothing. One gallon makes 50 to 100 gallons of solution.

Write for Dip circular.

Dr. Hess & Clark,
Ashland, Ohio



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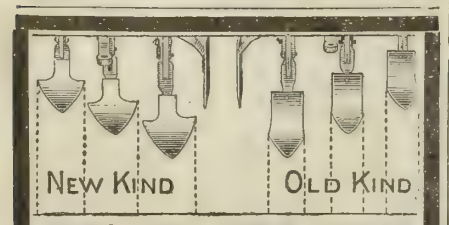

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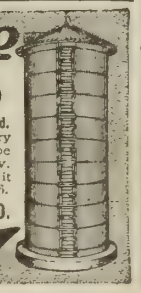

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VI—Origin and Development of Delaine Merino

IN THE early period of sheep registry excitement, in the later '70s, there seemed to be a disposition on the part of some breeders who were claiming to have a particular line of breeding or pedigree, tracing their flocks back to a fixed basis of importation, to insist on establishing this as the standard of eligibility to the registry of flocks. This, in its strictest application, cut out a very large population of sheep breeders of Pennsylvania, West Virginia and Ohio, who had builded their fine wool sheep enterprise mainly upon a basis of what was originally known as the Wells and Dickinson Spanish merino sheep of Steubenville, O., one of the most famed flocks of America, and later became designated as the Black Top merino sheep, the W. R. Dickinson merino sheep, the Delaine merino sheep, etc. This old-established basis, the original Wells and Dickinson flocks, which was credited as being directly from the Consul Jarvis importations from Spain, had acquired a nation-wide reputation as one of the finest flocks of sheep in the land, and from point of fleece and hardiness of constitution had but few equals.

Group of Present-day, Plain Type of Delaine Merinos of the McClelland Flock of Washington County, Pennsylvania

Correction to Prevailing Opinion

It might be well here to offer a correction to the prevailing opinion and belief that Bazaleel Wells and W. R. Dickinson were in partnership in the handling of merino sheep. They were in partnership association in the operation of a woolen mill at Steubenville, O., from 1816 to 1829, when Mr. Wells sold his interest and retired or engaged in other business. They were each, however, owners and handlers of large flocks of pure-bred merino sheep on their lands near Steubenville. They were separately purchasers of large numbers of imported and pure-bred Spanish merino sheep, Mr. Wells confining his purchases to the flock of Consul Jarvis, making his first purchase in 1814. During the year 1815 he made extensive purchases of merino sheep from the Jarvis importations. These sheep were all centered at Steubenville, O., where the flocks of both Wells and Dickinson were kept.

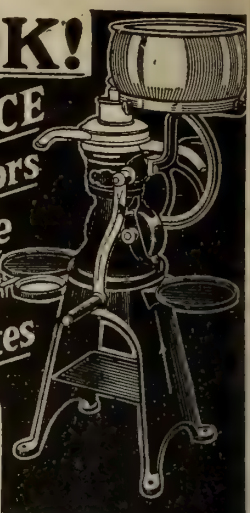
Frank A. Wells, son of Bazaleel Wells, then an old man, in 1883 was interviewed at his home in Steubenville very carefully in relation to the history of his father's flock, by Captain J. G. Blue, then secretary of the Ohio Merino Register, and the writer, G. W. Hervey, then chairman of the pedigree committee for the same publication, and had a very concise and plain statement from Mr. Frank Wells pertaining to the Wells and Dickinson merino sheep enterprise, and the way in which it was conducted. Mr. Wells, as a boy, with an older brother, had the general oversight of the Wells flock and was familiar also with the Dickinson flock. He discredited all statements that either of these flocks had ever been mixed with other blood by the use of Saxony or other than pure Spanish merino rams. There was an interchange of rams, however, between Mr. Wells and Mr. Dickinson; almost every year during the period the flocks were both located at Steubenville.

Origin of Dickinson Flock

The Dickinson flock had a different origin from that of the Wells flock, though in character were very much alike, indicating the same lines of breeding. The best information obtainable is that the Dickinson flock is the result of James Caldwell's merino sheep purchases and breeding from the year 1806 down to 1815. At this time Mr. Dickinson came into possession of the James Caldwell flock. This flock was represented by Mr. Dickinson as one of great merit, being started by choice selections from the Colonel Humphrey flock, and added to by selections from the best importations made down to 1815, regardless of price. It is altogether probable, if full information could be had, that Caldwell made purchases of Consul Jarvis. At all events, the Dickinson and Wells flocks became closely related before their dispersion in 1829 by interchange of breeding rams.

There is evidence in the history of some of the Delaine merino flocks of Pennsylvania that purchases were made of W. R. Dickinson in Washington county, Pennsylvania, on his way from the east with a flock of merinos that he was taking to his farm at Steubenville, O., and that these sheep were the property of Mr.

LOOK!



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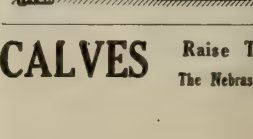

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ickinson, and not associated in any ay with Mr. Wells; additional proof corroboration of Frank A. Wells at there was no Wells and Dickin- n flock.

In Western Pennsylvania

In the establishing of pure-bred erino evidence in the Pennsylvania laine merino sheep breeding there reference made to the Richard W. eade importation in 1820, which as at first located near Philadel- hia, on the farm of Alexander Wil- on, but later moved to Washington unty, on the farm of Alexander eed. This, with the James McNary urchase from W. R. Dickinson in 822, is credited as among the be- nning of the merino sheep enter- ise in western Pennsylvania.

It is not known definitely to what xtent the Wells flock and the Dick- son flock contributed toward the read of the pure-bred merino ocks over the country tributary to eubenville, O., during the early eriod of the establishing of this in- ustry there. From 1815 to 1829, e date at which these flocks were spersed by means of a public auc- on, there was no doubt many rams ld for grading up the native flocks, nd some pure-bred flocks started. he woolen mills and their endorse- ent of the merino wool were with- t question a great incentive toward couraging the introduction of fine ool sheep into these states that ter became so famed for their lack-topped merinos.

Explanation of Many Registers

It can be readily understood why y combination of sheep breeders, the endorsement of any particular e of breeding or basis of origin of family of sheep as a pedigree re- irement for registry, would meet ith resentment from those shut out d who believed that they had just good sheep, just as pure in breed- g and as good a basis for public cognition. This will explain why ere were so many sheep registers rganized and put into existence om 1875 down to the period of sat- fying the registration requirements the various factions among merino eep breeders, following the organi- tion of the United States Register d its publication. There was a rong faction at the outstart among e originators of this register that d the idea of an exclusive Atwood cord. This stirred up an opposi- on that started sheep breeders erywhere to thinking and rompted them to hunt up evidences their flock breeding. Certificates purchase and certificates of sale at were either never issued or were r a long time lost were in demand.

To Create Increased Demand

The basis of pedigree demanding authentic line of ancestry, tracing ack without admixture of any other lood to importations of 1802, had ut one object, and that was to nar- w down the available flocks to ualify under the restrictions and us create a greatly increased de- and for registered sheep. This as too narrow, however, to satisfy e general purpose of the breeder roducing a good, fashionable sheep those days, yet without the pre- ribed pedigree requirement neces- ary to qualify for registry. Conse- uently, registers must necessarily roaden out to a more liberal recog- nition of importation, and 1812 was recognized.

The Last to Organize

The delaine breeders were the last to organize for registration, though well equipped with sheep of a good practical kind and quality. There were, in the beginning of this family of sheep, many prominent and careful breeders, as will be observed in passing over the history of some of the pioneer sheepmen of this district of country. Here again arose contention and rivalry as to who was and who was not entitled to recognition. Various associations were formed, resulting in the organization of a register to suit each faction.

The multiplicity of merino registers became confusing to buyers and to the sheep breeders themselves. It was the close and careful breeding that had been carried on for so many years, under the influence of registration, that had so intensified the purity of blood in these flocks that all registered sheep, practically, could not be questioned as to their claim of pure blood merino, no matter in what association registered.

Establish a Combination Record

The wisdom of the leading merino breeders of the country, in 1906, under this belief, were prompted to the establishing of a combination register, under which the sheep of all recognized merino associations in the United States could be admitted, with their former registration identity. This association is known as the American and Delaine Merino Record association, and is doing splendid work under a system of classification of sheep into three types — wrinkly, medium wrinkly and smooth or plain, designated as A, B and C type. This definition more clearly describes the kind of a merino sheep than can otherwise be named or outlined.

This is a proper and wise solution of the merino sheep registration problem and may be prosecuted safely on this basis to the end of time, permitting the fancy to vascillate from one extreme to the other and still have a pure-bred merino sheep with unimpeached character and a list of ancestral progenitors that extends back to at least one century in this country and indefinite centuries in the old world.

Evidently

At one of the New England universities there was a rather conceited undergraduate who was silly enough on one occasion to attempt to chaff a member of the faculty who, in the youth's opinion, evinced too marked a devotion to the works of Herbert Spencer.

"Do you know," the youth said to his preceptor, "I hold rather a contempt for Spencer."

"I greatly fear, young man," was the response, "that your contempt has not been bred by familiarity."—Lippincott's.

Answered in Kind

An army officer, noted for his bluntness of speech, rudely remarked in the presence of a clergyman: "If I had a son who was an idiot I would make him a parson."

"Evidently your father held a different view, sir," responded the clergyman quietly.

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High Cost of Living and Low Wages in Mexico

By Frank G. Carpenter

MEXICO CITY—The cost of living is rising in Mexico, and the hotels are now charging double what they did a few years ago. I am paying $5 a day for two rooms, without bath, at my hotel, and every time I eat it costs me a dollar or more. Ten years ago one could live almost anywhere in Mexico for from $2 to $4 a day, but the prices have gone up 50 per cent, and here in Mexico City it now costs about as much for a room alone as it formerly cost for full board. The same is true of everything brought in from abroad and as to many things produced in the country.

Rents are exceedingly high. Here at the capital flats rent for from $50 to $200 a month, and good houses of from eight to twelve rooms bring from $1,000 to $3,000 a year, while in the best residence sections they are even higher than that. There are families here who live in two rooms, for which they pay $5 or $6 a month, and the very poor are crowded into warrens where the rent is as low as a dollar. In the latter case the rooms are often unlighted and without ventilation, and the common laborers who form the tenants get only from 50 to 75 cents per day. Back in the country the wages are lower and the accommodations still worse.

Servants' Wages

I am told that the wages of domestics are rising, but they are still nothing as compared with those of the States. The average general servant gets from 18 to 20 cents a day, and he is paid by the day. In the smaller cities cooks receive from $3 to $6 a month, and they work from dawn until far after dark. If they understand how to use a cook stove and to do foreign cooking, they get double this, but this is from the foreigner who always pays through the nose.

Housemaids get $3 or $4 a month, gardeners 50 cents a day and coachmen from $6 to $10 a month, without board. Chauffeurs are skilled laborers here, and their wages run as high as $15 or $20, while the moso, or man servant, who tends to the door, carries the water and does other odd jobs receives from $6 to $12 silver a month. Some of these wages include board, and others an allowance for food. The latter, however, is seldom more than 9 cents a day; it consists of 6 cents for beans and 3 cents for pulque, or Mexican beer.

Housekeeping Expenses

Notwithstanding these low rates, to keep house costs considerable money. The work is carried on differently than with us, and you have to have three times as many servants to secure the same end. The labor is divided, and one girl will never do another girl's job. The cook will not make the bed nor will the chambermaid go to the kitchen, and she will often not wait on the table. The cook would leave if asked to do the washing, and even the moso has limited duties. As a result the average well-to-do family has four or five servants, and the leaks from housekeeping are almost as large as our own. The cook expects to board her family out of the kitchen; she often runs a sort of Aztec boarding house outside. In the homes of the wealthy there is usually a housekeeper who carries the keys and manages the servants; she buys the provisions and takes charge of the nurses and children. In such houses there is also a doorkeeper who is at the front door day and night; he opens the door, upon knocking, and he usually sleeps on the floor just inside it.

In a Mexican Kitchen

I wish I could show you a Mexican kitchen; it is nothing like anything we have in the States; it is a little room with a floor of red bricks. The range is a number of ovenlike holes in a ledge of brick and clay, which extends two or three feet out from the wall and whose top is about four feet from the floor. Each of these holes is one cooking place; they are filled with charcoal and the draft comes in from a hole underneath. The pots, which are sometimes of copper, but more often of red clay, are set on the live coals and water is boiled, soups are made, meats are fried and, in short, first-class meals are prepared in this way. The fuel is comparatively cheap, and a workingman's family can do its cooking on about 2 cents a day. Much of the food is boiled and fried, and the good cooks make tasty soups, stews and fries, flavored with pepper. Almost everything is hot with condiments of one kind or other. The cooking is a kind of a mixture of the Spanish culinary art and that of the Aztecs.

Inside a Mexican Kitchen, Showing the Stove

The Markets of Montezuma

The Indians of the days of Montezuma surprised their white invaders with their tables; they had thirty different ways of dressing meats, and it is said that at one meal served for Montezuma there were 300 different dishes, and the servants who prepared them and waited upon the table numbered more than 1,000. They had chickens, turkeys, pheasants, tame and wild geese and a half-dozen different kinds of game. They had fish from the lakes and also some from the ocean, which were brought by fast runners over the mountains, more than 200 miles away. At the better class houses of today the Mexicans have elaborate luncheons and dinners, and not a few serve their meals in European style. The average family, however, lives a la Mexico, and the meals are much the same throughout the republic.

What the Mexicans Eat

The principal articles of food are tortillas, tamales, enchiladas and frioles. There are also other forms of chile con carne, and some dishes the names of which I cannot give. The tortillas are a kind of mashed hominy pounded and kneaded into a tough dough; they are made of Indian corn soaked for twelve hours in lime water, after which the swollen grains are mashed by rubbing them between stones. The mush, or dough, thus made is kneaded into cakes as thin as a knife blade and of about the size of a saucer; these are baked over the coals, but are not allowed to brown; they are eaten without salt or any other seasoning. Tortillas are always sold about the markets, and you can get them hot from the fire at 2 cents a dozen.

Tamales are also cakes made of the same sort of corn, but when they are finished they are wrapped around ground pork, highly seasoned and inclosed in cornhusks. In this form they are boiled in lard for a quarter of an hour and then served steaming hot.

In making enchiladas Indian cornmeal is used as a base, but the cakes are filled with a kind of hash of onions, peppers, potatoes and native cheese. Another favorite dish is barbacoa, a sort of barbecued mutton prepared in an oven made of a hole in the ground, the same being lined with cactus leaves and so covered that the meat cooks and steams away all night.

Puchero and Frijoles

Another dish made of mutton is puchero; this is a sort of stew made by cooking the mutton in a little water with carrots, parsnips, green corn, cabbage and a half-dozen other vegetables, as well as onions, apples and squashes. The stew is kept on the fire two hours or so without

CLEARED AWAY
Proper Food Put the Troubles Away

Our own troubles always seem more severe than any others. But when a man is unable to eat even a light breakfast, for years, without severe distress he has trouble enough.

It is small wonder he likes to tell of food which cleared away the troubles.

"I am glad of the opportunity to tell of the good Grape-Nuts has done for me," writes a N. H. man. "For many years I was unable to eat even a light breakfast without great suffering.

"After eating I would suddenly be seized with an attack of colic and vomiting. This would be followed by headache and misery that would sometimes last a week or more, leaving me so weak I could hardly sit up or walk.

"Since I began to eat Grape-Nuts I have been free from the old troubles. I usually eat Grape-Nuts one or more times a day, taking it at the beginning of the meal. Now I can eat almost anything I want without trouble.

"When I began to use Grape-Nuts I was way under my usual weight; now I weigh 30 pounds more than I ever weighed in my life, and I am glad to speak of the food that has worked the change." Name given by Postum Co., Battle Creek, Mich. Read the little booklet, "The Road to Wellvile," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

skimming, and it comes out steam-cooked; it is dressed without salt or other seasoning.

And then there are eggs in a half-dozen different styles, chickens and turkeys, kids and young pigs and, in short, almost as many different dishes and articles of food as we have at home.

Frijoles are served at every meal, except at the first breakfast; they are Mexican black beans very well cooked and equal to the best baked beans from Boston; they are usually served the day after cooking.

Mexico is a stock-raising country, but meat is so high that the poor man's house seldom has it. There are cook shops about the markets where the shreds and cuttings and scraps are fried over charcoal and offered for sale. Here the Indian customers take up the greasy morsels in their fingers and consume them without knives, forks or plates.

The ways of butchering and marketing are different from ours; part of the animal is eaten. A great deal of the beef is cut in long strings, and sold almost by the yard, as it were; much of it is jerked or dried, and is used for stews. In some of the interior cities the butcher's wagon is a mule with a framework of hooks on the saddle; this framework is hung with the halves and quarters of beeves, and as the mule moves along the blood from them drips to the ground. Some of the mules are small, and the meat almost touches the roadway, raising a dust which peppers the meat. Some such men are meat peddlers, and they will hack off a slice for you upon order. The charge will be about the same whether you choose meat from the neck or the loin.

Meals Around the Clock

I have spoken of the first breakfast. The meals of the day are different from those we have in the United States. Here is how one eats around the clock: When he rises he has desayuno, or the first breakfast; this is so little that it would hardly form a wedge to keep the skin of an American stomach from the backbone; it is merely a cup of coffee, or chocolate, and rolls. The coffee is often an extract poured from a bottle into hot milk. Such breakfasts are served at all the native hotels, and if you want meat or eggs you have to pay extra.

The next meal is almuerzo, or comida. Almuerzo consists of rolls, meat and eggs, with coffee and chocolate, and the comida, served between 11 a. m. and 1:30 p. m., is made up of a soup, eggs, rice, fish, some kind of meat, with a dessert and small coffee. Dinner comes after 6 o'clock, and it is much the same as comida. As a rule the cooking is fairly good, save that there is too much pepper and grease to suit the American palate.

You can have your first breakfast in your bed if you want it. The second breakfast is eaten in the dining room, with all the family at the table. After this breakfast they take a siesta, or rest, of two hours or more. The business hours are from 8 to about 12 or 1, and from 3 to 6. Shortly after 6 the stores begin to close, and after 7 the business parts of the cities are dead.

As to what Mexico drinks, the text would make a whole letter. The rich have all kinds of wines, and the poor have their aguardiente, or Mexican brandy, and pulque, or the native beer made from the cactus. Aguardiente is distilled from the juice of the sugar cane. It is a brandy, so hot that a rag wet with it and laid on the skin will soon raise a blister, and I have been told it is good for sore throat. In Guatemala it is called "white-eye," and several glances from it will make the foreigner drunk.

Pulque is about the cheapest beer of the world. You can buy it all over Mexico for a cent a glass, and the wholesale price is about 1 cent a quart. It is said that over 200,000 gallons of it are consumed daily in Mexico City. This makes about six tumberfuls per day for every man, woman and child in the capital, and the consumption is proportionately large in many other parts of the republic. The beer is brought here by the trainload, and it comes in also on carts and in wagons. It yields thousands of dollars, and the tax upon it forms an important item in the government's revenues. Even during the times of the Spaniards, more than a hundred years ago, the annual consumption of this beer in Mexico City was about 100,000,000 pounds, and the net revenues to the crown were 800,000 Mexican dollars.

This beer is nature's own product. It comes from the sap of a cactus of the same species as the century plant. This is called the maguey, and it may be seen by the tens of thousands, running in rows back and forth upon the plantations of the high tablelands. Near Puebla is the Plain of Apam, which is entirely given up to the production of pulque. The plants there cover tens of thousands of acres, making forests of cacti. The leaves of the plants sprout from the ground around a green cone, which is a foot thick at the base and which rises high above the leaves, ending in a point like a needle. This cone is the stalk, and it takes about ten years before it flowers out, at which time the plant dies.

It is just before the flowering that the plant is ready for pulque. The cone or flower stalk is then cut out of the base of the plant, leaving a great hole or bowl, into which the sap from the leaves runs down, yielding many barrels of liquor per plant.

(Copyright, 1913, by Frank G. Carpenter.)

No-Rim-Cut Tires
10% Oversize

Our 11% Reduction

On April 1st, we reduced our prices on No-Rim-Cut tires 11 per cent, on the average.

This was partly due to lower cost of rubber, partly to multiplied output.

Our policy is always to give you every cent we save. To keep our profits down to 8½ per cent.

That is one reason why Goodyear tires far outsell all others.

Rubber Prices

Cultivated rubber is becoming so plentiful as to force down the price of Para.

For the twelve months ending March 31st, we paid on the average $1.09 per pound. On March 31st, the price of rubber was 88 cents per pound.

On the other hand, fabrics, in the same time, advanced 15 per cent. Labor cost materially advanced.

So, on tires in general, lower cost of rubber has led to no large reduction.

Factory Cost

But Goodyear sales have doubled over and over. Immense new factories have been completed, with the most modern equipment.

Our output is the largest in the world. In motor tires it is nearly ten times larger than three years ago.

It was this multiplied output, in main part, which justified our 11 per cent reduction.

Our Profits

At the end of each year we advertise our profits. This is to assure you that in Goodyear tires you get all the value possible.

In times past this profit has averaged about 8½ per cent. And this reduction, in our opinion, keeps it that low this year.

Under this policy, and with our vast output, it will never be possible to sell equal tires for less than Goodyear prices.

Cost Per Mile

There will always be tires selling under Goodyears, until all learn that lesser tires don't pay. Tires can be made at half the Goodyear cost, by the use of cheap compositions.

But we shall see that you never, in any tire, get lower cost per mile. And that's the only right way to figure. We shall never offer, at any price, less than the utmost in a tire.

No Extra Cost

No-Rim-Cut tires, since this reduction, cost no more than any standard make of clinchers.

These tires never rim-cut. And 23 per cent of all old-type tires are ruined in that way.

In air capacity, No-Rim-Cut tires are 10 per cent larger than clinchers. And that, with the average car, adds 25 per cent to the tire mileage.

Yet these new-type tires, with all their advantages, cost no more than old-type tires without them. That's why hundreds of thousands of motor car owners have come to No-Rim-Cut tires.

Your tire upkeep will be immensely lowered when you adopt them, too.

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AKRON, OHIO
No-Rim-Cut Tires
With or Without Non-Skid Treads

Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.

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We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits
Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

(1129)

Who Grows Our Popcorn?

Nebraska and Iowa Raise Much of It

WHERE does the popcorn come from? Everybody eats it; some persons seem to eat it merely as a matter of diversion, while others eat it with a relish, and seemingly an avaricious appetite, as though they enjoyed it and were trying to satisfy the craving of an abnormal desire to be full. It supplies a very large variety of uses in confectionery preparations; it is never out of season; it has a market on the street and in the homes; it is in favor with the rich and the poor alike, with the old and with the young. It has displaced the peanut to a very large extent, and as a pure food preparation stands high in the estimation of the consumer.

Popcorn is limited in its demand, however, and consequently must be limited in supply, so as to satisfy this condition of trade. We, therefore, find popcorn grown as a specialty, and its production confined to little communities where the industry has incidentally been introduced by some farmer who had the ambition to diverge a little from the community custom of farm crops and take his chances of finding a market for the produce.

Two Noted Growing Districts

Valley county, Nebraska, and Sac county, Iowa, are the two most noted districts in the western country in the growing of popcorn. It is claimed by local interests in these communities that their annual output of popcorn exceeds that of any other state or district of country in the United States, localized in popcorn production. The immensity of production of this crop in these two localities and the circumstances leading up to it, from a very small beginning in the outstart, are very similar.

The Nebraska popcorn enterprise was started in 1891, when W. G. Smith of North Loup, in Valley county, sent to Wisconsin for some popcorn seed and planted twenty acres for himself, after failing to interest any of his neighbors in his speciality venture. The first season's crop resulted in the shipment of one carload of popcorn. This reported a good profit, and others became interested when the shipments increased to five and six cars. The yield was good and the price paid by the local dealers was $1.50 per hundred weight. The charge for husking was 25 cents per hundred weight, or 20 cents per inch measured in the wagon bed. The yield per acre was from 1,500 to 4,000 pounds, and the acreage increased to 4,000 and above, bringing the annual yield as high as 7,500,000 pounds, and 250 cars demanded for its transportation to market. Last year the price was $1.25 per hundedweight and the cost of husking is 12½ cents per inch. The yield in the Nebraska district was low last year and estimated about 1,500 pounds. While the immediate North Loup district did not report an increase in production, the industry has spread out over a much broader territory and other shipping points have become factors in helping take care of this trade. There is not so much concentration of local interests, but a widening out to cover a much larger area in producing territory.

Ord is a Seed Center

Ord, the county seat of Valley county, has developed an extensive seed-growing industry in millets, cane, sorghum, cowpeas, alfalfa, the flint and sweet corns, Russian sunflower seed, early varieties of seed corn, Pride of the North and Bloody Butcher, the several varieties of the dent breeds. Special emphasis is placed upon Japanese millet. In good, seasonable years the yield is about forty to fifty bushels per acre. The price is now 80 cents per bushel. This is an easy, quick and cheap crop to grow, and the straw makes excellent feed for cattle.

The Ord Seed company also handles the commercial popcorn trade for that locality and has about eighty cars to ship this season. The yield is light in the popcorn district of Nebraska this year, owing to the exceptionally dry weather experienced in that locality. The seed company at this point has large elevator capacity, cribs and bins for storage of all kinds of seeds and grains. Everything taken in is run through cleaners, graders, fanning mill process, etc., and is thoroughly freed of all foreign substance when it is sacked for the trade. The storage capacity of cribs, bins and sacked grains and seeds is approximately 150 carloads.

Peculiar Climatic Advantage

The popcorn industry of this section of Nebraska possess one particular advantage over popcorn raised in other districts south and east. In no other popcorn-producing district can the product go immediately from the field to the market and into the hands of the consumer, and pop. The Nebraska product has a reputation of being ready for the consumer as soon as husked and delivered to the popcorn vender. In all other popcorn-growing sections the corn must be carried over until the following season before it is properly cured for popping. It is usually shelled and shipped in two-bushel sacks.

Popcorn is peculiar from the fact that there are exacting conditions that make it good quality or poor quality. In order to pop properly it must not be too old; sometimes it gets too dry to pop and thus there is waste in the process of popping it. A pint of popcorn to be of good quality must make sixteen pints of popped corn, and will pop even as high as twenty pints. A grain or kernel damaged in skin or germ will not pop, so it may be observed that there is need of understanding the requirements of the corn in order that it may be preserved properly for use. The White Rice and Queens Golden are among the desirable kinds grown.

Odebolt Claims to Lead

The Iowa popcorn district has the town of Odebolt as its center of operation and claims to be the greatest popcorn district in the world, in the matter of production. The announcement that within a radius of fifteen miles of Odebolt there is raised annually 15,000,000 pounds of popcorn would seem to be an assertion scarcely worth while contesting by any other producing section. The Nebraska district, if it is in a boasting mood, will be obliged to fall back upon its ability to put its crop onto the market immediately upon being harvested, and thus get the use of the proceeds one year in advance of its neighbor across the river, which from a business point of view would be a recognized saving of interest and insurance, a consideration that is not wholly without comfort.

It is estimated from some crops produced in the Odebolt district that the good yields bring an average of $50 per acre. The picking or husking of this crop gives employment to hundreds of hands who are able to earn from $2.50 to $3 per day and board. Great care must be observed that no silk or husk is left on the ear. Special care is taken in the harvesting of this crop that it is gathered and cribbed free from rain or moisture of any kind. Other farm work is always put to one side by the popcorn raiser until the popcorn is safely under roof. Good ventilation and plenty of air is the demand for the cribbed popcorn.

Its Origin in Sac County

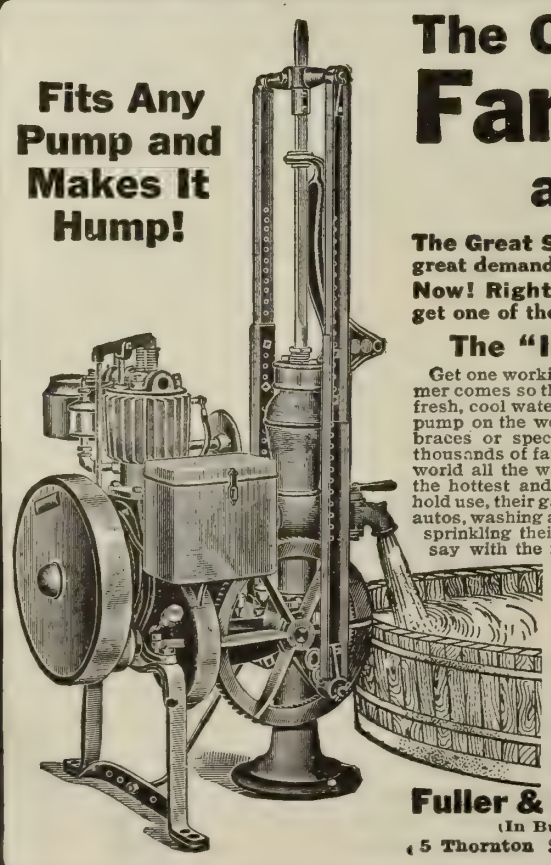
The origin of the popcorn industry in Sac county, Iowa, came about through the enterprise of one man, A. H. Reuber, who a number of years ago rented twenty-five acres of land near Odebolt and planted it to popcorn, in view of making popcorn-growing a specialty. He gave his crop each year improved advantages in cultivation and care and was successful in disposing of his produce to good profit. He got more land and raised more popcorn; neighbors seeing his success, became interested, and they, too, went to raising popcorn. By this time he became the popcorn buyer and dealer, and bought the crops raised by his neighbors, until he became known as the popcorn king.

Demands Not Decreasing

The demand for popcorn is not decreasing, but rather increasing, and the opportunity for making good use of a few acres of land in raising this crop seems very encouraging. While there are no doubt climatic influences that favor northwestern or north central Nebraska in curing out its popcorn for use as soon as harvested, there are other big yielding districts for growing popcorn successfully scattered all over the corn belt states that have never been so much as tested or tried in this crop.

The main thing in starting a new venture in crop production, in any locality, is to have a market looked up in advance, so that the produce may be put into the hands of the dealer as soon as harvested.

Fits Any Pump and Makes It Hump!



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The Great Success of the Farm Pump Engine the world over and the resulting great demand for it have enabled us to establish a new low-record price.

Now! Right Now!—is the time for you to take advantage of this opportunity to get one of these best of all pumping engines at a price so low it will surprise you.

The "Iron Hired Man"

Get one working on your well before the summer comes so that you may have plenty of clear, fresh, cool water. It sets right up close to the pump on the well platform, without any cleats, braces or special foundations. It has given thousands of farmers and ranchmen all over the world all the water they want for their stock, in the hottest and calmest days, for their household use, their garden, for washing their buggies, autos, washing and cooling off their porches and sprinkling their lawns. Get one and you will say with the rest, "It's the best and cheapest investment I've ever made."

270 to 2,450 Gallons Per Hour

It pumps constantly, day in and day out, for years to come, if you want it to. It is so simple and uses so little fuel that the cost is next to nothing. If you have a windmill you can attach it easily to the pump and use either the windmill or the pumper, but the pumper is always there ready to do the pumping at a moment's notice if for lack of wind, or any other reason, the mill doesn't work.

No Extras to Buy

This sturdy little engine comes complete, all in one crate, ready for immediate use. *No extras to buy.* **It protects your home** and buildings from fire. It runs the cream separator, washing machine, churn, grinder, or any other light machine.

Send tonight for big illustrated catalog. Get the new and reduced price on the celebrated Farm Pump Engine.

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Send me catalog and facts about new price on Fuller & Johnson Farm Pump Engines.

Name.....

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(376)

Original Stories by Our Young People

The Beauty of Worth

Once I knew a little girl,
Very plain;
You might try her hair to curl,
All in vain.
On her cheek no tint of rose
Paled and blushed or sought repose—
She was plain.

But the thoughts that through her brain
Came and went
Were a sure reward for pain
Heaven sent.
So full many a beauteous thing,
In her young soul blossoming,
Gave content.

Every thought was full of grace,
Pure and true;
And in time that open face
Lovelier grew;
With a heavenly radiance bright
From the soul's reflected light
Shining through.

So, I tell you, little child,
Plain or poor,
If your thoughts are kind and mild,
You are sure
Of the loveliness of worth;
And this beauty, not of earth,
Will endure.

—Ave Maria.

The Editor's Corner

There is a great deal of discussion going on lately in regard to the number of graduates of our colleges and high schools who go forth into the world unable even to speak the English language correctly. The colleges blame the high schools; the high schools blame the preparatory schools, and they, in turn, blame the home training of the students. But, after all, isn't it our own fault if we fail to learn the things the schools can teach us? We are too careless altogether about our grammar and pronunciation, which seem to us to be "little things" not worth bothering about. They are little things, but they count heavily for or against us in after life.

Many charming and admirable people say "ain't never" and other things of that sort, but you listen sometime to a man who uses such expressions in speaking and compare his conversation to that of some other person who speaks correctly, and see how much better the good English sounds.

No amount of education can do any good to the boy or girl that takes no interest in learning. Just get interested in the English language and see how fast education will soak in, even in the vacation time, which is almost here.

THE EDITOR.

(Prize Story.)

A Journey

By Ruthie Paine, Aged 10, Lyons, Neb. Blue.

Once, when I was 4 years old, we took a trip. Father, my sister and I went. We went through South Dakota; we went in a covered wagon. I was not growing, or was not well. Father and my sister were not well, either; that was how we happened to go.

We were gone three months. We never slept in a house once. I saw the Bad Lands; they looked like round hills with red blankets around them. I saw many other beautiful things, too. If papa or my sister spoke of my brother, next older than I, I would cry, I was so homesick.

We found some places where it was so hard to get water that we had to buy what we drank and what we gave the horses. It seemed queer to us to have to buy water. When we got to Belle Fourche they were having a fair there. There were a great many Sioux Indians. My sister bought bead work and such things. There was a little Indian girl who followed us from tent to tent; she did not talk, but would look at me and laugh; she was very brown and dirty-looking, except her teeth.

I was very glad to get home. Mamma said I looked like a little quail, I was so fat; I was tanned till I looked like an Indian, almost; papa said I ate like a man, and I guess I did. I had a nice time, but I was very glad to get home.

(Honorable Mention.)

The New Recipe

By Louise Montague, Aged 12, Riceville, Ia.

"Hello, there," said Farmer Jones, "How are your crops?"

"Oh, they're fine," said his neighbor.

"Say, Bill," said his neighbor, "I brought over this paper to give to your wife."

"Why, what's in it?"

"It's a new recipe for a cake. My wife just tried it and it was dandy."

"What paper is it in?"

"The Twentieth Century Farmer."

"Oh, well, it must be good, then, because you know that last recipe we found in that paper. Wasn't that grand?"

"Yes, you bet! But this beats it."

"Well, I'm hungry, and it's about 10 o'clock. Do you suppose she would have time to make that cake before dinner?"

"Oh, sure! My wife's making that kind of a cake now, and I'm hungry for a bite of it, so I'm going."

"Well, goodbye, I'm hungry, too," said Bill as they parted, both happy.

Additional Stories

BLUE—Lenore Henderson, Broken Bow, Neb.; Josie Brian, Rigby, Idaho; Jessie Bratt, Arapahoe, Neb.; Edna Spath, Scribner, Neb.; Eleanor Morris, Ashland, Neb.; Opal Billett, Princeton, Kan.; Opal Norris, Cleman, Neb.

RED—Robert Arnold, Keota, Okl.; Mary Huber, Kerman, Cal.; Vernon Gray, Bristol, Wis.; Ada Van Horn, Fossil, Ore.; Willie Orth, Liberal, Kan.; Amy Maddox, Naper, Neb.

Kodaking in Missouri

Photo by Edna Ratliff, Moberly, Mo.

School's Out

Off to the garden, the gopher hole, the pasture, for school's out!

During vacations the physical development and practical education of the farm boy or girl requires no gymnasium and does not become so strenuous a problem as it does often with the city child. There is a complete course of chores furnished freely, and happy is the child whose course is limited enough for other diversions, such as tending one's own flower or vegetable garden.

During vacation musical, art and other recreative attainments may be enjoyed. Many children of 12 or 14 may, with a $2 camera, learn to make pictures this summer. City cousins may be visited. I know of several grown young people who have never been on a steam or electric car, but live within forty miles of Omaha. They have exaggerated visions of the glories of city life without realizing the restfulness and largeness of country living, and, in short, have little knowledge outside their own door-yard.

MRS. W. KRISTENSON.

New Version of a Flower Party

In response to the inquiries for new contests, this one comes. It is good and children love it:

1. I planted a product in the dairy and a dish with a handle. What came up? Buttercup.

2. I planted a happy facial expression and a tool used for chopping wood. What came up? Smilax.

3. I planted a lot of sheep. What came up? Phlox.

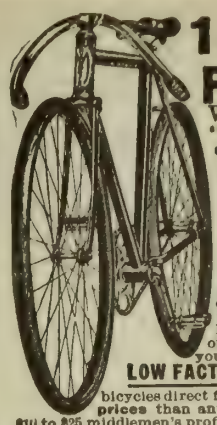
4. I planted a dude and a very ferocious animal. What came up? Dandelion.

5. I planted a man's name and a feather. What came up? Jonquil.

6. I planted a song bird and something worn by a horseman on the heel of his boot. What came up? Larkspur.

7. I planted a sly little animal and something worn in boxing. What came up? Foxglove.

8. I planted something that wants to be remembered. What came up? Forget-me-not.



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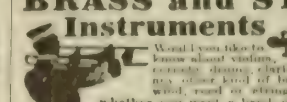

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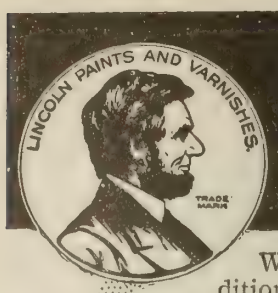

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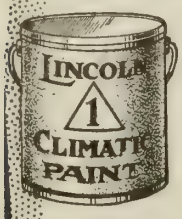

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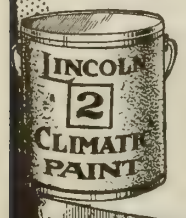

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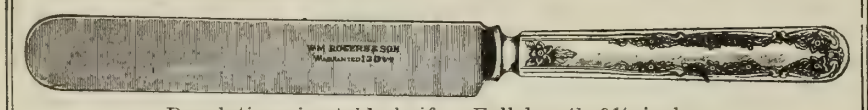

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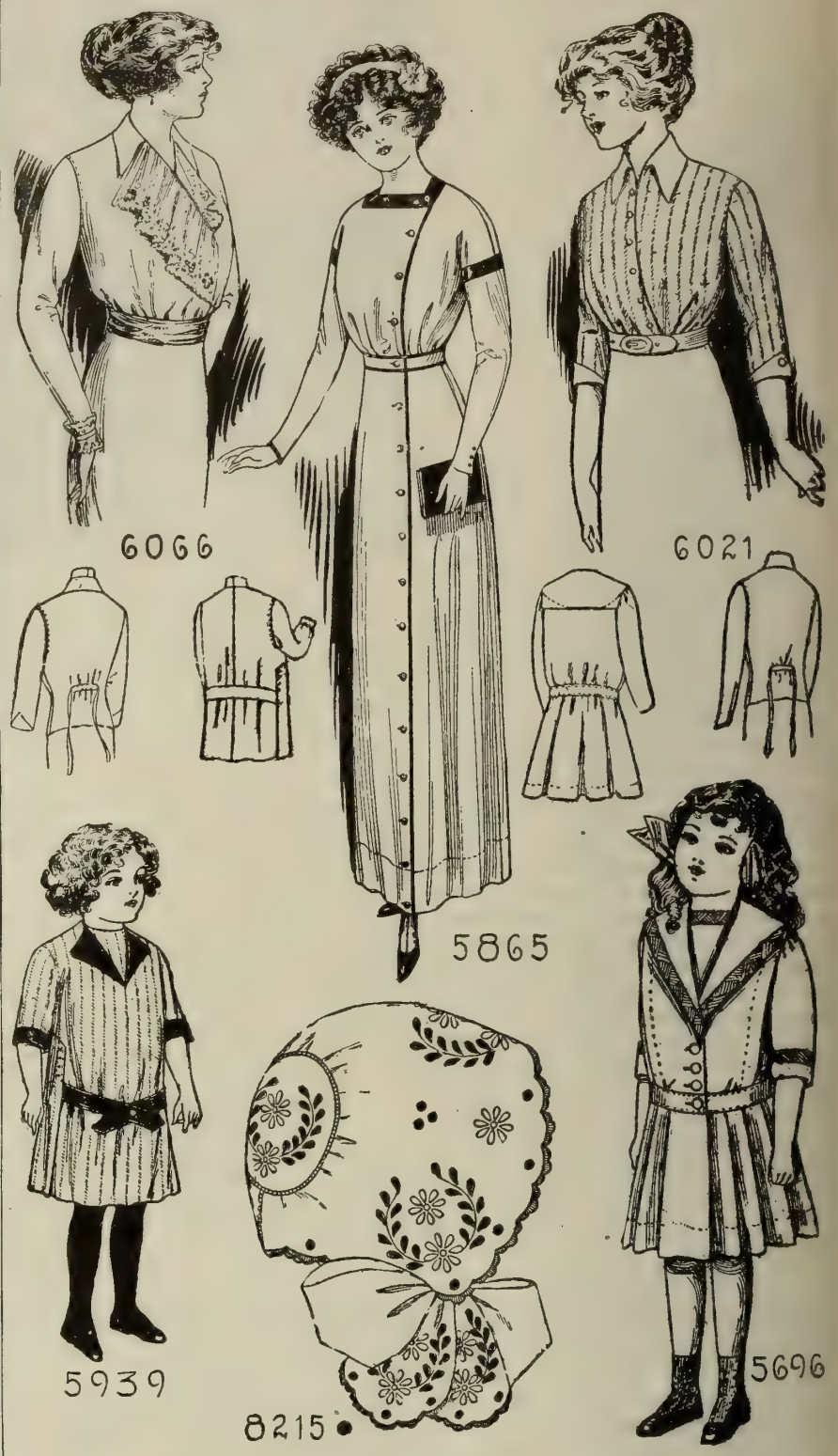
Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each



Description of Patterns

6066—Ladies' Shirtwaist. This pretty shirtwaist is made with removable chemisette. The sleeves can be made long or short as preferred. Linen or madras can be used to make this waist. The pattern 6066 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2½ yards of 36-inch material, with one yard of lace edging.

5865—Ladies' Dress. This dress can be made with high or low neck and has full-length sleeves. The closing is at the left side of the front from neck to hem. The dress is pretty fashioned of linen, with contrasting goods to trim. The pattern 5865 is cut in sizes 32 to 42 inches bust measure. Medium size requires 4⅝ yards of 36-inch material.

6021—Ladies' Shirtwaist. A pretty and fashionable shirtwaist design is here offered. The garment is made with front and collar in one and may have long or short sleeves. The short sleeves are finished with pointed turn-back cuffs. Silk, linen or madras can be used to make this waist. The pattern 6021 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¼ yards of 36-inch material and ¾ yard of 24-inch contrasting goods.

5939—Boys' Dress. This dress is just the thing for the small boy. The garment closes at the back. Long or short sleeves may be used. Linen, cashmere or serge can be used for this dress, with the revers, cuffs and belt of contrasting material. The pattern 5939 is cut in sizes 3, 5 and 7 years. Medium size requires 2 yards of 44-inch material, with ¼ yard of 27-inch contrasting goods.

5696—Girls' Dress. The blouse of this dress is made with a sailor collar and the dress can be made with either the long or short sleeves. The skirt can be plaited or gathered, as preferred. Serge or linen can be used to make this dress, with the trimming of braid. The pattern 5696 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 3 yards of 44-inch material, with 2⅜ yards of braid .

8215—Infants' Cap. French and eyelet design for an infant's cap in medium size. The flowers are padded and worked solid and the leaves are made as eyelets. The stems are in satin outline; the edge is padded, buttonholed, then cut out.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Of Interest to Our Women Readers

The Small Dreams

When I was a young girl I dreamed great dreams
Of giant castles fashioned on a hill of gold;
The gold is but a gorse-bush, and haply it seems
My castle's but a cottage, now that I am old.

Now that I am old, I dream small dreams,
Of tiny feet that falter, and tiny songs unsung,
Though I heard the trumpet blare and saw red gleams
From the flying feet of Cherubim when I was young.

When I was a young girl I dreamed long dreams
Of ever-flowing rivers and earth and sky unrolled;
My sky's a window square, the rivers are but streams,
And the earth is a hedged meadow, now that I am old.

Now that I am old, I dream short dreams
Of small, warm woods and little paths among;
I who saw stretched shadows and the sun's long beams
Of the cedar trees of Lebannon, when I was young.

And youth is a memory, with its long, deep dreams;
Its venture unadventured, the glory still untold;
But I can keep forever, unashamed, it seems,
The small, dear dreams of comfort, now that I am old.

—Frances Chesterton.

Our Home Chat

Is your house furnished with couches and rockers upholstered in warm reds and browns? These are delightfully cozy in winter, but as the days grow warmer they begin to look uncomfortably stuffy to the visitor entering your home, and, while custom may blind your eyes to them, they still have an effect upon you. You do not rest well when you sit amid such surroundings.

There are few of us that can afford different furnishings for winter and summer, but there is one thing we can all do to make our homes inviting as the heat of summer comes on. A fair quality of crash, or butcher's linen, in the soft, natural tan or white, can be bought for a few cents a yard, hemmed on the machine and pinned securely over the couch, Morris chair and other upholstered furniture. The heavy portieres can be removed and either replaced by some made of a lighter material or not replaced at all, as they impede a free circulation of the air very desirable in the summer time. Thus you will have a cool, fresh house, in which the temperature will seem several degrees lower than before. And when you finally remove your coverings in the fall you will find that your old furniture looks much brighter and fresher than it would have looked had you not kept it covered.

THE EDITOR.

The Outcast Boy

Sometimes we find a boy who is very unpopular among the boys of his own age. Naturally, we suppose him to be an outcast because of a mean or disagreeable disposition, which would make him distasteful to companions. But, on the contrary, we will find that the outcast boy is often superior, physically, mentally and morally to the boys who so persistently shun him. But why should this be so? Do they not like him? Yes, they like him, and respect him, too, but do not desire him as a member of the "gang" because his conversation and pastimes are not in sympathy with theirs. Either through a natural reserve and steadiness or through early training, he holds himself from doing and saying things which they do not hesitate to do or say, and suspicion soon rests upon him. They fear that he will tell of some of their doings and begin to shun him. He notices this at once, and in turn avoids them, because he feels that he is not wanted.

If there is such a boy in your family, he is of rare worth, as a grand man can be made of him. But he requires extra sympathy and consideration to keep him from developing too much within himself. He is usually fond of reading and derives much benefit from his books, but there are times when he longs for the companionship of boys, and many are the lonesome, weary hours that he spends, perhaps within hearing of the boys at play. Provide him with good books, for many long hours may be passed in reading. But aside from his reading provide him with some outdoor hobby, such as poultry raising and gardening. A few rabbits or other pets will often furnish hours of diversion. I know one boy who turns out many useful articles and derives much pleasure from a well furnished workshop. His mother always knows where he is, that he is safe and not in bad company. Some of his work is as good as that of an expert cabinetmaker.

The boy's hobby may be made many times more beneficial and enjoyable to him if some one of the elders will come frequently and manifest an interest in his work. Such moments of sympathy are of rare joy to the boy, and often in his enthusiasm he reveals cherished bits of his character which we like to remember and love him all the more for possessing. It is our duty to win his confidence and give him a full measure of sympathy and companionship.

MARGARET GRIFFIN.

A Useful Dog

There is no better nursemaid for a small child than a trustworthy dog. Be sure to secure a breed of dog that is well known for strength and kindness, and you can trust a child to his care with far more confidence than you can to a larger child. The accompanying illustration shows a little South Dakota girl and a Great Dane, that is her constant companion and guard.

Making Old Furniture New

Many people have old furniture in their homes that, with a little work, would look bright and new. That chair or table which is scratched and marred, or has a white, rough place where water was spilled on it, can be made to look as bright and new as when you brought it from the store. And, best of all, a woman can do the work in spare moments before housecleaning time commences. First, the old varnish must be removed; this can easily be accomplished with several pieces of broken window glass of different shapes. Window glass is much better than a knife for the simple reason that it will reach the old varnish in the corners and carvings in the furniture.

When the varnish is removed (and you will be surprised what a short time it takes to remove it), rub well with sandpaper. In a quiet, dustless room apply the new varnish. Any woman can do all this herself. I have done it; in fact, each spring I look over my furniture. I glue the loosened places, put a screw in here and there and then varnish, while my friends exclaim in wonder, "Your furniture always looks so new; what good care you take of your furniture!"

MRS. T. A. M'CULLO.

Housecleaning Day and Ways

Some people really enjoy the annual renovating and do not consider it a grim specter of unrest. I know a number of housewives who certainly seem in their element during the days of spring cleaning. It is a good plan to make up one's mind just what is to be done, then go at it systematically and in order. Do not upset the whole house at once, making everybody sick of home and the whole business. Do the work quietly, and room by room. It is a good plan to do the attic, cellar, all closets, wardrobes and large cupboards before one begins in the rooms themselves.

Don't hoard up rubbish until you have a regular museum of unusable stuff, for even if you should ever have the need of some special article you would by that time have forgotten it was in your possession, or be unable to find it if you did remember its existence.

An old lady, a one-time neighbor of ours, used to say, "I allus commence housecleanin' quite a spell 'fore time to begin," and we find her plan a good one. MRS. GILBERT.

A Query

Will some of the readers please let me know, through The Twentieth Century Farmer, the correct size of a sheet and a quilt; also a pair of pillows, and how to make same? I made some pillows about eight years ago. I whipped the feathers and then put them in a muslin bag, which was then put in the ticking. How much longer than the pillow should the pillow-case be? Which is best, home-raised goose feathers or boughten feathers? Or duck or goose feathers? How can a pillow be washed? I have not had much experience in such matters, my work being mostly outside.

A READER

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Independent Harvester Company

E. B., Red Deer, Neb.: Could you give me some data as to the future prospects, present standing and business relation of the Independent Harvester company of Plano, Ill.? This is a farmers' co-operative company, and I am thinking of buying shares in the company. Was it investigated by the government?

Answer—When in Chicago a number of weeks ago at the National Conference on Marketing and Farm Credits, the editor made a number of inquiries with reference to the standing of the Independent Harvester company of Plano, Ill., and the confidence commanded by it. The company is solvent. One of the wealthiest and at the same time most earnest champions of co-operation there told him that he regarded the Plano company as the gravest menace to co-operation that exists today. It is charged that the company is in no proper sense co-operative; that the farmers that buy stock have no control whatever in the management of the company, and no voice or vote in the matter.

W. H. Green of Creighton, Neb., is one of the committee of stockholders that are now investigating the affairs of the company, and expect to prove that the expenses of operation of the company eat up all it receives from sales, and that the only way in which it can secure raw material for further manufacture is with the money received from farmers through sales of stock to them. This gives it a balloon character that is not commendable, if true. The company has never paid a dividend, and probably never will. The name "Farmers' company" is a misnomer, in the opinion of those best qualified to judge. The manager has just had his own salary raised from $6,000 to $12,000 a year, altogether too much for the amount of business done.

The company at present is under investigation by the government, simply to ascertain whether it has used the mails to defraud. The government will probably report nothing found incriminating, because the company is organized under the laws of the state of Maine, and its charter gives it the right to do just what it is doing.

Until the atmosphere clears, this paper cannot recommend farmers to buy stock in the company.

Paralysis of Optic Nerve

Mrs. M. McD., Paige, Tex.: I have a mule that acts like it cannot see in front of it; it walks and acts like it were blind, but can see on either side of it. Eyes look as good as any mule's or horse's. I have just bought the mule. If there is any remedy for this, answer through exchange.

Answer—This is probably the beginning of paralysis of the optic nerve, which eventually causes blindness. There is no treatment.

Bunch on Neck

C. W. W., Barnesville, Minn.: I have a goat that gave birth to three kids about two weeks ago, and just a couple of days before I noticed she had a bunch on her neck; it felt like a soft swelling, and when the kids were born they had the same. Can't tell that there is any difference in it since I first noticed it. Would like to know what you think is the matter with her. She seems to be in perfect health every other way so far as I can tell. She eats well, doesn't cough or act at all like she had a cold and she gives a good flow of milk. She has wild hay, corn, corn fodder and oats to eat.

Answer—It would be impossible to say what these bunches were without making an examination, but as long as they do not increase in size and seem to do no harm, it would be well to leave them alone. If they should begin to enlarge, it would be well to have some qualified veterinarian examine them.

Farm Credits Again

Here is what the Texas Co-operator, in a sharp paragraph, has to say about the matter of farm credits:

The farmer needs cash at a low rate of interest and there is only one way to get it that will help the farmer and keep him out of the clutches of the money lenders, and that is for the United States government to divorce itself from the banking institutions and go into partnership with the producers of the crops and lend them money at as low a rate as they have been letting the banks have it for the last fifty years. That is the correct principle, and the quicker the farmers adopt it and force their government to give it to them the sooner they will have cash and do away with the present credit and mortgage system.

What do our readers think of this proposition? Isn't it as fair, isn't it as businesslike, isn't it as much a function of government for the government to loan money to farmers as well as to banks, and to loan it at the same rate on just as good security? This paper would like to hear from as many of its readers as possible what they think of this suggestion.

This idea seems to be growing in the public mind. It is incorporated in Congressman Bathrick's bill that has already been introduced in congress and will be reintroduced. This agitation is not going to die down. In the end the government must grant what will be for the greatest good of the greatest number, whenever the greatest number see fit to demand it. Let the readers of this paper send in their opinions, whether favorable or unfavorable. This will help to clear the atmosphere and to formulate public opinion.

Facts and Theories

One farmer says he prefers the results of practical experience to newfangled theories.

So say we, all of us.

A theory without facts behind it is not worth much.

Yet the strides the world has made toward better things have come about through the men of theory—the dreamers—who knew by intuition.

The steam engine was but a theory in the brain of Watt, a lad watching the lid of the teakettle bob up and down. Yet there were some solid facts behind this vision—and it gave us a new world.

The possibilities of electricity were only dreamed of by Ben Franklin, "fooling" out there in the rain and storm with his silly kites and an iron key tied to the string. Yet he had a theory that electricity was something man might harness and use. He had but one fact of real experience—the current from the iron key—but with both together he gave the world a new force.

He was a theorist who stated that clover has bacteria growing on its roots and these bacteria draw nitrogen from the air and put it in the soil to its enrichment for following crops. People laughed at him. "Another blamed fool trying to make us old farmers swallow a newfangled theory," said they. The idea came, mayhap, like a burst of light without any previous experiment or known facts. Taking his theory into the field of facts, the discoverer produced results. The facts came pouring in from the field of the practical farmer from the chemist's laboratory and from the botanist's microscope. They all tallied with each other and with the original proposition. There was not one single fact to the contrary. It gave to agriculture a new mine of wealth.

A theory is a belief based upon a single observation. It becomes a truth when it is backed up by universal experience.

There is a heap of difference between guessing and knowing. For example, there is a lot of farm practice going on all around us that is based upon insufficient evidence.

What the farmer needs is to cultivate the judicial habit of mind, the ability to weigh all the evidence, to sort and classify it, test it for truths and falsehoods, then make a decision justified by all the testimony and not from one spectacular instance.

We need no theories by visionaries who cannot support their fads by facts. We should immortalize the dreamers, with far-sighted vision, who see things ahead and herald them to us when our own dull wits hold us in check.

Montana. H. A. BEREMAN.

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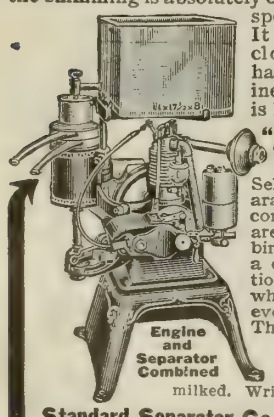

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Didn't the Saginaw Silo recently adopt the **Patented Angle Steel Rib** and the **Spline-Dowel**? Wasn't it the Saginaw that made the **All-Steel Door Frame** famous? And was ever anything invented to compare with the **Saginaw Base Anchor** or the **Saginaw Inner Anchor**? Men, this year's Saginaw is a **wonder! Strong as a City Skyscraper.** Even when empty, it stands as immovable and strong as the great Rock of Gibraltar. Your Silage is always **bright** and **clean** clear to the edges, next to the wall.

WRITE! Rush a postal to us at once and you will soon have before your eyes the fascinating story of the World's Greatest Silo. No Dairyman or Stockman can afford to miss such a treat. Mail just a postal now, saying you want the new Saginaw Silo Book No. **62** and it will be sent you by return mail.

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The Lone Tree Apiary

The accompanying photograph shows the "Lone Tree Apiary," one of the largest in Nebraska. It is the property of Mr. Berryman of Central City, Neb. This apiary had its origin in a stray swarm of bees which settled on a plum tree in Mr. Berryman's yard eleven years ago. The plant now contains 185 hives. Last year 9,000 pounds of excellent honey was harvested and this year the yield will probably be in the neighborhood of 25,000 pounds. Less than half an acre of ground is occupied by this industry, and all the work is done by Mr. Berryman himself, who is 65 years of age.

Right Kind of Dairy Cow to Buy

IN FARMERS' institutes and at dairy meetings the question is often asked, "What type of cow should be bought?" To answer the question in a general way is easy enough. Buy a cow of the dairy type.

A dairy cow should have a large, well-formed udder, with fair-sized, well-placed teats; she should have broad hips and high hip bones and high pelvic arch; she should have a big barrel, well sprung ribs and a prominent spinal column; she should have a large heart girth and great lung capacity, because these denote constitution. If she is a good dairy cow she will have all these, as well as narrow withers and a feminine neck and head, with prominent eyes, etc. These are some of the marks of a dairy cow as against a beef cow.

A good judge of dairy cows would select from any herd of cows that have dairy characteristics, but after he had selected the cows of dairy characteristics he would find it more difficult to pick out the profitable ones. As a matter of fact, this cannot be done with the eye. The only way to select profitable cows is to test them. The owner should know how much milk they give, what percentage of butter-fat the milk contains and how much it costs to produce the milk. There must be a business calculation before one can tell the profitable dairy cows, because some have dairy characteristics that are not profitable producers.

On the other hand, once in a while a cow of the beef type will produce milk or butter-fat at a profit, but this is the exception rather than the rule. The man that goes out to select a herd of cows for dairy purposes will do well to pass cows of the beef type by. He cannot afford to invest money in them.

To the man in the market for dairy cows, as well as to the man who has cows to sell, the matter of knowing just what each cow in the herd is doing is simply a plain business proposition. One can go along year after year milking cows and taking milk or cream to the creamery, or manufacturing it on the farm. He knows that he sells his feed to the dairy cows and gets certain returns, and probably, on the whole, makes a profit; but why not go a little farther and put into practice something that will give him data whereby he can tell what he is making out of each of his cows?

There is no business sense in keeping a dairy cow that will not pay for what she eats. There is no use in it, and a dairyman will never get rid of those poor cows until he has these records. It does not do much good to keep a record of a cow for one week, or one day, to see how much she will give. We have to feed her a year, and do not know whether she is valuable or not until we have a record for the whole year. We want this record for two or three years. We want to be careful about this, but there is no subject in the whole category of dairying so important as this question of knowing the individuality of each cow in the herd. W. H. UNDERWOOD.

A Lesson to Learn

Europeans long ago learned that they could raise larger crops of potatoes from immature seed than from mature seed. It is about time for Americans to learn it, too. In several tests the immature seed produced 72 per cent more potatoes than the mature seed.

A Gentle Reminder

See that the mower, the rake and the binder are ready for use—all repairs supplied, every burr tightened and in place before the time come to use them.

Step in Right Direction

Milwaukee has definitely abandoned the Elgin butter market and established a market of its own. This looks like a step in the right direction.

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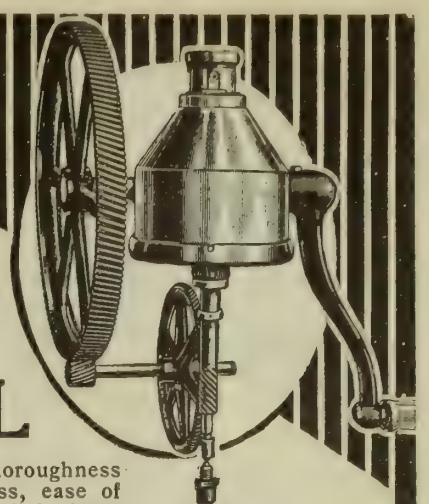
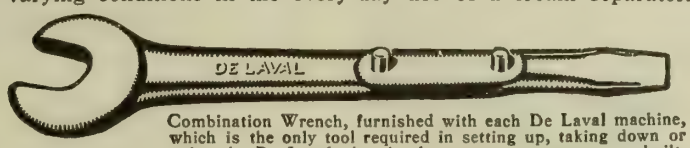


EXCELS ALL OTHERS not only in thoroughness of separation, sanitary cleanliness, ease of running and durability, but as well in its great simplicity.

THERE IS NOTHING ABOUT THE OPERATION, CLEANING, adjustment or repair of a modern De Laval Cream Separator which requires expert knowledge or special tools.

NOR ARE THERE ANY PARTS WHICH REQUIRE FREQUENT adjustment in order to maintain good running or to conform to varying conditions in the every-day use of a cream separator.



Combination Wrench, furnished with each De Laval machine, which is the only tool required in setting up, taking down or using the De Laval, the simplest cream separator ever built.

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The new 72-page De Laval Dairy Hand Book, in which important dairy questions are ably discussed by the best authorities, is a book that every cow owner should have. Mailed free upon request if you mention this paper. New 1913 De Laval catalog also mailed upon request. Write to nearest office.

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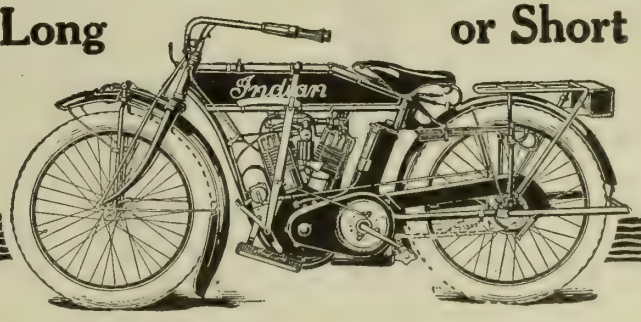

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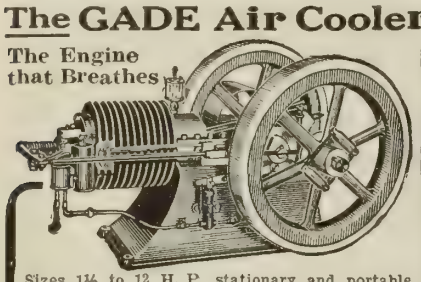

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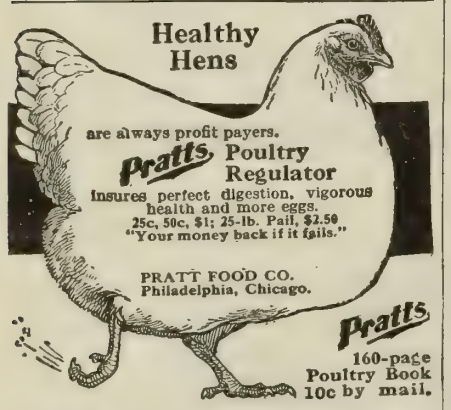

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A CROP EVERY YEAR

A country that will do that is worth tying to. Plenty of rainfall would make millions of acres in some portions of the country very productive; but where it cannot be depended on farming is hazardous. The entire line of the KANSAS CITY SOUTHERN RY. runs through the certain rain belt, and if the farmer does his duty he is sure of a crop. Quit gambling on the climate. Make your home in this region of perpetual crops. The richest virgin soil is waiting for you here at prices you will never again be able to touch. Send today for information about land open for settlement and let the Kansas City Southern start you on the way to fortune. Don't delay visiting the country that will mean better conditions and steady profits for you. Remember—a crop every year.

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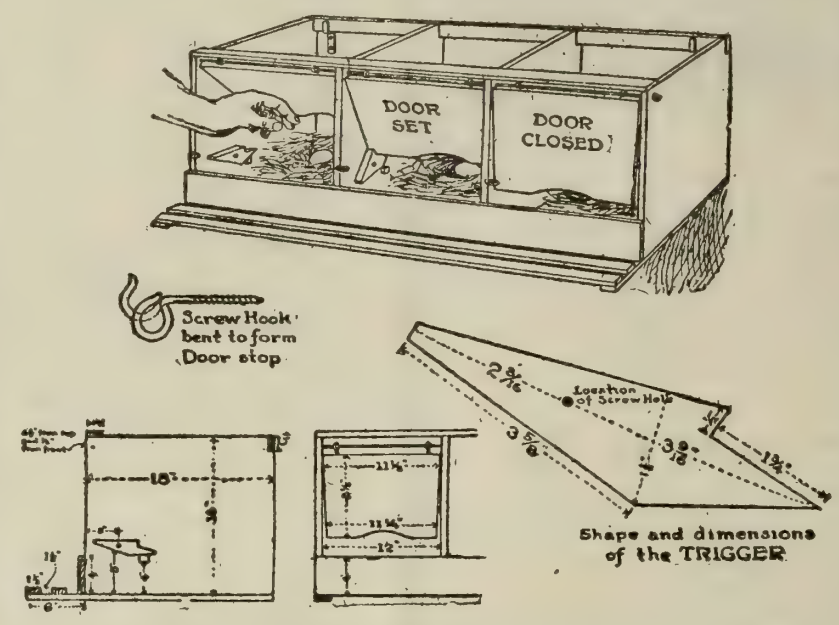
Twentieth Century Farmer

for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

How to Construct Trap Nests and Build Up Strain of Layers

NOW and then a poultry breeder is found even among the farmers, who would like to build up a strain of layers by means of the trap nest system. He usually seeks a little light on the subject. First, are the nests; these he can buy, or can make from perhaps some home-made affairs he has seen, or from a plan he pays so much for. The accompanying cut shows trap nests made at one of our agricultural colleges. Whether one could make these or not depends upon how handy he is with tools; it seems simple. The success of this trap depends upon the right adjustment of door and trigger; these can be fitted to any box of the proper size.



TRAP NEST USED AT A NEW ENGLAND AGRICULTURAL COLLEGE.

The boxes in cut are hung at a convenient height above the floor, with back against a wall; they are sixteen inches high, twelve inches wide and eighteen inches deep. Planed boards were used. Tops can be made; these were to use under dropping boards. Ventilation near the top must be provided. A six-inch runway extends along the sections of nests for the hen's convenience in getting into the nests. The floor must be of strong stuff; a four-inch board nailed across the front retains the nesting material, which must be of a kind not to catch and stop the trap door's working.

The doors are eight and one-half inches high, eleven and one-half inches wide at the top and eleven and one-quarter inches wide at bottom. The doors are hung by putting two screweyes into the top and passing a light rod or heavy wire through them; this will enable the doors to swing free, back and forth. To check each door from swinging clear out, a screw hook, bent as in illustration, is used for this check. This should be screwed into a partition and turned so the door will strike it. When the hen is released this is turned to let the door swing open.

The locking device, called the trigger, must be made exact; this is shown in illustration. This is cut out of strips of planed lumber one and a half inches wide and seven-eighths of an inch thick. One trigger is made for each nest. It is attached to the partition as shown. The hole through which the screw goes must be large enough to give the free action, and placed three inches from the front and five from the floor. When this is set the front end of the trigger is depressed and the lower edge of the door rests in the notch at the other end. Gravity holds it in place. As the hen enters the nest she raises the door slightly with her back and the rear end of the trigger drops down and rests on a nail or block placed in such a position that it holds the front end at a point slightly above the lower edge of the door when closed. The door slips off the hen's back, swings forward, slips over the front end of the trigger, which again rises behind the door, and the hen is now locked in until you come to let her out.

Trap nesting has its disadvantages; they take close attention. This is their worst drawback, as you must go eight or nine times a day to release the hens, scan their leg band numbers and put down their laying record. The nests are of most value to the breeder.

Their advantages are: They enable you to know which hens lay oftenest and which shirk, which lay imperfect eggs and which infertile and weak-shelled. You can save the eggs from your best show specimens and know them when they hatch. You can tell which hen is giving you weak chicks and which the strong and virile. Some poultry keepers merely trap-nest for a while in the spring; others again trap-nest the pullets in the winter. A pullet that will make a record of sixty eggs by March, should she begin laying first of November, is considered good for 150 through the year, and is of extra value as a breeder of laying stock.

Bad Case of Cold

Mrs. J. H. Sheridan, Wyo.: Will you kindly tell me what ails my chickens? They quirk around as if their noses were stopped up, and on examining them I find a yellow substance gathered in their throats. It is rather hard. Haven't any sick ones. They eat and look well, but that quirking is annoying. Have washed their throats with coal oil and lard, with a drop of carbolic acid.

Answer—Would much rather you had given your full address. Cases of the quirking kind that you describe I look upon as I do a bad cold. It is taking cold that brings it on. Some people persist in calling it roup, if the cheesy deposit appears in the throat. For such cases I depend upon coal oil in the water. Have fare water beside them also, but see that they get the coal oil water. This, with some quinine in a mash feed, and a dose of half lard and half turpentine poked down their throats occasionally, will usually stop the quirking and heal up the yell w places. For these swabbing the throat out with peroxide of hydrogen, diluted half, and loosening the yellow exude, is, more often than not, a decided help. This condition will invite the real roup, and then the fowls will be sick in earnest and many will die. Feed well and keep up their strength with quinine and try to steer them clear of the bad-smelling, dollar-losing roup.

The Brooding House

For a flock of hens numbering over twenty-five on up to hundreds, if you depend on the hens to do the hatching, then, to save eggs and chickens, you should without fail provide a brooding house. Any house will do provided it is dry, roomy and tight enough.

Compartments must be built in this house and made to shut in the hens, each to her own nest; these can be made of wire or boards, and must be roomy enough that when the hen jumps off her nest at any time when you are not ready to have her come off there is room for her to stand between her nest and the door. The nest should be higher than the floor. It is best to provide enough of these compartments that you may set half a dozen or more hens at the same date. On the outside of these compartments must be kept water, feed and a box with dusting material. Once a day, some time in the forenoon, open these doors, and if the hens will not come off, set them off. Go back, say, twenty minutes after and note if each is back on her own nest. At first you are likely to find two on a nest; change these to nests left without a hen. As a rule they learn which nest is their own, but if a hen persists in not knowing, give her place to another broody hen not yet provided for. It is useless to expect anything but a waste of eggs, and of smashed chicks at hatching time, if you let hens brood eggs where other hens come to lay. If you watch you will find the layers pestering all patience out of the sitting hens for hours before they take another nest to lay in. If you approach everything seems quiet, but the moment you leave, then old Mrs. Layer begins to taunt Mrs. Setter into scolding, threatening and tramping restlessly about in her eggs, and the chicks inside suffer.

These brooding houses can, later on in the year, be turned into laying houses by leaving all doors open.

IDA M. SHEPLER.

Review of Live Stock Market

By A. C. Davenport

FEAR that the possibility of free meats will wreck the cattle market seems to have taken possession of a good many cattle feeders within the last two or three weeks. Forgetful of the splendid market that has prevailed all the year, forgetful of the shortage in receipts for four months of over 110,000 head at the six big markets, forgetful of all else except the "free meat" bogy, the country is hurrying its cattle to market and sending prices downward at such a rate that at present writing they are 40@60c lower at the big market centers than they were at the high time. Such a break at this time is most unseasonable and a heavy price to pay for a senseless fear. No one claims for a moment that there are more cattle in the country than will be needed between now and the coming of grassers, and it is a pity that the country should be made to suffer through injudicious shipping a loss of $6.00@10.00 per head on fat beeves, as has been the case the last week or ten days. Tight money and shortage of feed may be sending in some cattle, and others are being sacrificed by their owners for fear that the market will go still lower.

When the timid and weak holders have cashed in their cattle it is difficult to see how there can fail to be a rapid reaction in values. It will be remembered that toward the close of 1912 there was a sudden panic to unload cattle that broke the market badly and kept it down for some little time. The bears indulged in the same line of talk then that has been quite common the last week about there being more cattle in the country than was generally reported and that the high point had been touched, etc. As soon as the scare was over the market sprang back again and has been in a most satisfactory condition until very recently, when the country again took fright.

Veal Calf Receipts Lighter

Not very long ago many writers on the live stock situation were advocating the passage of a law that should prevent the slaughter of calves. In view of that, it may be of interest to know that the receipts of calves at all the big market centers have shown a heavy decrease this year. Thus Chicago, which received 80,000 calves during the first four months of 1912, dropped down to 60,000 for the corresponding period of 1913. Receipts of calves at Kansas City fell off one-half during the same time, and the same was true of St. Joseph. At Omaha and Sioux City no separate record is kept of calves, they being counted in with other cattle, but all the smaller markets show more or less decrease.

Buyers of calves at the big markets claim that the decrease has been due to the holding back of the better grades of calves of the beef breeds, such as would grow into good beef or into good breeding stock. It is also claimed that there is a heavy decrease in receipts of heifer calves of the dairy breeds. Some are inclined to ascribe the shortage in receipts to a shortage in supply of calves available for shipment, but the scarcity of well-bred calves would seem to indicate that the cattle-growing states are conserving their calves. It would look as if the country is really going back into the cattle business. No law passed by legislatures was necessary to bring this about, but only the great law of supply and demand. Some idea of the scarcity of choice veal calves may be gained from the fact that for the last week or ten days choice veals have been selling at the Omaha market as high as $10.00 per hundred pounds, live weight. Think of it! Calves not yet weaned bringing $17@20 per head. Such prices are certainly a big inducement for selling.

Bears Control Hog Market

Packers in the hog trade have continued their bear tactics and have succeeded in forcing the price of hogs to a still lower basis. The market is now at the lowest point touched since February, but is still $1.00 per hundred higher than it was at the beginning of the year. In the light of what has just happened it may be of interest to turn back to the last two months of 1912, when packers made a raid on the market very similar to what they are now making and under very similar conditions. At that time receipts of hogs were quite liberal and the shipping demand being light, packers took advantage of conditions so favorable to them and broke the market over a dollar per hundred during the two months from the later part of October to the later part of December. At the beginning of the present year hogs, on the basis of Omaha, were selling right around $7.00. As receipts became lighter and as the shipping trade revived the market reacted rapidly, and during the two months of January and February recovered all the lost ground. During March the advance was continued, the high point of the year to date being reached the latter part of March and early part of April.

There is no question but what buyers figured to break the market during May and June, when liberal receipts were expected, and thus far they have been very successful Unfortunately for the selling interests, eastern packers have been receiving a good many hogs from local territory and have not been buying with their usual freedom at the big western markets, and this has made it easier for the buyers to bring about the desired break. Whether it will be possible to force the market still lower remains to be seeen. The immediate future of the trade appears to be dependent very largely upon the question of receipts as well as upon the shipping demand. It is generally recognized that even after the severe break that has taken place, the market is still high, but while the ranks of the bulls have been materially thinned out, there are still many left who believe that the present break cannot endure very long, and that after the present liberal runs are over prices will rapidly recover.

Sheep Prices Satisfactory

Trade in sheep and lambs have been devoid of any specially new or interesting features. Prices have advanced and receded according as receipts have been large or small, while the market on an average has been in pretty fair shape from a seller's standpoint. In fact, the market for the season as a whole has been one of the best ever experienced by the trade. Feeders have made good mony, notwithstanding that they paid extravagantly high prices for feeding stock to begin with. Supplies of stock are now being rapidly depleted, and there is no reason for anticipating other than a continuance of satisfactory market conditions until the close of the season.

Live Stock Notes

Some Good Poland Prospects

While in the vicinity of St. Edward, Neb., last week we called on Dave Hinkle of that place and found him with about fifty head of little Poland Chinas on hand and two more sows yet to farrow. Mr. Hinkle is one of our young breeders who has gone out and bought the good ones and has a herd established that carries as good blood lines as will be found anywhere. His spring pigs are sired by Great Hadley and M. & M. Mastiff. These boars are both State Fair prize winners and have proven themselves to be excellent sires of the big, smooth kind with quality. On account of having so much of his get in the herd, Mr. Hinkle is offering Great Hadley for sale at this time. This boar is a first-class individual and should be snapped up by some breeder who is looking for something of this kind to place at the head of his herd. He breeds a type that cannot help but please, and Mr. Hinkle is certainly pricing him worth the money. If interested, write him, mentioning this paper.

Froisted Has the Goods

M. O. Froistad of Newman Grove, Neb., has about as good a lot of spring pigs at this time as we have ever seen on the place. There are about 80 head all told sired by B. C.'s Chief Select, Valley Prince, Red Chief Wonder and others. The larger part of them, however, are sired by a young boar, M. C.'s Chief Select, he being by Chief Select and out of the dam, Queen Advancer 14th, by Advancer. Mr. Froistad has experienced no trouble whatever with his pigs so far this season and feels mighty good over the outlook. He is figuring on exhibiting at the state fair and we believe will be in evidence when it comes to placing the blue ribbons. Mr. Froistad is a one-third owner in Model D's Wonder, a boar that in our opinion is going to make somebody sit up and take notice at the state fair this fall if nothing interferes in the meantime. The other two-thirds interest in this boar is owned by N. J. Nelson and John Blaalid, both of Newman Grove, Neb. He is a 2-year-old hog and bred by Mr. Froistad. His sire was Belle's Wonder by Belle's Crimson Wonder, champion boar at Nebraska State fair, and his dam was Model D, one of the greatest brood sows ever owned in Nebraska, she being by Billy K and out of grand champion sow, Rosebud Lady. This boar has extreme size, splendid arched back, carries his width perfectly from end to end, and possesses a depth of body that is simply remarkable. He has good fair bone and is right up on his feet. He has proven to be a very uniform breeder and they will also probably be able to show some of his get at the same time.

A. R. Barnes' Duroc Prospects

Readers of The Twentieth Century Farmer will be pleased to know that A. R. Barnes, breeder of Duroc-Jerseys, of Petersburg, Neb., has about sixty-five spring pigs at this time and also a choice lot of fall gilts that will be a valuable asset to him in his bred sow sale during the coming year. His spring pigs are sired by Colonel Chief, Belle Crimson Wonder, C. & G.'s Select, Colonel Munsey, Golden Model 4th and others. Peaches and Cream, the grand old brood sow, that has produced so many prize winners at the Nebraska state fair during the last few years, when mated with the Nebraska champion, Belle Crimson Wonder, has a litter at this time consisting of five boars, also sired by Belle Crimson Wonder. They are on a par with what her litters during the last few years have been at this time and we doubt not but what if all goes well with them they will cause trouble for somebody at the state fair this fall. Mr. Barnes has a number of outstanding good fall boars that he will sell at this time; in fact, they are about the best we have seen so far in our rounds. They are practically all sired by the splendid breeding boar, Colonel Chief. Colonel Chief, as it will be remembered, was sired by Ohio Colonel and is out of a Valley Chief dam. This boar has proven himself to be a remarkably strong breeder, but on account of having so much of his stuff in the herd he is offering him for sale at this time. This affords an exceptional opportunity for some breeder to get a first class boar at very reasonable price. If you are needing either a fall boar or an aged boar better write Mr. Barnes at once, mentioning The Twentieth Century Farmer.

John Blaalid, Durocs

One of the good bunches of Duroc-Jersey spring pigs that we saw in the vicinity of Newman Grove, Neb., last week was that of John Blaalid. Mr. Blaalid has been quietly collecting a foundation for a herd of Duroc-Jerseys during the last year and at this time has a lineup that would do credit to a much older breeder than he. He has over seventy head of spring pigs sired by Model D's Wonder, Colonel's Boy, Medoc Prince and others. Mr. Blaalid is a one-third owner in the great boar Model D's Wonder, mentioned elsewhere in these columns, and has several litters of corking good spring pigs sired by him. He also has a couple of good fall litters sired by the same boar. He will probably show some of this boar's get at the state fair this fall. Mr. Blaalid will hold a sale during the coming season, announcement of which will appear in these columns. Keep his herd in mind and write him, mentioning this paper, if you are needing anything in his line.

Hinkle Has Ninety Spring Pigs

S. M. Hinkle of Genoa, Neb., breeder of Duroc-Jerseys, has ninety head of spring pigs at this time coming along in good shape. Besides these, Mr. Hinkle also has about forty-five or fifty head of fall boars and gilts. If all goes well with this lineup, he should be in a position to furnish his customers with almost anything they want during the coming season. The spring pigs are sired mostly by Crimson Wonder Tenth and R. W. C.'s Topper. Other litters are by R. L.'s Model, Cedar's Critic, Critic B. Again, Chitwood and others. The fall pigs are by R. W. C.'s Topper, Red Chief Wonder and Valley King. It is Mr. Hinkle's intention at this time to have an exhibit at the Nebraska State fair this fall. Keep his herd in mind for future reference.

Bader's Durocs

John Bader of Scribner, Neb., has not had as good luck with his spring pigs this year as usual but he will probably make up in quality what he will lack in quantity. He has a number of good litters sired by such boars as Golden Model III, Badger Golden Model, Golden Model IV and others. Mr. Bader has an especially strong herd of big, roomy, heavy-boned brood sows and has used a few of these best for fall farrow. He may have something to say by a letter here in the meantime so keep his herd in mind.

Wheeler's Poland-Chinas

C. D. Wheeler, well known breeder of Poland-Chinas at St. Edward, Neb., has about eighty head of spring pigs that will be ready to ship in the fall. They are a very uniform lot of pigs, constituting one of the good bunches we have seen so far; also has about twenty head of fall stuff that will be a mighty good proposition for a brood sow sale next winter. The pigs are sired mostly by M. & M. Mastiff and Great Hadley, two of as good breeding boars as are to be found at the head of any one herd in the country. Mr. Wheeler is breeding a big, smooth, heavy-boned, easy-feeding type of Poland-Chinas that should meet with favor by breeders and farmers in general. Keep his herd in mind and write him if you want anything in his line.

A Soft Seat

She was only a small girl, but even little people can be naughty sometimes, and this was one of the occasions when Mabel had kicked over the traces.

Naturally, mamma was terribly angry, and Mabel was dispatched to the regions aloft, where, in her mother's bedroom, she was bidden sit upon a certain chair, pending further instructions from headquarters.

The particular instructions were long delayed, from Mabel's point of view, and after half an hour she ventured to query in childish treble:

"Mamma, may I come down now? I promise I'll be good."

Headquarters was still huffy and wafted up the stairs the reply:

"No; you just sit where you are till I call you."

"All right," came in sing-song tone from the bedroom; "all right, mammy, only I'm sitting on your best hat."—Gulf States Presbyterian.

Heard Here and There

"My husband hates to borrow. Why, he won't even ask a neighbor to lend a hand."

"I've eaten so much fish lately that whenever I see a pond I feel like plunging in."

"Physical endurance! Why, that fellow has the constitution of a debutante."

"My wife is sitting up for me and if I miss the last train I shall catch it"

"Willie, if you don't stop crying, I'll never take you to the dentist's again as long as I live."

"He's so low down that he'd need a flying machine to get into hades."—Boston Transcript.

Embarrassing Frankness

"How well behaved your children are," said the minister's wife.

"They are perfectly lovely children," added the minister.

The parents smiled proudly, and up spoke little Agnes:

"Pa said if we didn't behave he'd knock our blocks off; didn't you, pa?"—Norman Mack's Monthly.

Grain Belt Brand Vegetable Hog Potash

A perfect worm expeller and preventive. A conditioner and mineral balancer.

Guaranteed Analysis:

Potassium Chloride	16%
Calcium Phosphate	13%
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Do not confuse this valuable product with the various patent remedies on the market which sell at medicine prices. This is a high reduction of purely vegetable matter and does not contain an ounce of salt or filler of any description. Send today for circular fully descriptive of this product. Agents wanted in unoccupied territory.

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An Inning for the Cattle Men

By B. O. Cowan

CATTLE breeders who went through the discouraging experiences and low prices of twenty years ago had some cause to doubt the prophesy of better times. It required some faith to believe and no little courage to act on that belief. But those who had the faith and ability to hold on are now enjoying a well-deserved reward.

During recent years men raising beef cattle have come into their own. For some time prices have brought encouragement, but the last year has brought handsome profits to all classes, whether ranchmen, breeders or feeders. The writer has been connected with the beef cattle industry for more than forty years, but he does not remember a time when the market papers were so full of letters of stockmen expressing satisfaction with prices received as they have been during the months of this year. Without exception these reports show handsome profits, and some of them reveal returns so large that they almost challenge belief. The most gratifying feature of this desirable condition is that it is not transient, but is destined to remain some years. It is the universal belief of men closely connected with the live stock trade that the price of beef cattle will rule high until there is a considerable increase in the supply of cattle. Commission men at the market centers generally hold this opinion, and the general manager of the American Shorthorn Breeders' association has publicly expressed the opinion that the future is very bright for men who are breeding beef cattle.

It required two or three years to convince the country that there was a shortage in cattle, but that fact is now generally admitted and many erratic and senseless measures have been offered to prevent the further reduction of cows and heifers by sale or slaughter. As a result of high values for beef cattle there is such a strong demand for cows and heifers as a foundation for cattle breeding that the trade in pedigreed cattle will undoubtedly be greatly benefited. Commission men at market centers are holding orders from the country for cows and heifers for breeding purposes, and one prominent ranchman from Texas reports that offers have been made for unborn calves. All this shows that ranchmen and farmers are as anxious to get into the cattle business as they were to get out of it during the period of depression.

The trade in pure-bred cattle is slow to respond to an enhancement in beef values, yet a commendable increase has been manifested in recent public sales and will be more noticeable in those of the future. When beef cattle were at moderate values and grain high farmers asserted, and no doubt believed, they could not afford to raise cattle on their valuable lands, but the present price of beef, with a prospect of cheaper corn, has modified the problem. Aside from their value in maintaining the fertility of the land, it is not difficult to figure a profit on cattle-raising on farms of the corn belt. When good feeders sell at from 6½ to 8 cents and fat yearlings bring from $80 to $120 each, their production ought to leave the farmer a margin, and as this industry is developed the demand for pure-bred bulls will increase. As farmers' cattle, Shorthorns are peculiarly adapted because of their dual capacity for beef and milk production. For restocking the farms with a profitable class of beef cattle they will be found useful and desirable.

Spring Skin Troubles Affect Horses

Idle horses that are heavily fed, underexercised and inadequately groomed during the winter months often rub their tails and manes badly in the spring. Dr. A. S. Alexander of the College of Agriculture of the University of Wisconsin says that this habit usually indicates a bad condition of the blood and skin, resulting from the causes mentioned above.

The skin at the roots of the tail and mane scales off more freely and rapidly than at other parts of the body, and unless the horse is groomed thoroughly these scales clog the skin and produce irritation. If at the same time, and this is frequently the case, the horse is infested with pin worms of the rectum, the itching becomes intense.

When a horse commences to rub its tail and mane, it should be fed lightly and worked freely if treatment is to be effective. The horse must also be cleaned thoroughly and kept clean, while the hair and skin at the tail and mane should be scrubbed with soap and hot water. The washed parts should then be dried thoroughly with sawdust, and a healing lotion applied to control the itching and soothe the inflamed skin. Flowers of sulphur and sweet oil, mixed to the consistency of cream, with an ounce of a coal-tar dip added to each pint of the mixture, is a simple and excellent application. This lotion should be rubbed well into the roots of the hair. It should not be washed off, but repeated every three days.

To Educate the Colt

They used to call it "breaking"; that is, allowing the colt to have its own free will, without touch of hand or halter, until he was 3 years old, and then breaking him in by brute force. That's barbarous. Later they called it "training," which is better; but we prefer the term "educate."

The first time you see the colt, before it is two hours old, put your left hand around its breast and your right hand around its hips and hold it, gently, but hold it. Do it kindly and in the best of temper, but don't let it get away from you; for if it does the first step in its education is wrong. By and by, when you have shown it your power, which you cannot do if you wait until after it is a day or two old, then fondle it; rub its back, rub it all over on both sides. Give it some sugar. In an hour you can impress upon that colt's mind the fact that you cannot be resisted, that you know it through and through, but that you mean well by it. The colt will be friendly to the man who is friendly to it when it respects and fears.

By and by put a halter on it. After it is used to this, fasten the halter so that it cannot break it. It will then understand that your will is supreme. The colt will need no breaking. All the training it will need is what you can give it as you see it from day to day, from year to year. When you put it to work give it something easy, and in company with an old, steady horse. It will soon get to know your voice, probably won't understand your words, but will understand the tones, for the tones mean to the colt what words mean to us.

This job of educating a colt is a fine thing for the boy, for it educates the boy as well as the colt. Sometimes we think horses have a sense of humor and want to have their fun. You can afford to humor the horse while it is in that mood; but let it always feel that when you get down to real business you are master and must be obeyed.

Some Schemes of Investment

OPPORTUNITIES for investment are limitless. Some there are of great merit, while there are others that are fakes, or very near thereto. To discriminate so as to avoid the bad and choose the good is no very easy matter. Land is admitted to have the most permanent intrinsic value of anything. That good land, at a right price, can never grow less in value is admitted.

A Colorado man platted his 160 acres into town lots, gave it a name, advertised it liberally, offering a lot, together with an abstract, for $1, and he sold not a few hundred. Another offered lots in a near town at $1 down and $1 per month for twenty-four months. Failure to pay on time forfeited the whole, and yet there were many sold. It would seem that no one would likely be caught by either.

Within a few years numerous orchard companies from the northwestern states have exploited their propositions in the middle west, mainly cultivating a class known as the salaried men, or those having a fixed income. Mr. Salaried Man is told that when he gets along in middle life, or for any reason he cannot work, a fine bearing orchard would be a good thing to depend upon; that if he will buy an orchard tract the company will permit him to pay for the same at so much per month every month for five years—during which time he will have paid in at the rate of $450 per acre or more. The company agrees to turn over to the buyer a bearing orchard five years old at the close of the period. Of course, the buyer is told the fruit grown in the vicinity has so developed in size, beauty and flavor that the Waldorf-Astoria seeks only such, and that millionaires and crowned heads of Europe must have them, no matter what the price. Counting so many boxes to the tree, so many trees to the acre and such a price per box, it is easy for the exploiter to make a remarkable showing in dollars. Some of these companies are doing a fair business, no doubt; yet it must be apparent that the opportunity for deception is far too great when you realize that the cost of the land is not likely to be more than $30 to $50 per acre, while the care and all other expenses during the whole five years cannot be more than $20 per acre per year. It is surely too much to get $450 to $600 per acre for land that cost $130 an acre. There should be a reasonable relation between the cost and the selling price

Again, these orchard tracts are sold on contracts. Should the buyer fail to make any one payment, he is likely to forfeit the whole, and without contest. As the buyer knows little about orcharding, he is exposed to many deceptions, for orcharding requires a vast amount of experience and skill to really be certain of success. The average man making an investment in such a partially developed property as a five-year-old orchard will most likely lose his money.

Investing in land should be a plain transaction, without any frills—a buying of so many acres having such a legal description that an ordinary person could identify it when in the neighborhood. Deed or contract should call for so many acres, costing so much money, payable in a stipulated way, accompanied by an abstract showing a perfect title.

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Just being bred to a son of a 24-pound dam.

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Bred to a high-class registered bull, to freshen from September 1 to December 31, 1912.

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A number of high colored registered bulls, ranging in age from 6 months up, out of heavy producing dams, and selected especially to head choice herds. A small surplus of excellent registered females. Write me regarding your wants. James Dorsey, Dept. B., Gilberts, Kane Co., Ill.

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TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

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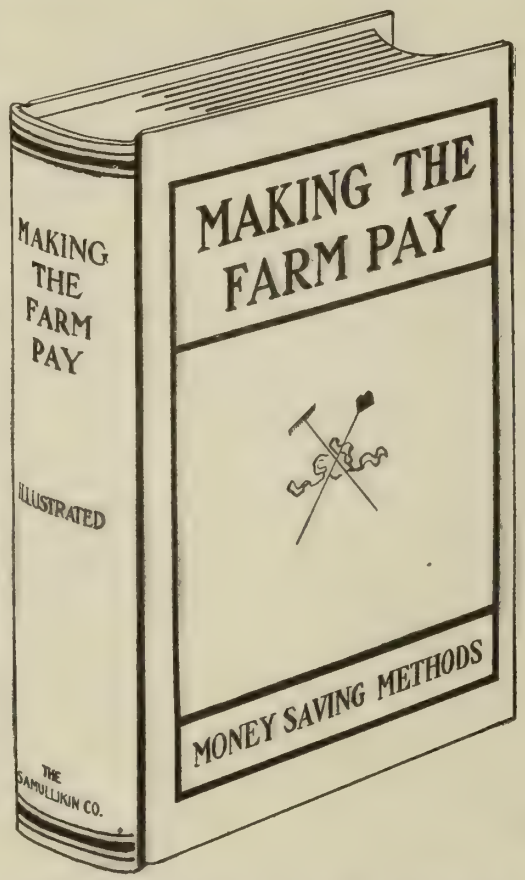

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Prattle of the Youngsters

Dust Defined

"Now, Tommy," said the teacher, 'what is dust?"

"Dust," replied the little fellow, 'is mud with the juice squeezed out."

Was Job a Doctor?

"Pa, was Job a doctor?"

"Not that I know of."

"Then why do people have so much to say about the patients of Job?"

A New Haircut

Barber—Well, young man, how would you like to have your hair cut?

Young Man—Oh, like papa's, with a hole on the top.

Kinds of Milk

Little Margie was very fond of pancakes. One morning she was told that she could not have any, as there was no sour milk in the house.

"Oh, dear," she exclaimed, "I wish we could keep two cows—a sour one and a sweet one."

Useful Bible

"Willie," asked the Sunday school teacher, "did you memorize the first six verses of the twelfth chapter of Joshua?"

"No, ma'am," replied Willie. "Mamma was using that part of the Bible for pressing autumn leaves."

As it Looked

Little Mary was on a visit to her grandpa. On Sunday he took her with him to church. Spying a relative up in the gallery, she whispered to him:

"Oh, grandpa, look up. There's auntie sitting on a shelf."

The Real Thing

Hilda (aged 5)—I saw an old woman today, mother, with a false nose.

Mother—How do you know it was false, dear?

Hilda—It didn't show any signs of wear.

A Bad Headache

Little Agnes came into the house wearing a woeful look on her chubby face.

"Why, what is the matter, Agnes?" queried her mother.

"Oh," she replied, laying her hand on her stomach, "I've got an awful headache under my apron."

A Logical Question

"Say, mother," asked Edgar, when I grow up I'll be a man, won't I?"

"Yes, my boy," answered the mother, "but if you want to be a man you must be very industrious at school, and learn how to behave yourself. You must not be lazy."

"Why, mother?" asked the little boy. "Do the lazy boys turn out to be women when they grow up?"

Poor Advice

Tommy came out of a room where his father was tacking down a carpet. He was crying lustily.

"Why, Tommy, what's the matter?" asked the mother.

"P-p-p-papa hit his finger with the hammer," sobbed Tommy.

"Well, you needn't cry about a thing like that," comforted his mother. "Why didn't you laugh?"

"I did," sobbed Tommy.

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Cholera Eradication Demonstrations

IN THE near future The Twentieth Century Farmer will inform its readers as to what steps have been taken, and are being taken, in the several states to demonstrate the efficiency of hog cholera serum for the eradication of hog cholera. Several of the states have received appropriations during the last winter for the manufacture and control of serum, and are about to undertake experiments for the purpose of proving that hog cholera may be completely eradicated from any given territory if the right steps are taken and thoroughness characterizes all the efforts put forth. Of course, it will be understood that use of serum alone will not completely eradicate hog cholera from any territory. The same police regulations concerning sanitation and quarantine must be observed as are in force in the eradication of human epidemics. The several states will have to have these two forces working together in harmony. In the first place, there must be a sufficient amount of potent serum manufactured, and it must be administered under proper precautions; and, secondly, there must be maintained a rigid quarantine against the disease, with proper observance of sanitary regulations. This paper will inform its readers as to what is being done in the premises.

Bright and Breezy

Not the Same

They were strolling through the woodland.

"Yes," the youthful professor was saying, "it is a very simple matter to tell the various kinds of trees by the bark."

She gazed at him soulfully.

"How wonderful!" she exclaimed. "And can you—er—tell the various kinds of dogs that way?"—Lippincott's.

Modern Implements

A Topeka man, addressing the State Agricultural Society recently, said: "A friend who was with me out in the country said to an old farmer:

" 'You do all your work now riding, and I haven't seen a hoe for a week.'

" 'A hoe,' said the farmer, 'it would take an expert salesman to sell a farmer anything he can't set on.' "

A Gentle Hint

One of the young men who lived in a boarding house had the double fault of slowness in paying his bill and fussiness about the table service. One morning he said peevishly to the landlady:

"Mrs. Jones, will you tell me why my napkin is so damp?"

"Yes, Mr. Wicks," replied the landlady, promptly. "It's because there is so much due on your board."—Youth's Companion.

Tightwad Frightened

Seth Woodbury was tight-fisted and hard-hearted. His brother William dying, the neighbors said, from ack of proper treatment, Seth hitched up and drove into town to have a notice about his death inserted in the weekly newspaper.

"There ain't no charge, be there?" he asked anxiously.

"Oh, yes, indeed," answered the editor, "our price is $2 an inch."

"Cracky!" muttered the old man, "an' Bill six foot two."—Chicago Record Herald.

Not So Bad, After All

"Mr. Garibaldi, I just want to ask you a few more questions, which I want you to answer plainly and specifically. Is there a woman living with you who is known in your neighborhood by the name of Mrs. Garibaldi?"

"Yes, sir," replied the witness.

"Who takes care of her?"

"I do."

"And you support her, too, don't you?"

"Yes, sir."

"Mr. Garibaldi, you have never been married to her, have you?"

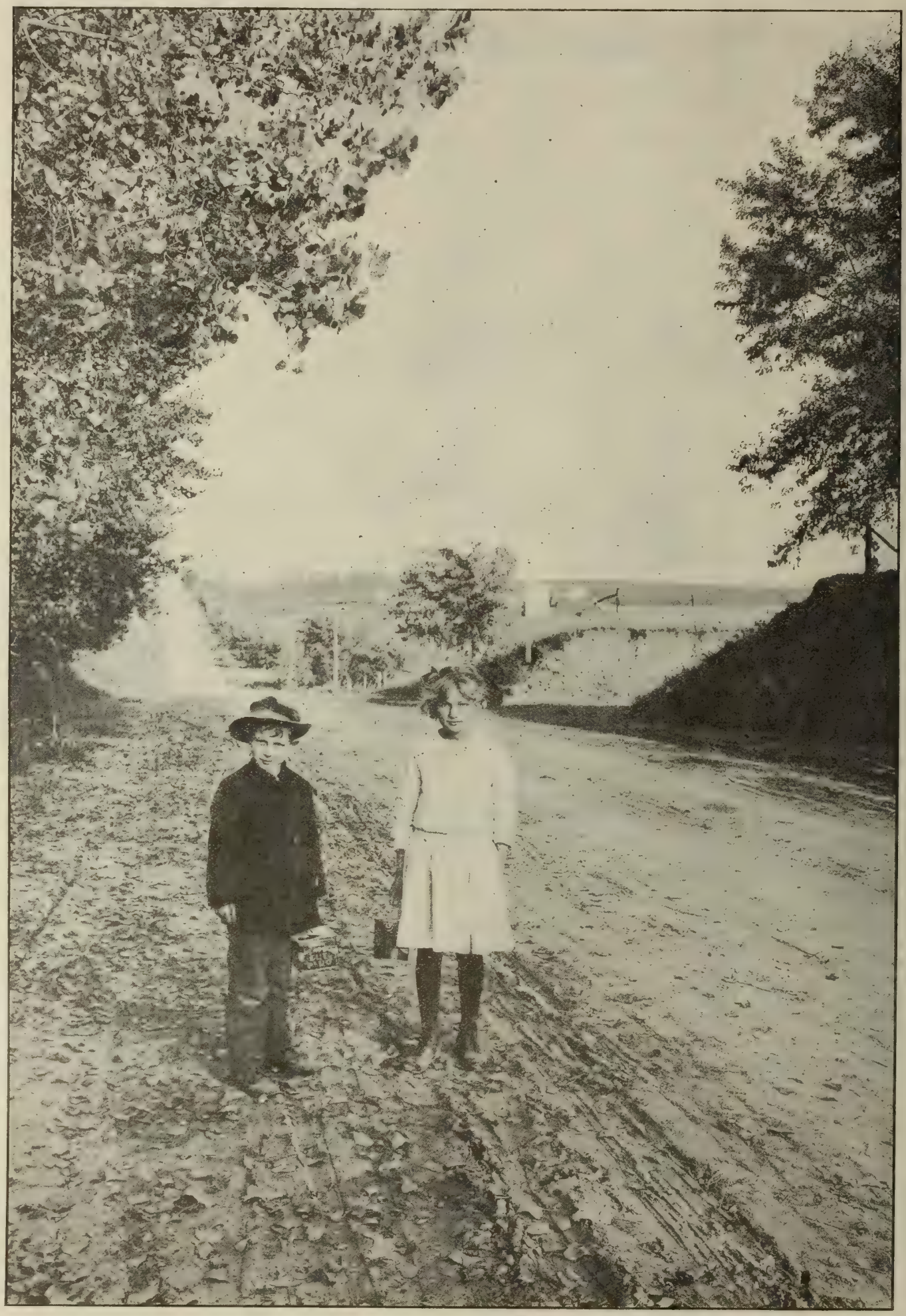
"No, no," smiled the witness, somewhat embarrassed, "she—"

"That is all," concluded the old attorney.

There was a young attorney opposing him, and it was evident that he had been taken by surprise. Confounded and confused, he stepped forward and in a low, reproachful tone, asked:

"Mr. Garibaldi, who is that woman? You never told me anything about her."

"That—oh, that is my mother, you know," answered the witness innocently.



THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Few Summer Nuisances Easily Suppressed

By Ada Carroll Wortman

YOU remember the story of "Alice in Wonderland," where the guinea-pig cheered out of his turn, and was immediately "suppressed" by being put into a bag and then sat upon? It seems to me it would be splendid if we could suppress some of the summer nuisances in the same way, but, as it would take too much time, even if it were practicable, we must try some other method.

It used to be considered that the fly was one of the necessary evils of summer, and we endured him just as we endured the intense heat, because we thought we could not help ourselves; but the present-day scientist says that not only is it possible to abolish the fly, but that he must go. At the rate we are now moving, it will not be long till it will be considered as deep a disgrace to harbor flies as it now is to harbor bedbugs. And, really, if you let either of them get a good start, I am not sure but that the bedbug is more easily conquered.

By beginning in time, however, it is not necessary to let the flies get the upper hand of the housewife. The beginning of the trouble is around the barns and outdoor closets, and there is where the work must begin. The eggs of the fly take eight days to hatch, and it takes very little time, approximately, to keep all of the refuse from the barn and yards gathered into one place, so that it can be disinfected. Chloride of lime is efficacious for this, and if the men, or the children, will gather up the scattering droppings once a week, carry them to the compost heap, then sprinkle both the heap and the barn floor thickly with the lime, the eggs will not hatch. A liberal allowance should also be thrown in the closets, as they are a fertile ground for the propogation of this pest.

Now you have struck the hardest blow at the fly, but there will be some that will escape your vigilance, and hatch in spite of your care. For these you can build a home-made fly-trap that will do as effectual work as any you can buy. You will need two, and if you want to put one at the barn, which is a wise precaution, you had better build three. You can make a frame, if you want to, but a small box will do as well. It should be about ten or twelve inches wide and deep and sixteen or eighteen inches high. Remove the sides and fasten the ends together with narrow strips made from the discarded sides. You will then have a box the same size as the one you started with, but there will be no sides, just strips at the corners. In one end of each box saw a hole six inches or so in diameter, tack wire screening around the box and drive into the hole in the bottom either a large tin funnel or a cone made of the wire screening. If you use the screening, it should be tacked in several places around the edge of the hole, but the tin funnel will stay of its own accord. Four spikes driven into the four corners of the bottom will do for legs, and the trap should stand about three inches from the floor. Now put under the hole a saucer containing vinegar and sugar, and watch the flies swarm into your trap. When it gets too full draw out the funnel and empty it. This will keep all but a few of the hardiest flies out of the way.

For the few remaining buccaneers get some "spatters" at the 10-cent store, or make them yourself. A piece of wire screen about three by four inches should be hemmed on three sides, fastening the hem with wire pulled from the screening. Fasten it firmly onto a twisted wire handle heavy enough to stand hard usage, and see how soon you will get so deft that you never miss a shot. By going over the house three or four times a day, you can keep every fly in its place, and know the luxury of a flyless summer; but, if you are too busy to do this, wait till they have gone to roost on the ceiling and get them then. Even once a day will keep them down to bearable proportions, and they do stand very still when they are resting at night.

All of this sounds like a good deal for a busy housewife, but it takes less time than the usual method of chasing the flies outdoors, and has the merit of finishing them, so that they never come back to bother you any more. If you have let them get the start of you, you may have to put in some strenuous days till the present hatch is out of the way, but the life of a fly is short, and within a few days you will have these finished, and, by using the methods outlined above, you will be able to keep them under control.

If there were no results save the added comfort of being able to eat and sleep and cook meals and put up fruit in peace, this would all be well worth while, but when the fact of the menace of the fly is taken into consideration, it becomes a duty to the conscientious housekeeper. It is an established fact that the fly is a conveyor of the most loathsome diseases, and it is not to be wondered at when you think that he comes direct from the barn, the closet or the sick room, his hairy feet reeking with filth, and crawls unconcernedly over the bread, butter and meat, or drops casually into the coffee or milk set for your drink. For the sake of your family, go after the pest, and never give quarter. Pursue him till he disappears from the earth. It can be done.

With regard to mosquitoes, remember that a mosquito never goes far from the place where he was hatched; so if you will keep all standing water covered with kerosene or crude oil, you will have done all that is necessary for his extinction. Keep a tight cover on the cistern, or the family rain-barrel; never leave water standing in vessels about the place, and you will have very little trouble with mosquitoes.

I have never heard of a way to destroy jiggers until after they have fastened themselves on the flesh, but salt butter or grease will kill them at once, and a thorough anointing with either one before going out where the jiggers are will keep most of them off, while a full application as soon as possible after being where you fear they are will kill any that may have taken up their abode with you.

A little vigilance in early summer will make the hot weather more enjoyable and much easier to endure.

Fable of Old-Fashioned Farmer

ONCE there lived a farmer who had a son. And the boy was a husky. He would walk away under the biggest hay cock in the field and come up with his hair parted. The farmer figured it out that there was no need of agricultural machines as long as the human hay-loader responded to the bacon call in the morning. The only difference between the boy and the work horses was that the boy slept in the house.

The farmer was stepping on his own halter rope. He made the big fellow pump water by hand and spread manure with a fork, because grain hooks were made before binders. The way father had mangled farm work back in the days of Bull Run was good enough for sonny. Frankly, there were grey hairs in his logic.

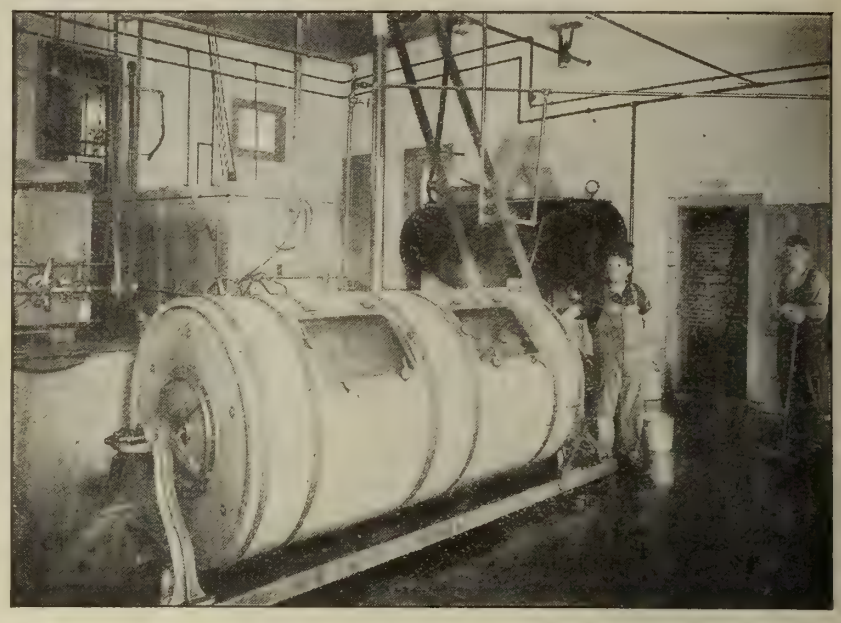
About the time the old man needed him most, the boy got wise to the fact that the Fourth of July was a bum day to start haying and got a job driving stakes for a circus. And the farmer is still wondering why the boy left home.

Moral: Because a boy has a strong back you can't make a donkey of him.

A Self-Promoted Co-operative Creamery

The Dannebrog Enterprise is Worthy of Study by Communities Interested in Establishing a Creamery

Exterior View of the Loup Valley Co-operative Creamery, Located at Dannebrog, Neb.



Interior of Dannebrog Creamery

THERE is no region of the country better adapted to a high development of the dairy industry than the Loup Valley territory in Nebraska. The water there is of the best. The pastures furnish abundant feed through a great portion of the year, and meteorological conditions are extremely favorable. Just below the confluence of the south Loup and the middle Loup, on the north bank of the united river, is situated the little town of Dannebrog. The name itself of the town has a national significance to all Danes. Here is located an extensive Danish settlement. The Danes, however, are not the exclusive residents of the region. There are Germans and Swedes, and, scattered here and there, a few Americans. It is an enterprising, thrifty progressive community.

The Danes must have brought with them from their native land their natural inclination toward co-operative effort. This natural inclination has doubtless been strengthened by correspondence with the whole country. The result has been the organization of the Loup Valley Co-operative Creamery, popularly known through the state as the Dannebrog Creamery.

Communities interested in the establishment of co-operative creameries may well study the history of the Dannebrog enterprise. No promoter was needed there, and the services of no promoter were accepted. The people themselves promoted their own creamery. It was established several years ago, with a capital stock of $2,290. This is quite different from paying $6,500 for a promoted creamery. Since that time $1,070 additional stock has been issued for the purpose of providing funds for improvements. This additional capital stock will be paid in full during the current year. Beginning with so small an amount of money invested, they have gradually increased their holdings until their invoice of creamery property on the first of January of the current year reached a total of $9,000; and during all this time, in addition to this increase in property holdings, they have paid to cream producers much more than these producers had before received from the centralized creameries.

The illustrations shown herewith give both an outside and an inside view of the new creamery. The present officers of the creamery are: N. C. Petersen, president; Chris Appel, secretary-treasurer, and C. R. Mortensen, butter-maker. Honorable Soren M. Fries and Mr. Theo Kroh have been very active in promoting the creamery and are among its most staunch supporters today. During the year just closed the creamery produced and sold 133,646 pounds of butter. Their overrun averaged 20 per cent. They averaged to pay for butter-fat during the year 28.25 cents. They pay 1 cent per pound of butter-fat into the sinking fund, which pays the interest on capital stock and also provides for necessary repairs. They pay salaries as follows: Butter-maker, $90 per month; helper for six months, $40 per month; secretary and treasurer, $15—making a total of $145 per month in salaries. Much of the butter manufactured is sold in cartons, at a price considerably above the market price of tub butter.

The community as a whole stands staunchly behind this co-operative enterprise. Of course, in any community there are always a certain number of "kickers," or persons that for some reason or other become dissatisfied and withdraw their patronage. But in this community not more than 5 per cent have shown such a disposition.

The fact that the creamery receives from its patrons cream in better condition than is ordinarily delivered at centralizer plants, taken in connection with the capacity of their butter-maker, enables them to place a high quality of product on the market. Their butter has a good reputation and is in growing demand.

In one particular, in the opinion of this paper, they might improve their method to the advantage of their cream producers. At present the creamery pays 2 cents in summer and 2½ cents in winter per pound of butter fat, to cream haulers, who gather it throughout the territory and deliver it at the creamery. If the patrons of the creamery would carry their ideas of co-operation a little further, and would co-operate in delivering their cream at the creamery, they might save this expense for hauling, and each of them receive during the summer 2 cents per pound, and in the winter 2½ cents per pound, more than they now receive for their butter-fat. When it becomes known that a ten-gallon can of 30 per cent cream contains twenty-four pounds of butter-fat, and that it costs every cream producer in summer 48 cents and in winter 60 cents to have the cream delivered at the creamery, they will readily see that several farmers, by co-operating together, one farmer hauling on certain days and another on certain other days, each one in this way taking turn, might save this amount on every can of cream. By doing this they would receive much more than such delivery would cost. Every farmer has to go to town once or twice a week, and it would be a very easy matter for him to take the neighborhood cream with him when he goes, and thus increase the revenue of each of his neighbors. This would be carrying the co-operative spirit a little further and would add just so much to the profit of the cream producer. It is to be hoped that for their sake the patrons of the creamery will come to look at the matter in this light.

Here is the truth that Dannebrog teaches: A co-operative creamery may succeed where there is sufficient raw material produced to render profitable operation possible, and where at the same time there is sufficient community spirit to lead to a general support of the co-operative enterprise. One of these conditions is as indispensable as the other. Either without the other would result in failure. No matter how much cream is produced, unless there is a community spirit back of the enterprise, it cannot succeed. No matter how much community spirit there may be, unless there is sufficient cream produced in the community, the enterprise cannot succeed. At Dannebrog both conditions of success were present, and available. That accounts for the success of the Dannebrog creamery.

Free Advice on Dairy Matters

THE TWENTIETH CENTURY FARMER will do everything in its power to promote the interests of the dairyman, and to assist in building up the dairy industry. In order to advance both of these interests, it offers to assist with its advice, whether it be individuals or communities that ask for assistance. Where it cannot of itself furnish the desired advice, it will secure the assistance of the very best dairy experts. This applies to all matters relating to the dairy, such as improving the quality of the dairy stock and improving the manner in which the dairy stock is handled.

The creamery promoter has been abroad in this territory, and his presence here has not redounded to the best interests of the dairy industry. In place of his exaggerations, this paper, when requested, will furnish advice as to whether, under conditions existing in any locality, a small co-operative creamery would be likely to suceeed. Wherever the success of such a creamery is probably assured, this paper will advise its establishment, and advise as to the best manner in which it may be done. Otherwise, it will oppose it. It does this solely in the interest of the cream producer and of the dairy industry. This advice will be granted free upon request.

Western Nebraska as a Producing District

Land All Suited for a Purpose and if Properly Understood and Applied Will Do Its Part

A Ranch Scene in Rock County, Nebraska

IT IS not an unusual thing to hear people say that a man cannot make a living on a section of western Nebraska land. Such statements are constantly coming before the public. Those who make them are not posted and never had any opportunity of getting information by actual contact with and study of the resources and possibilities of this section of country. These falacies grow out of individual failures and out of the inability of certain men to make the most of their opportunities of making an agricultural success of their Kinkaid homesteads, and the publicity and development facilities of Nebraska have not yet been so adjusted as to give much attention to their explanation.

The facts are that in 1904, when the government lands in Nebraska were thrown open to homestead entry under the 640-acre homestead act, there were hundreds of thousands of acres scattered all through the sand-hill districts that were not suited in any way for the homesteader who contemplated farming or cultivation in any manner. These were sand-hill grazing lands, pure and simple, just such lands as the owner of cattle or horses could use to advantage.

There were also many good homesteads, tracts of 640 acres, that were possessed of sufficient smooth, hard soil lands or hay valley lands, that could be turned at once into producing crops suited to wintering stock. Homesteads of this character have proven a success in the hands of competent homesteaders, men who had some money, sufficient to make the needed improvements for proving up, to build a comfortable house to live in and suitable shelter for their stock, and the means to buy a few head of cattle, and the grit and determination to apply five years of their best efforts in acquiring a title to this land.

Land All Suited for a Purpose

Western Nebraska is not at fault for any man's failure, be he a Kinkaid homesteader or a ranchman. The land is all suited for a purpose, and, if properly understood and properly applied, will do its part in production. Some of this land is natural hay land, some valley land, which may be employed profitably in raising cultivated forage crops for feeding and wintering stock; other lands are fitted for grazing purposes and for nothing else, while there are yet other lands that under favorable moisture conditions and good cultivation will produce average crops of grain.

The conditions we have outlined are known to exist by every old settler in western Nebraska. Men have gone into this country and failed, scores of them, and other scores will go and fail. This is not wonderful, nor need it be regarded as astonishing. Men who want to farm, on little or no experience, should locate in a sure-crop country, where crops have practically no embarrassments of climate and where the chances are all in favor of growth and development.

The Men Who Succeed

Western Nebraska never was intended for a farming country more than what was necessary to carry on a live stock producing industry. Wherever it has been operated from this standpoint, with a reasonable amount of business sense, judgment, industry and perseverance by the settler, whether a homesteader, ranchman, speculator or what not, he has succeeded and is today boosting for western Nebraska.

The growing of grain for commercial purposes is out of line with the general adaptation of this division of the state. It is true that some communities in western Nebraska are farming quite extensively, have had very good success in grain growing and can produce evidences of large yields, but there is no evidence that these sections could not have produced a much larger profit if their people had been centered on breeding more cattle and producing such grain crops and feed crops as could have been marketed through their beef cattle and hogs.

Again, it must be understood that western Nebraska is not a uniform district of country in its land and soil qualifications. It differs greatly in the same county. There are excellent tracts of land, both small and large, bounded and surrounded by sand-hills, that are practically worthless except for grazing. There are also large stretches of fine table lands of rich, black soil, extendng over tens of thousands of acres, of as fine farming lands as one would wish to see—lands that with suitable moisture conditions have produced, and will produce, immense crops of grain.

Kinkaid Law a Blessing

The Kinkaid homestead law has been in a sense, a blessing to western Nebraska. It has resulted in bringing under title millions of acres of these lands that were in a condition of dispute, fenced and possessed as a matter of grazing occupancy by large and small live stock interests. A lease law granting lease privileges was advocated by one faction, while another wanted homestead privileges of a sufficient acreage to warrant a livelihood as a homestead proposition. The homestead idea triumphed, and has, for a series of years at least, curtailed the cattle producing industry in his district, but has been turning a large portion of these lands back into the hands of their former range users as title property; thus the ability of this district to produce cattle is gradually being restored. As the man of cattle ideas becomes possessed of increased resources for handling cattle there will be increased numbers kept, and eventually the country will be directed into its natural adaptibility of purpose.

The range cattleman has become a buyer for the Kinkaid homestead, when proven up. The homesteader who has from one cause or another become dissatisfied with his farming venture can usually find a market for his 640-acre farm, though there is not usually competition among bidders. Isolated sections are not often in demand by ranchmen, unless they come within a proscribed area that he expects to acquire sometime in the extension of his range.

Homesteaders Not All Alike

All homesteaders are not alike. Some had foresight to know that they could not live on wild grass alone, and had their enterprise provided with money sufficient to assist them through periods of very small income. Some were sufficiently forehanded to put up comfortable buildings and provide a little herd of cows, from which each year a daily revenue would accrue. This class of homesteaders has quite frequently become permanent settlers and are buying out their dissatisfied neighbors, gradually becoming small ranchmen, a very desirable class of citizen for the immediate community, county and state.

The fact that a great many relinquishments were for sale, that many persons became disgusted with their venture, and found that a five-year residence in comparative seclusion was more than they could endure, even for the title of 640 acres of land, was not the fault of the land, but a mistake of the homesteader. Thousands of persons are each year persuaded to become land owners or land occupants who are not in any sense adapted to the life on the farm, and as a result fail, become dissatisfied and disgusted with the labors and duties of the farm, and want to get back to where they by inclination and training belong.

The adaptation of land to farm and live stock uses should be man's first study in taking up the subject of land ownership and land application, from the standpoint of homesteader or farmer. Nebraska has no waste lands when their adaptability is properly understood and when their uses are made to conform to their natural conditions.

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Cheerfulness is what greases the axles of the world; some people go through life creaking.

In the Panama canal zone the presence of a housefly in any home is immediately reported to the police.

Happiness is peace after strife, the overcoming of difficulties, the feeling of security and well-being.—Smart Set.

This might be made a great bean territory. This crop would mature in time so that the land might be made ready for winter wheat. Beans command a high price in the market.

The growth of the Portland cement industry in this country is without parallel. In 1880 there was an output of only 42,000 barrels; in 1912 the output was 80,000,000 barrels.

Coburn of Kansas is a great booster. Better than that, he is a long-headed booster. He looks ahead in solid facts and figures, not back to the visitation of the grasshopper.—Country Gentleman.

I. D. Graham, one of the old newspaper men of Kansas and for many years editorially and officially connected with the Kansas Farmer, has severed his active relationship with this journal and accepted the secretaryship of the International Cattle company, with headquarters at Topeka. The business of this company, as announced, will be wholly confined to breeding and handling registered cattle, with special reference to the western trade.

Horses in Hot Weather

Every man knows for himself what hot weather does for him. It lowers his vitality, destroys his elasticity and impairs his vigor. Every horse owner should realize that heat affects his horses in the same way that it affects himself, only in a much larger degree, since the horses have the hardest work to do, and cannot wear light hats to keep off the sun.

After the day's work is over in hot weather, every horse should be thoroughly cooled down before entering upon the night. The stables are generally hot during summer nights and continue the exhausting effects of the heat during the day. Cool off the horse thoroughly.

One of the best veterinarians in this territory lets the hose from the city water works run over his horses for five or ten minutes before putting them up for the night in hot weather. After the water is turned off he scrapes with a lath to get as much of the dirt and water out of their hair as possible. The application of the water opens the pores of the skin and the evaporation that follows its application reduces temperature.

Where a farmer has an elevated tank, he can follow the same practice. Where he is lacking such a convenience, a pail of cold water with a big sponge will answer the same purpose.

Every man knows how refreshing a bath is at the close of a hot day. How grateful it is to the tired muscles and overheated blood. Give the work horses the same treatment. This is not only economic in the matter of horse power, but it contributes immensely to the comfort of the animals. And a considerate man will furnish them all the comfort he can.

Remember the Feed Crops

There is a new adage that many live stock men of the west have had impressed upon their memories in the last few years in no uncertain way—"it is cheaper to have a surplus of feed to sell in the spring than a deficiency to buy." There is a time to correct this embarrassing situation, and it only needs a suggestion to the wise for them to see the importance of prompt action.

A few acres of extra crop often goes a long way in bridging over a short feed supply. A little sorghum or kaffir corn has been found of great service in helping out a short hay supply. There are few, if any, rough feeds that equal sorghum when cut a little green and cured in shock. This is possibly the most valuable feed or central and western Nebraska in the wintering of calves and breeding cattle that the farm or ranch man can provide.

It is a sure crop, and may be sown in June and cut the first part of September. The manner of sowing or planting varies with the experience of the person doing the work. Broadcast sowing, when the ground has been thoroughly prepared, has been uniformly a success, and at the rate of a bushel to a bushel and a peck of seed per acre is plenty thick to produce a quality of feed that weaning calves can readily eat, leaving but little in the racks to feed to older cattle.

Sorghum should be cut before frost. This means usually as early as the 10th of September, though weather conditions may permit standing a little longer. There is no advantage in letting it stand after the blades show an inclination to ripen. It is an easy crop to handle, in the way of cutting it and letting it lie as mown down until your convenience to shock. In the north and western parts of Nebraska it may remain on the ground as cut for several weeks and not show any damage. It is a careless man's crop. It is often pushed into piles with a sweep and let remain so until needed to feed out in winter. A much preferable way, however, is to stack it where it is to be fed; stack any time before winter, as snow and freezing adds to the labor of loading and hauling it.

Calves and young cattle turned out on the sorghum stubble in the winter will eat it close to the ground and not leave any waste of blade or stalk in the field. It is an economical feed, from the fact that cattle can be wintered on it exclusively and do well. We would not, however, recommend its single use, as it is such an appetizing feed that other less tempting roughage should be used with it. Cornstalks, hay, straw and such feeds should be made part of the ration, fed in racks where the cattle can have access to it at will.

There are various estimates as to the yield per acre, ranging all the way from five to ten tons. It should be so thick on the ground as to bear very little, if any, seed top for the best form of feed. A much stronger and stalkier growth is had by drilling in the seed, and possibly larger tonnage had, but it is not as good a feed for young cattle.

Kaffir corn does much better farther south. It has not been as satisfactory in the north as sorghum. Millet, while used by some, is not a satisfactory crop for feeding cattle and horses. Sowed corn occasionally does well, but falls far below sorghum in yield and quality of feed. Sorghum is the crop for emergency purposes and to take the place of hay roughage.

Clay, Shale and Slate

Clay, shale and slate have practically the same composition. The main component parts in each are silica and alumina. All come from primeval rock that has decayed, from which the finest parts have been washed out and deposited as silt along the beds of streams, leaving the coarser part behind.

The principal difference between them is the difference in physical condition. Shale is merely clay that has been submitted to pressure. Slate is merely shale that has been submitted to greater pressure, in which fine and parallel cleavage has been developed.

The waste from a slate quarry might be used as material from which to make hydraulic cement. Unfortunately, cement factories are seldom located in the vicinity of slate quarries so as to permit an economic use of the quarry waste.

Dairying Vs. Grain Raising

Does it pay to raise wheat at present prices? It is estimated that an acre of twenty-bushel wheat removes from the soil $2.20 worth of potash, 80 cents' worth of phosphoric acid, $6.30 worth of nitrogen, and that it costs 58 cents per bushel to do the work of raising a crop. This brings the actual cost of a bushel of wheat up to $1.045. Wheat is now selling for about 80 cents. If one considers the loss to his soil elements of fertility, he is growing and selling wheat at an actual loss of nearly 25 cents a bushel.

There is no such loss in dairying. In pure butter-fat there is absolutely nothing that came from the soil; it is simply consolidated sunshine and air. If the skim milk is fed upon the farm, and if all the fertilizer from the animals is returned to the soil, the farm, under the operation of dairying, will increase in fertility, whereas grain farming reduces fertility.

The real value of land depends upon its capacity to produce. This capacity to produce depends upon the elements of fertility that the soil contains. It follows that dairying will increase the productivity and consequently the value of the land, whereas grain farming decreases the capacity for production, and in the end will decrease the market value of land.

Which should the progressive, intelligent farmer adopt for himself and for his children?

"Back to the Land"

A good deal of emotional sentiment and ill-considered advice is being promulgated by the leaders of the "Back to the Land" movement. A few words of practical common sense seem to be needed.

No one has any business going "back to the land" unless he can adapt himself to that form of living. It is merely a question of natural adaptation. Very often a good mechanic has been spoiled in order to make a poor farmer by keeping on the farm a boy that had greater adaptation for mechanics than he had for farming. It is not a matter of sentiment—"blue sky," "close to nature," or any other sentiment that is derived from poems and emotional writers; it is a question of hard labor in wind and sun.

It is not a "get-rich-quick" scheme. A man who is not used to farming will do exceptionally well if he makes a mere living on the farm to begin with. Even after he becomes a farmer, a real farmer, his increase in wealth will come more from the increased value of his holdings with the improvements he puts upon them than from what he actually produces.

The truth of the matter is, unless a man has it in him to make a farmer of himself he had better keep away from the farm. There is no nobler, no more beneficent calling, than farming, when the word farming is used in the best sense of that term. But comparatively few city people can become actual farmers. The notion that anybody can farm was exploded long ago.

The Use of Hay

There is no more profitable use to which the left-over hay can be applied than fed to the cows and young cattle in the sheds and mangers at nights until after the pastures seem fully able to provide plenty of grass for the cattle and grazing stock. It is surprising how much of this cured feed these animals will eat when given the liberty. It is well to sprinkle a little salt water on the hay, just enough to carry the salt taste as an appetizer. The benefits derived are noticed at once, and with milk cows it is quite apparent.

The feeding of hay through the early summer months should be practiced as a matter of economy in keeping the cattle in condition. The weakening effect of a sudden change from dry feed to the soft, washy, tender grass is damaging to the animal, and needless where hay is in the barns or stacks and may be readily provided. As the grass hardens by maturing, the cattle will quit the hay. Old hay is a good thing, not only to help from the dry-feed period to pasture, but to carry over the next season.

Produce of the Herd

The spring season is the crowded period of the year on the farm usually. Especially is this true with the stock raiser, since the additions to the herd and flock are most generally due to arrive at this season. All arrangements to handle this increase successfully must be provided in advance. Otherwise extra labor is crowded in on the usual spring crop work, and in the confusion and shuffle there is loss through neglect and inability to give proper attention at the right time.

The spring season brings with it cold rains, and there is only one way to save the new-born pigs, calves, colts and lambs under such conditions, and that is to be amply provided in advance for just such weather and such occasions. Leaky sheds, stables, pens and other places where these animals are to be kept means discomfort, chilling and loss of the young, and often of the mother animal. If the increase is desired before the warm days of June and July, then provide for them in a way that means comfort and safety to mother and offspring. There is no half way in the breeding business if security is to be assured.

To the man of experience it is not necessary to tell him these things; he knows it. Possibly he has learned by expensive loss, and possibly he has learned by taking the advice of someone who understood the situation. The breeding business conveys the elements of loss all along the line throughout the various seasons of the year. The security is attention at all times. The owner or manager of the breeding stock must be on the spot ready to assist in any way the circumstances demand.

It is one thing to be a breeder and a successful handler of this feature of the live stock business, but an entirely different thing to be a handler and dealer in matured stock. There are many things to be learned by use of books, studying the theory of handling young animals. In fact, the breeder should become his own veterinarian, be capable of knowing what to do and how to do it. The breeder should not be obliged to send off for help every time some little thing occurs out of the ordinary.

Be prepared with all the appliances usual for the care of the breeding animal, so as to protect it from the inclemencies of the weather; then give the proper and timely attention. The loss of a colt, calf or lamb means a whole year's loss of the breeding of the mother, a thing that no farmer can afford, especially when stock of all kinds are high-priced, as at the present time.

Advancing College Work

The organization of state cattle feeders' clubs, or state associations of live stock feeders, is now a feature of agricultural advancement that marks the progressive spirit of educational enterprise among the up-to-date states. These associations key their work to suit the state experiment stations in the matter of their feeding tests carried on for the general information of the people of the state, and incidentally for class-work advantages.

The Indiana State Cattle Feeders' Association has arranged its annual spring meeting for May 23, at Purdue University experiment farm, to correspond with the date of finishing up a cattle feeding experiment now being conducted there by the animal husbandry department of the agricultural college. There are seventy head of experimentally fed cattle now in the feed yards at Purdue which have been fed on various rations since last November. The convention of practical cattle feeders of the state and others interested in the feeding industry have been invited to attend this meeting.

It is intended that this exhibition of cattle, with a full analysis of the methods employed in feeding each experimental lot, will be of great benefit to cattle feeders. A complete record of the cost of cattle, feed consumed, cost of grains, value of cattle, and profit or loss per head in the different lots, will be able to present some new ideas in the matter of rations or method of handling the feeding steer, in the process of developing him for the packer.

This feeding test has been directly under the supervision of Dean Skinner and Prof. King. And after their years of experimental work along this line, the Indiana cattle feeder is expecting a few pointers that will be worth while. It is hinted that there will be some very positive information given on the value of silage as a steer ration. The old milch cow has had her inning and is now so thoroughly coupled with the silage proposition that there is nothing between them but a big milk flow.

Why do not all the corn-belt states, or cattle-feeding states, have their state feeders' associations? This is one of the most active industries associated with farming and agriculture. It involves a big investment of capital. It incurs a risk almost akin to speculation, the way it has been conducted and carried on in the past. It needs all the advantage and protection that organization and co-operation can extend. It needs the protection of a uniform and even distribution of the meat animals in the marketing, which nothing but organization can control or provide for.

Feeding Experiments

The announcement made by Prof. Bliss of the department of animal husbandry of the University of Nebraska College of Agriculture for a general meeting, May 29, at the experiment station, of all interested farmers and live stock men of the state to inspect the experimental cattle which have been on feed during the last winter, is important and should be observed. This is a great experimental test of feeding in method and rations used, and is just what all our cattle feeders need to inspect.

The Nebraska cattle feeders are a very important business factor in the state's resources, and the state experiment station is trying hard to assist the feeders in the line of work they are most interested in. Therefore the need and advantage of working in harmony. This will, in a sense, be an experience meeting, as the visitors are expected to ask all the questions possible in order to bring out information pertaining to this feeding test or throw light upon any other plan of feeding or rations used.

It is the purpose of the experiment station to get in closer touch with the feeders. This is very important. The work that this department is doing, at great cost of labor and time, is for the benefit of the actual operator, the feeder on the farm.

This occasion should be used also for the organization of a state feeders' association. Other states are organized. Why not Nebraska? Feeders, turn out and encourage the work being done at the experiment station and serve your own interests, from a co-operator's point of view, by organizing a Nebraska feeders' association.

Million-Dollar Rains

Crop prospectors of all brands and qualifications have about worn out the expression, "a million-dollar rain," by its use every time a shower falls in their immediate locality. A million-dollar rain means sufficient moisture to direct the crops of any considerable area to successful termination of growth. The seasonable showers that keep up the moisture supply for a rapid, vigorous growth of vegetation are the kind of rains that produce million-dollar results.

The present situation in relation to moisture conditions over the corn-belt states indicates that the million-dollar rains are not now in demand, and probably will not be before mid-summer, when growing crops are demanding more moisture and when a few weeks of dry weather counts against crop development in no uncertain way.

The spring moisture, which has been abundantly provided, will almost certainly guarantee pasture, hay and small grain crops, assisted by the moisture supply that may be counted upon, even under adverse conditions, from now until harvest. The assurance of a bountiful crop in all lines of farm production has never been more encouraging than now—the middle of May. The influence of a bountiful crop all over this country will have a wholesome effect upon business interests, and shoud help to solve the high cost of living problem that is viewed from several standpoints.

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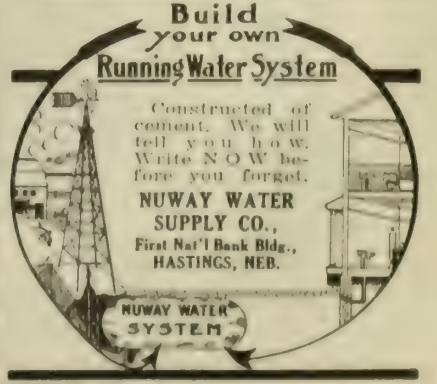

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If the crowd on the stock exchange kept quiet and let one man talk, that man could be heard in every corner of the room. But the shouting members produce a composite of sound, so that no one trader is understood except by a small group around a particular trading post.

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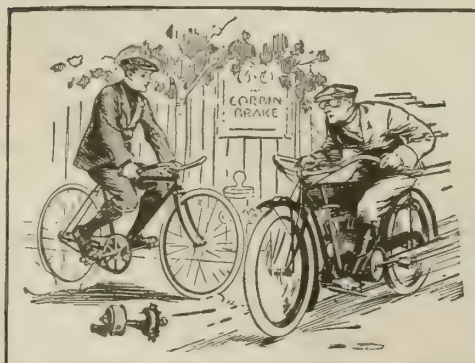

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Fine Wool Sheep in America

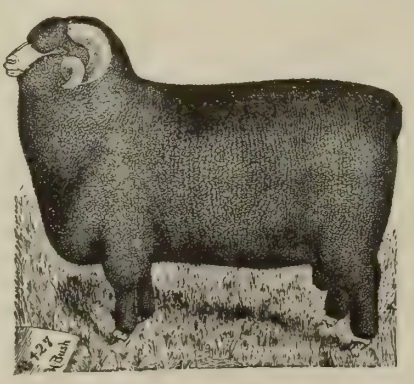
VII—A Pioneer Delaine Merino Breeder

AMONG the many prominent sheep men of fifty or sixty years ago who were actively engaged in the promotion and building up of the fine wool sheep industry in the Ohio valley, there were none more zealous and steadfast in their purpose of improvement than Colonel C. H. Beall of Brook county, Virginia. Colonel Beall was a born fancier and breeder of fine wool sheep. He had ideas about sheep quality that were far in advance of the sheep that then represented the pure-bred flocks of the country. He was a strong believer in the skill and breeding ability of the shepherd to make great changes in the fleece and physical qualities of the flock by a more careful selection of sires, and was never fully satisfied with his attainments in type of animal and qualities of fleece, but always wanted them a little better. His flock kept rounding into a more symmetrical and perfect creation as each season brought forth its crop of lambs.

Colonel C. H. Beall

To say that Colonel Beall was a progressive in his day of merino sheep improvement, would only be justice to this famed breeder, who in his activities of breeding and flock management caused the sheep and wool industries of the entire world to stop and take off their hats in recognition of his superior attainments in quality and style of fleece. Mr. Beall was awarded gold medal and diploma on wool at the world's fair (Centennial) in 1876. He also received the first prize—$50—at the world's fair in New Orleans, competing not only with the hundreds of fleeces shown by the United States, but exhibits from every sheep and wool-producing country in the world. His ambition to produce the finest and best Delaine merino wool in the world was fully established and this recognition appreciated.

Back of Colonel Beall was Bazel Beall, his father, who also was a fine wool fancier of a hundred years ago. Bazel Beall was known as a breeder of pure-bred Saxony sheep and had attained the distinction of having a flock of superior merit in this breed. At an early date he conceived the idea of cross breeding the Saxony and the Spanish Merino, in view of longer staple, more oil, a denser and better covering and a larger, hardier sheep. Following this suggestion, Bazel Beall purchased fifty ewes and a ram from the W. R. Dickinson flock of Black Top Merinos at Steubenville, O. This purchase was made not later than 1829, as both the W. R. Dickinson and Bazaleel Wells flocks at Steubenville were dispersed in 1829 by public auction, one in the spring and the other in the fall of the same year.



Delaine Merino Ram, 1 Year Old, Bred by C. H. Beall & Son

It was the purpose of Bazel Beall to experiment in the crossing of these two families or breeds of sheep, and, if not satisfactory, to again breed them separate and distinct. The crossing proved so highly satisfactory in bringing the very fine, light-fleeced Saxony up in both fleece and mutton quality that Mr. Beall continued the use of the merino or Black-Top rams. This flock, which acquired the title of the Beall Delaine Merino, was continued after Bazel Beall's retirement by his son, C. H. Beall, and became the famed Colonel Beall Delaine flock, which Colonel Beall intensified in quality through his persistency in breeding for a long, fine, crimpy, lustrous fiber on a large, smooth, vigorous mutton type of sheep.

This flock can be distinctly and properly termed "the Beall Delaine Merino sheep." While it had a Saxony basis on one side, it had been bred entirely with reference to pure-bred merino blood on the sire side for so many generations of sheep that there have long since ceased to be any of the Saxony characteristics, except, possibly, in the fineness of fiber. There may be reason to attribute a little of the extraordinary crimp and style to the hereditary influence of the very fine Saxony progenitors of seventy-five or a hundred years ago.

Colonel Beall became prominently identified with various merino sheep registers as they were organized; if not directly in flock registration, in the produce of his flock entering into their records through other flocks, since they were sold for breeding purposes to leading breeders in all parts of the country.

Colonel Beall did not confine his breeding efforts entirely to his original flock of Delaine Merinos, but made purchases of other families of merinos, such as designated—Atwood, Humphreys, etc. The United

ıtes register, first volume, 1876, ers to the C. H. Beall flock, stat- that the foundation was laid in 63 and 1864 in purchases of ewes om the flocks of S. G. Holyoke, R. Ramelee, Hammond and ithorp of Vermont; and again, 1869, ewes and rams from F. D. ırton, and in 1875 ewes from A. Fuller and Henry Lane of Ver- ont, consisting in all of 150 ewes d twenty-five rams, descendants the Humphrey importation from ain in 1802.

The Standard Delaine Register ys: "The foundation of this flock as National, Delaine and Black-Top erinos, using Atwood rams and ms bred within the flock, thus rning the flock back to the orig- al Delaine flock as defined by Mr. eall's early flock history."

The American and Delaine Merino ecord Association, in reference to e Beall flock, says: "The history this flock dates back to 1852 by ırchases from Edwin Hammond, escendants of importations made by olonel David Humphreys, being the rst purchase from this family of eep that was introduced west of e Allegheny mountains. Follow- g this were purchases from the ocks of Stowell, Remele, Dean, nnings and others of Vermont."

The Victor Beall Delaine Merino egister is another organization of elaine breeders, consisting in its ganization of six breeders whose aim of flock basis was from the chard W. Mead importation, min- er from the United States to Spain, d the importation was made about e year 1820. The introduction of olonel C. H. Beall's name into this sociation originated in the sale of yearling ram by Colonel Beall to the McClelland Bros. of Wash county, Pennsylvania, in 1862, that developed into a great sire and was used in the foundation of the Victor-Beall Delaine Merino flock.

This ram, which became so prominent a character, is described as shearing seventeen pounds of very long, white, exceedingly stylish, crimpy wool. He is spoken of as a cross between the Spanish and Black-Top; or, in other words, he is a descendant of Colonel Beall's old original flock of Delaines which he made by his system of selection and breeding for the smooth, strong-constitution sheep, with an extra quality of wool. This ram is referred to in the register as "the Beall ram" and "the old Beall ram." In 1867 there was another ram belonging to Colonel C. H. Beall used. Thus the character of the Beall flock became noted for its excellence of quality in breeding throughout the Delaine districts and the fine wool sections generally.

Colonel C. H. Beall became a large land owner in Brook county, West Virginia, and turned these lands almost exclusively to the production of sheep. For many years he was recognized as the fine wool king of the Ohio valley, from his extensive flocks and the very superior quality of his sheep as wool producers. The Colonel Beall sheep interests have passed to his son, James B. Beall, who is carrying it on much after the same plan of management that was practiced by the originator, promoter and founder of this magnificent flock enterprise.

Training the Colt to Back

Never try to get the colt to back where the backing is hard. Be sure and turn where the wagon is down hill so that the wagon will run down hill. Of course, not too steep a hill, but where there is a down grade, so that the wagon will run easily. If you attempt to back a wagon up hill or on the level with the colt the first thing, you generally discourage him. It is like hitching him to too large a load to get him to pull the first thing.

Perhaps the bit will hurt the colt's mouth. If it does, don't continue to pull on the bit. Better get him out single on a side hill, and then when you say back push on his breast and fairly push him down the hill, and keep working patiently until the colt understands what is meant by the word back, and when it does understand this he will find it just as easy to step backward as forward.

It is probable that the reason he does not back when one wants him to is because he doesn't know just what is intended, or he expects to be jerked on the bit and have his mouth hurt, or he expects to be struck with a whip, and perhaps over the head with a whip or something of that sort. This is not the right way to break colts. If one man couldn't push the colt back when you say back, have somebody help, and gently push him back and keep working until he knows what is meant for him to do when the command is given. It is just exactly the same as getting him to go ahead. At first he doesn't know what is meant, and neither does he know when you ask him to stand over in the stable, and he must be taught the meaning of these words. W. M. PHILLIPS.

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Here's an easy way to **prove** the absolute truth of that statement: Go to your dealer's and get a 10c can of

Merry War Powdered Lye

Mix ½ of it thoroughly with one barrel of swill and feed from it **twice each day, night and morning.** If your hogs are on dry ration, mix ½ can in each barrel of drinking water. You'll shortly see vast quantities of dead worms coming away from those hogs. **Seeing** is **believing.** You can't get away from **facts.**

Now then, as a practical farmer, do you believe that a hog can be well, thrive and put on fat—in fact, can he **live** long, if he's filled with worms? **Not much—he can't!**

Another thing: Don't imagine that just because your hogs are beginning to fall off in weight, snoop around, droop their heads and tails, cough and refuse to eat, that they have cholera. It's very likely worms—and you can easily and quickly **prove** it in the **safe** and inexpensive way I have pointed out.

So don't lose your hogs—it's not necessary. And don't vaccinate your hogs simply because you think they have cholera. **Vaccination won't kill a single worm.** And, take my word for it, **if you rid your hogs of worms they will be in prime strength to resist hog cholera.**

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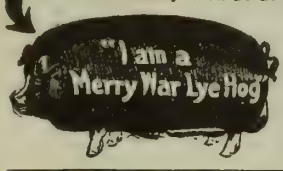

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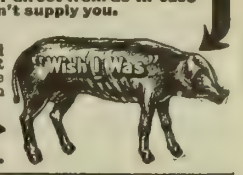

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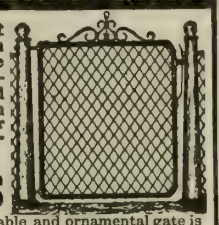

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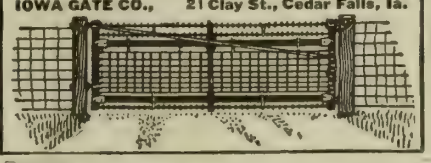

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Vast Estates Left by Montezuma and Cortez

MEXICO CITY—Do you know that descendants of both Hernando Cortez and the Emperor Montezuma, whom he conquered, are still living in Mexico? I am told that this is the case, and that some of them have in their possession big estates which have come down through the past. The family of Montezuma was large and he left his children to the care of Cortez, who promised to care for them as though they were his own. This Cortez did, sending them to Spain, where they were educated in the imperial household of Charles V. Some of them intermarried with Spanish nobles and today there are great landed properties in Salamanca which belong to a Montezuma, having come down through fourteen generations from the son of the emperor. The present head of that faily is known as Vicente Augustine Maldonado y Carbajal Cano Montezuma. He has the title of Marquis de Castellano and is a high Spanish noble, with this strain of the imperial blood of the Aztecs. He is a well educated man and has studied for the law, although he has never practiced. He is now 70 and he has two sons, one famous as a statesman and the other as a musical composer.

Montezumas Left in Mexico

There are still several Montezumas in Mexico City. One is a lawyer, another is a banker and a third a musician., I am told there is royal Aztec blood in the veins of other families here from whom the name Montezuma has passed away, and that it flows also through some of the great families of Spain and tints even some of the ducal families of England. The Empress Eugenie, the wife of Napoleon III, was born at Granada, in Spain, but she is said to have had a streak of Montezuma in her veins the same coming from the Count of Miravalles, who was indirectly descended from Montezuma. The Miravalles family still owns big estates near Granada.

Another descendant of Montezuma married a relative of the oldest son of Columbus, and it is said that one of Montezuma's daughters was taken by Cortez as his wife or his mistress.

Some Love Affairs of Cortez

Indeed, Hernando Cortez was a man of many loves and many marriages. He left the University of Salamanca at the age of 16 on account of his love affairs, and when he had first decided to try his fortune in the new world his departure was postponed by an accident received in scaling a tumbledown wall on his way to a final meeting with one of his sweethearts. He was only 19 years old when he sailed for Santo Domingo, and there he got his first wife, a beautiful Spanish girl, named Catalina Juarez, whom he refused for a time to marry, but was afterward forced to do so. She brought him both lands and money, and also the friendship of the governor, Velasquez, who later on sent him from Cuba as the commander of the expedition to push the conquest of Mexico.

While going to Mexico Cortez picked up at Tabasco Marina, a beautiful Indian girl, and made her his mistress. He taught her Spanish and she became the interpreter through whom he talked with the natives of different parts of Mexico. She stuck to him in all his troubles and he had by her a son and three daughters. When Cortez returned to Spain he married this girl to one of his lieutenants.

The two lived together in Mexico

Hernando Cortez
(Portrait in Mexican National Museum)

City, or at Cortez's home near there, and she went with him during his tours. He had an estate at Orizaba and it was in his palace there that he married this girl off to one of his lieutenants, Juan Jaramillo, and by him she had a number of children. As late as the close of the sixteenth century the heirs of Dona Matina and Jaramillo were living near Orizaba.

Strangled with Her Pearl Necklace

It was while Cortez was living with Donna Marina that his wife, whom he had left in Cuba, came to Mexico. Cortez had then become famous, and as the story goes his wife sneaked into the country without his knowledge and accosted him at Coyohuacan. He took her into his palace, and there, as the tradition goes, after one of his riotous banquets he strangled her with her own necklace of pearls. Others say that she committed suicide. At any rate, after Cortez went to Spain he was indicted for murdering his wife, and the case occupies many pages in the "Archives of the Indies," which includes the history of the crime, giving all the judicial proceedings against Cortez and his final acquittal. Cortez married again while he was in Spain, taking there a wife, Donna Juanna de Zuniga y Areliano, a woman of title and property. He had a son by her, who was christened Don Martin and who inherited the most of the property.

Montezuma's Daughter, Isabella

The daughter of Montezuma, whom Cortez took as one of his wives, had been given the Christian name of Isabella. She had been married to Guauhtemoc, Montezuma's nephew and successor, who fought against Cortez and who was put to death by the Spaniards in 1522. Guauhtemoc succeeded Montezuma, and it was said that Cortez had him executed in order that he might possess Isabella.

Some time afterward Isabella married again, and this time a Spaniard. He died and she again married, and as such she had three sons and a daughter. One of her sons married a daughter of the duke of Toledo.

It is also said that Isabella had a daughter by Cortez named Leonor, and that when she died she made a will giving her estate to her six children, stating that five of them were legitimate by her two Spanish husbands, and that the other, the said Leonor Cortez, was a natural daughter by the great general. This will is said to be still in existence. Leonor Cortez was married, and her daughter was known as the Princess Acaltan, from whom is descended the Duke Soteles de Montezuma of Madrid.

The first husband of Isabella, the Emperor Guautemoc, was one of the famous characters of Aztec history. He was conquered by the Spaniards and tortured by fire to make him confess where the Aztecs had buried their treasure. With him during the roasting was another chief who could not stand the pain and cried out that he felt he must tell. Thereupon Guauhtemoc shook his head and sternly rejoined:

"And perhaps you think I am resting on a bed of roses."

The painting of this scene is one of the great pictures of the National museum.

The Cortez Estates

Cortez like Columbus, had a sad time during his latter days. He was given the title of the Marquis of the Valley of Oaxaca, and he had great estates in Mexico, but when, toward the latter part of his life, he went to Spain, he found it almost impossible to see the king. At one time he tried to force his way through the crowd to the emperor's

Montezuma
(From the book of a soldier of Cortez)

carriage, and even put his foot on the step. Thereupon the emperor, Charles V, astonished at his assurance, demanded to know who he was, Cortez replied:

"I am a man, sire, who has given you more provinces than your ancestors left you cities."

Shortly after this Cortez left Madrid and died in solitude near Saville. As to his estates here in the new world, he had some in the Valley of Mexico, some near Cuernavaca and some on the isthmus of Tehuantepec, He had also a palace at Coyohuacan and valuable property there which remained in the hands of his heirs until about ten years ago when it was taken over by the town council. The so-called palace still stands and it was for a long time used as the city council chamber and jail. It was one of the first buildings erected by white men on the North American continent and it bears the Cortez coat-of-arms over its doorway. Similar inscription have been found in Cuernavaca, Vera Cruz and Oaxaca.

This Coyohuacan palace is a rude building without much architectural beauty; the doorway inside the patio is Moorish and the cornice of the building is very plain; the walls are thick and the house was evidently a fortification as well as a home. Not far from it is the Church of John the Baptist, which was erected about the same time, and not far away is the Dominican monastery, near where Cortez is said to have strangled his Cuban wife.

I do not know the exact extent of the lands given to Cortez, but they

HER "BEST FRIEND"
A Woman Thus Speaks of Postum.

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Some persons think coffee a real friend, but watch it carefully awhile and observe that it is one of the meanest of all enemies, for it stabs one while professing friendship.

Coffee contains a poisonous drug—caffeine—which injures the delicate nervous system and frequently sets up disease in one or more organs of the body, if its use is persisted in.

"I had heart palpitation and nervousness four years and the doctor told me the trouble was caused by coffee. He advised me to leave it off, but I thought I could not," writes a Wisconsin lady.

"On the advice of a friend I tried Postum and it so satisfied me I did not care for coffee after a few days' trial of Postum.

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"My children are very fond of Postum and it agrees with them. My sister liked it when she drank it at my house; now she has Postum at home and has become very fond of it. You may use my name if you wish, as I am not ashamed of praising my best friend—Postum." Name given by Postum Co., Battle Creek, Mich.

Postum now comes in new concentrated form called Instant Postum. It is regular Postum, so processed at the factory that only the soluble portions are retained.

A spoonful of Instant Postum with hot water, and sugar and cream to taste, produce instantly a delicious bevrage.

Write for the little book, "The Road to Wellville."

"There's a Reason" for Postum.

bably covered millions of acres. property he had in Tehuantepec prised several hundred thousand es, and it was for many years the ne of his descendants. He erected ouse there in 1527, but this is in ruins. The estate has been ded into three ranches; one of m has 70,000 acres and is chiefly oted to stock raising; another 7,000 acres of sugarcane on it, a third is right on the Tehuanc railway, having a station of its . It is not far from Rincon Ano. This property remained in hands of the heirs of Cortez until days of Andrew Jackson, when as purchased by the family which holds it.

Founded by Cortez

When Cortez died he gave some of Cuernavaca lands to the hospital Church of Jesus of Nazareth, ch still stands not far from the edral in Mexico City, and in ch his patent of nobility is. The ives of the hospital have also his grants. The hospital stands on site of Montezuma's palace, and said that Montezuma was killed e standing upon its roof by a e thrown from a mob of Indians m he was trying to pacify.

ortez built a palace at Cuerna- after he came back from Spain 530, and this for a time formed favorite residence. He person- superintended his vast estates cultivated them. He introduced r cane from Cuba and erected r mills and other works. Most ne estates have been more or less ivided, and the town of Cuerca, which contains about 7,000 ple, has grown up on his land. place is noted for its beautiful s and is celebrated as a health rt. It has recently been the e of the operations of the rebels, travel there is unsafe.

he cathedral of Cuernavaca is of the oldest and quaintest in ico." It is known as the Church an Francisco, and it was founded he instigation of Cortez. It was years the most important Franan temple of the new world. The er contains a clock which the peror Charles V gave to Cortez. he time he granted him the t of the great valley, which can een from the top of the tower. clock is run by weights which g almost to the ground. They wound up at intervals by a hanism at the top.

In Mexico City

s far as the Mexican capital is cerned, it is full of the remains Cortez and Montezuma. The Azcity was like Venice, in that it built upon islands, with numerbridges. Since then the land been drained and the spaces been the islands so filled that the is now solid land. Nevertheless, the old places of note can be ked out. The cathedral stands ere the great Teocali, or mound n which the sacrifices took place, e was. The Hospital of Jesus is ere Montezuma welcomed the niards, and at Chapultepec, ch is now a beautiful park, ere the president has his summer ne, was the summer residence of emperor, Montezuma, where he his favorite wives, his fish ds, aviary and hunting lodge.

yright, 1913, by Frank G. Carpenter)

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

5884—Misses' and Small Women's Middy Blouse. This middy blouse is to be slipped on over the head and is made with a removable shield. Linen or pique can be used to make this garment, with the collar and cuffs of contrasting material. The pattern 5884 is cut in sizes 14, 16 and 18 years. Medium size requires 2⅞ yards of 36-inch material, with ⅞-yard of 27-inch contrasting material.

5835—Boys' Blouse. Any mother will be pleased with this model for making her boys' blouses. This blouse can be made with plain or gathered sleeves and with or without the back yoke facing. Cambric or madras can be used to make this garment. The pattern 5835 is cut in sizes 4 to 16 years. Medium size requires 2¼ yards of 27-inch material.

5976—Boys' Blouse Suit. This suit has a sailor blouse, with the regulation collar and shield, the latter being removable. The sleeves are nicely plaited at the wrist and the trousers are the usual bloomers finished at the knee with legbands or elastics. The pattern 5976 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2⅝ yards of 44-inch material.

5899—Ladies' Work Apron. This apron has the body and sleeves cut in one and can be made with or without a seam at the center of the front, with high or low neck and long or short sleeves. The pattern 5899 is cut in sizes 32, 36, 40 and 44 inches bust measure. Medium size requires 5⅓ yards of 36-inch material and ½-yard of banding.

5440—Children's Dress. This dress is made with the front of body and sleeve section in one. It is made with a square neck and short sleeves. Linen or gingham can be used to make this dress, with the collar, belt, cuffs and closing line of insertion. The pattern 5440 is cut in sizes 2, 4, 6 and 8 years. Medium size requires 2⅛ yards of 36-inch material, with 2⅞ yards of insertion.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

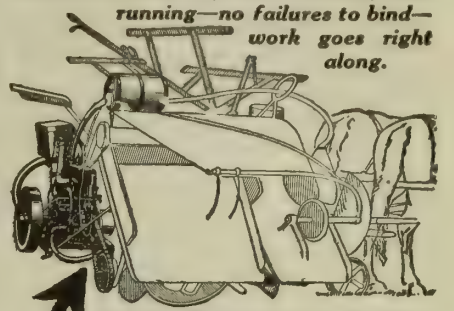
When Cooking Eggs

Here is a fact worth knowing when you cook eggs:

A spoonful of flour added to the grease in which eggs are to be fried will prevent them from breaking or sticking to the pan.

Run Your Binder with a Cushman Engine

Only two horses required—smooth, even running—no failures to bind—work goes right along.



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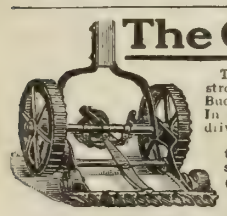

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CURRIE WIND MILL CO.,
Seventh St., Topeka, Kansas

Of Interest to Our Women Readers

Time's Magic

When she was ten years old, because
She told some fibs—it roused her ire
That the rude boys should say she was
A little liar.

At sixteen years a change we see:
If now and then she facts misstated,
The youths, at worst, declared that she
Exaggerated.

At twenty-one, a full-fledged belle,
Still given to "exaggeration,"
The men all say she has a swell
Imagination.

But when she grows a bit passe,
I greatly fear that every gander
Who hears her fictions won't delay
To call them slander!
—George B. Morewood.

Our Home Chat

Our English sisters are working for a noble end—the giving to womankind of an instrument whereby she can deliver from political and industrial oppression the weak and unfortunate of our sex and the little children, who are the special charges of all womankind. By means of the suffrage they say that unprotected women and children, the widow, the orphan and all other unfortunates, will be able to hold their own in law courts, the sweat shop will be banished, child labor become obsolete and good laws be passed and enforced.

Mrs. Pankhurst, the leader of the English suffragists, was recently here in Nebraska. Those who met her and talked with her all agree that she is a quiet, modest woman and apparently of a sweet and gentle disposition, yet it is an undoubted fact that in trying to attain her ends she resorts to violence, bomb-throwing and incendiarism; at least, her followers do, and she is reported as stating that it is done with her approval.

While she was in this part of the country she is quoted as having said, "You American women do not need to resort to such measures. Your men will do anything for you, but with us it is different. You don't know Englishmen."

Now we gladly grant that our men are far superior to the English variety, who are notably stubborn and stiff-necked, but who ever heard of making a balky mule go by beating it? However stubborn the men may be, don't we all know that nothing will make them more so than trying to force them against their will? There is an old adage that comes to my mind every time I hear of a new piece of rowdyism on the part of the English women—"You can catch more flies with sugar than with vinegar."

Another thought that recent events have brought to light. Since the English women have become so violent, throwing to the winds all respect for laws, both human and divine, women's suffrage, which had been making rapid strides in this country, is losing adherents. The men, especially, are becoming disgusted, and the women must have their votes if they ever expect to get the suffrage. THE EDITOR.

Ways with Gourds

A single packet of mixed gourd seeds will furnish several interesting forms of plant growth, a large proportion of which may be of real use. The interior of the "Dishcloth" gourd is a mass of lacework in fibers, which serves the place of a sponge, or it makes a serviceable dishcloth; but those who have once seen the dainty hats evolved from it will scarcely consent to the waste of such material in the more prosaic use.

The egg gourd, so much in favor with our grandmothers for "nest eggs," will prove quite an attraction for Easter favors, as its smooth, white or creamy shell is adapted to all sorts of decorative work. It is an equally acceptable present to the housewife for slipping into a stocking during the mending process, and may be suitably decorated for this use. It is light, durable, and the simple design which you can yourself make will serve to render it a pleasing gift. Scissors, a darning needle and ball of yarn are easily done in gilt, or the letters "Stocking Darner" in gilt or any color preferred. For variety the entire shell may be covered with ordinary house paint, with finishing touches of enamel paint, and then the lettering. To one with an artist's skill a reproduction of "Grandma, Busy with Her Darning," might be possible.

These same egg gourds, with the top cut off and the core removed, make nice receptacles for combings, or for holding any little articles. Crochet an openwork bag just large enough to slip the gourd cup into. Burnt matches are safe within its depths. Then there are the "dipper gourds," which the boys in camp will appreciate, especially if decorated with a tent, fishing rod and line or any rude suggestion of the summer outing.

BESSIE L. PUTNAM.

Shell Pattern

The accompanying pattern may be developed in fine cotton for dainty garments, or in heavier cotton or linen for coarser articles. Directions:

Make a chain of six stitches, turn.

First Row—One D C in the fifth and sixth chain stitches, chain 3, turn.

Second Row—1 D C on top of the second D C of the preceding row, chain 2, 1 D C in the next chain stitch, chain 5, 1 slip stitch at the chain of 6, chain 3, turn.

Third Row—9 D C in chain of 5, 1 D C on top of D C next to the chain stitches, chain 2, 1 D C on top of last D C, chain 3, turn.

Fourth Row—1 D C on top of second D C of previous row, chain 2, 1 D C on the next D C, *chain 2, 1 D C on the second stitch*; repeat to end of row, chain 4, turn.

Fifth Row—1 Sg. C on top of last row, 1 Sg. C in the space, then work a picot of 4 chain stitches, fasten back with a Sg. C, Sg. C on top of D C, repeat five times more, then make a chain of 5, 1 D C on last D C, chain 3, turn.

Sixth Row—Same as second row fasten the five chain stitches with a slip stitch at the picot.

MRS. GILBERT.

Decoration Day

Next Friday is the day on which we decorate the graves of our country's dead. Longer and longer each year grows the list of graves and fewer and fewer become the veterans who march in faded uniforms and under ragged banners to do honor, for the last time, perhaps, to the comrades of many years ago. Every year they need more help from us—the younger ones—to whom the civil war is only the history of a bygone generation. We are still reaping the benefits of the victory which these dead soldiers won, and countless generations to come will continue to enjoy the privileges gained for us by these heroes of the past. There is little we can do to show our appreciation for what has been accomplished, but we can give the flowers from our cherished lilac and bridal-wreath bushes and spare the time to offer them, with appreciative words, to the few old comrades who yet remain.

Friends Who Stimulate

If you would get the best in life, choose for your friends those who stimulate you, who arouse your ambitions, who kindle within you a desire to do something and to be somebody in the world. Keep in close touch with people who inspire you to think and feel. Seek the company of those whom you know to be a perpetual inspiration that the growth may not be dwarfed or impeded. Many who are meeting with success today can attribute it to friends who stimulated them to higher ambitions in youth. Youth is the time for us to grasp possibilities if we get the best possible efficiency out of our lives.

Sometimes a friend in whom we have great faith believed in us when others did not, saw possibilities in us, and by a word of encouragement inspired us to make the most of our God-given faculties. Arousing is what we need most of all. Anything that will give us a glimpse of ourselves, that will unlock the storehouse door of our hidden capabilities, is invaluable. A book which inspires to higher thinking, or a vigorous article, has caused many a man and woman to break away from the bottom rung of life's ladder when on the point of stagnation.

MINNIE B. MOTE.

Ironing Tablecloths

The effect of a lovely linen tablecloth is often spoiled by the network of creases caused by folding it.

In the future when ironing the cloth fold it once through the middle, roll and tie with a piece of tape. In this manner there will be but the one crease and the tablecloth will lie flat and smooth upon the table.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

To a Child

In all thy ways
Be good and true;
Give to thy parents
Honor due.
May health
And happiness be thine;
May virtue 'round
Thy pathway shine;
May holy angels
Watch o'er thee,
And keep thee from
All evil free.
Then live for all
That's good and true,
And e'er a righteous
Course pursue.

—Miriam Mair.

(The author of this poem lives in Rimo, Idaho, and is only 11 years old.)

The Editor's Corner

Dear Story Writers: You must hink that because we have started he picture contest we are not pub- shing stories any more. This is ot true at all. We want you to eep right on writing the stories, oo. We are not running any this eek because so few have been re- eived, but we intend to start them gain as soon as you send some in. Ve only intended the picture con- st to take the place of the Daffy- ils.

So often we receive letters from ou asking why your stories have ot been printed. There are so any of these letters that we can- ot possibly answer each one, but lease consider this an answer to ll we have received in the last few eeks. Sometimes the stories rinted may not seem to you to be s good as those you send in, but e have to take into consideration ot only the subject matter, but ich things as the age of the writer, pelling, punctuation, grammar and eatness. The length of the story also an important thing to be onsidered. Not long ago we re- eived an excellent story. It was he dairy of a girl who went on a mping trip, but it was so long that e could not find space for it.

Another thing I want to say to ou. Some of the stories received are ot original. Once in a while we rint one copied from a book, but not ften. While your editor has read great many fairy tales, fables and ther children's stories, it is impos- ble to have read them all, and nce in a while one slips through. ow what advantage do you chil- ren derive from copying a story nd sending it in as your own? We eceive letters from your neighbors, hom you do not deceive in the east, and from other children all ver the country. Please remember hat fair play is the first principle f good citizenship, and that in do- ng an unfair thing of this kind you urt yourself more than anyone else nd are discredited in the eyes of our neighbors and all who are riting for our story department.

Do not be discouraged because we o not print the first story you send n to us. Go over the story care- ully and find out what is the mat- er with it, then write another one, rying to overcome the faults of the irst, and keep on trying. Recently ve printed a story sent in by a boy who has sent numbers of them be- ore, but never one good enough to e printed. Keep on trying and perhaps this will happen to you.

THE EDITOR.

Prize Contest Picture No. 2

Next week we will announce the winners of the picture contest. In the meantime, here is the second picture. Write a verse of four lines about the cats shown on this page and send it in to the "Picture Contest Editor" of The Twentieth Century Farmer. Be sure to state plainly your name, age and address. Books will be sent to the authors of the two verses which we consider the best. All verses must be in by June 14.

Gwen's Yellow Rose

GWEN'S mamma had been mourning over the late spring.

"It's so cold," Gwen had heard her say, "that I'm afraid the yellow roses won't bloom in time for Decoration day."

Gwen was only 4 years old, but she could remember, a year ago, carrying a wreath of yellow roses to put on the grave of her soldier grandpa—dear grandpa, who had left his home when he was a young man and gone away to help make little black girls and boys as free and happy as she was.

The little girl went into the sitting room and looked at the south window. Mamma always kept the blind rolled clear to the top, for the great rosebush had climbed all over the outside and made a lovely green shade for it. Gwen could see hundreds of tight little buds on it, but the cold, unfriendly winds seemed to make them feel too bashful to show the sweet golden petals they had been hiding for weeks.

Today was Tuesday, and next Friday would be Decoration day. Gwen felt sure the buds would be open by that time, but mamma was certain they would not.

"Mamma says there hasn't been enough sunshine," said Gwen to herself, "and papa says my eyes are full of it, so I'm going to stand here and look at them till the little yellow leaves come out, then I'll have some flowers for grandpa's grave."

Pretty soon the little girl ran from the room with her blue eyes full of delight and wonder.

"There's a rose open, mamma," she said, "a big rose! It's trying to get in through the window, too."

"A rose 'trying to get in through the window!' How could that be, darling? Roses can't 'try.'"

Gwen caught hold of mamma's apron. "Come and see, mamma, please," she begged. "It's wiggling round and picking like a little chickie. I'm sure it wants to come in."

Mamma took her hands out of the dough; she knew her little girl was short-sighted and sometimes made strange mistakes, but a rose that wiggled and picked "like a little chickie" was something very queer, and had to be looked into.

Sure enough, there was something yellow fluttering and pecking at the outside of the glass. Mamma laughted softly and let the window down, very carefully, from the top. The "yellow rose" hopped and fluttered to her hand.

"Look, Gwennie!" she said. "Your yellow rose is a dear little canary bird. I think it must belong to Miss Lucy. She has three young ones, and this must be one of them. Just put on your bonnet, dear, and run over and ask her if she has lost one of her birdies."

"I don't want to go, mamma. I want the birdie myself. I haven't got any, and Miss Lucy has lots."

There was a look that Gwen did not like to see in her mother's eyes, as she shook the bird from the little hands that held it too tightly.

"But you mustn't want anything that belongs to someone else, dear; that's wrong. Now run along."

The sunshine left little Gwen's face, but she swallowed the tears that wanted to come and went over to Miss Lucy's cottage. She found the lady out poking around among the shrubbery with a new, gilded bird cage in her hand.

"Gwennie," she called as soon as she caught sight of her caller, "have you seen a stray canary anywhere in the bushes? I was just going to put it into this cage and it got away from me. It was a birthday present for a little girl, too, and must be found."

A present for a little girl! An awful feeling of envy of some other little girl crept into Gwen's heart, and when that bad feeling is allowed to stay in a little heart it is apt to bring something even worse with it.

"I saw something yellow sitting

(CONTINUED ON PAGE SIXTEEN.)

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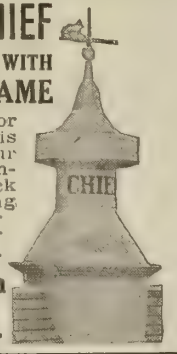

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***

A certain poultry keeper writes that a hen is entirely lacking in reason, though she knows a few things by instinct. After all, instinct, as far as it goes, is merely a product of brain power, thus a product of reason. A hen has memory to connect certain sights and events that come in her way, and reason guides memory, though with a chicken it is a very weak affair.

***

As a rule, a fixed poultry house is an abomination in time; and if placed on a cement floor, with a high roost above, bumble foot will be of common occurrence in the flock, to say nothing of sprained legs, if not a broken one now and then.

***

Where you have a damp floor, and an earth one at that, spare all the wood ashes you can for this floor. Put it on after every cleaning, which should be frequent. In time ashes will harden up the ground below the surface, lessen the damp and with it all kill vermin, as well as disease germs. Don't waste the wood ashes from your stoves, and if you have none, haul home the neighbors' waste ashes.

***

Overcrowded flocks lay few eggs, whether the overcrowding is in houses or runs. Most of the vices of chickens, such as egg eating and feather pulling, come from living in limited runs. Then, too, unless you watch closely, some fowls in a small, overcrowded run are continually being starved. Timid pullets and young male birds are driven from the troughs by the older, bossy hens.

***

One good poultry idea is to provide yourself with a baby chick marker and punch a hole in, say, the right foot of your incubator chicks and one in the left foot of the hen-hatched chicks, then notice the average number of each that come to maturity. But be sure to not forget which foot it was of each kind.

***

Some green things to plant for the fowls this spring, summer and fall are: Lettuce, sown in drills; cabbage, rape, Swiss chard, mustard, the same. All can be sown one foot apart. White mustard is best, but the wild is relished also. For poultry feeding, get the Southern Curled Giant, or some of the cultivated kinds. Mustard of all kinds are the best greens for the biddies. Cut it when three or four inches high. Sow often until in September.

***

Claim is made that if in putting in new hen roosts you grease each pole thoroughly with some good grease or oil, those perches will never be bothered with lice. The hens' feet may wear some of the top grease off, but never the underside, because it sinks into the wood. One might try it, anyway. A noted poultryman puts it on hot.

***

Spinach, sown in September, gives some good late feed to the fowls. Sunflowers should not be planted later than June in most climates. The striped seed that you find in so much of the mixed commercial hen foods is from the Mammoth Russian variety. Black, thin-shelled seeds come from Black Giant, which grows a larger head than does the Mammoth Russian.

***

Hogs can live upon grass alone, upon meat, apples, etc.; not so a chicken. It must have not only vegetable, but also animal and mineral food. Deprive it of meat and in time it shows certain diseases; deprived of grain and grass, other kinds of diseases. Deprived of grit and its kind, it will in time swallow buttons, stones the size of a bean and other substances of this kind.

***

Black fowls, in so many neighborhoods, are at a discount because of the color. Of late they seem to be gaining in favor, especially the kind that show a green iridescence on the feathers. After the fowl comes to a certain size, when young, it is as easily plucked clean as a white fowl. They are always clean looking; they are hardier, so claim is made, and on an average for the whole flock better layers than some of the other colors.

***

The 400-egg hen! Do you think they will ever get that kind? Th would mean two eggs per day f some days in the year. We stranger things, perhaps, have ha pened. Why, they haven't even t 200-a-year-egg hen yet bred in su numbers that one can be sure of flock of this kind. We are doi well if we get a flock of average 1 or 150-a-year laying hens. Yet t 400-a-year laying hen is now bei talked of. IDA M. SHEPLER.

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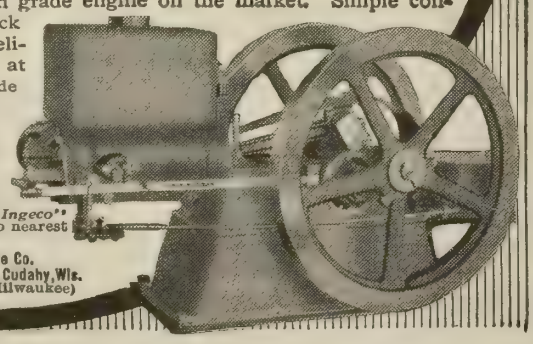

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Gwen's Yellow Rose

(CONTINUED FROM PAGE FIFTEEN)

in the grass back there," she mun bled without looking up.

"What did you say, dear?"

Gwen repeated it, her face sti hidden under the pink sunbonne Miss Lucy knew of the defect in he litlte neighbor's sight, so she felt n doubt that the "something yellow was the missing bird. She too some unwilling fingers in hers, an they went back over the green law together. Gwen lagged and pulle back on her friend's hand, and pre ently some queer sounds were hear Miss Lucy stooped and looked unde the pink bonnet. Away in the bac of it was a little pale face with bi tears chasing each other down it.

"What is the matter, sweet heart?" she aswed, dropping th gilded cage and putting her arm around unhappy little Gwen.

Gwen drew back crossly. "I'n 'fraid it's flew," she bagan in shaky little voice. Then, all a once, the cold, hard something tha was hurting her gave way and sh threw her arms around Miss Lucy' neck and sobbed out:

"The yellow thing—it was only dandelion. Mamma's got the birdie I wanted to kee-keep it. It's s swee-swee-sweet!"

Miss Lucy did not know what t say, she felt so much like crying her self; but she held the little gir close and let her feel that she was forgiven.

When Gwen came in with Miss Lucy she saw the troubled look still in mamma's eyes, so she slipped away to the kitchen, while the two ladies put the little truant into its new house. Pretty soon Gwen heard her name called and went shyly back.

"Do you remember whose birthday it is?" asked mamma.

"Mine!" answered Gwen with a start.

Miss Lucy sat holding the pretty cage in her lap.

"This is your birthday present," she said. "Its name is Yellow Rose."

Gwen could not say "Thank you," for shame and gladness, but the way she tried to make her short arms go around both gift and giver at once made it all right.

The evergreen wreath that Gwen laid on grandpa's grave next Saturday, while flags waved and the band played, held no roses, only a sprinkling of flowers from mamma's window; but there was a Yellow Rose in a gilded cage hanging on a limb of the great elm growing at the foot of the mound, and it was singing as if it meant to drown the sound of the fifes. It would have done it, too, if its throat had only been big enough.

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Successful Shipping Association

Arapahoe, Neb., has a successful farmers' live stock shipping association. It was organized in 1888 and incorporated in 1893. The value of a share in the association is put at $1. Each member is limited to twenty shares. The officers consist of a president, a secretary, five directors and a manager. The manager, in charge since 1898, is W. S. Curry. They accept shipments of stock from non-members as well as members, but the delivery of the stock to the manager and his acceptance of it binds the shipper to the rules and bylaws of the association.

A member of the association, if so inclined, may ship his own stock, providing he has a carload or more. All that desire to ship stock with the association report to the manager

W. S. CURRIE, Manager.

the kind of stock, the number of each kind and the approximate weight. Then, when a sufficient number has been reported to make a carload, the manager orders a car for shipment and notifies parties having stock listed for shipment when to bring it in. A commission of 5 cents per 100 pounds is charged, and the same is deducted from the proceeds of the sales. Upon receipt of the account of sale, the manager ascertains the net price per hundred pounds on such shipments, and this is the basis of settlement with the shipper.

One dollar per car for yardage is also deducted from the proceeds, as well as commission charges and other expenses. This charge for yardage is used to keep up the yards. The association owns its own stock yards, scales, sheds and loading chute. In case of dockage on hogs, the manager charges the dockage to the proper owners. In case of dead hogs, the loss is charged to the entire shipment, except when the hogs die at the shipping point, in which case the loss is charged to the parties owning the hogs. When several different owners have cattle in the same car, they are weighed separately and sold on their merits.

This association is successful in every way and has the entire support of the community. There has not been a local buyer at Arapahoe for years, while before the organization of this association there were three stock buyers there. There is no reason why every community might not organize such a live stock shipping association and thus save themselves the profits accruing to the local buyers.

Undesirable Investments

No self-respecting white family cares to settle in a negro community, no matter what the commercial outlook may be. A landlord in Kentucky, realizing this fact, and, owning several farms which he wanted badly to sell, concluded he would offer one of the best to a negro capitalist at a cut price, and at the same time let it be known that he had decided to sell all his farms to negroes, thus establishing a community of them. The old darky, knowing a good thing, made the purchase, and other negotiations were discussed. The rich planters thereabout, knowing the effect such a thing would have on land values, got together and took all the landlord's holdings at a good, round figure, and the old darkey got a profit worth while for his. It is apparent that land must not only have in inherent value, but it must have proper environment to bring a good price or be salable.

Years ago a Bohemian and Swedish colony settled in the Gulf Coast country of Texas, eighty miles southeast of Houston. The first year they got on very well, but after that they fell ill with chills and fever and other diseases brought on by lack of drainage and good water, so the real result was a partial failure for those who emigrated, and not good for the seller. In fact, it gave the country such a "black eye" that it will take it years to overcome its reputation, athough the land is wonderfully rich prairie land.

Not long since we were urged to inspect a tract of Nevada land, supposed to be irrigated, to ascertain if the same was adapted to colonization purposes for settlers from the middle west. As the land was offered for less than $20 per acre, we had a suspicion that there was something wrong about it. We found a diminuative stream on one side of the 16,000 acres and a similar one on the opposite side, and no laterals. These two streams constituted the irrigation for the whole tract. Hence it is apparent that there are many things to be considered in selecting a farm home where the commercial and social sides are appropriate to the family needs.

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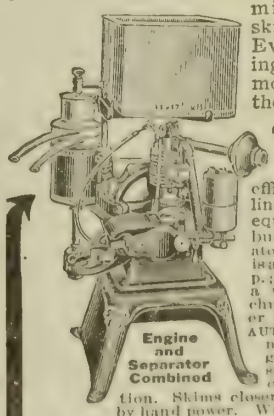

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Review of Live Stock Market

By A. C. Davenport

THINGS are not looking just right and stockmen are none too well pleased either with present conditions or future prospects. Natural conditions, such as moderate supplies of stock in the country, appear to have lost their influence upon the market. On the other hand, the market seems to be controlled to a great extent by unusual and outside conditions. This is especially true of the cattle trade. Thus the cattle market is statistically strong, but sentimentally weak.

Real conditions remain the same as they have been all the season, and the same as have been outlined before in these columns. Country supplies are moderate and consuming demand fair, with every prospect of supply and demand being so well adjusted as to maintain a good, strong market throughout the season if only a little judgment is used in marketing stock so as to prevent gluts. But there is an undefinable vague sort of fear and unrest in the air that is tending to prevent the working out of the simple and natural law of supply and demand. Stockmen seem to be afraid that something is going to happen, and, unfortunately, there is a distressing lack of confidence in the future of cattle values. So far as can be observed, buyers are not responsible for this feeling, and no big bear raids have been made to depress the market. On the contrary, the weakness seems to eminate largely from the selling interests. It is the producers and feeders of live stock that have lost confidence, and their lack of faith in the future of the market is having a depressing effect upon it.

It almost always happens in the spring of the year, when fresh vegetables become plentiful and cheap in the big consuming centers, that the demand for meat shows more or less of a shrinkage. Therefore, it is not at all in the nature of a surprise that the meat market in the east should have been reported dull the last two weeks or more. It is also not in the least surprising that such dullness should be reflected in a slow and weaker cattle trade at the big western markets. It has, however, been very much of a surprise that when the markets showed weakness and when prices declined sharply, the country formerly so bullish in sentiment and so well informed as to the moderate supply of cattle on feed should continue to crowd the markets with fat stock. Right here is where the lack of confidence on the part of the country is proving very detrimental to the cattle trade. There has been for the last three weeks or more an increasing desire on the part of the country to get rid of all surplus stock on feed. During the last week receipts have fallen off somewhat, some points being very lightly supplied, but the prevailing lack of confidence in the country is having its influence upon buyers. Under the impression that receipts will prove larger in the near future, they have not been buying with any great eagerness, and prices have failed to advance very materially even under lighter runs.

Interviews with many shippers and feeders of stock at the different market centers would tend to show that the most prominent cause for the unfortunate lack of confidence in the country seems to be the proposed removal of the tariff on meats shipped from foreign countries. Although it has been pointed out in live stock publications and in letters sent out by commission men from the big markets that the present crop of corn-fed cattle will in all probability have gone into consuming channels before the proposed tariff legislation can be made effective, still the country has remained unconvinced.

Under the conditions outlined above, it is practically impossible to hazard even a guess as to the immediate future of the market.

Sheep Market Slightly Weaker

The market on sheep and lambs has been in very much the same condition as the cattle market. Receipts have been moderate, there being a falling off at the five leading markets of about 300,000 head for the year to date as compared with the corresponding time last year. As a matter of course, there are still a good many lambs at the various feeding stations surrounding the big markets, and this visible supply has a bear influence on the market. Still, it is plain to be seen that supplies are by no means large and that the country ought to consume everything visible between now and the coming of northern grassers. Still, the market has been devoid of life and snap, and prices in many cases have shown more or less weakness. A good many sheepmen were predicting a sharp bulge in the market toward the close of the season, but nothing of that kind is yet visible to the naked eye, and it is quite certain that buyers will have to show considerably more eagerness for both sheep and lambs before any very great improvement can transpire.

Hog Prices Practically Unchanged

Receipts of hogs have been quite liberal at most market points, and buyers apparently had a good opportunity to force values downward, but have failed to bring about any great change in prices during the last few days. In fact, buying on the part of the big packers has been very free for some few days back, and sufficiently active to hold prices fully as high as the previous week.

While the bears are unwilling to believe that the hog market has touched bottom, statistics are very favorable to the bulls. For the year to date there is a shortage of over 1,300,000 head in the receipts of hogs as compared with the corresponding period of 1912, and a decrease of almost 100,000 head as compared with the corresponding months of 1911. This is taking into account the total receipts for the eleven market points.

The immediate future of the market is a problem impossible to solve at the present time. As a matter of course, the weakness prevailing in the cattle market is very liable to have some influence over the future of the hog market, this influence being exerted through the fresh meat trade. Just at the present moment, operators on the market seem to feel that the immediate future is bound to be influenced largely by the question of receipts. As often as the runs drop down, the market shows an inclination toward strength. This is taken as an encouraging sign by the selling interests. On the other hand, there is a very marked disposition on the part of buyers to pound the market whenever large runs give them the opportunity to do so.

Live Stock Notes

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W. F. Schwab of Clay Center, Neb., is advertising Red Polled bulls of serviceable age for sale; also a number of strictly first-class females. Mr. Schwab has one of the oldest and largest herds of Red Polled cattle in the west, and is in a position to supply the purchaser with almost anything he wants in this line. His cattle have plenty of scale and are also especially strong in milking qualities. If you are interested, write him for further particulars, mentioning this paper.

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F. P. Riggs, the well known breeder of Poland-China hogs at Archer, Neb., has fifty head of spring pigs at this time, sired by Nebraska Wonder and Victor Price. These pigs are out of dams representing such blood lines as Tecumseh, Expansion, Big Victor, Jumbo, Nebraska Wonder and others. The sows have an average of seven pigs to the litter, and if all goes well Mr. Riggs will no doubt have some mighty good ones to show this fall. Keep his herd in mind for future reference.

Colonel Jacob Wernsman

In order to be successful in any particular line of business it is necessary to have a thorough understanding of that line of business. If that knowledge has been gained in the school of experience, the better the understanding. In order to be a successful live stock auctioneer a man must be a expert judge of the different breeds of live stock. He must also know pedigrees to the extent that he is able to tell at a glance the ancestry behind the animal he is selling; and last, but not least, he must have a thorough knowledge of values.

We are reproducing in these columns a likeness of Colonel Jake Wernsman of Cedar Bluffs, Neb., and we believe no man in the auctioneering business has a more thorough understanding of these things than has Colonel Wernsman. He has spent the greater part of his life in the breeding and handling of pure-bred live stock, and is thoroughly posted on every phase of the business. He has always been a strong advocate of better live stock on the farm and has probably done more than any other man in bringing about better conditions in this line

Colonel Jacob Wernsman

in his own community. If you are contemplating the holding of a sale during the coming season, you will make no mistake in employing Colonel Wernsman. Write him for open dates at Cedar Bluffs, Neb.

Friesland Farm Holsteins

Anyone in the market for a first-class Holstein bull or a few extra heavy producing females will do well to get in touch with Dr. B. B. Davis, room 200 Bee building, Omaha, Neb., proprietor of Friesland Farm Holsteins. He has several good sons of Kalmuck, Skylark, Johanna and of King Segis Lyons for sale. They are from especially good A. R. O. dams and are absolutely right in every respect. You know what you are getting when you buy anything from Dr. Davis, and you are absolutely sure you will receive courteous treatment. Write him for particulars, mentioning The Twentieth Century Farmer.

Percheron Stallions

Mr. Fred Chandler of Chariton, Ia., has several first-class 3-year-old Percheron stallions for sale that should receive the consideration of prospective buyers. These stallions are home-grown, extra heavy-boned, with an abundance of scale and quality, and they are good actors. He is pricing them worth the money for quick sale. Look up his ad elsewhere in these columns and write him, mentioning this paper.

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Potassium Chloride	16%
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Calcium Oxide (lime)	20%
Iron and Aluminum	9%
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Do not confuse this valuable product with the various patent remedies on the market which sell at medicine prices. This is a high reduction of purely vegetable matter and does not contain an ounce of salt or filler of any description. Send today for circular fully descriptive of this product. Agents wanted in unoccupied territory.

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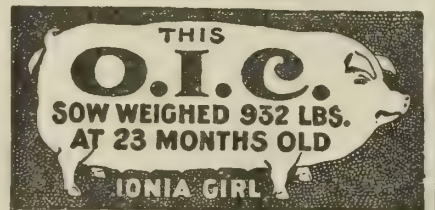

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Prattle of the Youngsters

The Cow

A teacher, after giving her class ome instruction on the subject of ows, put the following question to ne of the pupils:

"What is a cow, Dolly?"

"A cow is a noble animal with a g at each corner," was Dolly's defiition.

The Kindred Touch

Little Howard expressed a worldide sentiment the other day, subseient to the hanging of his mother's rize yellow Leghorn.

"Howard," his mother said, shakg her finger prophetically, "did ou hang my yellow pullet in the al shed?"

Howard kicked a small sandaled ot against the portico steps.

"Ma," he said, looking down, "I n't want to talk."

When He Went Up

A Cleveland clergyman has given the Plain Dealer of that city this count of infant resourcefulness:

"My little daughter was feeling a t under the weather the other ening, and consequently was put to d early. She had not been under e covers more than five minutes fore she called out:

" 'Mamma, I want to see papa.'

" 'Go to sleep, dear,' answered her other. 'Papa can't see you now.'

" 'Mamma, I've got to see papa.'

" 'I can't disturb your papa now; is very busy. Go to sleep.'

"There was a silence for nearly ur minutes. Then these words oated down the stairs:

" 'Mamma, I am a very sick oman, and I must see my pastor once.'

"Then I went up."

Another Precocious Child

A director of one of the great anscontinental railroads was showg his 3-year-old daughter the picres in a work on natural history. inting to a picture of a zebra, he ked the baby to tell him what it presented. The baby answered, olty."

Pointing to a picture of a tiger in e same way, she answered "Kitty." en a lion, and she answered oggy." Elated with her seeming ick perception, he then turned to e picture of a chimpanzee and id: "Baby, what is this?"

"Papa."—Woman's Journal.

True Praise

"The horror, in this money-grabng age, that is exposed at the bare ought that Dr. Friedmann desires patent and monopolize his conmption remedy; this horror speaks ll for the doctors."

The speaker was Bishop Lambuth Nashville. He continued:

"Doctors are a fine set of men. t of babes' mouths issues their aise. I once said to the little son a Nashville doctor:

" 'Is your father at home?'

" 'No,' said the little fellow; 'no. , he's out.'

" 'Where can I find him, do you ow?'

" 'Well,' said the little fellow, 'I ess you'd better look for some ace where folks are sick or hurt. don't know just where he is, but 's helping somewhere.'

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Colleges and Experiment Stations

IN THE next issue, The Twentieth Century Farmer will have something to say with reference to the agricultural colleges and experiment stations within its territory. It will endeavor to put forward a fair estimate of the work they are doing in the several states, and the influences that they exert upon practical agriculture. It will attempt briefly to analyze the reasons for the conditions as they exist in the several states, so that, if possible, each may learn from the experience of the other.

Experiment stations and agricultural colleges have a very important work to do. In these shifting times, as experience gives new light, the field of operation and the methods employed must be modified to meet conditions as they arise. Some of these institutions are in the forefront in adapting their work to the practical needs of the time. Others are lagging. It is to be hoped that all will work out a true conception of their proper relation to the agriculture of their respective communities, and will industriously and intelligently apply themselves to the greatest practical aid to agriculture.

Bright and Breezy

Those City Dooryards

The man was looking at houses.

"Where's the lawn?"

"Here it is," said the agent. "The man next door had his doormat over it."

A Study in Switches

"No, siree!" exclaimed Bunkerton. "There wasn't any of that nonsense in my family. My father never thrashed me in all his life."

"Too bad, too bad," sighed Hickenlooper. "Another wreck due to a misplaced switch."

His Only Satisfaction

Smith—Have you taken in the auto show?

Jones—Sure. I never miss 'em.

Smith—You don't own a car. Why are you so interested?

Jones—Well, once a year I like to look at a bunch of 'em I don't have to dodge.

A Reguar Circus

"Son, why don't you play circus? It's great fun. First, you make a sawdust ring.

"Where'll I get any sawdust, dad?"

"Here's the saw. Just saw some of that cordwood into stove lengths. You can have all the sawdust you make."—Judge.

Perpetual Motion

"What a lively baby!" said Flaherty. "Have ye had his picture took yet, I dunno?"

"Not yet," said Fogarty, the proud father. "We thried to, but afther an hour's lost labor the photygrafter rayferred us to a movin'-picture studio."—Lippincott's

A Terrible Accident

Melba, the celebrated vocalist, was upset one day while out taking a drive near Sydney, Australia. An Australian paper, after recording the incident, added:

"We are happy to state that she was able to appear the following evening in three pieces."

A Lesson in English

A woman was discussing the English language with Rudyard Kipling.

"Don't you think it strange, Mr. Kipling," said the woman, with superior wisdom, "that sugar is the only word in the English language where an 's' and a 'u' come together and are pronounced 'sh'?"

Mr. Kipling's eyes twinkled as he answered, "Sure."—Ladies' Home Journal.

The Champion Optimist

An old man was sitting on the roof of his house during a flood, watching the waters flow past, when a neighbor who possessed a boat rowed across to him.

"Hello, Bill," he said.

"Hello, Sam," replied the other, pleasantly.

"All your fowls washed away this mornin', Bill?"

"Yes, but the ducks can swim."

"Apple trees gone, too, eh?"

"Well, they say the crop would be a failure, anyhow."

"I see the river's reached above your windows."

"That's all right, Sam. Them winders needed washin'."

Comfort in the Pasture

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Care of Earth Roads in the Muddy Season

By John N. Edy

THIS is the season of muddy roads. No matter where you live, if your highway system contains any earth roads, they are certain to be more or less muddy. The sensible and business-like thing for us to do, then, is to make an effort to alleviate the mud nuisance. I say alleviate it, because as long as we have dirt highways, just so long will we have some mud.

I don't believe that the average road user ever stops to realize why his earth roads get muddy. As a matter of fact, the road user himself is at times responsible for the unsatisfactory condition. It all reduces to a question of the proper maintenance and reasonable use of the highway. It is a proposition that is pretty thoroughly up to the taxpayer himself.

First, consider the matter of maintenance. There is today but one up-to-date method of maintaining earth roads. Any plan of maintenance that fails to provide for the use of the split-log drag cannot be considered a plan at all. For a score of years the road drag has proved its absolute superiority as a tool for smoothing and hardening the earth road. And it has proved to be such an economical tool that its use can never be postponed because of a question of cost.

Construction and Use Simple

While the results attained by the use of the road drag are almost unbelievable, its operation is simplicity itself. Anybody with a thimbleful of brains can make and use a drag. It is built from the halves of a split log, or of 2x12-inch plank, at a cost of but a few dollars. Its operation consists of dragging it over the road at an angle of about forty-five degrees with the direction of the driveway. It seems reasonable to assume that any man with average intelligence can do that.

Now, when it is so easy to properly maintain earth roads, why should there be so much mud? It is a fact that dragged roads never become so muddy as those not dragged. The reason for this is plain. The road drag, when properly used, cuts off the high and fills up the low places. It moves a thin layer from the sides toward the center of the driveway, thus affording the center elevation so essential to proper drainage. And the moist earth so moved becomes baked by the sun and wind and compacted by traffic, until the road surface is a smooth, hard mass, composed of thin layers of compacted material. Its structural composition prevents any very great depth of mud in wet weather.

No Good from Dragging Dry Roads

I have said that the drag moves moist earth toward the center of the driveway. It must be remembered that no good can come of dragging a dry road. As a matter of fact, it is better to drag when the earth is too wet, rather than when it is dry. I think that it would sometimes be a good idea to go onto a sloppy road with the drag. This might be done in the evening after a rain, and it would give the surface a chance to dry smooth during the night, when there is no traffic. The best time to operate the drag, however, is soon after a rain or thaw, when the ground is moist, but not sticky. That's what D. Ward King says about it, and he knows.

As to the reasonable use of the highway, I am inclined to the belief that wet earth roads are often cut up by unnecessary hauling; that is, the effects of the mud wouldn't be so pronounced if the road user would travel the wet road only when necessary. In reality, wet weather hauling is rarely economical for the hauler, and it is always expensive insofar as the road is concerned. Roads exist to be used, it is true; but every man has a right to expect a reasonable use of the highway at the hands of his neighbors.

The point is this: The only good earth roads are dragged roads, and while dragged roads will get muddy at times, they are never "hub deep" and impassible. The solution of the mud road problem is continuous maintenance by the drag. The time to drag is now, before the driveway is too badly cut up and rutted. And then—don't ruin any more roads than you have to.

Machine Grading

It is now time to use the big grader It should not be necessary to remind the superviser that road work should be done as early in the spring as the weather will permit. This does not mean that the grading machine must be put on the road while the rainy season is still on and at a time when unsettled weather conditions are assured. The idea is this: To insure good results from grader work, the machine must be used at a time when the earth is moist and will pack on the road. An occasional rain is not to be deplored; it is, rather, an advantage. But moist earth is absolutely essential to the economical operation of the road grader. You can't make a good grade of dry material.

Assuming, then, that an effort will be made to perform road grading in the spring or early summer, I wish to call attention to a very important step in the work that is often omitted. I refer to the use of a road roller. I know of no reason for failure to properly compact newly graded earth roads, and there is every reason for so doing. The roller is the finishing tool; without it, the road surface is uneven, soft and porous, and in no condition to resist the action of rain and traffic. Let this same road grade be thoroughly rolled, and the result is a smooth, hard surface that possesses the attributes of a real road.

How to Make a Cheap Roller

The use of a roller need not add a great deal to the cost of the improvement. By filling an old boiler shell, or sheet-iron cylinder, with concrete, a very acceptable roller may be made. By varying the dimensions of the shell the weight may be varied to suit the requirements. Five or six tons will be found heavy enough. As to actually compacting the road surface, it is entirely feasible to attach the roller to the rear of the grader when the machine work is nearly finished. In this way the rolling is partly done without any additional power expense—assuming that the last few trips of the machine are devoted to dressing the road surface, rather than to moving a mass of earth.

Use of Traction Engines

It is probable that much of the machine work done this spring involved the use of traction engines, rather than horses, for power. The manufacturers are perfecting an engine that cannot only perform economically at pulling the grader and roller, but that itself aids in packing the road material and may be used to haul wagon-trains of stone, cement, etc. I submit that the ultimate aim of road improvement is service and economy, and when it is proved that the traction engine provides the economical power for road building operations, it should supersede the horse. It is well to bear in mind that the only object in using a road machine is to improve the road, and don't wear out an expensive grader doing work that a road drag will do better. The grader is a machine of construction, and the grading plant is not complete without a roller.

Choosing a Road Boss

It ought to be pretty generally recognized that a great deal depends upon the ability of the road supervisor. While, as I have said before, the whole thing is pretty much up to the taxpayers, their lack of interest throws even more responsibility on the official.

The road boss should be chosen because of his fitness for and interest in the work. I say he should be so chosen, but not always is he. Too often do we witness the payment of political obligations by appointments in the road-building organization of the county, and in every case the roads suffer. The taxpayers must realize that it requires something to administer the highway affairs besides affilation with the "right party."

It seems only reasonable that the road supervisor should be expected to know his business. He should know how to build and maintain roads and small culverts that are serviceable and at the same time economical. But he should possess tact as well as ability, and he should be able to preach the gospel of good roads, stimulating interest in proposed improvements.

Working Out Poll Tax

I'm going to take a final slap at the antiquated system of poll-tax road-building. It's too bad that such before-the-war ideas should be tolerated in this late day of progress. The system is based on an erroneous assumption, i. e., that a farmer's time is worth more as a road builder than as a farmer; and I don't believe any aggressive farmer will admit that.

I have seen men donate work on the roads and work like the very dickens, and I have seen the same men "working out" their poll tax and in a whole day not earn their lunch. Building roads is no picnic, as many of you know. It isn't fair to permit a few men to enjoy a holiday at the expense of the public.

Co-operative Creamery of Guthrie Center

Methods Adopted that Have Proven Successful and Remunerative

GUTHRIE CENTER is the county seat of Guthrie county, Iowa. It is situated in the midst of a beautiful and productive agricultural country. The only drawback to the development of the town is found in the fact that it is partly out of the world. Its only connection with the outside world is through a spur of the Rock Island railroad, which leaves the main line at Menlo, and of this spur it is the terminal. But the town is enterprising and thrifty, and knows how to look after and conserve its business interests.

In 1902 the business men of the town, partly with the notion of boosting the town and providing for it another industry, and partly with the notion of furnishing to the farmers of the vicinity a profitable market for their cream, and thus drawing them and their business to the town, organized a creamery. It was originally intended to capitalize the creamery at $4,500, and for this purpose to sell ninety shares of stock at $50 a share. Only seventy-three shares of the ninety, however, were actually sold, and most of these were purchased by non-producers of cream; that is, by the business men of the town. The creamery was put upon an operative basis at once. With only seventy-three shares sold at $50 a share, they had to install their plant on a capital of $3,650. This, however, was adequate for all purposes.

Things to Think About

The method of operation there is somewhat unique, and particular attention is called to it so that communities who are thinking of organizing a small creamery may take it into consideration.

In the first place, 2½ per cent of the gross returns from the sales of butter are reserved for what might be called the sinking fund. Out of this sinking fund are paid all the expenses of the creamery, the salary of the butter-maker, with his assistant and the secretary, and also 10 per cent per annum on all capital stock actually paid up. The balance of the gross receipts from sales of butter is divided equally among all of the cream producers upon the basis of the amount of butter-fat that each furnishes. This makes it, as far as the cream producers are concerned, a thoroughly co-operating creamery. The original investors receive 10 per cent on their investment, and no more, and the balance, after deducting necessary expenses, is divided among all cream producers, each one receiving his due share.

Advance Money to Cream Producers

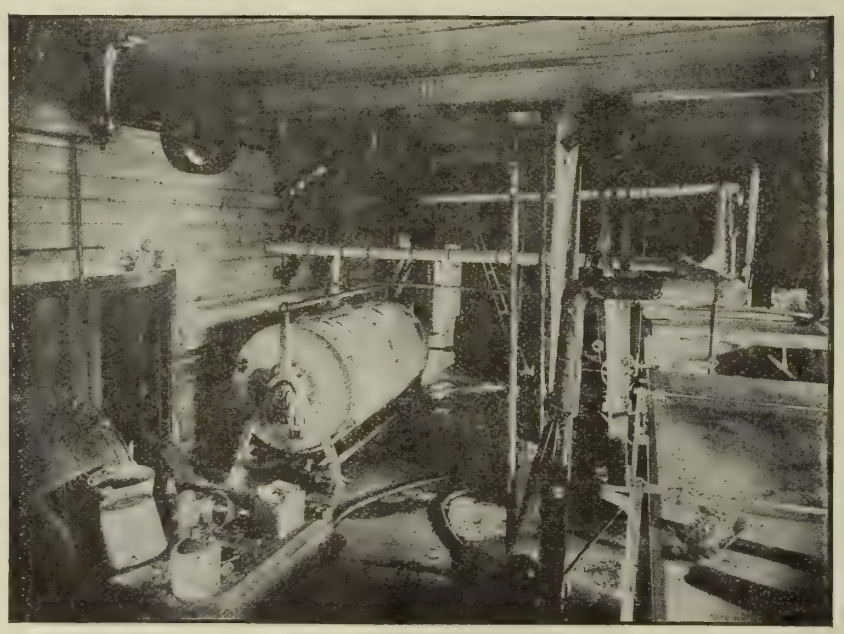
This division is made once every two weeks, so that no cream producer has to wait more than two weeks for his money. Right here the Guthrie Center creamery makes an important departure from the practice of co-operative creameries in general. In case a cream producer wants money for his cream at once; that is, has some immediate need that will not permit postponement until the day of the two weeks' settlement arrives, the secretary makes an advance of money to him and deducts the advance from the amount due when the day of settlement comes. One of the obstacles that other co-operative creameries have to contend with is this desire on the part of patrons for money on delivery of cream. Failing to get it, the patron is more than likely to take his cream to a cream receiver and receive cash for it. If every co-operative creamery would adopt the plan followed at Guthrie Center, this difficulty would be avoided, and this bar to patronage of the local creamery would be estopped.

Quality Must Be First Class

Another important departure from general custom is the fact that the Guthrie Center creamery refuses to accept any cream unless it is in good condition. If a cream producer attempts to deliver cream of an inferior quality, the creamery rejects it, and the producer may do with it what he pleases—take it to the cream receiving station or take it back home with him. This refusal to accept any but first-quality cream enables the local creamery uniformly to produce butter of the highest quality that commands the highest market price, and in this way inures to the greatest benefit of the cream producers. The sooner small creameries throughout the state—in fact, the sooner all creameries operating in this territory—adopt this method, the sooner will the quality of butter rise to the standard demanded by the public, and the sooner will they be able to pay a remunerative price to the cream producer that exercises due care. As a result of this practice during the last year, the creamery at Guthrie Center at no time paid less than 30 cents per pound for butter-fat, and the average price throughout the year was 31.33 cents. This goes to show that there is money in it for the cream producer in taking proper care of his cream. During the year 202,916 pounds of butter were made, of which 13,814 pounds were sold to merchants, 7,071 to patrons, and the balance was shipped to market.

At Guthrie Center cream must be delivered not later than 2 oclock on any one day. If delivered later than that, it is rejected. The farmers have learned what the creamery requires and make their calculations accordingly, and no trouble or friction has been experienced in carrying this method into effect. Other creameries may well follow their example. No established rule is set as to how often cream shall be delivered at the creamery. But the fact that unless the cream is in good condition it will not be accepted, leads to prompt delivery.

Exterior View of the Guthrie Center Co-operative Creamery



Interior View of Guthrie Center Co-operative Creamery

Profit Comes from Over-run

During the season of flush cream production no pasteurization is used, but when the season of scant cream production arrives and the deliveries of cream are made less frequently, the cream is pasteurized at a temperature of only 40 degreee in the vat. This degree of heat, while it does not in the least affect the flavor of the milk or of the butter, destroys, according to the bacteriologists, if not all, at least nearly all disease germs. They use sweet milk for starter, and during the last year for this purpose used 44,782 pounds of milk. Most of the butter sold is sold on the New York and Boston markets, and there commanded an average net price per pound of 28.765 cents. The average over-run was 19.9 per cent. From this it appears that they were able at all times to pay for butter-fat more than the average price received for butter, and yet make money.

Another respect which puts them ahead in method of the average co-operative creamery is the fact that the farmers deliver their own cream, and that, consequently, there is no money paid out for cream hauling. This adds the cost of hauling to the price the producer receives for his cream.

Farmers Are United

Much of the success of the creamery is due to the wisdom and good management of J. A. McLaughlin, who has been secretary of the company since 1904. His universal rule is to treat every patron of the creamery exactly as he treats every other patron, and he recognizes that every one of them, whether a large producer or a small producer, stands on the same basis. This is strict equity and commands the universal respect and confidence of the community. The farmers there are united. There is not sufficient cream sold to a receiving station there to make the station profitable. A few years ago one of the centralizers had a station and abandoned it as unprofitable. Another centralizer then entered the field, but the business that he does is comparatively negligible.

The creamery pays $100 per month for a butter-maker, and they have one of the best. They pay $60 a month the year around for a helper, and the secretary receives the same amount and renders services that are worth all they cost.

Accompanying this article are pictures both of the creamery from the outside and also

(CONTINUED ON PAGE EIGHTEEN.)

Western Nebraska as a Producing District

II---Much More Diversified than is Generally Supposed

Threshing Scene on A. S. Enyert's Farm in Box Butte County

WESTERN Nebraska is not only a most successful grazing district of country on account of its pasture grasses, producing more pounds of beef during the natural grazing season than any other similar area of country east of the 100th eridan, but it also carries along with this the ility for natural winter feed supply to a de- ee not equaled by any other section of coun- y on the continent. This natural live stock ea, termed in a general and off-hand expres- on, "Western Nebraska," is mainly a large azing district, interspersed with valley and ll, with hay lands and pasture lands, and here d there rich-soiled table lands that in many stances have been devoted to the raising of ed crops.

Not Only a Grazing District

It would be unfair to western Nebraska to ll it strictly a grazing district, only fitted for azing purposes. This was the first interpre- tion of this country by the old-time cattle en who first occupied it. It was called a nge country, where tens of thousands of cat- were summered and wintered on the open nge on the grass it produced. In the sum- er and autumn they grew and waxed fat on e rich herbage that covered these valleys and lls. In the winter, if the weather was mild, th no protracted storms and deep snows, they ould come through to the new grass season mparatively strong, vigorous and in good ndition for a fine growth on the summer nge. Nature's provision, the curing of these ld grasses on the ground for winter feed, ted this district of country for cattle grow- g, and thus it was introduced into its first age of development, or period of domestica- on.

Time has demonstrated that western Ne- aska is a highly diversified section of coun- y, suited and adapted to many kinds of pro- uction, but in the main its general agricul- ral industry is the breeding and growing of e stock.

Some of Its Different Uses

Western Nebraska has irrigation interests at have developed some very productive val- s that are producing crops of grains, hays, getables, fruits, etc., with a regularity and rtainty that fixes the value of these lands ual to any of the irrigation enterprises in the untry. Western Nebraska has large districts smooth, rich table lands that are adapted to e growing of either vegetables or forage and ed crops equal to any section of country when the necessary moisture is supplied by season- able rains.

Western Nebraska has hard-soiled lands, in- spersed throughout its sand-hill districts, that seldom, if ever, fail in grain and forage crops sufficient to carry on its live stock in- dustry. Thus it may be observed that western Nebraska is by no means a desert, or a district of country devoid of the requisites of business and successful production, when properly planned and managed in its uses, under the laws of natural adaptation.

Western Nebraska has many very interest- ing districts of country which today offer the best cheap land propositions for the man of small capital, the man of energy, ambition and determination to make for himself a home, a farm and a business that is now open for in- vestment. These lands are in the country of light rainfall, measured from the standpoint of weather service reports, and these we have no disposition to question or dispute.

Box Butte County an Illustration

As an illustration of one such district in western Nebraska, we will take Box Butte county, with Alliance as the county seat. This county contains 688,640 acres, with only 588 farms, an average acreage per farm of 930.6 acres. The average value per acre is placed at $12.40. There is a very large per cent of this county tillable, at least 75 per cent. The bal- ance is sand hills. The geological and soil sur- vey has classed the soil as a black loam for the north half, one to five feet deep, and the south half a light, sandy loam from six inches to two feet deep.

This county possesses advantages for farm- ing that, when combined with the raising of cattle, horses, sheep and hogs, cannot but prove a good investment, when the price and quality of the land is measured by the crops that have been produced in the last five years. The dis- trict about Hemingford might be taken as an example to illustrate what this quality and class of land is doing, and has done, from a crop point in view.

As evidence of production, one is obliged to take the statement of the man on the land, or the business man in the town adjacent to these farms and who is doing business with the farmer. We have selected a few, as follows:

A. S. Enyert, a view of whose farm is given with this article, and who lives eight miles northwest of Hemingford, states that the average of his oats for six straight years was fifty-two bushels per acre.

L. L. Price, eight miles southwest of Hem- ingford, has raised wheat averaging forty-three bushels per acre on his farm; oats, three-year average, fifty-seven and a half bushels (has raised seventy bushels per acre of oats); corn, raised on ground twenty-four years from the breaking of the native sod, that averaged thirty to thirty-five bushels per acre.

John Jelenik, ten miles northeast of Hem- ingford, in 1907 raised oats that averaged eighty-two bushels per acre.

J. F. Whelan, six miles north of Heming- ford, residing here for twenty-three years, has raised thirty-two bushels of wheat per acre and sixty bushels of oats per acre. He states that there have been nine years now of continuous good crops.

It will be observed that we have practically circled around the town of Hemingford, and in all directions reports have been good of big crop yields. There are choice, level lands all around Hemingford for twenty to thirty miles east and west and from ten to twenty miles north and south. The rainfall, as reported by the government weather bureau, has an aver- age annual precipitation of eighteen inches. This is claimed by the residents to come mostly during the crop-growing season; therefore the resultant good crops.

Good Land at a Low Price

This district of western Nebraska must be conceded to have agricultural advantages that merit a more densely populated farmer citizen- ship than it now possesses. Its lands are the cheapest in the state for the crops it is repre- ented as producing. These same testimonials present a long list of lands for sale, improved and unimproved, near railroads and towns, from $17 to $30 per acre. This price is for rich, black-soiled, highly productive, smooth lands, as nice as one would wish to see, and is out of proportion to the $200-per-acre farms on the eastern side of the state.

What is the matter with the man of small means who is complaining that lands are too high, yet hangs around on the eastern side of Nebraska and pays more per acre rental per year than he would have to put up as first pay- ment on one of these western Nebraska farms, and get a warranty deed as security for his in- vestment?

Homeseekers who are now residents of Ne- braska should take a careful look over the western half of the state before wandering off to distant lands and among strange people, and see if Nebraska has not as bright an outlook for the home-builder as the "blue-sky" vis- ionary promoter has to offer and can deliver.

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Prof. W. M. Jardine, who has been acting dean of agriculture and director of the experiment station at Manhattan, Kan., has been elected to the full powers of that office.

On May 17, just passed, 400 farmers' institutes in Kansas held "co-operation meetings" to discuss ways in which farmers may get together for mutual benefit. Such co-operation meetings might prove helpful to any state.

Iowa farmers are having considerable trouble from cut-worms in corn planted on spring plowed sod. If they had plowed their sod in the fall, this trouble might have been almost entirely avoided. Fall plowing of sod generally does away with cut-worms the following season.

Attention is again called to the international congress on school hygiene that will meet in Buffalo, N. Y., August 25 to 30. The average child today spends half his waking hours in school. He should be there subjected to the right hygienic conditions if he is to develop into the desired man of tomorrow. This congress should do important work.

Everyone should know that the quality of butter depends upon the quality of cream from which it is made, and that the quality of cream depends to a large extent upon the care that it receives upon the farm. Prof. Frandsen of the dairy department at the state farm, Lincoln, Neb., has just issued a bulletin on the home care of milk and cream. Every dairyman should read it. It may be had upon request.

Important to Co-operators

The supreme court of Iowa has rendered a decision that it would be well for co-operators to bear in mind in perfecting their organizations. There was organized at Decorah a farmers' co-operative society for the purpose of buying and selling hogs. It bought hogs from stockholders and also from outsiders. It contained the penalty clause in its bylaws; it required all stockholders who sold live stock to competitors to forfeit 5 cents per hundredweight to the society for so doing. The court decided that such a penalty is in restraint of trade.

It should be borne in mind that this was not (what has been so frequently advocated by The Twentieth Century Farmer) a co-operative shipping society. Instead of shipping hogs and dividing the net proceeds among the shippers, it bought the hogs outright. It should be stated, however, that no attempt was made to make money for the society so as to declare dividends. The sole object was to get for owners the highest possible market price for stock. If they had been organized simply as a shipping association, there would have been no need of the penalty clause, and consequently there would have been no ground for action against them. This paper believes in the organization of co-operative shipping associations, but it warns all co-operators against making themselves liable under the law for doing anything in restraint of trade.

Regulating Commission Men

The legislature of the state of New York has passed a bill for regulating the business of the commission men. From now on, if the law is enforced, the commission men of that state will have to walk in the straight and narrow path or go out of business. Every state in the union needs just such a law. One merchant declares that the commission men report to him just as many "rots" in cases of candled eggs as are reported in the cases of eggs that are not candled. This comes pretty near to stealing. Under the New York law, such a commission man would have his license revoked and be put out of business. It is about time, in the interest of the producer, that the commission men throughout this territory were taken in hand and held rigidly to account. Future legislatures will be asked to adopt laws similar to the one that has been adopted in New York.

What Counts in Sheep Raising

Increased wool per fleece is what counts in the raising of sheep, either on the range or with the farm flock. Wyoming reports many of its flocks giving an average fleece this year of eight pounds. This is good, and indicates that the merino has been getting in its work in these flocks, thickening up the fleece on the sheep, increasing the number of fibers per square inch of pelt. This, with length of staple and a nice, free-flowing white oil, are the essentials in acquiring increased weight of wool per sheep. Look to the merino for these qualities, and when you get a good, big merino ram that shows increased fleece in his lambs, just keep him as long as you can, so as to avoid inbreeding. A good, heavy-fleeced, big ram that has quality in his fleece is hard to get, and when you have such a sheep you should feel that you have in him a gold mine.

River to River Road

It is refreshing to travel even by rail along the river-to-river road from Omaha to Des Moines. It is pleasing to every traveler to note the well kept highway and the attractiveness that such a road adds to the farms by which it passes. Of course, the road is intended primarily for automobiles, but the farms by which it passes profit by it fully as much as pleasure travelers. The road is kept in the best of condition. It is thoroughly dragged and made smooth after every rain, so that it affords easy and rapid transportation at all seasons of the year.

Farmers now realize that they could not get along very well without the railroads. Such experiments as this river-to-river road will soon convince them that easy transportation from the farm to the railroad is just as necessary and has just as great economic significance for them. If all the farmers of all the states could have placed before their eyes such a practical demonstration of the value of good roads as the state of Iowa here affords, they would take up this matter of making good roads in earnest.

Easy transportation over country roads is as much an economic necessity as it is a contribution to the pleasure of life. The farm by which such a road runs is worth $10 per acre more than it would be without, and all it costs after it is graded is just a little work with the smoothing harrow or road drag after each shower. Such a road contributes to the pride of the farmer in his holdings. Such pride as this is worth cultivating, has worth in more senses than one.

Money in Cattle

Every little while we see the announcement, "There is money in cattle." It is refreshing to realize that the newspapers appreciate this condition or situation in the live stock trade of the country and are willing to join in the effort to encourage money investment in helping to tone down the excitement that the high prices of cattle and beef have created.

Yes, there is money in cattle, from any point of view you can take the cattle situation now. There is money in cattle from the standpoint of the feeder and dealer. There is money in raising cattle from the standpoint of the dairyman in the milk and butter industry. When anything in the line of production on the farm becomes scarce and from any cause is in great demand by all the people, either directly or indirectly, there is certain to be more or less of a speculative trade created for the article, and there is money made in handling stuff on a rising market. Encourage the land owner to go in for cattle. There is no danger of his losing as long as he handles good-quality cattle and keeps them in healthy, vigorous condition.

Demand for Cows

The milch cow demand that is developing everywhere, in view of the constantly increased consumption of milk and milk products, and the shortage of cattle, is becoming more and more a matter of urgent consideration for the producer and consumer. The demand for milk is not based upon fad or fancy; it is the actual and natural dietary requirement of man's appetite and physical necessities. It is the foundation principle of diet upon which human existence is nourished and started in life. There is no such thing as curtailing its use as a food; there are no successful substitutes; its numerous forms of food preparation enhance its value and increase its demand, rather than diminish it.

There is now a strong competitive market for the cow. The range and cheap-grass cattle-growing country are in the market for cows to raise calves for the future beef supply. The dairy industry is urgently seeking the milch cow for milk purposes. This is not alone confined to the old dairy states for creamery supply, but the western districts away out in Utah, Idaho, Montana, Wyoming and Colorado are short of cows, and the country everywhere is being scoured for a better grade of milkers.

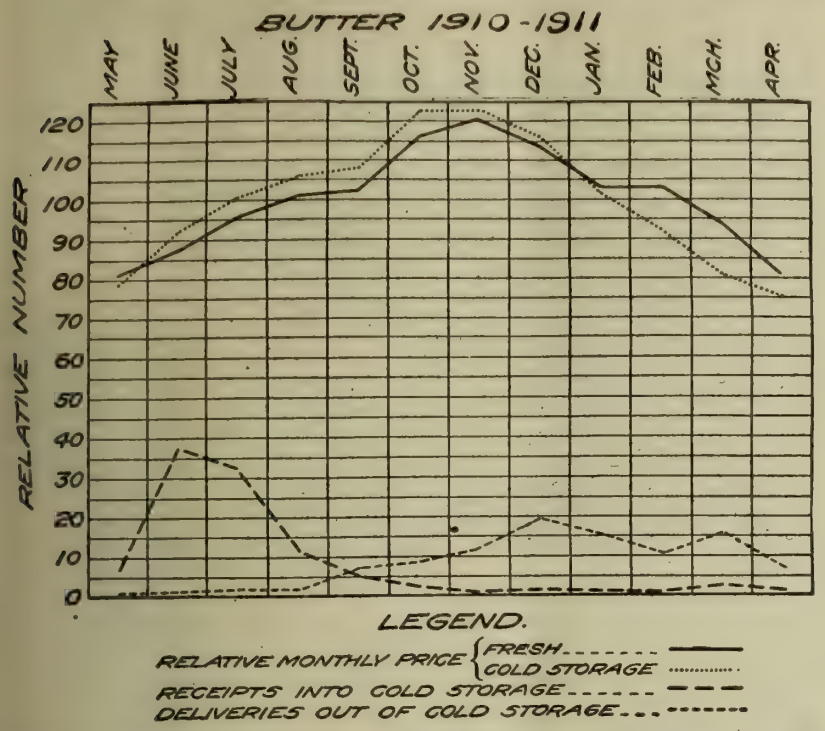
The western country has decided that it can manufacture its products into a condensed form, shipping to consuming markets, thus saving freight and becoming not only a producing country, but a finished-product country, by manufacturing its fruits more extensively into canned goods, etc., and turning its dairy products into butter, cheese and condensed milk.

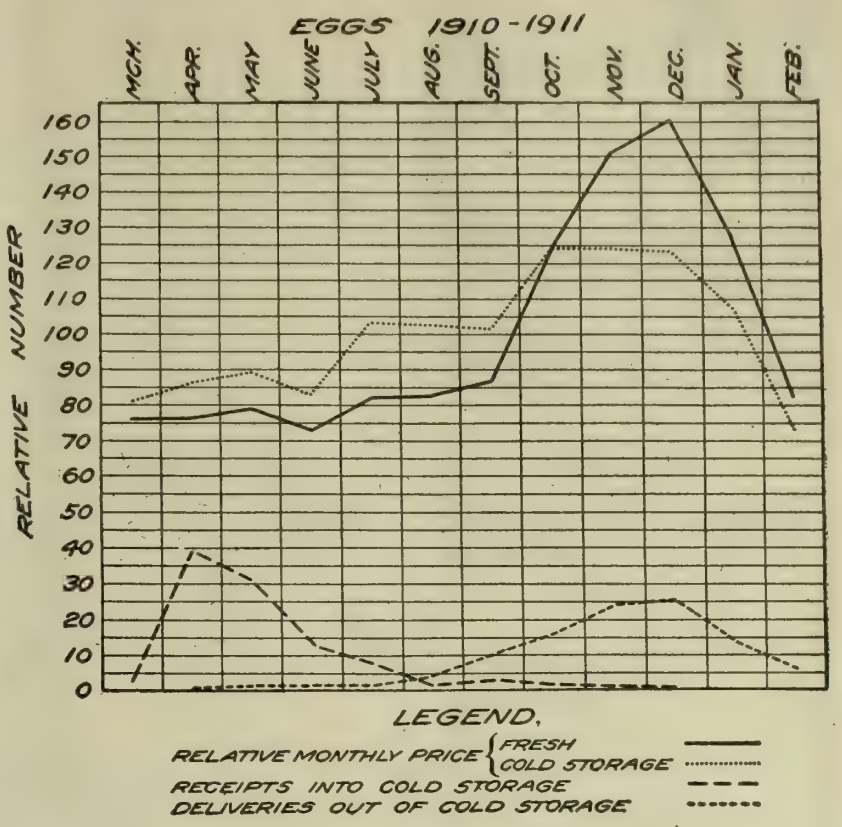
The cow must have the ascendancy in the cattle market. It is unreasonable to put the beef steer in the front rank, and the old cow that produces him back at the rear end of the procession. The cow must be given her place at the front, or there is something radically wrong in these times of great cattle scarcity. The basis of all cattle supply is within the breeding herd. The cow whose time and services are devoted to the producing and rearing of the calf is the individual that is now in demand among the farmers and cattle growers.

We need more beef, we need more feeder cattle, we need more young stock cattle, we need more calves born into the world; but first, and in advance of this, we need more cattle raisers interested in the ownership and business of cattle breeding, in the producing of cattle, and in the growing of heifers into breeding age. Milch cow prices are now any place under $100, according to the quality and production of the cow. Is it not time to commence reserving all the choice heifer calves for the breeding herd?

Prof. Hansen of South Dakota will start in May for Siberia in search for alfalfas adaptable to the cold and semi-arid sections of this country. South Dakota has appropriated $10,000 for the trip, and $15,000 more to develop the alfalfas after they are imported. This should mean something to alfalfa culture in the northwest.

Relation of Cold Storage to Price of Butter and Eggs





PRODUCERS of butter and eggs realize that the cold storage price of these products bears a close relation to the market price that prevails at different seasons of the year. But they have no reliable information at hand to furnish the basis of accurate knowledge with reference to the movements of these products. The charts shown herewith show the relative price of fresh butter and fresh eggs for every month in the year, and also the relative price of cold storage stock at the same time. In the lower part of the chart are given the relative receipts into cold storage for each month, and also the relative deliveries out of cold storage for each month. By examining the first chart it will be seen that, with the exception of a short time in the middle of May, cold storage butter commanded a higher price than fresh butter until the middle of January, and from that time until the end of April fresh butter commanded the higher price. It also shows that the largest amount of butter was placed in storage during the month of June, and the largest deliveries out of storage were during the month of December. The other chart shows similar facts with reference to fresh eggs compared with the storage eggs.

The Chinch Bug Next

That such a bumper wheat crop as has been reported from all over the winter wheat districts should pass safely into maturity without insect damage, would be very remarkable under the mild winter conditions that have prevailed during the winter just passed. The chinch bug is a common enemy in some localities, and may be looked for with some degree of certainty where present conditions exist.

The alarm is already coming up from southern sections that the chinch bug is making its appearance, and if weather conditions are favorable for the bug, that considerable injury may result from their attacks on winter wheat. Their later damage to the corn crop is almost assured when propagation influences are favorable. It is not usually regarded as wise to sound the alarm of crop damage until after the work is done. The fear of being called a pessimist, an alarmist, has caused many a good authority to be muzzled at the cost of increased damage. Sections of Kansas and Oklahoma are reporting the chinch bug as appearing in numbers that demand efforts to check.

The season for development is here, and the extent of area covered will be a matter of information that the state authorities will soon be able to report upon.

The common toad is one of the farmer's best friends. It comes from its winter quarters in April and remains with us until September, during which time he eats an unbelievable number of bugs and beetles, amounting to four or five thousand in a single day. The toad sits quietly and apparently half asleep, but if an insect comes within reach his long tongue darts out and Mr. Bug is no more. The more toads you have among your vines the fewer bugs there will be.

The Kansas Report

The State Board of Agriculture of Kansas has just issued its eighteenth biennial report, which covers the years 1911 and 1912. It makes a volume of more than 1,000 pages, but no part of it is padding. It is divided into five parts, which treat, respectively, of the subjects connected with the farm, animal husbandry, farm poultry, educational problems of rural life, and general statistics for 1911 and 1912. The first four parts are of general interest to agriculture everywhere. They constitute a valuable compendium of information and instruction on all subjects connected directly with the title. The fifth part gives the statistics of counties, a general summary of statistics, and crop and live stock statistics. The volume closes with a general index, which makes every part of the contents at once available to the reader. No such valuable and instructive report has yet come from any other board of agriculture. Secretary Coburn, in the preparation of this report, has surpassed all his previous efforts. It has been said of him that he, more than anyone else, put Kansas on the agricultural map. This volume seems to indicate that he proposes to keep it there.

In four years' work of a cow-testing association in Germany the average production of twenty-three cows increased from 4,971 pounds in 1906-7 to 7,046 pounds in 1909-10.

Western Hay Feeds

The practice of winter hay feeding on the range is becoming more and more common among both cattle and sheep raisers. Where alfalfa can be had, it may be the means of putting a bunch of stock in fine flesh by the time the grass starts in the spring. These animals find a ready sale in the eastern market, often filling two demands, that of packer and feeder.

Steers coming in off the range, in the fall or early winter, in good flesh and put onto full feed of hay, go through in nice condition, and find a place in the market between the corn-fed and the grass cattle in May and June. It pays to keep cattle or sheep intended for sale up to the full grass condition as they come from the range. It does not pay to sacrifice any of this flesh gained through the grassing season.

Flesh and weight cost too much to idly starve it off through the winter, and the present-day range stockman understands this and is planning not only to hold on to what has been gained, but add more to it by a system of winter hay feeding. The man marketing the surplus in the spring, when there is not so much competition, usually gets a good profit on the winter feeding.

The great American hen has made her way into the South Platte country of South America. The government of Uruguay has just imported 600 hens from the United States for the improvement of the native stock. The fowls are to be distributed to experimental poultry stations.

Butter for the Navy

The present legal requirements for a navy ration include two ounces of butter; that is, butter; not any substitute for butter. It begins to look as though this requirement might be changed in favor of oleomargarine. The quartermaster general has reported that oleomargarine, after extended tests, has proved satisfactory. The commissioner of internal revenue has ruled that there need be no revenue tax paid on oleomargarine that is purchased by the government. This looks as though an attempt would be made to substitute oleomargarine for butter in the navy ration, because, without the revenue tax, it would be cheaper than butter. If this should be done, it would be in antagonism to the interests of every cream producer in the country. Cream producers should bear this fact in mind, and take what steps are necessary to protect their interests. The oleomargarine manufacturers already have a good share of the earth, but they are not entitled to all of it. They have been persistent violators of the law, and are now seeking to have the law amended so that it will favor them. A violator of law should not be a seeker for special privilege.

Milk that has been condemned by civic boards of health because it does not comply with their requirements need not be thrown away and wasted. All its food properties may be preserved by the addition of a little rennet which will convert the casein, the food element in milk, into curd. This makes a valuable feed.

KRESO DIP No. 1

STANDARDIZED.
EASY AND SAFE TO USE
INEXPENSIVE

KILLS LICE
ON ALL LIVE STOCK

DISINFECTS.
CLEANSES.
PURIFIES.

It has so many uses that it is a necessity on every farm.

CURES MANGE, SCAB, RINGWORM, SCRATCHES

Destroys All Disease Germs

DRIVES AWAY FLIES

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It wasn't just an "accident" or a matter of "luck" that made the Saginaw the leading Silo. There are reasons. Good reasons. FIVE good reasons. Here they are: The Patented Angle Steel Rib, the Spline-Dowel, the Saginaw Base Anchor, the Saginaw Inner Anchor, and the All-Steel Door Frame. No wonder the Saginaw laughs at wind storms. No wonder 587 Saginaws have been sold in a single day. No wonder five big factories are needed to supply the Saginaw demand. Farmers and Stockmen all over the country are simply delighted with the "Saginaw." And you will be, too, when you get our Book which pictures and describes the Saginaw. The Book is FREE. Send a postal for Book No. 62 and it will come by return mail.

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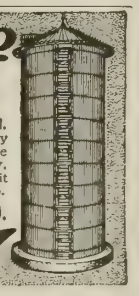

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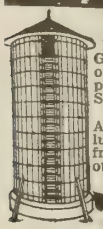

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Don't buy a silo with your eyes closed. Investigate first. Get our special offer. Get our portfolio of silo profits made by other farmers. Get our special factory prices and full particulars why Champion Silos are best.

CHAMPION SILOS
Are built from the ground up. Are absolutely modern, have continuous door front, steel hoops and anchors and other important improvements.

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When you want what you want when you want it, the Market Place of The Twentieth Century Farmer is the proper medium through which to get it.

Fine Wool Sheep in America

VIII---B. W. Cope, Buyer and Breeder

B. W. COPE of Smithfield, O., has for fifty years been in the active work as breeder and handler of pure-bred merino sheep exclusively. Few, if any, sheep breeders in the United States have handled more first-class and high-priced merino sheep than B. W. Cope, and at the same time steadily maintained an interest as breeder and flock owner. Mr. Cope commenced on his own account importing sheep from Vermont to Ohio in 1863 and up to 1884 had made thirty-three importations, none of these less than carload lots.

Ben Cope was a familiar character in the Green Mountain state in those days when the merino sheep interests were at their highest tide, when $100 to $300 were paid for ewes and $300 to $1,000 for rams as quickly and promptly for the choice animals from the good flocks of the Vermont breeders as $25 to $50 would be paid today for a good ewe or ram. Cope was in no sense what was termed a "Vermont buck peddler," a buyer of cheap, tail-end sheep of doubtful breeding; on the contrary, he was after the best, and confined his visits to Vermont to the best breeders in the state. As one prominent Vermont breeder said, in speaking of B. W. Cope and his purchases in Vermont, "When Ben came to Vermont he always knew what he wanted, and there was nothing too good for Cope."

Some of Cope's Purchases

In a recent interview with Mr. Cope he referred to the following old-time Vermont sheep men with whom he had frequently had business relations, and from whom he made many purchases during his twenty-one years of importation from Vermont: George Campbell, Victor Wright, J. T. Stickney, H. C. Burwell, A. H. Hubbard, Edward and George Hammond, Dean and Jennings, Milo J. Ellsworth, Sherbino and Williamson, John A. and J. H. James, C. D. Lane, A. A. Farnsworth, W. R. Sanford, S. Rockwell, L. P. Clark, D. F. Doty, Nathan Cushing and a score of others prominent as flock owners and breeders, men of character and reputation.

Among some of the prominent sheep purchased were Silver Mine and Young Green Mountain, of Edward Hammond, for $1,000; of C. N. Hayward, two yearling rams, $1,000; of D. F. Doty, Black Chief, ram lamb, $300; stock rams, Advance Bismark Junior, Diamond Junior, Buffalo Bill and Old Keynote, for which long prices were paid. He bought and sold hundreds of prominent rams, which were distributed to flocks all over the states west of the Allegheny mountains and on west into the Mississippi states. He bought whole flocks of ewe lambs, paying therefor as high as $100 per head. He bought some extra choice ewe lambs at $250 per head. He bought of practically every breeder of reputation in the state of Vermont.

Cope as a Breeder

As a breeder, B. W. Cope had few equals among the sheep men, east or west. He kept a breeding flock of about seventy-five choice ewes during all his years of merino sheep enterprise. The Cope flock at the outstart was made up of the best specimens of big, strong, wrinkly, heavy-fleeced ewes that could be found. These ewes were not selected for any one or two particular features of quality, but combined, as nearly as has ever been produced, the excellencies of the perfect Spanish merino sheep. This flock has been kept up in quality all along through these fifty years of Ben Cope's sheep breeding, younger ewes being added to the flock as occasion required and as the older ones were dropped out from any cause.

Sheep men of eastern Ohio can never remember the time, after this flock was started, when the big blue-grass pasture on the old Cope homestead, adjoining the quiet Quaker city of Smithfield, was not dotted over by these big merino ewes, quietly grazing, presenting a magnificent picture—a landscape view which has done much to arouse in the ambitions of many a young man the spirit of live stock improvement. From this flock has been produced a bunch of yearling ewes that shore an average of twenty-one and a half pounds of nice white wool, and hundreds of stock rams, and foundation flocks of reputation and merit have sprung from this quiet Quaker flock.

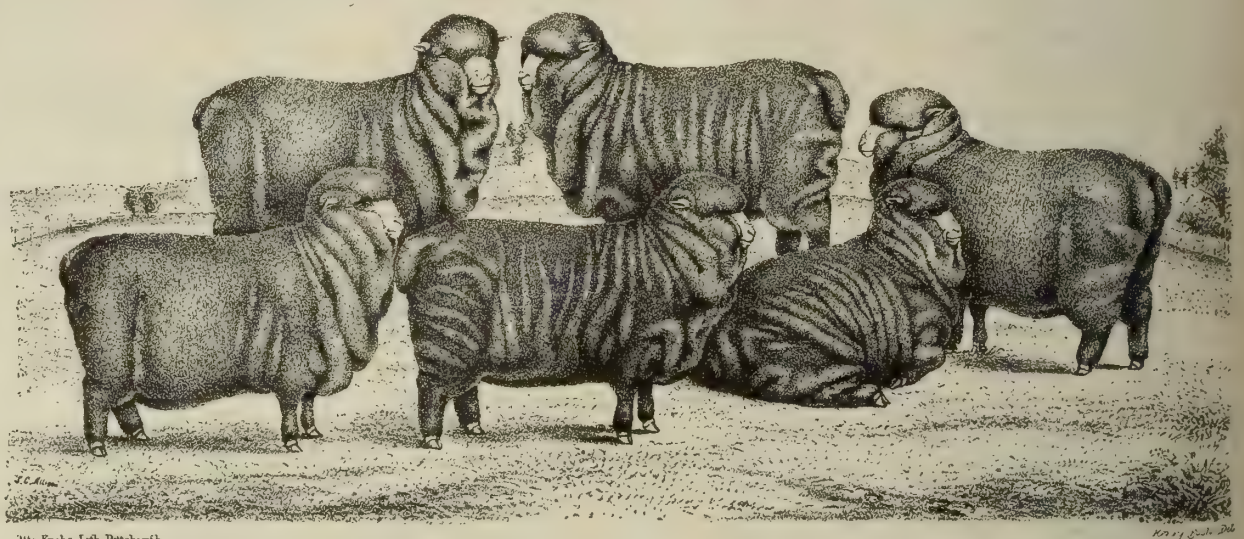
Mr. Cope bought, bred and sold hundreds of show sheep, but was never extensively engaged in the personal work of exhibition, outside of his own county fair, which he patronized only when there was a request for his sheep to fill up the pens on account of a shortage of sheep to make a creditable exhibit. His motto was never to compete against a patron or a sheep that he had sold.

For many years Mr. Cope has been engaged in the ministry, finding time to look after the spiritual needs of a little flock of the friends and neighbors, as well as to provide for the necessities of his lifetime associates and pets—the merinos. He was one of the charter members of the Vermont Merino Register Association, serving as one of the pedigree committee for this association for a number of years.

His Early Training

B. W. Cope was instinctively a shepherd, a born sheep fancier, and had the advantage of growing up on a large sheep farm where fine wool sheep were made a specialty. Thus the opportunities for the development of his natural tastes and inclinations were not wanting. As far back as 1840 his father, Joseph H. Cope, was a prominent breeder of the pure-bred Saxony sheep and was recognized as one of the largest breeders and handlers in the fine wool sheep industry in eastern Ohio. About 1853 Joseph Cope was prevailed upon to quit the breeding of the light-fleeced Saxony and go into the breeding of the Wells and Dickinson Black-Top Merinos. He purchased a pure-bred Black-Top ram and soon afterward purchased a Vermont Spanish Merino ram, bred by Victor Wright, with the understanding that he was to pay $100 for this ram if his lambs, at the first shearing, produced two pounds more wool per head than from the Black-Top ram. The Vermont ram gained the contest by his lambs shearing two and a half pounds of wool per head more than those of the Black-Top. This proved the turning point with the Cope flock, and Spanish Merino rams were used continuously thereafter on the breeding flock, grading up the Saxony flock to one of the finest wool flocks in the state.

In 1857 Joseph Cope made a purchase of thirty ewes and a ram from Vermont, and for six years following directed his attention to the acquiring of a flock of large, comparatively smooth sheep, long-staple and white-oil—a type of sheep that was seldom equaled among the flocks of



Otto Krebs Lith. Pittsburgh

Merinos Owned by B. W. Cope

eastern Ohio. The Joseph Cope ideal could only be acquired after years of persistent, careful breeding, with an eye and ambition single to the purpose of quality in fleece, such as Joseph Cope, the veteran fine wool fancier and fine sheep promoter, strenuously adhered to through all his years of breeding.

This flock was dispersed during the autumn of 1863, and at this time, and through its years of building, supplied numerous beginners in the fine wool industry with the foundation stock from which many of the good eastern Ohio flocks of today trace their origin.

The Under Side of Agriculture

The letters on "The Under Side of Agriculture" printed on the next page were shown to a man who is very prominent in agricultural education. His first comment was, "Why do you print such letters?" Our answer was that they represent the views of at least half and probably a majority of our working farmers. If you ask what we mean by "working farmers," we answer the farmers of limited opportunity and education who do a large part of their own work and who find it difficult to obtain credit on terms which will permit them to improve their farms permanently. We asked our friend what proportion of all the farmers of his state the experiment station reached with its bulletins. After some thought he concluded it was less than 10 per cent. What proportion of farmers are influenced or instructed through the teachings of your agricultural college? He could not put the number at over 15 per cent, but he thought it was gaining. Do you hear such criticisms as are made in these letters? Of course, there have always been critics, and always will be. Is there not now more than ever criticism that the colleges and stations do not take up more of the economic and public questions relative to farming? After some thought our friend admitted this was so. By these admissions he fully justified these statements of the "under side." We find that the more thoughtful of the agricultural teachers realize the situation into which farm education is working; that education has been almost entirely in the direction of "farm efficiency"—showing how to make the land more productive and thus produce larger crops. While this has been developing both common sense and the pocketbook have taught the working farmer that he needs something which the colleges and stations have thus far failed to give him. The consumer's dollar is now more important than the producer's dime. In spite of the apparent splendor of our new agricultural education and the vast sums of money annually appropriated for it, the real leaders know that the rank and file of our farmers are losing confidence in the ability or the inclination of professional agriculture to help fight their battles. For we have all learned that there must be battles as well as bulletins. It is only fair to tell the colleges and stations that unless they will of their own initiative do the work which farmers need, those same farmers will compel them to do so by obtaining control of these institutes.

The foregoing, which is taken from the editorial columns of the Rural New Yorker, was called out by letters received from practical farmers from Connecticut, Ohio and Michigan, stating wherein, in their opinion, agricultural colleges and farmers' institutes had failed to meet the practical needs of practical farmers. Undoubtedly the same conditions and the same causes for complaint exist in the Missouri valley territory. There must come a closer relationship between agricultural colleges and experiment stations and practical farmers, or these institutions will pass away, because they failed to do the work demanded of them.

At present the work of the agricultural college and of the experiment stations seems to be as widely divorced from practical farming as the old systems of theology were divorced from practical ethics. Agricultural education in this country is very expensive. The amount of money spent in agricultural colleges and in experiment stations is out of all proportion to the practical results derived from them. Sooner or later they must meet the practical needs of practical agriculture or be relegated to the rank of useless educational parasites. The trouble is not local; it is universal. It must be remedied or the farmers that furnish the money for these institutions will know why. There is no other branch of education that expends so large an amount of money with so little result as these institutions.

Good Roads in Texas

The citizens of Montgomery county, Texas, recently voted bonds to the amount of $250,000 to be used in constructing good roads in that county. Work will begin at the earliest possible date.

The Hock of the Horse

In fixing the attention upon the hock joint as influencing the draft of a horse, it is not intended to convey the idea that other features are not of equal importance in other types, for it is true that the makeup of the entire body of the draft horse is notably different from that of one built primarily for speed, but the type of variation in the hock joint runs through the whole framework.

Plenty of Bananas

So great is the crop of bananas in Central America that the United States Fruit company, which has a virtual monopoly on the banana distributing business in this country, is unable to get steamers enough to handle all the fruit. Plenty of this nourishing fruit, presumably at lower prices, is accordingly in prospect for American markets. In return the banana country will take American wheat and corn and manufactured products.

No-Rim-Cut Tires 10% Oversize

Not a Petty Saving

Don't think that Goodyears won their place through any petty savings.

They were once in bottom place. Today they outsell, by long odds, all other tires in the world.

They have leaped to leadership. The Goodyear demand has come like an avalanche.

Last year's sales by far exceeded our previous 12 years put together.

It took a vast, compelling reason to bring this change about.

Two Big Savings

The No-Rim-Cut tire—which we control—revolutionized conditions.

About one in four of all old-type tires were wrecked by rim-cut ruin. The No-Rim-Cut tire wiped out that loss completely.

Then the oversize we gave this tire added 10 per cent to the air capacity. And that, with the average car, adds 25 per cent to the tire mileage.

These two features alone vastly altered the cost of tire upkeep.

Other Savings

Then, year after year, we have spent fortunes on research and experiment.

That department now costs us $100,000 yearly. And there scores of our experts work all the time, seeking ways to better tires.

They test the tires by metered mileage—test every new idea. Night and day, four tires at a time are being worn out in our factory.

It was thus we learned, in the course of years, how to give you Goodyear mileage.

The Meters Tell

Bear in mind that meters are now used on countless cars. Men know which tire is best.

The time is past when users depend on makers' claims.

They measure mileage, watch their tire upkeep. And they tell their results to others.

Over two million Goodyear tires have gone out to meet these tests. And Goodyear sales have doubled over and over as men proved out the tires.

Judge by This

Judge Goodyear tires by the final verdict of the legions of men who have used them.

You can see the No-Rim-Cut feature—the oversize feature. But the main fact lies in their records.

Motor car makers have contracted for 890,680 Goodyears to be used on new cars this year. And our demand from users is twice as large as last year.

GOODYEAR
AKRON, OHIO
No-Rim-Cut Tires
With or Without Non-Skid Treads

The savings which did that are bound to win you when you make one test.

Write for the Goodyear Tire Book—14th-year edition. It tells all known ways to economize on tires.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO
Branches and Agencies in 103 Principal Cities **More Service Stations Than Any Other Tire**
We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits
Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

(1083)

Queer Features of the Revolution in Mexico

By Frank G. Carpenter

MEXICO CITY—I want to give you some sidelights on the Mexican situation. The whole country is changing. Everything is in a state of revolution, and this revolution means more than the fighting which is now going on in so many different quarters.

The country is having an intellectual revolution as well as a physical one. The common people are waking up. The peons have begun to think for themselves and even the rich are changing their ideas as to the division of property. Labor at last is claiming its rights. Within the last few months we have had a big strike on the railways, and a large part of the debates in the Chamber of Deputies is as to the raising of wages, and the cutting down of hours of work in the factories.

The Brigands and Banditti

At the same time the whole republic is in a state of fear as to where trouble will break out next. Many localities have no order whatever, and the brigands and banditti commit their outrages with little fear of the result. They dynamite tunnels, burn bridges and tear up the tracks of the railroads. At this writing nearly every railway system is more or less out of commission.

Stray bands of rebels will hold up a passenger train and go through the pockets of the travelers. If there are soldiers on the train, they may fire upon them, without regard to the passengers, and at such times they have no regard for the train employes.

A few months ago some of these rebels seized a fireman, who was trying to protect his engine. They threw him alive into the fire-box of the locomotive and he was burned to death. Another engineer saved his life by taking off his coat and assuming the uniform of a conductor.

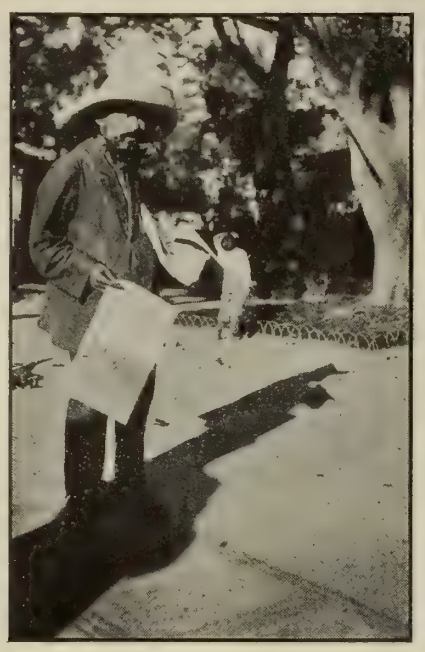
Railway Troubles

These railway troubles have now extended to most of the roads in the republic. The upper part of the Mexican Central, which runs between El Paso and Mexico City, has been out of commission for more than two years. The conditions were so bad there that the Madero government contemplated making military cars with double walls of sheet steel and sand in the middle. These were to be used for soldiers, and were to be traveling fortifications. They were painted in checker-board fashion, the black and white checkers disguising the loopholes.

The losses have been so great on parts of that road that certain American lines have not let their cars go into Mexico for fear of losing both cars and freight.

The railway situation in the western part of the country has been exceptionally bad. The Southern Pacific lines have been damaged to the extent of millions of dollars, and many of the western roads are now in the hands of the rebels.

As to the National line from Laredo to the Mexican capital, this has been open right along until the last revolution. The only trouble has been the burning of a few bridges and a small station now and then. But since Madero was killed there has been more or less trouble along that system, and it is only now that the cars are again running regularly.



A Mexican Newsman

Hanged from Telegraph Poles

Of late the conditions have been very bad in southern Mexico and not far from Mexico City. The Zapatistas have committed scores of outrages, burning up haciendas and the cane on great sugar plantations. They have attacked the trains, and both freight and passengers are unsafe.

The federal troops now and then guard the trains. They pursue the rebels and festively hang the prisoners from telegraph poles. The passengers coming in on a recent train reported a fringe of hanging bodies from such poles on the edge of the federal district, and said that a dozen rebels could be seen hanging to some trees by the side of the road.

You would naturally think that this would stop travel. It does not. At the hotel registers here you may see the names of Americans who are coming in and going out to and from all parts of the republic. The trains are open to the Isthmus of Tehuantepec, Vera Cruz, Guadalajara and to Tampico, Laredo and elsewhere, and business, although it stops now and then, is still going on everywhere. This may be seen by the last report as to exports. This shows that more goods were shipped out of Mexico in 1912 than ever before. The exports in 1912 were in round numbers $298,000,000, whereas in 1911 they were $293,000,000, and in 1910 $30,000,000 less, and $50,000,000 less in 1908. These figures are Mexican silver.

The Americans say they know they are in danger every time they take the train, but that it is about ten to one that they will get through all right, and if held up will probably not lose any more than the money they have in their purses. I know of some who have even escaped that by throwing a part of the rolls which they carried into the spittoons or by hiding it under the mattress of their Pullman car berths. I have already told you how I carried my big bills in my stocking, but so far I have escaped railroad holdups and accidents.

Land of Suspicion

One of the worst features of the present situation is the suspicion that prevails everywhere. None of the leaders seems to have faith in his fellows, and the partisans of Huerta and Diaz are afraid of each other. It is the same with the rebel bands throughout the country. Every man seems afraid of his partner, and the air is full of treachery and rumors of plots. It is doubtful whether the truth has been told as to the tragedies of the recent past. You can get a half dozen different stories as to how Madero was killed, and three-volume romances out of the reported plans of Huerta and Diaz.

The supporters of Diaz claim that any treachery connected with his recent actions have been warranted by his capture by treachery at Vera Cruz. The story goes that the Maderista officers who took him at that time had solemnly promised to leave Madero and go over to him. They pretended to do so, and came up with their soldiers, carrying white handkerchiefs on their bayonets as flags of truce. It is said that they betrayed Diaz, almost with a kiss. They embraced him and then suddenly turned and captured him, at the mouths of their guns.

I am told here in Mexico City that this treachery was a money transaction, and that Madero paid the man who took Diaz a fixed sum. There is one man here who says he saw the check for $100,000, which Madero signed, and that this check was cashed on one of the banks of the capital. I do not believe that at all. When men pay money for such things they do not do it by checks.

According to another story, the man who deceived Diaz and sold him out bought immediately afterward an estate which cost 300,000 pesos, and this notwithstanding he was known to be poor. The soldiers who carried the handkerchiefs on their bayonets and aided in the capture are said to have received goodly sums, and it is claimed that the capture cost the government $1,000,000 in silver. This may or may not be true. I state it only as one of the sidelights of the troubles we have been having here. There is one thing that is sure, and that is that the treasury was practically empty when Huerta came in.

Muzzling the Press

A great deal has been published in the United States about the censorship of news dispatches and of the Mexican press. Much of this is true, and it is safe to say that our people have but a mild idea of the situation over the border. At the same time the daily journals of the capital are not at all backward in making criticisms. They denounced Madero and they are handling Huerta and Diaz without gloves. They demanded that Madero retire, and they compared him to Charles I, Louis Philippe and other rulers of the past.

In a recent editorial as to the existing situation one of the Mexican dailies remarks as follows:

"This government is one which points out the guilt of many and still is unwilling to see its own faults. Let it listen to the words of Mencius, an ancient Chinese politician, who while conversing with his emperor questioned him thus:

" 'What do you do with a friend who administers your business badly?'

" 'I break with him,' answered the emperor.

" 'And with the magistrate who does not carry out your commands?'

" 'He is deposed,' said the emperor.

" 'And if the provinces are badly governed, what is done then?'

"The emperor became deaf and dumb.

"The attitude of the emperor of China is similar to that of the Mexican government. It changes the subject or refuses to speak every time anyone insinuates that it is responsible for the situation."

American Newspaper Men in Jail

The above editorial and many others which I see daily in the Mexican newspapers might lead one to think that the press is free. I am told, however, that there is a rigid censorship of everything sent out of the country, and that every effort is made to keep the United States in the dark as to the outrages now being perpetrated by the rebels and bandits.

I saw an instance of this as I came

"LIKE MAGIC"
New Food Makes Wonderful Changes

When a man has suffered from dyspepsia so many years that he can't remember when he had a natural appetite, and then hits on a way out of trouble he may be excused for saying, "it acts like magic."

When it is a simple, wholesome food instead of any one of a large number of so-called remedies in the form of drugs, he is more than ever likely to feel as though a sort of miracle has been performed.

A Chicago man, in the delight of restored digestion, puts it in this way:

"Like magic, fittingly describes the manner in which Grape-Nuts relieved me of poor digestion, coated tongue and loss of appetite, of many years standing.

"I tried about every medicine that was recommended to me, without relief. Then I tried Grape-Nuts, on the suggestion of a friend. By the time I had finished the fourth package my stomach was all right, and for the past two months I have been eating with a relish anything set before me. That is something I had been unable to do previously for years.

"I am stronger than ever and I consider the effects of Grape-Nuts on a weak stomach as something really wonderful. It builds up the entire body, as well as the brain and nerves." Name given by the Postum Co., Battle Creek, Mich.

"There's a reason," and it is explained in the little book, "The Road to Wellville." in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

nto Mexico last fall, when I met at Laredo, Tex., two American newspaper correspondents who had been sent out of the country. They were Messrs. Dunn and Caracristi, both of whom had been expelled as pernicious foreigners.

Mr. Dunn told me how he was arrested one night on his way to the opera and put into jail without trial. He says that the most of his money and valuables were taken from him and while in prison he had trouble getting enough to eat and drink. He was charged a dollar for a glass of water, 50 cents for a package of cigarettes, and other things in proportion. He says he had on deposit in one of the leading banks of Mexico City $2,000, and that the Mexican government fined him this amount and confiscated it.

After a few days he was taken by armed guards, put on the express train and carried to Laredo, Tex., where he was set down on American soil, with a notice that if he came back to Mexico it would be at his peril. Mr. Caracristi was treated in the same manner, with the exception of the fine. He, luckily, had no money in bank.

I am told here that Mr. Dunn had severely criticised the president in his telegrams to the American papers, and that he had broken the law in sending code telegrams in the guise of market reports out of the country. Mr. Caracristi had also been reporting on Mexican conditions to Senator Falls, and the administration thought his leaving the country would be for the country's good.

American Claims for Outrages

I understand that a claim will be made against the government on the part of Dunn and Caracristi, as will also claims for other Americans who have been outrageously treated. In last November two Americans were kidnaped on United States soil, carried across the boundary and delivered into the hands of General Juan Nevarro at Juarez. The charge against them was that they had been serving in the rebel army. The Americans say that their health and lives were endangered by the unsanitary conditions of the jail, and I understand they put their damages at $50,000.

Twenty-three Americans who were wounded or had relatives killed or wounded by shots across the Mexican border in April and May have been reported by a commission of our army officers entitled to indemnities aggregating $86,000, and this will probably be paid. All of these claims were reduced by the commission from the amount originally asked.

Americans are not popular in Mexico. This is especially so among the middle and higher classes. They are jealous of our success as a nation, and also of our success in making money out of Mexican investments. They realize that some of the best properties in Mexico belong to our people, and while they want American capital, they feel sore because we make money out of investing that capital here.

In a suit at law the American has but little chance with the Mexican. Some Americans claim that judges are compelled to give decisions against them by higher officials.

(Copyright, 1913, by Frank G. Carpenter.)

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

5994—Ladies' and Misses' Kimono—This kimono can be made in either the long or short length. It can be made with long or short sleeves. Any of the crepe materials can be used to make this kimono. The pattern 5994 is cut in sizes 30, 32, 36, 40 and 44 inches bust measure. Medium size will require, for the short kimono, 2¾ yards of 27-inch material. If the long kimono is used, 6 yards of 27-inch material will be required.

6061—Misses' and Small Women's Dress—This dress is made with a three-gored skirt, which can be made with either the empire or regulation waistline. Linen or serge can be used to make this dress, with the collar and cuffs of contrasting material. The pattern 6061 is cut in sizes 14, 16 and 18 years. Medium size requires 4¾ yards of 36-inch material, with ¾ yard of 27-inch contrasting goods.

5960—Ladies' Apron This apron can be made with or without the sleeves. It covers the entire dress and has a pocket in each side of the front. The pattern also provides for a dust cap. The pattern 5960 is cut in sizes 32, 36, 40 and 44 inches bust measure. Medium size requires for apron and cap 5 yards of 36-inch material, with ¾ yard of 27-inch contrasting goods.

6000—Boys' Russian Dress—This Russian dress is for the small lad who has not yet worn the regulation bloomers. It is a cunning model and a very becoming one. The garment closes at the right side of the front. The collar, cuffs and belt are fashioned of contrasting material. The pattern 6000 is cut in sizes 1, 2 and 3 years. Medium size requires 3 yards of 27-inch material, with ½ yard of contrasting goods.

6036—Girls' Blouse Dress—The blouse of this dress is slipped on over the head and the kilt skirt is joined to an underwaist. The sailor collar and cuffs are fashioned of contrasting material, with navy blue or red serge for the dress. The pattern 6036 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2¾ yards of 36-inch material and 1 yard of 27-inch contrasting material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Can any of our readers tell us how to make a one-legged ironing board? We are informed that we published directions for making this about a year ago, but we are unable to find it. The editor of this department would appreciate information on this subject.

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Less Fuel, Better Cooking

Banish kitchen drudgery. Do your work in half the time with half the effort. Give your cooking skill the *best* opportunity to prove itself. The

Monarch Malleable Range

is the housewife's best helper. In construction, workmanship and design, it is years ahead of all other ranges. The Monarch is made of malleable iron and steel. It has complete triple walls—asbestos and steel. The top and oven heat quickly, saving fuel. Every seam is riveted tight—no bolts or stove putty to loosen and fall out. The Duplex Draft and Hot Blast Fire Box insure even heat and full use of all the fuel. The polished top never needs blacking.

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$1.90 FOR THIS DANDY GATE

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Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

IOWA GATE CO., 21 Clay St., Cedar Falls, Ia.

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A new edition (Spring and Summer, 1913, issue) of **EVERY WOMAN HER OWN DRESSMAKER**, illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

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Twentieth Century Farmer,
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HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

Of Interest to Our Women Readers

Today

Sure, this world is full of trouble—
I ain't said it ain't.
Lord! I've had enough, an' double,
Reason for complaint.
Rain an' storm have come to fret me,
Skies were often gray;
Thorns an' brambles have beset me
On the road—but, say!
Ain't it fine today!

It's today that I am livin'.
Not a month ago,
Havin', losin', takin', givin',
As time wills it so.
Yesterday a cloud of sorrow
Fell across the way;
It may rain again tomorrow,
It may rain—but, say,
Ain't it fine today!

—Douglas Malloch.

Our Home Chat

A few days ago a copy of a home magazine was received by error in this office, which claimed to have a circulation of 500,000. The matter in this magazine was mostly fiction, written by well known and reputable writers, but the advertising was almost altogether that of patent medicine manufacturers, land sharks and other firms who give nothing for something. Out of twenty columns of advertising matter carried in that number of the magazine, there were only six columns that would have been accepted by The Twentieth Century Farmer. Of the other fourteen columns, many of these firms have offered their advertising to us and we have refused to accept it on any terms.

This so-called "magazine for the home" is selling the health and financial well-being of its subscribers for the few hundreds of dollars which this advertising brings in. There is no legal method of stopping the untold damage such publications may do, but the mother in the home can see that no magazine enters her doors that contains advertising matter that may in any way injure the children, either physically or morally. Go over the magazines coming to your home and see what class of advertising matter is contained therein. If it is vouched for by the paper, if it is clean and free from statements of wonderful cures and impossible claims, then, and only then, is it fit to have in the home and to be used as a guide in purchasing the necessities of life.

No far-seeing manager, no editor who has the good of his subscribers at heart, would ever accept such advertising matter, and any magazine that carries it is not fit to be trusted, either editorially or in the matter of relying on the articles advertised therein. THE EDITOR.

Fresh Strawberries

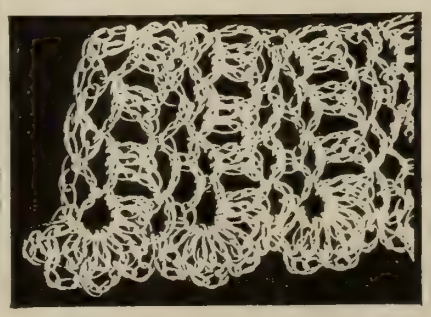
Nothing is more delicious than a dish of plump, red strawberries, fresh from the vines, served with rich cream and powdered sugar. The fresh berries last for several weeks and make the housewife's labor lighter by furnishing her with a quickly prepared dessert that does not require time spent over the hot stove. To be sure, they do mean hours of labor in picking the berries, if the plot is large, but others can help with that, and it is a change from the everlasting boiling and baking, anyhow.

Later in the season, when the family begins to tire of the berries served simply with sugar and cream, there are shortcakes to be made of them, and many fancy dishes which are especially pretty and attractive for serving when guests arrive. One method sent us by Winifred Fales of New Jersey is illustrated herewith, and is prepared as follows:

Cut an inch-thick slice of sponge cake to fit the bottom of a serving dish. Arrange a border of strawberries around the inside, and then, with a doughnut cutter, stamp out rounds from half-inch slices of pound or sponge cake and stand in a ring just within the border, to form a basket. Fill this in turn with fresh strawberries, sugar plentifully and serve with whipped cream.

Crocheted Lace

This pattern may be developed in fine cotton for the daintiest of garments, or in the heavier cottons or linens for coarser articles. It is a specially useful one, as it may be made as wide as desired without further printed directions, and is suited for a variety of uses.



Make a chain of fifteen stitches.

First Row—1 S C in the 5th stitch from hook, *3 chain, skip 2, 1 S C in the next stitch. Repeat from * to end of chain, turn.

Second Row—5 chain, 1 S C in the 1st space, *3 chain, 1 S C in the next space. Repeat from * to end of row, turn.

Third Row—2 chain, 3 D C in each of the next three spaces, with 1 chain between the groups of 3 D C, 10 D C in the space made by the chain of 5, turn.

Fourth Row—3 chain, 1 S C between the 2d and 3d D C, * 3 chain, skip 2 D C, 1 S C in the space between the next 2 D C, repeat twice from *, 3 chain, 1 S C in the space beyond the scallop. Repeat chain and S C three times.

Fifth Row—3 chain, 1 S C in the 1st space, 1 S C and 3 chain in each of the next three spaces.

Repeat from second row.

MRS. GILBERT.

American Styles

At a recent meeting of the National Association of Cloak, Suit and Skirt Manufacturers, which is composed of the makers of these garments throughout the entire United States, the committee selected to choose the styles to go into effect for the coming fall and winter was composed of designers from Chicago, Cleveland and Toledo. While these men will no doubt go to Paris for the main designs, they will adapt them to suit the American woman. This is a great step in advance, and we may hope the day will come when we will not be forced to allow Frenchmen to dictate in any way what we are to wear. Notice, also, the significance of the fact that this committee is composed entirely of western designers.

Assorted Lunch

In the center of a small plate lay a lettuce leaf, on which place a very thin white bread and butter sandwich which has been filled with chopped meat, nuts and a little mayonnaise. On one side of the sandwich lay a small triangle of chicken, on the other lean one of cold boiled ham. Beside the lettuce leaf put a thin slice of Bermuda onion on which is a small mound of caviar, sprinkling this with salt and pepper and adding a few drops of vinegar. Two stuffed olives complete the plate, which is very nice for serving with tea. MARY RUTLEDGE.

Use a Brush

A paint brush is an excellent thing to remove dust from cracks and carved furniture. It reaches crevices where a dust rag never could find the dust.

Try this when next you clean the baseboards, window sashes, etc. You will never be without a brush.

How to Get Rid of Burdock

To get rid of burdock, which so often crops out in dooryards and is so hard to kill, cut the plant off a little below the surface of the ground and cover the cut with a handful of salt. DAISY CANNON.

Original Stories By Our Young People

Bottle the Sunshine

Bottle the sunshine up, my dears,
And lay it safe away;
Hammer the cork in good and tight,
Keep for a rainy day.
For clouds will come and showers will fall,
And earth and sky look sad;
Then fling the cheery rays about
And make the old world glad.

Bottle the sunshine up, my dears,
Sweet temper lay away;
Carry through life a smiling face,
And let your heart be gay.
There's sorrow plenty in the world,
And strife and bitter pain,
So line the clouds with golden beams,
And sing a glad refrain.

—Author Unknown.

The Editor's Corner

The first picture contest is over, and the prizes awarded. There were 124 answers sent in and we were kept busy reading them and trying hard to decide which should receive the prize. Do not forget that in awarding prizes we took into consideration the spelling, writing, neatness, and the age of the contributor.

A number were thrown out because the little goat was called a sheep. That showed lack of observation. We are printing a few of the best verses, aside from those that received the prizes, and wish to say that there were at least a dozen to whom we should have liked to give prizes, as they were so good. The second contest is on, and we expect to receive a large number of verses about the coats. And don't forget the stories. THE EDITOR.

(Prize Story)

A Camping Trip

By Gladys M. Tucker, Aged 13, Elkpoint, S. D. Blue.

It was a bright and sunny morning in June, and a few of the neighbors were going out camping. The men and boys were going in a hayrack, so that they could bring the tents and bedding, and the women and girls went in an automobile and brought the lunch. We went down on the river bank. It was about a ten-mile drive.

It was 11 o'clock when everything was put to rights and dinner started. My uncle caught two large, fine catfish, and we were going to have them for dinner, and my mother had bought some fruit on the way and made delicious fruit salad When it was all ready we spread the tablecloth on the ground, placed the food upon it, and O, such a good dinner!

We fished all afternoon, and the evening was spent in telling stories and asking riddles. After breakfast next morning we started out fishing, but saw a storm coming up, so we broke up our camp and hurried home. The storm proved to be more wind than rain.

(Honorable Mention)

Our Pet Goat

By Irene Copenhaver, Aged 11, Dunbar, Neb. Red.

On February 14 there was a sale at one of the neighbor's. Papa went, and when he came home he gave us a rope and told us to go to our uncle's and get a present he had bought for us at the sale. He wouldn't tell us what it was, so we kids went after it. On the way we tried to think what it could be. We could hardly wait until we got there. When we got there we found, to our surprise, that it was a black billy-goat. My brother was afraid of it at first, but he isn't now.

Papa made it a set of harness and we hitched it to the little wagon and drove it. It drove all right at first, but after a while it became balky, and we had to unhitch it and rode it for a while. When it gets tired of having us ride it, it rubs against a tree and pushes us off. When he wants a drink, he comes to the back door and knocks with his horns. If we don't open the door, he gets the knob between his horns and opens the door and comes in. We think very much of our pet and would not part with him for the world.

The Dog That Ran Up a Tree

By Amy Maddox, Aged 11, Naper, Neb.

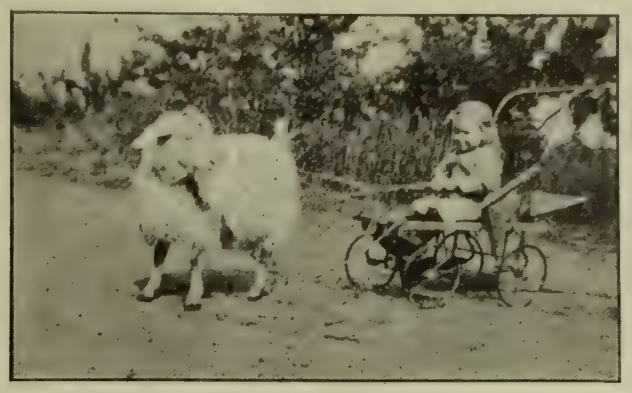
Spot is a great, good-natured black dog, as full of fun as his skin can hold. If there is anything he loves to do it is to chase a cat just to see it run. He has not the least wish to hurt it. One day as he was following his master he went by a house where a white cat lay on the porch; Spot made a dash for her; she left the porch and ran like a white streak straight up a large tree; Spot was right at her heels, and because she went up the tree he followed. I suppose he had never thought but that a dog could climb a tree as well as a cat. He was running so fast that he did go up the tree quite a little way—six feet or more. But about that time he began to slip and fell on the ground. When he got up he took no further after the cat, but ran on after his master. I think if he could have spoken he would have said, "Let cats climb trees; I prefer to run on the ground." Don't you?

Additional Stories

Blue—Zora Mowrey, Arcadia, Neb.; Bertha Macchtlen, Clearwater, Kan.; Lavman L. Fusselman, Schuyler, Neb.; Homer Draper, Sumner, Neb.; Doreen Barrett, Friendswood, Tex.; Ruth Lyon, Logan, Ia.; Irene Tev Orient, S. D.; Bessie Adam, Ravenna, Neb.; Elly Woods, Alliance, Neb.; Bertha Dickinson, Osceola, Neb.

Red—Clarinda Brower, Augusta, Kan.; Lucile Tash, Walla Walla, Wash.; Lola Wahl, Diagonal, Ia.; Bonnie Maria Smith, Laurel, Neb.; Naomi Jones, Hollister, Cal.; Thelma Brundige, Litchfield, Neb.; Harold Schuster, Shelby, Ia.

Awards in Prize Contest No. 1



(First Prize)
John Shaver, Jr., Kirksville, Mo., Aged 12.

For which would you the blue ribbon unfurl,
The goat and buggy or the sweet baby girl?
The goat is a beauty, no doubt about that,
But hurrah for the baby, sweet, chubby and fat!

***

(Second Prize)
Clair Sweney, Ohiowa, Neb., Aged 7.

I am going out to joy ride
With my little Billy-goat.
He is the finest driver,
And has such a silky coat.

***

(Honorable Mention)
Cezarie Laydn, Leeds, Ia., Aged 11.

We are going to a meeting,
My little goat and I,
To learn to be good farmers
When we grow up, bye and bye.

***

Lizzie Eagan, Valley Center, Kan., Aged 13.

Nellie had a little kid;
She hitched it to her cart,
And everything that Nellie did
Just would not make it start.

***

Odber McElvery, Stevensville, Mont., Aged 12.

We are starting on a picnic,
Our luncheon nice will be,
A tomato can for Nannie
And a piece of cake for me.

***

Della Hopp, Glenwood, Ia.

"Let Baby go," said father,
"Billy will not harm her;
She is going to the mail box
For The Twentieth Century Farmer."

A Fish Game

When you have a party, why not use the following fish game, which was given some time ago in the Woman's Home Companion? Almost all boys and girls enjoy a guessing game for a part of their entertainment. When the guests arrive, give each one a little booklet made from white note paper, to which you have added a cover of sea green. On the inside the following questions should be neatly written, the guests being asked to supply the answers with the names of fishes:

1. What fish is astronomical in its taste?—Starfish.
2. What fish is the bad boy acquainted with?—Whale.
3. What shell fish completes a doilie?—Scallops.
4. What fish would you serve as a dessert?—Jellyfish.
5. What fish comes from the dairy?—Butterfish.
6. What fish would you take on a hunting trip?—Dogfish.
7. What fish is the most valuable? Goldfish.
8. What fish would arm a soldier? —Swordfish.
9. What fish is always under your foot?—Sole.

What fish is always in a birdcage? —Perch.

Thank God every morning when you get up that you have something to do that day which must be done, whether you like it or not. Being forced to work, and forced to do your best, will breed in you temperance and self-control, diligence and strength of will, cheerfulness and content, and a hundred virtues which the idle will never know.—Kingsley.

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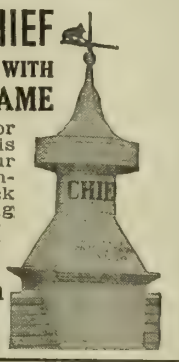

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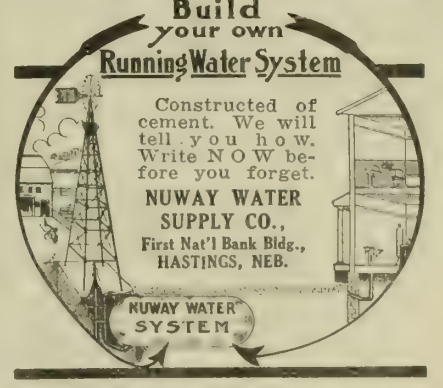

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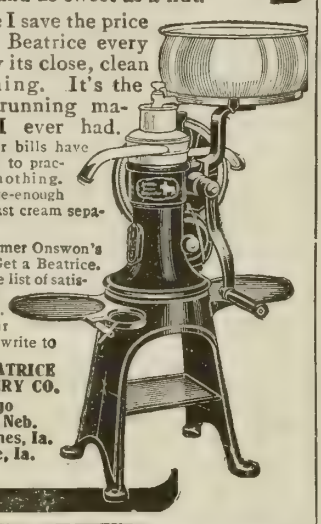
BEATRICE Cream Separator

Most dealers ask $100 up for a high-grade separator. I paid $75 for my Beatrice. I don't think I ever had so much cream separator satisfaction.

Why, I can clean the bowl and discs *in less than 2 minutes*, with the patented device furnished free with the separator. They come out as clean and as spotless as a new penny and as sweet as a nut.

I figure I save the price of my Beatrice every year by its close, clean skimming. It's the easiest-running machine I ever had. My repair bills have amounted to practically nothing. It's a sure-enough built-to-last cream separator.



Take Farmer Onswon's advice. Get a Beatrice. Get on the list of satisfied separator users. See your dealer or write to

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We buy your wool out and out, charging you no commission or drayage, and pay cash promptly. Sell direct to us. We grade wool honestly and make you an offer which you can accept or refuse. We'll hold your wool separate if you ask us or until you say our valuation is satisfactory. If it is not, we'll ship it back, paying freight both ways, or we will store it for you free of charge. That's fair, isn't it? Send for our Special Wool Price List at once. We carry a full line of wool bags and twine—can furnish them to you at wholesale prices.

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WHOLESALE PRICE TO FARMERS
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You can buy any cut in The Twentieth Century Farmer for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as we have only one of each kind.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Advantages of Farm Life

V. N., Monroe, Neb.: I have seen many articles pertaining to the question, "Why Do Boys and Girls Leave the Farm?" For my part, I cannot possibly see why anyone should leave the farm. In my opinion, by far the best place to live is on the farm. My reasons are two-fold.

One of them is because the farm gives the young man a better chance to get ahead than the city gives. I will explain as nearly as possible what I mean. If a young man leaves the farm and goes to the city, as a rule, he does not know anyone, and this fact makes it hard for him to secure employment. Even when he gets employment it is generally in a poorly paying position. He is obliged to make progress in order to hold his own, and as a general thing he encounters very hard sledding. On the farm he is paid good wages, and besides this receives his board, which is worth a great deal. There is relatively very little social difference between a farmer and his help, while, as a rule, there is quite a difference between the city employer and his employe.

Now, I will try to explain my second reason. The country is a very attractive place in which to live. The farm homes in this neighborhood are mostly very nice. There is generally a large growth of trees and a fine yard, which most people in the cities do not have. I also like to see the stock and growing crops. I think that there is no prettier sight than a field of nice green alfalfa or a nice field of corn. I think the prettiest thing on the farm is a little colt. Now, I have tried to explain as nearly as I could my reasons for preferring the farm. I think if young folks would stay on the farm they would like it better in time. I believe that they would be way ahead in the end. The city looks very attractive to some, but it is not as pleasant as some believe. There is work in this world wherever one goes, and I do not think work on the farm is any harder than work in the city. I believe in the farm and in the farmer.

Comment—This paper is glad to receive and publish such letters as this They have a right ring to them. The best culture in the world is the culture one derives from immediate contact with Nature; from watching her processes and being inspired by the way in which she does things. There have been farmers that have stretched themselves at full length in a furrow, resting their heads upon the furrow slice, and have felt that they were pillowed upon the ample bossom of the mighty mother of us all. Whenever one gets at one with Nature, he is getting pretty near to the heart of things, and the stimulus and inspiration that he receives in this way cannot be approximated by any stimulus that he may receive from any artificially developed form of life.

Bruised Udder

H. C. H., Arnold, Neb.: I am milking a cow which has a small lump at the base of a teat, which seems to hold the milk from coming down. What is the cause, and what can be done for it?

Answer — This trouble is usually caused by bruising. Sometimes by another cow stepping on the udder; or it may be caused by the milker, especially one with large hands, who reaches well on the base of the udder. Massage is the only treatment.

Land Mortgage System

N. W., Cleveland, Okl.: I would say with reference to the land mortgage system that it would be a God-send if such a credit could be established in any state. But what would you do with Oklahoma, for instance? Outside of the Indian reservations, most of the farms are already mortgaged, and for about all they are worth, and the national banks hold most of the mortgages. How, then, could a land credit system be established here? One would have to take a second mortgage on nearly every farm. I honestly do not think one could get the political bunch and grafters to feel interested, not for a minute; there is not enough rake-off. Farmers here are paying a higher rate of interest than in any other state.

Comment—There are some mistakes in this letter to which attention should be called. In the first place, national banks are prohibited by the national banking act from making real estate loans or holding real estate mortgages. If the national banks in Oklahoma were violating the law, the government would bring them quickly and rigidly to account. Most of the money loaned on land mortgages is loaned by insurance companies, savings banks and private investors. In the next place, it is a general rule among those who loan money on farm mortgages not to loan more than 40 per cent of the value of the mortgaged property.

If the land credit system were adopted, some form of it which is adaptable to American conditions, it would be possible for the farmer to borrow money at a lower rate of interest and pay off the first mortgage, and then, if he improved his farm so as to give it added value, this would secure a larger loan than that covered by the first mortgage. Every farmer should know that the value of his farm depends upon its capacity to produce, and a productive farm is worth much more, and consequently can be made the basis of a larger loan than the unproductive farm. The farmers, by improving their farms, improve the security they offer for a loan.

The government, in order effectually to prevent the introduction into this country of the white pine blister rust, is going to forbid the importation of all five-leafed pines from Great Britain, France, Belgium, Holland, Denmark, Norway, Sweden, Russia, Austria, Switzerland and Italy.

It has been found that the pungent principle of red pepper is found almost exclusively in the thin membraneous partition inside the shell. It has also been found that by grinding the seed with the rest of the fruit the color produced is improved, as well as the flavor and aroma.

BULKLEY VALLEY

is the finest farming section in British Columbia. All fruits, vegetables and grains belonging to the temperate zone grow to perfection in this valley. The building of the Grand Trunk Pacific Railway this summer will furnish the only thing lacking, transportation, then comes the people, up go the prices, and everyone will try to buy. Why not be the one to get in ahead. It costs you nothing to investigate.
Write today for folder "B."
North Coast Land Co., Ltd.
420 Germania Life Building, St. Paul, Minn.

480 ACRES

choice, smooth land; unimproved; chocolate loam soil; about quarter mile from Tower (Kiowa County), Colorado;. Suitable for flax growing or wheat; ideal for a dairy farm. Price $12.50 per acre. Terms.
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Do you want to share in the tremendous profits of Los Angeles and Southern California real estate? Ask us about our plan. Residence or large capital not necessary. Write at once.
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FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento. **CALIFORNIA**

COME TO MINNESOTA

Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.
HODGSON & RINK, Fergus Falls, Minn.

Free land information

You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

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Twentieth Century Farmer
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Over 100,000 farm families read it.

CALVES Raise Them Without Milk
Booklet Free.
The Nebraska Seed Co, Omaha, Neb.

Valuable Poultry Information Gained From Experiments at Storrs College

PERHAPS some of the best work down at the Storr's Experiment station (Connecticut) in the poultry line has been the experiment made along the line of cutting short the ravages of bacilliary white diarrhea with sour milk. Their latest work in this line is conclusive. Sour milk, preferably fresh buttermilk, I judge, for the very young, does show a decided power for controlling intestinal diseases—the certain form of acid in the milk killing all germs of putrefaction that disease the intestines and tend to shorten life, even in man. You nearly all have heard of the scientist Metchnikoff, who advocates the sour milk diet as a means of holding off old age. Metchnikoff declares that it is these putrefactive bacilli in the intestines that weaken us and cut short life, besides making us look old long before we should.

Well, just the same, the feeding of sour milk to young quail and grouse proved itself as good, and now it has been demonstrated that feeding it to chicks, even when groups were inoculated with the bacilli of white diarrhea, is helpful. The experiments were made at Storrs station by using chicks of different breeds, and these, after inoculation, were separated into groups; some groups were fed the sour milk from the start; other groups were left without it, and the results showed a large per cent of chicks saved in the group fed the milk, and a high death rate in the group from which it was withheld.

Not only this, but this experiment alone showed other facts; first of which is, that the younger the chick the easier the infection is taken on, and higher the death rate. For instance, after the chicks are a certain number of hours old the infection begins to lose its power for killing such a large per cent as it does when but a day or two old. Another fact was brought out in the experiment—the chicks left without the inoculation were divided into two groups; one of these was fed the sour milk from the first, the other was left without it. The group fed the milk came out all right, without a case of the disease; the other group lost 3 per cent of its number by the disease, as microscopic examination showed, thus proving that the disease was present in the whole number of chicks to some degree at hatching.

In all experiments in this line so far, it is found that if the sour milk feeding does not entirely prevent all chicks from developing the disease, it will in enough cases to warrant its use.

But one of the experiments was a failure. Three hundred White Wyandotte eggs produced but sixty-six chicks that were normal. Twenty per cent of the chicks dead in the shell were found afflicted with the disease. The sixty-six came off carrying the germs also, and so weak that it seemed useless to try to save them. A few of the milk-treated chicks survived; all not treated died. Such a flock of hens as this a farmer, as well as others, should get rid of immediately.

Sour milk is plentiful on the farm, good and fresh. Why not begin its use with the chicks the first feed, changing it frequently, and keeping its dishes clean? Also, why in time would it not rid the hens of the disease? IDA M. SHEPLER.

Proper Care of Cream

The following are the rules given by Prof. J. H. Frandsen, head of the dairy department of the agricultural college of the University of Nebraska, for the proper care of milk and cream to secure the best quality of butter:

It is impossible to produce clean milk and cream unless the cows, stable, milker, utensils and separator are clean.

To wash milk utensils, use, first, cold water for rinsing; second, warm water containing a small quantity of good washing powder for cleaning; third, boiling water or steam for sterilizing.

Use a metallic strainer; it is practically impossible to keep cloth strainers sweet and clean and free from bacteria.

Skim the milk as soon after milking as possible, and cool the cream at once.

Skim a cream testing from 35 to 45 per cent—the richer the cream the better it will keep. By skimming a rich cream, more skim milk is left at home for feed, and there is also a smaller bulk on which to pay express charges.

Do not mix warm, new cream with cold cream until it has been cooled.

Keep the cans of cream in a tank of cold water until time of delivery.

Wash the separator thoroughly after each separation.

Deliver the cream to the creamery or cream station early in the morning.

Deliver the cream not less than three times a week during the summer, and twice a week during the winter.

Protect the cans of cream from the sun by covering with canvas or with a wet sack while en route.

Nebraska Wheat Indispensable

Minneapolis millers have concluded that they cannot get along without Nebraska wheat, and as a result their representatives closed a deal in Omaha recently to take 500,000 bushels for immediate shipment, paying the highest market price. This is the largest transaction in actual wheat that has ever taken place since Omaha became a grain market.

Quite Enough

In spite of the fact that some people want the earth, it still revolves on its axis, thus proving there is enough of it to go around.

The Poor Little Bugs

Hundreds and hundreds of millions
Of little bugs were sad
Because no longer could they eat
The fruit that once they had.
They tried to cheer each other,
They hoped the worst had come,
They said that such another
Condition would be bum.
Hundreds and hundreds of millions
Of little bugs ran round
On plants and trees, and poisoned there,
Came tumbling to the ground.
At last but one was straying
In loneliness about—
"Gee whiz," he cried, "this spraying
Has knocked us bugs all out."

—W. J. Lampton.

TRADE
in your old separator
on account of a new
DE LAVAL

An up-to-date De Laval Separator will, on an average, save its cost every year over any other separator.

In addition to the actual saving in more and better cream there is also the saving in time of separation and cleaning, in easier running, greater durability and fewer repairs.

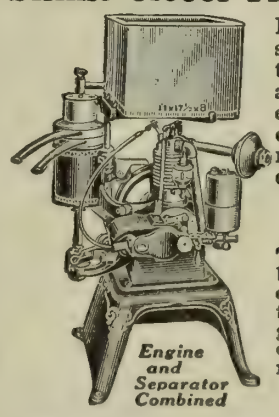
Because of these savings more than 40,000 users of inferior and worn-out separators of various makes last year took advantage of the De Laval exchange allowance and traded in their machines on account of De Lavals.

USERS OF OLD DE LAVALS, on account of the many improvements in the modern De Lavals over machines sold 10 to 25 years ago, including closer skimming, easier running, better oiling, etc., will also find it to their advantage to exchange their old De Laval for an up-to-date De Laval.

SEE THE NEAREST DE LAVAL AGENT. He will tell you how much he can allow on your old machine, whether a De Laval or some other make, toward the purchase of a new De Laval. If you don't know a De Laval agent, write to the nearest De Laval office giving make, number and size of your present machine, and full information will be sent you.

THE DE LAVAL SEPARATOR CO.
NEW YORK CHICAGO SAN FRANCISCO SEATTLE

Skims Closer Than Any Hand Power Machine



Hand power varies. When the operator tires, his speed slackens, and butter fat is lost. Not so with the self-powered "AUTOMATIC." Its bowl spins at high, even speed. There is no variation. The engine runs like a watch. Hence it is that no hand cranked separator can skim as close as the "AUTOMATIC." It holds the world's record for *continuous* close skimming—less than 1/100 of 1% butter fat.

Engine and Separator Combined

The little ½ horse power gasoline engine is compactly built into the separator itself. The two are so solidly combined and so nicely adjusted that they run smoothly together. There is none of the jarring and jolting of gears which happens when you try to drive a hand cranked separator by detached gasoline power. This makeshift won't do. The "AUTOMATIC" is gearless.

New Model Magneto Equipped

For over two years the battery and coil system of ignition has worked very well, but it is not quite so scientific as a self-perpetuating magneto. Both systems are now being used. The "AUTOMATIC" magneto never needs recharging. The engine is a little wonder. It starts so dependably; runs so smoothly and won't balk. Weather makes no difference. A self-regulating fuel feed keeps the gasoline coming just right.

See the AUTOMATIC at work on your dealer's floor. Write to us for catalog

Standard Separator Company
Makers of the Automatic Cream Separator Box N-38, Milwaukee, Wis.

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Review of Live Stock Market

By A. C. Davenport

THE season for Colorado lambs is fast drawing to a close, and in the main it has been a very satisfactory one for feeders. Prices have not reached any unusual heights, nor have they gone very low, as they did last year, but the average has been considerably better than a year ago, and feeders' profits have been larger. Included under the term "Colorado" have been a large number of lambs that were fed in Wyoming and Nebraska under practically the same conditions that exist in Colorado. In the irrigated valleys vast quantities of alfalfa are produced, and this forms the basis of the lamb ration. Thousands of bushels of corn are shipped in from Nebraska, and, although freight rates are high, it has been demonstrated time and again that corn is cheaper than any other grain, for the reason that, combined with alfalfa, it makes a perfect ration, and in the high and dry altitude of the west the lambs are gotten into first-class marketable condition in from ninety to 120 days. The season has been so generally satisfactory this year that indications are that nearly 2,000,000 lambs will be fed the coming winter. In many cases these lambs have already been contracted both in the southwest and the northwest. Freight rates on shipping alfalfa "out" are so much higher than rates on corn "in" that the feeding proposition has been a very profitable one wherever alfalfa could be raised on a commercial basis. These Colorado lambs usually reach the market at a time when there is no competition so that they have the market to themselves. Toward the close of the season they are subjected to competition on the market with Tennessee and Kentucky lambs, and the latter are now the more numerous on the big central markets.

Australian Beef an Experiment

Considerable interest has been aroused in live stock circles by the receipt at San Francisco of three or four cargoes of frozen beef and mutton from Australia and New Zealand. According to all accounts, the proportion of beef in this shipment has been very small and more in the nature of an experiment than an investment. Australian mutton has been selling on the coast markets for some time, and, while it has sold a few cents per pound under the native product, it has never achieved any particular degree of popularity, and, as far as the consumer is concerned, its chief point of commendation has been its cheapness. In the case of Australian beef, hardly enough of it has been sold on the coast market to afford a fair test as to its relative value as compared with native beef. It is sold cheaper as a rule, but consumers have shown a marked preference for the native beef, even at a higher price. In this connection it must be remembered that the coast markets do not use the same class of beef that is commonly used east of the Rocky mountains. Very little corn-fed beef ever reaches the Pacific coast, and those markets are supplied almost entirely by grass and barley-fed beef, which is much inferior to the corn-fed article. For this reason Australian beef may find in time a profitable market on the Pacific coast, but there is no danger whatever that it will ever become popular in the east. The experiment, however, is valuable to the country, in that it indicates that modern methods of refrigeration have made it possible to furnish our coast cities with beef and mutton from the other side of the world. What effect this will possibly have on the American stock grower remains to be seen.

Immunizing of Stock Hogs

One of the peculiarly interesting developments in the hog market at this time is the strong probability that inside of a few months farmers will be able to come to the large central markets and secure all the stock hogs they want for feeding purposes. Heretofore it has been practically impossible to ship stock hogs from the market to the farm, or even from one farm to another, because of the danger of cholera infection. Veterinary science has finally succeeded in rendering hogs immune to this disease, and, being immune, they can be shipped from one part of the country to the other with impunity. Arrangements are being made at some of the markets, notably St. Louis, Kansas City and St. Joseph, where stock hogs constitute the large proportion of the receipts, to have a lot of these hogs immunized by vaccination and then disposed of to farmers, who will take them home and bring them to maturity under the conditions usually prevailing in the west. Should the experiment prove successful, it will no doubt open up a large and profitable market in the central west for the large quantities of pigs and shoats that are raised in the south every year and marketed before being matured.

Lighter Grades in Demand

For several years there has been a growing tendency on the part of the big packers, as well as the smaller butchers, to give preference in their purchases to the lighter grades of cattle, hogs and sheep. This tendency has been peculiarly pronounced this year, and probably for the reason that the proportion of heavy animals has been larger than usual on account of the abundance and cheapness of feed throughout the winter. This preference for the lighter animals simply reflects the popular demand for the lighter cuts of meat in all sections of the country. Undoubtedly, the fact that people are flocking to the cities is largely responsible for this demand for the lighter cuts of meat. A large proportion of the people living in the cities are doing what is called light housekeeping; they live from hand to mouth and are not disposed to buy in large quantities. They want variety more than quantity, and the heavy cuts that were formerly so popular are now hard to dispose of except for special purposes at the more expensive and exclusive hotels and clubs. The popular demand is undoubtedly for the lighter cuts of meat of all kinds, and it is for this reason that buyers are now and have been for some time favoring the lighter grades of animals.

Co-operative Creamery of Guthrie Center

(CONTINUED FROM PAGE SIX.)

from the inside. Only one criticism may be passed upon the creamery itself; it is crowded, poorly lighted, and not kept as clean or tidy as it might be kept.

This creamery is remarkably successful. Its success is such that it keeps the centralizers out of the field. It affords a profitable return for his products to every cream producer. Much of the success is due to careful management and supervision, due to the methods that have been here outlined. It would be well for every community that is thinking of organizing a creamery—in fact, for every community in which a creamery has already been organized—to study these methods carefully, and see if they may not learn from them something that they may use to advantage.

Cutting Alfalfa in the Prairie Belt of Alabama

Few persons realize that running across central Alabama there is a prairie belt some 200 miles long by forty to fifty miles wide. In point of production of all kinds of grasses, it is the equal of any locality anywhere. For alfalfa it is especially well adapted. In fact, Prof. W J. Spillman says it is about the only locality in the southern states, south of the Ohio river, that is really adapted to it. The soil of this region was made by the disintegration of a soft limestone rock, and has, therefore, abundance of lime. It may be called limestone clay soil, underlaid with clay. Some Iowa families have settled near Selma, and are doing remarkably well, but there is plenty of room for others, who may buy improved farms, splendidly located, at from $25 to $35 per acre, on easy terms. We know of no place where the northern farmer can do so well as here. Whoever is interested in a milder climate, a good place to make money farming, while realizing a remarkable increase on his investment, will make no mistake to inspect the country about Selma, Ala.

Live Stock Notes

Clauff's Durocs

We called on C. E. Clauff at Central City, Neb., last week and found him busy with his farm operations, but still willing to take the time to talk about the Durocs. He has a nice bunch of spring pigs coming along in good shape. One of the choice litters is by Crimson C., by Uneeda Crimson Wonder. There are ten extra good pigs in this litter, and they are out of a Medoc-bred sow. Another good litter is by the same boar and out of a Crimson Wonder-bred sow. Still another good litter is by Critic B., the champion boar at Nebraska last year. There are seven pigs in this litter. Another litter of nine are by Crimson Wonder 10th. Mr. Clauff has twenty-four fall gilts that are going to look mighty good in a bred sow sale next winter if nothing happens. He also has about fifteen head of fall boars that he is pricing worth the money. They are sired by Crimson C., Model Again, B. & L.'s Perfection, Commodore W. Better get in touch with him if you want a few fall boars. Mention this paper when writing.

The above Duroc-Jersey boar, Sensation Wonder 2d, is owned by Clarence Wallace at Wisner, Neb. Mr. Wallace has used this boar in his herd, but is offering him for sale at this time on account of having a full brother in the herd. He has extra size, is very smooth and stands on extra heavy bone and good feet. He is being priced right and should head some good herd.

Baird's Poland-Chinas

R. B. Baird of Central City, Neb., has ninety head of spring pigs, which are sired by Columbus, the champion boar at Nebraska and Kansas last year, and conceded by everyone to be the best boar ever exhibited in the west. Mr. Baird had the misfortune to lose this great boar a short time ago. This was not only a great loss to Mr. Baird, but to the Poland-China breed. He was not only a great show boar, but a breeder as well. The balance of his pigs are sired by Oakland's Equal, Smooth Jumbo and August 14th. In this sale he will offer about twenty head of brood sows, including his entire show herd of last year. This, without doubt, will be the best lot of sows ever offered for sale in the west. There will be a number of sows here that are good enough to go in and win the blue in any show. A number of these will be bred to Columbus 2d, a son of Columbus, and he bids fair to be in the same class as his illustrious sire.

Armstrong & Sons' Durocs

J. T. Armstrong & Sons of Clarks, Neb., have sixty head of spring pigs at this time and will be in good shape to supply their trade as usual during the coming season if all goes well. These pigs are sired by B. & L.'s Perfection, Model Again, Wonder's Improved, Blue Ribbon Model, Allen's Wonder Again, Parkdall Wonder, Crimson Wonder's Last and others. They have a nice line of fall gilts that will make mighty good material for a bred sow sale, and also a choice lot of fall boars that should receive the attention of anyone wanting something in this line. These boars are sired by B. & L.'s Perfection by B. & L.'s Wonder, and Model Again by Golden Model. Write them for further particulars, mentioning this paper.

The Ship of Friendship

The toast proposed by Secretary of State Bryan at the farewell breakfast to the foreign peace delegates is not only one of the most beautiful prose poems in American literature, but it expresses a thought which all who favor peace and the attendant prosperity must endorse. The toast follows:

"Ever since the earliest days men have been building ships. They are still building them, but the ship we are planning is different from the others. Its compass is the heart; its shells carry good will; its missiles are projected by the smokless powder of love; its captain is the Prince of Peace. I ask you all to drink with me to this new battleship—the ship of friendship. No target can withstand the shots that friendship sends abroad."

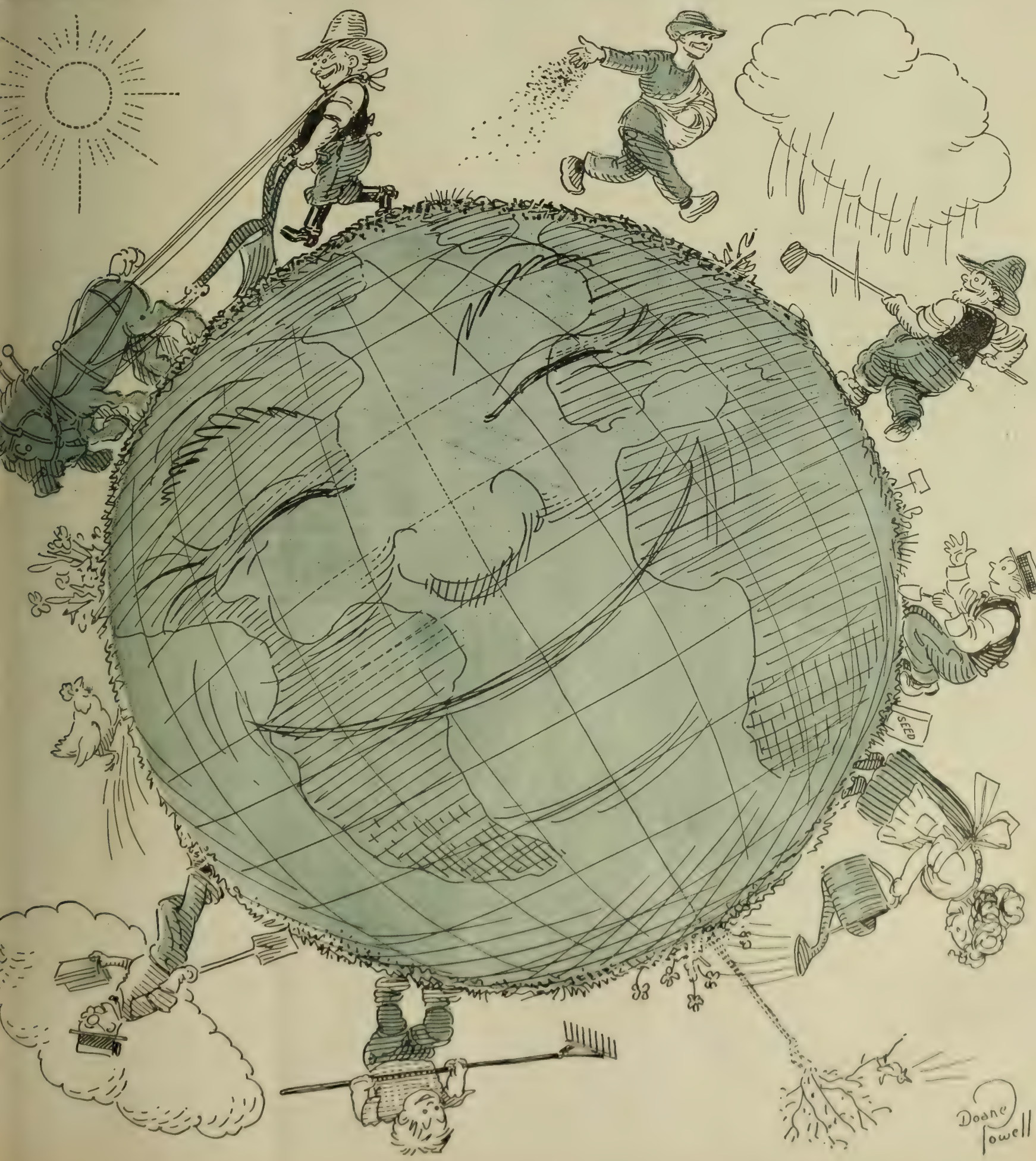
Mayor Studies Shorthorns

Mayor Rudolph Blankenburg of Philadelphia attended a Shorthorn class at the Wisconsin State Agricultural College the other day. He was so deeply interested in a demonstration of the right and wrong ways of milking that he lead off in three cheers for the professor, the class and the cows.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha June 7, 1913 | Number 652



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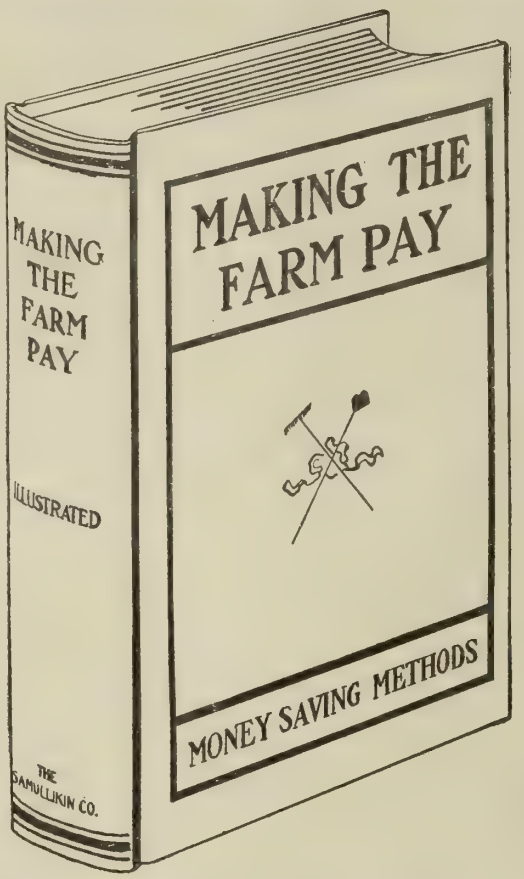
6—Because it takes up the Diseases of Farm animals, giving the CAUSES, SYMPTOMS and TREATMENTS of each, which will save you the loss of many dollars' worth of stock; these are explained in Common Terms that any one can read and understand; the treatments are COMMON REMEDIES that you should have in your home.



Size of book 6½x8½ inches. Bound in extra heavy cloth. Contains 500 pages.

7—Because it shows how to MAKE and FILL a silo and explains the VALUE of silage to the average farmer. It gives many rules on measuring feed and grain and many valuable hints and helps for every farmer.

8—Because it tells how to make Poultry PAY and discusses the different breeds — the "Setting" and "Non-setting," the "General Purpose" and "Fancy" breeds. The work tells how to caponize poultry, giving illustrations and cuts; also describes the diseases of poultry and their cures.

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rattle of the Youngsters

Modern Morals

This latter-day or new morality oo lax for me," said Jerome S. Wade, the Duluth millionaire. "It inds me of a lad in my Sunday ool class.

'Now, Tommy,' I said to this lad Sunday afternoon, 'what must do before our sins can be for-en?'

'We must sin,' Tommy replied."

Unappreciated Help

he doctor was once called in to t the spoiled child of the family. er his departure the mother re-ned to the room and told the d that the doctor had complained t he had been very rude to him.

Oh, mamma," replied the child, 's just an old fogy! He got an- because I put my tongue out for before he asked me."—Youth's mpanion.

A Circus Catastrophe

t the circus grounds one Friday rning many people wondered at unusual delay, caused by the arrival and a lack of sufficient kmen.

They ain't goin' t' be no show ay," said a live looking newsboy. Ain't goin' t' be no show! What " anxiously queried another.

nd the first boy grinned and an-red:

'Cause the elephant stepped on coffee pot and they can't find grounds."

Discouraging Company

small boy entered a grocery e, and, accosting the grocer, said im in tones that were shrill and l:

Ma wants two pounds of butter tly like what you sent her last. ain't exactly like that, she won't e it!"

he grocer turned to the custo-s who stood by and remarked dly, "Some people in my busi-s don't like customers who are ticular, but I delight to serve n."

Be sure you get the same kind," erated the small boy, while the omers listened. "A lot of pa's tives are visitin' at our house, ma doesn't want 'em to come in."—Newark Star.

An Artful Dodger

Papa," said Georgie, "it worries awful to think how much trouble ive mamma."

She hasn't complained."

No, she's very patient. But she en sends me to the shops for gs and they are a good ways and I know she gets cross wait- when she's in such a dreadful ry."

Not often, I fancy."

Oh, she's nearly always in a ry. She gets everything all dy for baking and finds at the minute she hasn't any yeast, or gets a pudding all mixed and ls she hasn't any nutmeg or some-ng, and then she's in an awful w 'cause the oven is all ready and ybe visitors are coming, and I 't run a very long distance, you ow—and I feel awful sorry for r mamma."

'Humph! Well, what can you do ut it?"

'I was thinking you might get me icycle."—Pearson's Weekly.

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Growing Importance for Drainage

THE National Drainage Commission estimates that in the territory drained by the Mississippi river there are 72,000,000 acres of land now practically valueless that might be made very productive, and its value increased from approximately nothing to $150 an acre by an adequate system of drainage.

There are many regions in each of the states that comprise the Missouri valley territory where drainage districts have been organized and great drainage ditches put through for the purpose of affording an outlet for the water on the low lands adjacent to rivers. This work will not be completed until the land adjacent to those drainage ditches is under-drained. The Twentieth Century Farmer, in the near future, will undertake an investigation of what drainage has so far accomplished, and of what it might be made to accomplish by carrying it still further, and will illustrate what it has to say by telling the story of how certain farms, by adequate drainage, have more than doubled their market value. The farmers of the Missouri valley are face to face with this problem, and this paper will try to tell how they may solve it to the best advantage.

Bright and Breezy

Natural Misunderstanding

The earnest lecturer raised his voice and spoke with special emphasis.

"I want to tell you, ladies and gentlemen," he said, "that Robert Burns' poetry"—

He was interrupted by a man in the audience, an editor whom he had roused from a doze.

"Good for Robert!" cried this man enthusiastically.

Favored Father

A story is told of two Irish farmers who had not seen each other for a long time, and who met at a fair. They had a lot of things to tell each other.

"Shure, it's married Oi am," said Murphy.

"You don't tell me so," said Moran.

"Fai' yes," said Murphy, "and Oi've got a foine, healthy boy, which the neighbors say is the very pictur' o' me."

Moran looked for a moment at Murphy, who was not remarkable for his good looks, and then said:

"Ah, well, what's the harm so long as the child's healthy."

Well Done

A city woman who recently passed a few days at a farm bought some poultry from the farmer, with a view to providing fresh eggs for breakfast every morning. She sent them to town by messenger, at the same time dispatching a note to her husband, telling him to look out for the consignment. Her husband, on reaching home that night, asked if the poultry had arrived. He was informed that it had, but, explained the servant, he had carelessly left the basement door open and all the chickens had escaped. A fowl hunt was immediately organized.

The next day the husband, meeting his wife on her return, exclaimed: "A nice time I had with your poultry. I spent three hours hunting and only found ten."

"You may consider yourself lucky, then," replied his wife, "for I bought only six."—Harper's Weekly.

An Obliging Conductor

She was running across lots to catch the 1:52 train for New York. It was precisely 1:52½, and the train was already was panting into the station. At her heels was a youngster, making as good time as he could, and he was crying. By the time she reached the station steps she was a good hundred yards ahead of the little boy, but he kept crying louder and louder. The conductor was holding the train for her.

"Madam," said the conductor, as she climbed up the car steps, "who is that little boy?"

"My youngest," she said, perfectly breathless.

"What's he crying for?"

"I didn't have time to kiss him goodbye."

"Well, you get right off this train and kiss him. We can wait better than he can."

The conductor stood with his hand on the signal cord while the operation was performed, and then the train went off, leaving the youngster happy and smiling.

It's Getting to Be Pretty Near Swimming Time

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

How State Agricultural Colleges Grow

History of Their Development and Their Present Status in the Missouri Valley

THE experiment stations and agricultural colleges, especially in the west, did not come in answer to a demand from the people themselves. In a certain sense it may be said that they were imposed upon the people by legislative enactment at Washington. At that time the lesson had not yet been learned—the learning of it is just beginning now—that movements to benefit the farmers and agriculture must come in answer to a demand from the farmers themselves, if they are to prove in the highest degree beneficial. No movement that has its basis in philanthropy or in charity, or that is superimposed upon agriculture from above—that is, by those who are supposed to occupy the higher levels of activity and life, will prove of the greatest practical benefit, or meet with hearty reception from agriculturists. Projectors of our agricultural colleges and experiment stations wished to improve agriculture, and so, without any express demand on the part of the agriculturists themselves, gave to them a system of agricultural education and experimentation paid for, at least in a large measure, from the national funds.

Three Periods of Development

The circumstances under which these institutions were established being so similar in each of the western states, it is not surprising that each state should have had similar experiences in attempting to establish these institutions in the confidence of the public, and that each should show a marked similarity in the history of its development. These institutions have passed, each of them, through three separate and distinct periods of development, each characterized by its peculiar conditions. The first period was one of experimentation. The schools and stations themselves were experiments, and it was not known of a certainty whether they would answer the purpose for which they were established. The result was a preliminary period of experimentation in which governing boards and members of faculties were endeavoring to find the work that most loudly insisted upon being done, the work that was most necessary, and would result in the largest degree of practical benefit, and were trying to advance methods for accomplishing this work. They were entering upon an untried path, and each was trying as best he could to find his way most quickly and most efficiently. Various methods and plans were tried out, some of them wise, some of them not so wise. And finally they all settled upon a general concensus of opinion regarding methods to be pursued, plans to be adopted and work to be done.

Petty Jealousies and Squabbles

To this period succeeded a period of history characterized by unorganized, unco-ordinated, non-co-operative effort on the part of each unit in the complex educational body thus engaged. Each professor of each department was inclined to magnify the importance of his individual work and the significance and power of his individual department. The result was a period of years in the history of each institution that was characterized by squabbling between the differen members of the faculties, petty jealousies that destroyed unity of action and prevented confidence on the part of the public, and general unrest and inefficiency. This period has been watched in every state with anxiety and regret by all who have had the interest of agriculture and of agricultural development at heart. It has been the feeling of such people that the cause of agriculture was of much higher moment than the personal interests and the personal ambitions of any individual or of any set of individuals, and that men employed in such work should be broad enough and big enough to place their own personal interests secondary to the interests of the country at large; that they should be well informed enough to know, what has been condensed from the wisdom of the ages into the maxim, that "In unity only there is strength," and that no organization can reach its highest level of efficiency except through thorough subordination, close co-ordination of all working forces, and an unswerving individual loyalty to the supreme purpose. That is the feeling today among the most intelligent lovers and promoters of agricultural progress. They feel that it is about time that members of faculties that cannot give this unselfish co-operative loyal service should be dismissed, and that their place should be taken by others who can give to the work the quality of service that the conditions demand.

Strong Leadership Needed

Following this period of unco-ordinated, non-co-operative effort in some of the colleges, there has succeeded a period of thorough subordination, complete co-ordination and united devotion to the cause for which such institutions were established. This has generally been accomplished through the leadership of some strong, wise executive, who has had sufficient courage to force all insubordination into subordination, all non-co-operatives into co-operation, and bring about a co-ordination of all the operating forces. Under the rule of such men, professors that had grown too large for their jobs, those that thought they knew more about what should be done than those in authority, and accordingly refused to submit to the rule of subordination, co-operation and co-ordination of force, have been permitted to find other fields better adapted to their peculiar kind of talent. This condition of afairs represents the highest point in the development of these institutions in this western territory. Those that have reached this stage of the development are now for the first time in a position to make their work thoroughly effective. Of necessity such an institution must command the confidence and the respect of the state in which it is located, or it will be hampered by the lack of funds, and the freedom with which the state grants funds for the support of such institutions may be taken as an index of the degree of confidence that they command in their several states.

Minnesota, Wisconsin and Illinois do not have to beg legislatures for funds. The several states believe so strongly in the institutions, have so much confidence in them, that whatever they ask in reason is readily granted. It is beginning to be said that these institutions are rich—that is, have as much money as is reasonably needed to carry on their work. This is because they have earned the confidence of their states, and the states respond with appropriations. Whenever an institution of this kind has to beg for money it is sure proof that something is lacking to establish on the part of the state a firm and unwavering confidence in its usefulness and in its efficiency.

Missouri has passed through the first two stages. It is now effectively at work in the third stage of development under the able leadership of an able man. Dean Mumford commands the undivided respect and confidence of the farmers in Missouri. He is supported by an able corps of professors who give to him co-operation, are thoroughly co-ordinated in their efforts, and subordinate individual interests to the agricultural welfare of the state. As an indication of the degree of confidence that this institution inspires in Missouri, the last legislature appropriated $50,000 to the institution to be used in the preparation and administration of hog cholera serum, a larger amount than was appropriated for this purpose by any other legislature in this territory.

Loyalty at Manhattan

Kansas is also entering upon the third stage of development. Dr. H. J. Waters, the president at Manhattan, is a strong man, with clear-sighted vision and unquestioning courage. A leader of this kind, at the time that he went to Kansas, was needed there. The governing board there realized that Kansas needed just such a man as President Waters, and before he accepted the position they agreed to give him their united support in the work that he proposed to do. A good many professors have left Kansas mainly for the reason that they would not submit to such subordination and co-ordination; that they could not give a devoted loyalty to the institution as a whole; could not help but magnify their own importance and the importance of the work intrusted to their charge. Today there is co-ordination and loyalty at Manhattan, and as a result there is increased efficiency. It is beginning to command national significance. This is because the work has been thoroughly subordinated and unified under the leadership of a wise, strong man.

Iowa Coming Into Its Own

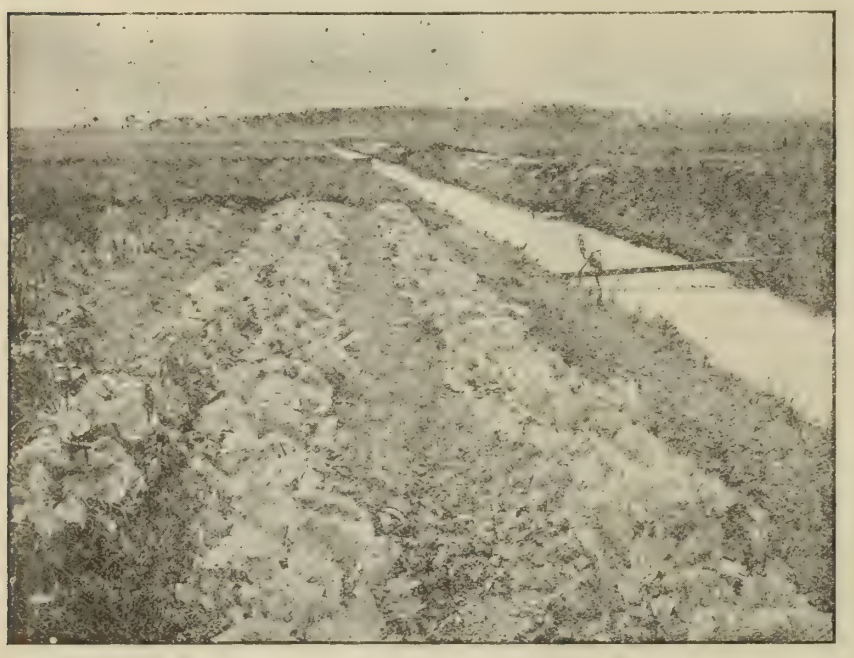
Iowa is just entering upon the third stage of development. The different forces there have not yet become thoroughly subordinated to the supreme purpose of the institution. Loyalty to the institution as a whole is not yet universal there. Personal interests and personal ambitions are gradually giving way, but still there is a lack there of thorough co-ordina-

tion But the condition there is improving. Dr. R. A. Pearson, recently elected president of the Iowa State College at Ames, is a strong man, of clear-eyed vision, patient, wise, conservative. He is inspiring confidence in Ames throughout the state. Quiet, unassuming, unassertive, his very appearance and presence make people believe in him, make them ready to support him and help him in every imaginable way. The disintegrating forces there will have to give way. There is too much wisdom, too much sound judgment in the state at large to tolerate, for any long period, insubordination and disloyalty in the institution. As an indication of the confidence President Pearson inspires, it should be noted that the last Iowa legislature appropriated $30,000 for the establishment of a serum plant at Ames. As time passes Ames will strengthen itself by the elimination of the elements that weaken its efficiency, and great as its influence now is throughout the state, it will surpass itself in the confidence that it inspires and in the resources that it will command. This is because President Pearson is a wise, conservative, strong, courageous man.

What is the matter with Nebraska? Simply this, and nothing else. The opportunity is there. Never was opportunity more inviting. This splendid opportunity is not being utilized. The proper man to take proper advantage of this opportunity is not there. The present incumbent has occupied the position fourteen years. During this time he has demonstrated neither his capacity to form an adequate conception of the work that the institution should undertake, nor the power to do the work or to have it done. The agricultural school and the experiment station at Lincoln can never take the place that they should occupy in agricultural development, can never command the respect and confidence of the state that they should command, until there is a strong, wise man at the head as director and dean, until such a head can inspire and retain confidence in his ability to answer to the demands of his position. Everybody is thinking this. Why not say it?

A Farm of 9,500 Acres Made from Swamp

One of the Best Example of Modern Drainage, Diking and Farming in the Country



Drainage Canal

Irrigating Sugar Beets from Drainage Canal

NEAR Saginaw, Michigan, lies one of the most wonderful farms in the world. Conceive, if you can, a farm of 9,500 acres, stretching away for miles in every direction. The land is actually below the level of the two rivers which skirt it on either side, and but for construction of great dikes it would be fit only as a home for bullfrogs—useless and a nuisance. On this farm are raised some sixteen different crops, with only 4,000 acres under cultivation and 400 being added annually. There is also a small village of homes and barns, industries and a school house. Here is land which up to a few years ago was worth its weight in water, but now cannot be bought at any price.

This prairie farm is located between the Flint and the Shiawassee rivers. It is owned by the Owosso Sugar company, which purchased the land in 1903 from its disgusted owner. Since then the management has gone ahead quietly and steadily with the work of reclaiming the swamp, sowing and reaping, until today it stands as a monument to man's enterprise, to dreams and brains and brawn.

When the Owosso Sugar company purchased Prairie farm it was almost all marsh, and an inspection had to be conducted by boats and with wading boots. The land overflowed each year with the coming of the spring rains, and it looked as though nothing but beaver grass would grow on it. C. N. Smith, now a government engineer, was engaged to make an examination, and he found that the soil was very rich. Engineering reports were presented for the draining of the land and for its protection from floods. The reports being favorable, Mr. Smith purchased Prairie farm for the company. Work was at once begun diking it, and for this purpose two huge ditchers were purchased. Over forty miles of dike, including the cross dikes, have been constructed. These dikes have a base of ninety feet and are fourteen feet wide at the top. They are from ten to fifteen feet high, the highest being at the lower end of the farm near the river. A ditch fifty feet wide was excavated on each side of the dikes. Work on the dikes has been carried on steadily ever since the purchase of the farm. They are now completed, but it is necessary to keep them in repair, for the rivers rise many times in a season and are constantly wearing them away.

Back View of Ditcher Owned by Prairie Farm

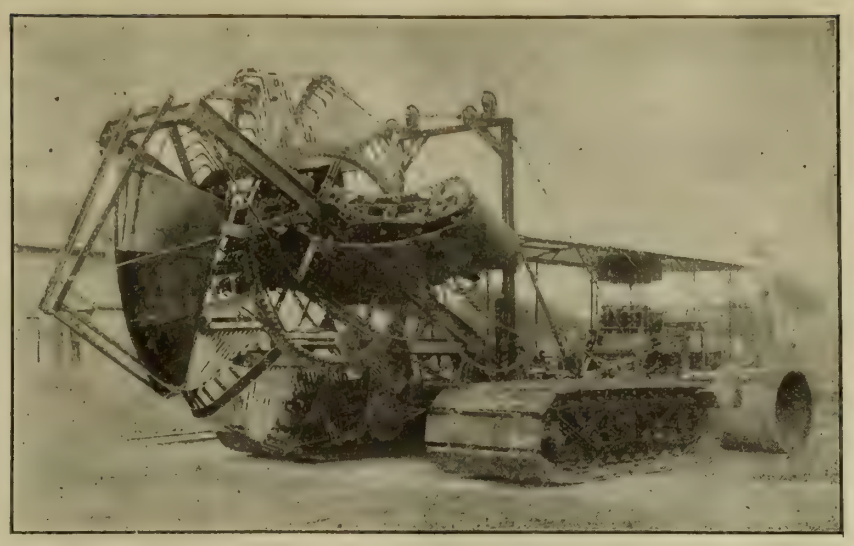
A pumping station was erected and three 250 horsepower boilers, two twenty-four-inch and four twelve-inch centrifugal pumps were installed. This is located at the west side of the farm at the middle dike, making it possible to pump out both sides in case of rains or floods. It would need only a small break to make of the farm a lake of over 9,000 acres. In high water it is an island farm, and a boat must be used to reach or leave it. For all that, a railroad has been built to the center of the farm, largely for the carrying of freight.

There are 1,300 acres of this farm planted to peppermint. To accompany this crop there are two distilleries to manufacture the peppermint oil.

Seven hundred acres were last year planted to sugar beets, which were shipped to the company's factory at Owosso. Among the other crops are 400 acres of oats, and these Belgian oats brought 113 bushels to the acre, which equals 45,200 bushels. They brought 50 cents a bushel, so there is an income of $22,600 from the oats alone. In addition to the crops mentioned there are grown 250 acres of corn, 160 acres of flax, eighty acres of alfalfa, 250 acres of timothy hay, 160 acres of barley, 160 acres of rye, and forty acres of broom corn. And in order to secure a diversity there are also acres of carrots, cabbage, beans, and, in spite of

he fact that it is muck land, the inest potatoes ever grown. There re acres of horseradish grown and manufacured right on the farm. Two crops of alfalfa are grown very year, and this year it is planned to make the land grow hree crops, as they do where the easons are longer.

There are seventy tenement ouses on the farm for the laborers nd two large boarding houses. The umber employed is about 100 in vinter to between 275 to 300 in ummer who, with their families, nake quite a village. There are ight barns, an elevator, a general tore, a school house and several manufactories. An expert manager ives at the farm the year around nd each year he has forced the



Ditcher Used in Cutting Canals on Prairie Farm

farm to multiply the dividends of the company.

One of the new features is apple trees planted along the dikes. This will not only strengthen the dikes, but provide an orchard of no small dimensions.

Prairie farm is the best example of modern drainage diking and farming in the country, and the results show the foresight of the promoters. They have invested much money and labor in this farm, but they are already realizing good returns on that investment. There are great quantities of marsh land throughout Michigan, Wisconsin, Arkansas and other states which could be bought for a song and drained and diked and cultivated with equal success.

Iowa Campaign for Hog Cholera Control

Measures that Will Be Taken to Prove the Possibility of Eradicating the Disease

HOG CHOLERA is an exceedingly fatal, epidemic disease of hogs. It may be absolutely controlled and eradicated if the proper measures to do this are taken. Human epidemics are now brought under control, and, owing to this fact, have lost most of their terrors. Hog cholera may just as easily be controlled if the same measures are adopted as are adopted and prove efficient in the control of human epidemics. But there must be no half-way work about it. The scientific work must be exact and reliable, and the regulatory work must be stringent and rigorous. No loophole can be left if the disease is to be eradicated.

The control of human epidemics is effected through the co-operation of two different methods, two different agencies. In the first place, there must be the care of the affected individuals, proper medication and proper nursing; and, in the second place, there must be a rigid quarantine established and rigorously enforced in order to prevent the spread of the contagion. So in the eradication of hog cholera the same methods and the same measures must be employed. The care of the afflicted animals involves, besides proper sanitary measures and proper nursing, the employment of hog cholera serum, which has proved to be, when of the right quality and administered in the right way, an absolute preventive of the disease. This serum is in no sense a cure. It is used upon the healthy hogs in an infected herd to protect them against infection from the diseased members of the same herd. It may also be used effectively to immunize hogs against future attacks of the disease when there is no cholera in the immediate neighborhood.

Use of Serum Alone Insufficient

But the proper use of serum alone will never eradicate hog cholera. Side by side with the serum treatment must go the rigid enforcement of quarantine, police and sanitary regulations. This measure will prevent the spread of the infection from farm to farm, and is the only measure that will effectively do this.

Here, then, are the two agencies that should work together in hearty co-operation—the manufacture and administration of the serum on one hand, and, on the other hand, the establishment of a rigid quarantine which shall rigorously be enforced. Either of these methods alone will fail to accomplish the desired result. Both taken together are certain to do it.

The state of Iowa will adopt both methods at the same time. The legislature there has appropriated $35,000 for the establishment of a serum plant at the Iowa State College at Ames. But the act appropriating this money confers upon Ames no police powers, no authority to issue quarantine regulations to establish sanitary rules, or to enforce such regulations or rules. All it can do under the law is to manufacture and administer serum, and superintend the serum side of the problem of eradicating hog cholera. This is all that the law allows to it, and all that it will undertake.

Commission Has Police Control

The Iowa Animal Health Commission has conferred upon it by statute absolute police control in the case of all infectious diseases of animals. It can establish its own rules and regulations for quarantine or for sanitation, and when these rules and regulations have been approved by the executive council they become a part of the body of Iowa law. The statute also gives to the Animal Health Commission the power to enforce its regulations, and distinctly says that it may call upon any peace officer to assist in carrying them into effect.

It is more than fortunate for the state of Iowa that these two forces are to co-operate and work in harmony. The insitution at Ames will handle the serum side of the problem, and the Animal Health Commission, through its executive officer, Dr. J. I. Gibson, will take control of all police, sanitary and quarantine matters, and rigidly enforce its regulations. A complete set of rules regulating this police side of the hog cholera problem have been presented to the executive council, and have received its approval, and this paper will place them before its readers as soon as it has them at hand. These are said to be the best and most efficient rules that have ever been adopted. The Animal Health Commission will co-operate with the State College at Ames to the full extent of its resources in the attempt to eradicate hog cholera. This attempt will be thorough, because both parties realize that a failure in this matter will bring universal discredit upon the serum treatment.

Its proposition is to take two or more widely separated territories and prove by experimental demonstration that hog cholera may be eradicated from them entirely. If this proof is established, it will apply equally well to any territory, large or small; will apply to any state, and will apply to the whole country, provided the whole country adopts the same method and applies it in the same manner.

A Fortunate Arrangement

This is a fortunate arrangement. The State College at Ames does not want the power that is now invested in the Animal Health Commission, and it is wise in not wanting it. There is always more or less friction, more or less complaint, more or less bitterness, caused by rigid enforcement of quarantine regulations. If Ames attempted this work, it would bring it criticism and unpopularity. It escapes this burden by being relieved of this responsibility. The Animal Health Commission was established for this very purpose, and consequently this work naturally falls to it. And Dr. Gibson is the kind of a man that will see that the work is thoroughly done.

Other states that are contemplating campaigns against hog cholera will do well to follow the example being set by Iowa. They must realize that these two methods of work—serum manufacture and administration, and police control—must go side by side in hearty, earnest co-operation. The serum end will see to it that no serum is used except what has been proved to be potent by adequate tests, and will also insist that proper sanitary measures be employed in the administration of it. Whatever commission has the police power in the premises will see that rigid quarantines are established and rigorously enforced. When these two things are done, there will be no question as to the outcome. If either of them is omitted, the effort will undoubtedly prove futile.

There can be no playing with this matter. It is too serious to be mixed up with any other considerations. The one aim must be to control and to eradicate this disease, the most fruitful source of loss to each of the several states that is known today. Every other consideration should be relegated to the background. All forces should be united in hearty co-operation for the accomplishment of this one end.

Good Things to See

I saw things good to see:

A meadow lark's nest untouched by the plow of the farmer.

A shaggy dog guarding a child.

An old man cobbling shoes.

One team pulling another out of a rut.

A woman favoring her less fortunate neighbor.

A grandmother sitting in a sunny window.

A girl mangling fresh linen.

A boy flying a kite.

A teacher learning from her pupils.

A preacher without a creed.

A politician fighting the great fight.

An awakened woman.

A friend who looks straight into your eyes.

A man lending a hand.

A woman withholding her tongue.

A child justly controlled.

A lad waiting upon his mother.

Fruit blossoms in the rain.

Joy coming after pain.—Buffalo Express.

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It would be well for potato growers to get away from Early Ohio potatoes or any stock that has the Ohio strain. These potatoes are much more susceptible to the diseases that now threaten the potato industry of the country than any other.

Clinton county, Iowa, has been making experimental demonstrations of hog cholera serum. Its reports favor the double treatment, the employment of a local veterinarian, one that is really accomplished and understands his business, and the use of serum of approved potency.

The Farmers' Review takes a good slap at agricultural boards composed in the main of men who have nothing to do with agriculture except to prey upon it like parasites. If it were not tragic it would be funny to find everybody except agriculturists constituting the board of agriculture.

The Iowa State Dairy association, under the leadership of the state dairy commissioner, W. B. Barney, has been doing good dairy educational work throughout that state. It will be well for every state dairy association to study their methods with a view to making some similar demonstration in each state.

Empty silos at this season of the year shrink, so that they become quite loose, and will require special attention to keep them from falling down. Special care will also be needed not to tighten the hoops too much, or the staves will buckle and fall down any way. It would be better to have a silo of such construction that neither of these dangers would be apprehended.

Combatting the Chinch Bug

"Check the chinch bugs" is the proclamation issued by the state entomologist of Kansas, Prof. G. A. Dean. He announces that after the bugs enter the small grain fields there is no way to prevent injury, but they may be kept from entering into the cultivated crops of corn, Kaffir and cane.

The following directions and methods of procedure for combatting the chinch bug pest are discussed by the entomologist:

The dust barrier and the road-oil barrier are methods commonly used to destroy the bugs. The first is useful in dry weather and the latter when the soil is wet. A dust barrier is made by plowing a strip of ground about ten feet wide between the infested fields and the non-infested fields, and then working this into a fine dust. Two deep parallel furrows are made by dragging with a double trough. A single furrow barrier may be made by listing a deep furrow and then dragging with a heavy log. The bugs fall into these furrows when they pass from one field to another and may be destroyed by a gasoline torch or by dragging a log through the furrows. The torch is more effective.

The road-oil barrier is constructed by plowing a sharp back furrow between the fields and working up a ridge on this by dragging a trough over it. On the bottom of the trough a pole is placed which will leave a groove on top of the compact ridge. No. 7 road-oil is placed in this groove in sufficient quantity to make a line one-half to three-fourths of an inch wide. After the bugs have fallen into the groove they may be destroyed by the gasoline torch. Coal tar can be substituted for road-oil, but it is more expensive and must be renewed more frequently. The road-oil barrier is for use in wet weather, when the dust barrier is useless. It should be placed between the dust barrier and the non-infested fields.

The foregoing plan of management may be found a very profitable investment for the farmers in localities where this pest makes its appearance.

Dairying in Missouri Valley

There seems to be on the part of some neighbors, and also on the part of some dwellers in the Missouri valley territory, a misapprehension or misunderstanding with reference to the real facts regarding the condition of the dairy industry here. A plain statement of fact may help to clear matters up and give a proper understanding of the situation as it exists today.

Over a part of this territory the cream production is so scant owing to the relatively small number of cows kept that the centralizers afford the only practical, feasible market for cream. Over another part of our territory small co-operative or proprietary creameries are occupying the field side by side with the centralizers, and generally give to the cream producer the best price for his product.

There is a third territory here where it is possible for the small creamery successfully to operate. In this territory as soon as the cream producers become alive to the possibility of increased profit to be gained through co-operation, the co-operative creamery is certain to be installed. In this last mentioned field the only way in which the centralizers can prevent the final installation of co-operative creameries is for them to advance the price they pay for cream to such a point that the farmer will gain nothing through co-operative effort.

In this territory the ordinary farmer is conservative and would sacrifice a little profit to be saved a little trouble. It is a matter of education to bring him to the point of accepting the hazard involved in establishing a co-operative creamery. It is also difficult in this territory to insure a sufficient unity of action among the farmers themselves to place the success of such an effort beyond doubt. Perhaps the farmer will learn more quickly through his pocketbook than in any other way. As soon as he realizes the now patent facts about the cream business—facts that until recently have had no publicity in this territory—he will begin to take action where such action is needed, and it will inure to his benefit.

Kansas State Fair Board

The creation of a state fair board by the Kansas legislature of 1913, with the view of holding a state fair, is recognized as one of the many wise things that Kansas has recently been doing in the promotion of its agricultural interests and industries. The establishing of permanent fair grounds at Hutchinson, a central location in the state, and where there has been for many years an independent fair association, with ideas and ambitions big enough to call itself a state fair, will start Kansas off in 1913 with one of the best state fairs in the western circuit.

Additional assurance of Kansas being able to take its place in the front rank is the board of directors appointed to supervise and manage its exhibition interests. This board consists of George B. Ross of Sterling, H. S. Thompson of Hutchinson, T. A. Hubbard of Wellington, Walter Wellhouse, secretary of the Kansas State Horticultural society; F. D. Coburn, secretary of the State Board of Agriculture. This board elected G. B. Ross president, A. L. Sponsler of Hutchinson secretary, and A. E. Asher of Hutchinson treasurer. These gentlemen are all prominent in agricultural, horticultural and live stock interests in the state, and most of them practical fair men. Mr. Sponsler has been secretary of the Hutchinson fair since its organization, several years ago. Kansas will run its state fair and State Board of Agricultural interests separate and apart, giving each board its personal responsibilities for the work it assumes and does. This distributes the representation more generally over the state, and, while closely allied in interests, calls more representative men into the field of agricultural activity and responsibility.

Clover and alfalfa, when they are cut, if they are not exposed to too much of the hot sun, lose the water in their composition through transpiration from the leaves. As soon as the leaves become dried a bit the pores close and the transpiration ceases. This shows the advisability of curing as far as possible in the windrow.

A dull tool gives about as much dissatisfaction as a broken one. Sharpen up!

The Bankers and the Farmers

The Bankers' Association of Nebraska has been agitating the question of raising funds to assist in the development of agriculture. Reduced to plain language, they propose, some of them at least, to raise a lump sum of money and take it to the farmers and say, "Here, take this gift from us and use it to improve your agriculture." The bankers should become better acquainted with the farmers. If they should do so, they would see that their scheme would be almost certain to prove futile.

Any scheme of help designed to assist the farmer must come, if it is to be of practical benefit, in answer to a demand from the farmers themselves. They must take the initiative. They have as yet made no such general demand. When they make it, it will be time enough then for the bankers to act. The farmers are not objects of charity or philanthropy. They will resent being held in that regard.

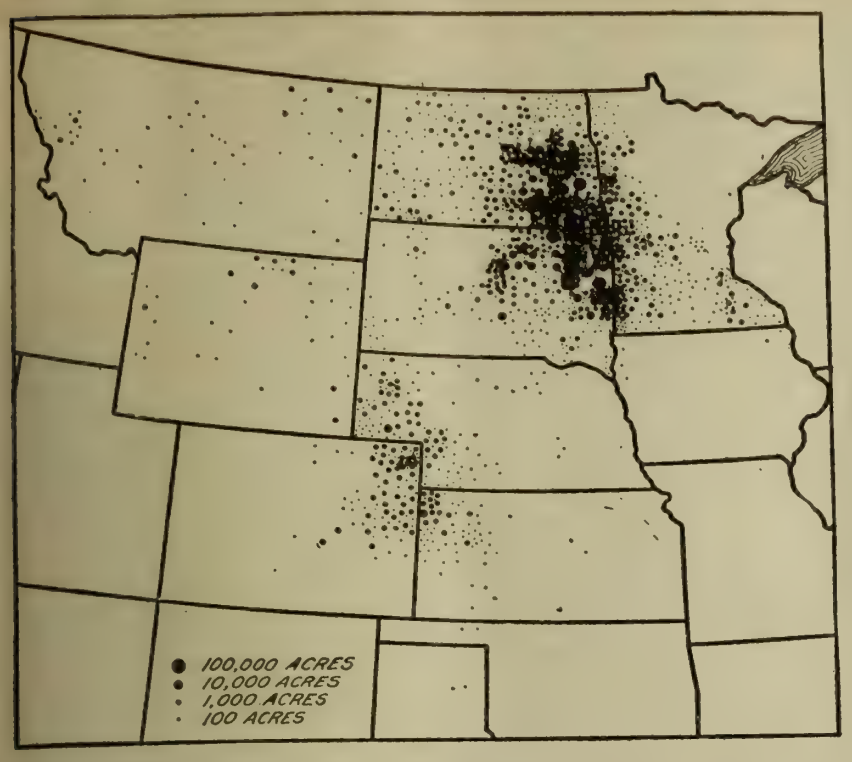
This movement on the part of the bankers, to be successful, must be freed from every taint of seeking personal advantage. Self-seekers those who hope to use the agitation for the furtherance of their personal or political interests, must be rigidly excluded from participation in any such movement. The farmer will not permit himself to be used as a fulcrum, and this agitation as a lever, by which individuals hope to lift themselves.

If the bankers really wish to help the farmers, there is a better way for doing it. Instead of any one of the banks contributing a certain amount to the general fund, let that bank decrease the interest that it charges the farmer on loans to just that amount. The banks in either case would be contributing the same amount, and if the plan here suggested is adopted the farmer himself will get all the benefit. Let the dealings be, not between organizations or committees of bankers and organizations of farmers, but between the individual banker and the individual farmer, and let the help come in the shape of a decreased rate of interest on loans made to the farmer, and let these loans be made solely for the purpose of development, not for bearing current expenses, and the greatest amount of practical benefit will result. This is practical; the other is theoretical and formal. Let the bankers take the practical short-cut.

The Chicago Inter Ocean of December 31, 1862, contained the following item: "George M. Pullman of the firm of Pullman & Moore, house raisers, is experimenting with what he calls a 'palace sleeping car.' The wise ones predict it will be a failure." This is another proof of the truth of the old saying, "Be sure you're right, then go ahead."

They are getting ready for a big time at the Dry Farming Congress in Oklahoma next October. One big manufacturing company has offered as a prize a $1,250 threshing machine, complete with all attachments. This prize is to be given for a single bushel of wheat. The wheat growers had better get busy.

Durum Wheat Area in United States



Durum Wheat

Durum wheat is a spring wheat in the northern section of the country, though it has been possible to grow some varieties as winter wheat in some parts of Texas. Its chief claim to consideration in this country is that it is possible for it to produce profitably in regions of scant rainfall and under conditions of severe drouth. When grown under humid conditions it does not commend itself to the market any better than ordinary spring wheat.

As a rule, the plant is taller, more leafy, matures earlier and has broader, more compact, though shorter, heads than the ordinary varieties of spring wheat. It is also said that varieties of this wheat are less subject to smut and rust than other varieties.

The accompanying map shows the regions of the country where durum wheat is grown. It will be seen at a glance that the Dakotas and western Minnesota present the largest area. This is probably due to the fact that the rainfall in that territory is practically the same as that that prevails in the territory bordering on the sea of Azov, where this wheat originated. In the interior, where there is little rainfall, and the conditions are much more severe, another variety is generally grown. The Kubanka variety is best adapted to scant rainfall, while the Arnautka is better adapted to a drier atmosphere.

Durum wheat does not stool abundantly—that is, every plant sends up a fewer number of stalks than ordinary wheat. For this reason more seed should be used in order to insure the requisite number of stalks. In the case of ordinary wheat about five pecks of seed are used to the acre. The grower in sowing durum wheat should know its capacity for tillering on his soil and under his conditions, and should increase the amount of seed in proportion.

At first millers objected to durum wheat and said it was impossible to make good flour out of it. It is largely used in the manufacture of macaroni and spaghetti, and at last millers have found a method of mixing it with the flours of other wheats so as to make of it a first-class flour for bread-making. This paper will be glad to answer any questio - relating to durum wheat that may come from persons interested in growing it on their own farms as a standard crop.

Mutton and Its Value as Food

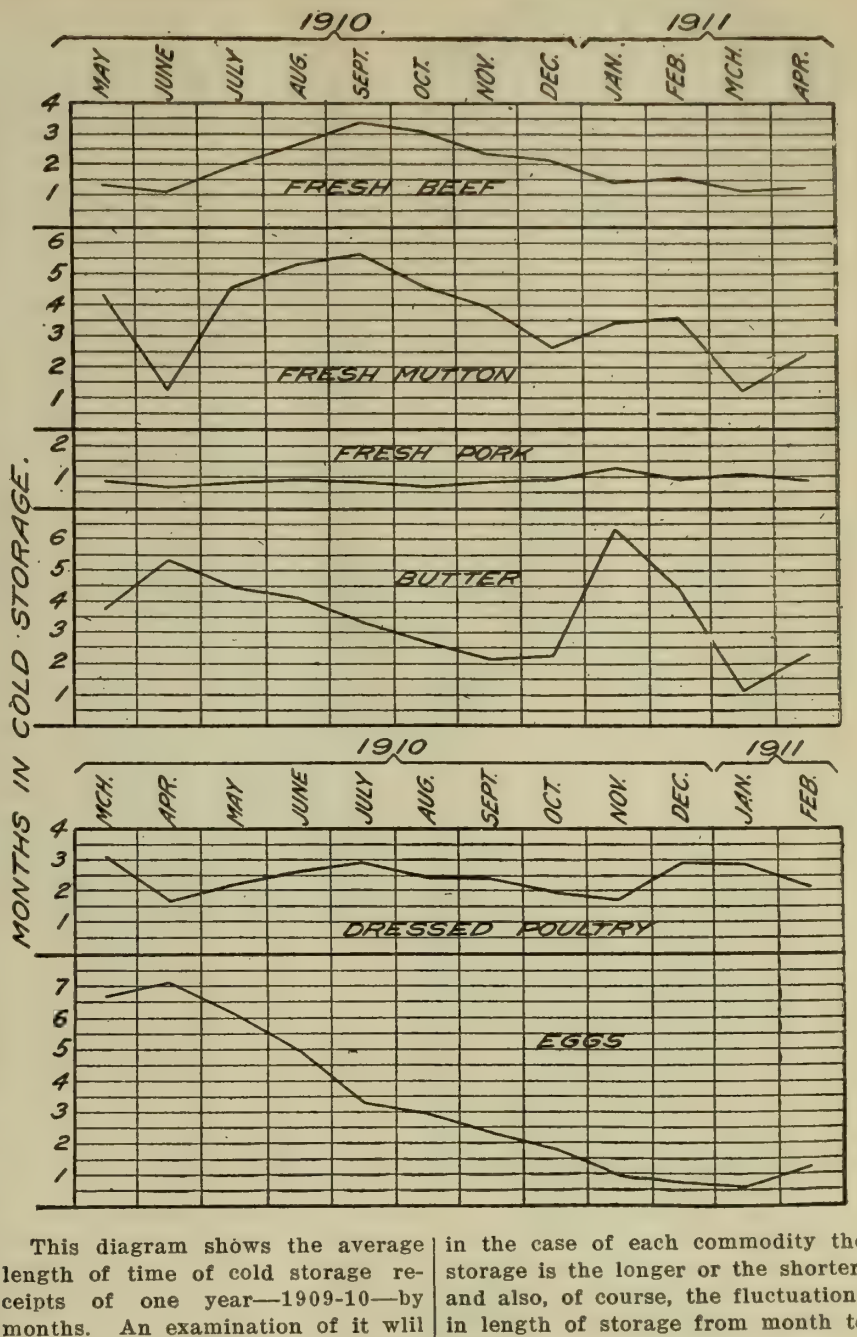
There has been considerable effort on the part of the Department of Agriculture to encourage the consumption of more mutton, since the pork agitation has aroused the people in the matter of cost. This would more equally distribute the consumption between the three important factors of supply—beef, pork and mutton—and thus check the extreme price that seemed to threaten the beef consumer. The educational campaign that has been started in teaching the public the nutritive properties of mutton, its many and various ways of preparation as a food, etc., have no doubt had some influence in changing from beef consumption to mutton, especially when the cost has been made clear as an argument.

Mutton and lamb have always been regarded as particularly wholesome, and there is reason for this belief, as shown by work of the Department of Agriculture. Of the two meats, lamb has been the more popular in the United States in recent years, perhaps because special attention has been given to raising it for the market and to extending its season. On the other hand, mutton is the favorite in England. The whole question is simply one of taste, and mutton in some form or other has always been a staple and favorite food, used in large quantities, and on account of its good qualities worthy of much more extensive use.

In composition and nutritive value mutton is practically the same as beef, and the average loss in weight in preparing the two kinds of meat for the table is also practically the same, yet mutton has for some time been a cheaper meat in our markets than beef. Buying in quantity is recognized as economical where the housewife has facilities for storage. There are many cases where a side of mutton could be economically purchased for home use, where a side of beef would be too large for such a purpose. This would imply an economy in the selection of the mutton.

Farmers' Bulletin 526, 'Mutton and Its Value in the Diet," which has just been issued by the Department of Agriculture, tells of good ways of preparing old dishes and of new ways to utilize, and new dishes which can be made from mutton, and is the latest of the bulletins which have been given the popular name, "Uncle Sam's Cook-Books."

Average Time of Cold Storage



This diagram shows the average length of time of cold storage receipts of one year—1909-10—by months. An examination of it wlil show at a glance for what months in the case of each commodity the storage is the longer or the shorter, and also, of course, the fluctuations in length of storage from month to month.

Eliminate Veal from Menu

The saving of the veal calf from slaughter has appealed to the cattle interests of the country for the last year or two in a most impressive and earnest manner. It has been conceded by all cattle interests that the shortage of cattle, the constantly growing scarcity of beef animals, is responsible for the high price of beef, and to this in turn is largely due the great slaughter of the increase of the herds in their immature stage as calves in the form of veal.

It is currently expressed by cattle raisers that the growing tendency to increased consumption of veal, if not retarded, will very soon take such a large per cent of the calf crop as to interfere materially with the breeding proposition of our cattle interests, to say nothing of the steer class that is naturally looked forward to as the legitimate beef suply. The consumer's appetite is being cultivated to the encouragement of the baby beef idea by the producer, the dealer, the butcher and the retail meat market, and so long as this influence remains active the people will demand veal.

The suggestion of Vice President E. F. Bisbee of the St. Louis National Stock Yards, that hotels, restaurants and all public eating houses be prevailed to eliminate veal in all its forms from their menus would have more influence toward saving the calves for mature development than all other influences combined, possesses the elements of practical relief and common sense application to the eating habit, which is governed largely by influence.

President J. W. Sanders of the St. Louis Live Stock exchange says the suggestion of an educational campaign limiting the consumption of veal is the right way to go at this proposition.

Save 40% to 60% on a Clear Fir Silo

Buy direct from us a Seattle Silo of famous Puget Sound fir—made of timber cut from our forests, worked in one of our six great mills. Sold to you at one profit above manufacturing cost.

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are made of the finest fir in the land. Many trees grow 200 to 250 feet tall. For our silo staves we use only the choicest. Close and straight grain. Free from sap and knots. Wonderfully durable. Seattle Silos have *patented swinging doors*—quick detachable; no lifting; easily swing in or out; new iron cross-bar or hoop connection; door bars form ladder from which hoops are easily tightened.

Write today for folder. On a single silo we can probably arrange to give you practically carload shipment price. To one farmer in each township we have a very special offer. Write today.

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You pay five middlemen's profits on lumber you buy of your local dealer. We sell you at *one* profit above *producing* cost. Give you choice timber as grows only in the Puget Sound region—give you the benefit of our wonderfully low cost of production. Our six great mills turn out twenty to thirty carloads of materials each day. All orders shipped within 24 to 48 hours. Reach our customers within average of two weeks. *Satisfaction guaranteed or money refunded.* Send for price list and catalog. Send bill of materials, if possible, for estimate.

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VACCINATE WITH BLACKLEGOIDS and save the animals.

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Fine Wool Sheep in America

IX---Rambouillet or French Merino Sheep

THE Rambouillet family of the merinos, in their original history, are practically the same as the Spanish merinos that were imported into the United States by Humphries, Jarvis and others from 1802 down to later dates. The account of the first importation of merino sheep from Spain into France gives the date as June 15, 1786, the flock consisting of 383 sheep. They were a selected flock, combining representatives of several of the celebrated Spanish cabanas or flocks—Escurial, Paular, Negretti, Perella, Alcola, Portago, San Juan and Iranda, etc. This, it is claimed by reliable history, comprised the foundation of the French merino sheep.

It will be observed from early history that the Spanish merino flocks originally had one common foundation, and acquired their variations, when any existed, by their flock conditions of management, breeding, feeding and general environment. This foundation, with one other minor importation of similar selection is given as the origin of what was known in France as the Rambouillet fold.

The name Rambouillet which attaches to this family of merinos came from the location assigned them when they were first brought from Spain to France, and located at the domain of Rambouillet, a large estate that Louis XVI had recently bought from the Duke of Penthievre. Built in the middle of this immense park was the experimental farm. Here was established the national sheep farm which gave this noted family or breed of merino sheep the designation or name—the Rambouillet merino.

That there was great effort on the part of the French shepherds to develop a superior sheep from this original Spanish flock, as at first purchased, there can be no doubt, and that their efforts for increase in size of sheep, length of staple, density, quality and weight of fleece were all realized to a degree highly encouraging, is equally true.

The early introduction of these sheep into the United States was most active from 1840 to 1850. As a wool proposition they had a strong competitor in the Spanish merino, and at this early date there was but little attention paid to the mutton feature in this double-purpose animal. In fact, a large per cent of the sheep raisers centered their efforts so strongly upon wool and weight of fleece that they sacrificed size and type of sheep—rather breeding down in carcass by using the greasy, wrinkly rams — in preference to keeping a big, strong sheep, be he smooth or wrinkly.

The Rambouillet merino found favor again when the range sheep industry commenced to develop on the western side of the United States. There was a new proposition opened up in the matter of mutton demand for large numbers of corn-fed sheep. This called for the range flock surplus as feeders, and has developed an industry that has exceeded even the wool feature of the flock. Mutton and wool, produced cheaply, has been the western range requirement, and continues to the present time. The merino seems to be the foundation upon which the herding qualities of this particular sheep is built.

Champion Rambouillet Ram and Ewe

The Rambouillet merino has been found serviceable wherever mutton has been a factor in the requirement. The crossing of the Delaine merino and the Rambouillet has produced some very desirable sheep, in both wool and mutton, and has been the means of "pulling the wool over the eyes" of many a judge in the show ring where distinct classification called for both Rambouillet and Delaine merinos separate.

When quality is the thing desired, the question is, Why should there be a registration restriction prohibiting this result when the breeder is satisfied? This is the view some breeders take, and this is the excuse for cross breeding families of merinos, which no doubt accounts for the sudden improvement acquired many times by some of the old breeders in the beginning of the merino sheep history of the country. The time, no doubt, is coming when the merino of all present distinctions will be recognized as one, and the advantages of selection will not be barred or prejudiced by family designation.

There is no reason or excuse for the breeders of one family of merinos attempting to discredit the sheep of another family or variety. They are all good, and it is only a matter of fancy which one you choose in starting a flock. The American merinos, or Spanish merinos, have gotten down now to a basis of distinction which practically means three types of the same sheep—wrinkly, medium wrinkly, and smooth, or A, B and C types. This is a great reform, and is now just as it should be. The barrier between the French and Spanish merino is more a matter of imagination than reality, and will eventually become extinct through cross-breeding, which is now, and will continue to be, practiced in order to gain special advantages not possessed by the one, and to intensify others that are possessed.

The sheep industry of the United States is not dead, nor will it die because of tariff or no tariff. Sheep are a necessity for this country, and they will continue to be produced, and will be greatly improved in the two features of mutton and wool. The time has come when this country must improve, its flocks produce more wool and more mutton from the same animal.

Animals Hate Solitude

In all the animal world there is no voluntary recluse or hermit. No animal, whether wild or domestic, ever likes to be alone for very long at a time. Even the birds, of all kinds and species, hate solitude. Parrots, particularly, and all gregarious birds of the tropics, begin to mope and pine away if kept in solitary capitivity.—St. Nicholas.

Whoever is satisfied with what he does has reached his culminating point—he will progress no more.

MEMORY IMPROVED Since Leaving Off Coffee

Many persons suffer from poor memory who never suspect coffee has anything to do with it.

The drug—caffeine—in coffee acts injuriously on the nerves and heart, causing imperfect circulation, too much blood in the brain at one time, too little in another part. This often causes a dullness which makes a good memory nearly impossible.

"I am nearly 70 years old and did not know that coffee was the cause of the stomach and heart trouble I suffered from for many years, until about four years ago," writes a Kansas woman.

"A kind neighbor induced me to quit coffee and try Postum. I had been suffering severely and was greatly reduced in flesh. After using Postum a little while I found myself improving. My heart beats became regular and now I seldom ever notice any symptoms of my old stomach trouble at all. My nerves are steady and my memory decidedly better than while I was using coffee.

"I like the taste of Postum fully as well as coffee."

Name given by Postum Co., Battle Creek, Mich. Write for booklet, "The Road of Wellville."

Postum comes in two forms.

Regular (must be boiled).

Instant Postum doesn't require boiling, but is prepared instantly by stirring a level teaspoonful in an ordinary cup of hot water, which makes it right for most persons.

A big cup requires more and some people who like strong things put in a heaping spoonful and temper it with a large supply of cream.

Experiment until you know the amount that pleases your palate and have it served that way in the future.

"There's a Reason" for Postum.

Original Stories By Our Young People

The Way the Butter Grows

is is the way the butter grows,
Whipety whop, whipety whop;
is is the way the old churn goes,
Flipety flop it goes.
e cream is ripened till it's right—
y ma knows when by taste and sight)
en in the churn it's buttoned tight—
Whipety whop it goes.

is is the song the old churn sings,
Whipety whop, whipety whop.
ngs till the golden butter it brings,
Whipety whop it sings;
ngs as the handle goes round and round,
ngs as the cream continues to pound,
ngs till the yellow butter is found,
Whipety whop it sings.

y gran'pa says it sings of June—
Whipety whop, whipety whop—
clover fields and birds in tune,
Whipety whop's the tune),
d if I count one, two, three, four,
sing a song as the churn turns o'er,
e job is fun instead of a chore—
Whipety whop's the tune.
—Eugene Secor.

The Editor's Corner

How much do you know about rds? Not the tropical birds of her countries, but the birds that ve among the trees on your farm d whose songs ring out across ur fields. Probably you know a od deal about them, and you cer inly should, for they are good iends to you. Of course, they eat few of your cherries and pick a w holes in the apples, and some of em help themselves to the wheat, t do you realize what they do to ake up for this?

Beginning with the next issue of e Twentieth Century Farmer, we e going to publish a series of bird ories. One will appear in each al rnate issue of the magazine. We ll start with one of our oldest and eeriest friends and tell you a num r of interesting facts which we ve learned about him. We will ll you all the harm he does and all e good, and show you a picture of m. When these articles are com eted, if you read them, you should able to distinguish most of the rds in this western country, and u should also have a great deal of eful and interesting knowledge ncerning them.

If you have a camera, there is no ore fascinating pursuit than trying get good bird pictures. They are ry hard to get, as the birds perch such high places that it is almost possible to focus the camera on em, but once caught, they make vely pictures, and there is all the ore honor in getting a good picture cause anyone who has ever tried nows how hard they are to get.

Keep your eyes open and learn as uch as you can about the birds at live on your home farm. Even hen the older children are at work t of doors—indeed, especially en—they can learn a great deal out the birds, for if you are at nding strictly to your own busi ss and not seeming to pay any at ntion to them, the birds become ite tame. If you see a bird that u cannot find the name for and e anxious to know, watch him, arn as much about his habits as u can, describe him carefully to , and we will try to find out what is and tell you.

(Prize Story.)

The Birds—A True Story

By Bonnie Smith, Aged 11. Red

We have a porch on our house and amma has a place to keep her car et in the wintertime; she always uts it back on the floor in good weather. This spring she could not put it down because the weather wasn't nice.

A little bird built its nest on the rugs. There is a tree near the porch and every time the mother came back with a feather she would sit on the branches and look around to see if it was safe to put the feather where she wanted it. She got the nest built and mamma saw it. She was going to take the carpet down, but she did not want to disturb the birds. The next week we heard some little birds. I put some crumbs of bread in the nest and a worm, too. The mother wren was in the nest and I did not know it, so when I put the food in she flew away and called her mate, and I saw them both standing on a cherry tree limb.

I went away so that they would come back. They did not come back for a long time, and I nearly cried because I thought they would not come and then the little ones would starve. But they came back, and then I was glad and went peacefully to bed that night.

Prize Contest No. 2

This is the picture about which you are to write a verse of four lines. Write plainly, giving your name, age and address, and send your letter to "The Picture Contest Editor" of The Twentieth Century Farmer. Books will be sent to the writers of the two best verses. All verses must reach this office by June 14. On the last contest we received between twenty and thirty verses after the 17th, which was the closing date. We were unable to consider these, as we had to send the matter to the printer on that date. Be sure to get your verses in by the 14th.

(Honorable Mention.)

The Story of a Kernel of Corn

By Herman Carstensen Aged 13, Neligh, Neb. Red.

One day in April a farmer drove into a field with a plow and plowed for several days. When he finished the last furrow he drove from the field to his home and unhitched from the plow and put his horses on the disk and went out to the field and disked the dead furrows and the corners several times, and then drove home and hitched on the drag and dragged the field so it was very smooth, and then he took the planter and planted it into yellow corn, and in a few days the corn came up.

I am a kernel of corn planted in the fields. I was lying in the ground with three other kernels of corn, and I was up in the sunlight for two days, when a ground squirrel came near me and it started to dig, and at last he came very near to my roots and ate all the kernels but me, and I was left all alone. I grew to be larger, when a farmer came and cultivated me again and again, and then I got one little ear and a tassel. And the ear grew very large and started to get hard, when a frost came and ripened me, and then the farmer came to the field and threw me into a large wagon, and then I was put into a crib and was mixed with so many other ears that I lost track of myself.

Additional Stories

BLUE—Annie Carstensen, Neligh, Neb.; Bernice Roundtree, Boisfort, Wash.; Pearl Campbell, Winnebago, Neb.; Lois Brunton, Herman, Neb.; Marjorie Spencer, Afton, Ia.; Mabel Westfall, Florence, Ariz.

RED—June Leff, Wappeton, N. D.; Edna L. Hanes, Wells, Kan.; Martin Moffitt, Pueblo, Colo.; Robert McCorkle, Knoxville, Ia.

Fair Play

Ex-President Roosevelt, in giving some advice to boys, said:

To the boys I wish to say a special word. I emphatically believe in manliness, in courage, in physical address, but I believe quite as much in good comradeship and in a spirit of fair play. I hope that whenever you enter a contest you will do all that is in you to win, and yet that you will remember that it is far better to fail than to win by any unfairness, by any underhand trickery. Keep in mind that it is only by persistent effort in the face of discouragement that any of us ever do anything that is really worth while doing. The fellow who gives up when he is once beaten is made of mighty poor stuff, and if he thus gives up as soon as he is beaten in a sport, he does not stand much chance of success in the serious conflicts of after life.

The true spirit, the spirit which wins victories in after life, is the spirit which fights hard to succeed, but which takes defeat with good nature and with the resolute determination to try again. It is a good beginning for this serious work of after life if on the playgrounds you learn how to co-operate with your fellows and to do your best to win, while at the same time treating your opponents with fairness and courtesy.

The Biggest Thing in the Clock Business

Big Ben is the biggest thing today in the alarm clock business.

He is only two years and a half old, but he's already getting more work from the States than any clock alive.

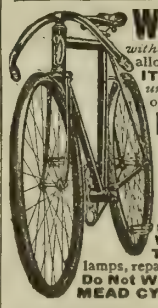
In two years and a half time, 18,000 jewelers—70% of the total number of United States watchmakers — have already adopted him. Two million and a half families leave it to him to call them up in the morning. Two million and a half families use him all day long to tell the right time by.

He is really two good clocks in one—a crackerjack of a timekeeper and a crackerjack of an alarm.

Big Ben stands seven inches tall. He is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings *five minutes steadily or ten intermittently.* If he is oiled every other year, there is no telling how long he will last.

He's sold by 18,000 watchmakers. His price is $2.50 anywhere in the States, $3.00 anywhere in Canada. If you can't find him at your jeweler's, a money order mailed to *Westclox, La Salle, Illinois,* will send him anywhere you say, express charges prepaid.

BIG BEN



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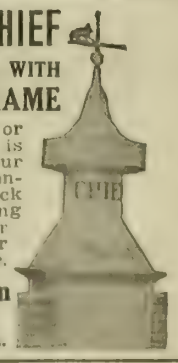

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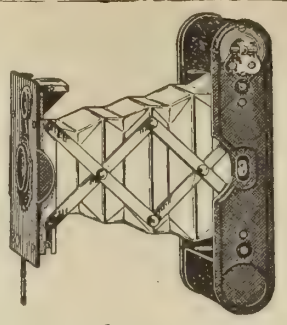

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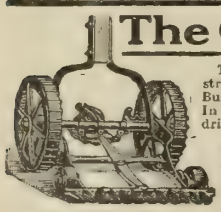

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Of Interest to Our Women Readers

Home

A man can build a mansion
And furnish it throughout,
A man can build a palace
With lofty walls and stout,
A man can build a temple
With high and spacious dome,
But no man in this world can build
That precious thing called home!

No, 'tis our happy faculty,
Oh, women, far and wide,
To turn a cot or palace
Into something else beside,
Where brothers, sons and husbands, tired,
With willing footsteps come—
A place of rest, where love abounds,
A perfect kingdom—Home!

I. L. Jones.

Our Home Chat

"I never give a thought to my clothes," said an untidy looking woman one day; "I have other and more important things to spend my time upon." The remark naturally called for and received the unspoken comment of all present, "You look it." There are a good many women who give an undue amount of their time and money to clothing themselves in the extreme of style, but these women generally live in town and not in the country. The country woman has so many duties to attend to that she cannot spend hours of each day at the dressmaker's and in the shops. However, the country woman is not necessarily more poorly dressed than the city woman.

To be well dressed it is only necessary to know a few fundamental rules and to give the subject a little care and consideration. The first thing to do is to choose some material not too conspicuous, so that you will not weary of it before you have half worn it out; and the next is, do not have it made in a style so extreme and "Frenchy" that the mode will have changed before the gown has been worn half a dozen times. The designs published in The Twentieth Century Farmer, while always in good style, are never extreme. Good designs can also be purchased from any reliable dry goods store. See that the trimmings harmonize with the material and that the gown fits, with the skirt hanging evenly all around, and you cannot be badly dressed. Then, when the gown is soiled and dirty, have a new one to take its place and do not wear it about the kitchen mornings. Throw it away. Nothing is so disgusting as to see a soiled silk or woolen gown worn as a house dress.

If you are in doubt as to a new gown, write the editor of this department, giving a short description of your figure, the general purpose of the gown and such other information as you can, enclosing stamp for a reply, and we will gladly furnish you advice from a competent source. Send us samples of goods and trimmings and we will tell you whether they are harmonious or not. Do not hesitate to write to The Twentieth Century Farmer when you wish to know anything in this line. THE EDITOR.

What is a Joke?

The inability of an Englishman to see a joke has become proverbial in America. But I often wonder if it would not be greatly to the credit of the people of our country if they were unable to see anything funny in the greater part of what is printed in our papers as jokes. In the columns of our newspapers, magazines, farm papers, in fact almost any paper you can pick up, may be found a number of stories or little conversations purporting to be funny. Now, do not think that I would have the papers omit that which is really funny, and at the same time sane and wholesome. We cannot have too much of that sort of thing, perhaps. But just stop and think if there is often anything of that class.

The so-called jokes treat in a light way of the most sacred things on earth—of death, birth and of marriage. Is this right? Such things are being printed every day in the best papers, and it is high time for the readers to take a hand and demand that they be omitted.

Much is said these days about the divorce evil. Most people are of the opinion that a more stringent marriage law would help to remedy it. That is doubtless true, but many things should be eliminated which affect the boys and girls year before they are old enough for marriage. If they are permitted t read and laugh over so-called jokes treating of family quarrels an fights, of divorces and of elope ments, can we expect them to thin seriously of this most serious thin in the world?

There seems, also, to be a ver queer idea in most minds concernin what they call "practical jokes." A practical joke is usually intended t make another person feel embarrassed. Often the victim of th joke is made not only ridiculous, bu the nerves receive a severe shock Many times a friendship is broke up by a practical joke. It is wors when the victim is a child.

There are three forms of "jokes" to which a great many children ar subjected, and which are nothin short of brutal, though, indeed, t quote the words of a very learne preacher, "a brute would not d such things, even if it were possible." Many children, especially i large families where there are a number of older brothers and sister or aunts and uncles, are teased an tormented all their lives. If th child is of a disposition easily im posed on, he may become merel bashful, awkward and nervous as a result; if a little more spirited, while the nervous shock is no less, he wil become quarrelsome or sulky, and i some cases he will become actually rebellious and almost insane in hi fury. Yet it is always the poor abused child who is punished for his temper, and the older person escapes the thrashing which is deserved.

Sometimes this teasing of a child takes the form of subjecting him to fear. Many a nervous system has been cruelly wrecked by such teasing. Children are even occasionally frightened to death; this, of course, does not happen often, but many and many a child has lain and moaned all night as the result of a foolish fear, which was inspired for the amusement of some grown person.

The third form of teasing is the most disgusting of all, for we can grant that perhaps the first two are the result of ignorance. It takes more than ignorance, however, to make an older person continually, or even occasionally, tease little boys and girls about "sweethearts." Now what on earth makes anyone want to put such things into their minds? It is very pleasing to see little boys and girls innocently playing together, and it is right that they should do so, but how often are they allowed to play without some thoughtless grown person beginning to tease them? The little girls are made silly and sentimental and the boys bashful and awkward years before such things should be thought of. With what result? Sometimes horrible cases of child immorality! For if little children are taught from the time they are 3 or 4 years old that little boys and girls want to play together not simply because they are children, but because they are "sweethearts," what can you expect but that they will soon think so themselves? This is not always the result, of course. Many boys and

An Ideal Temporary Home

The accompanying illustration shows the ideal temporary home occupied by the L. F. White family last summer. They took up government land near Claremore, Okl., and set up this comfortable tent home upon it. Note the wooden floor, the mosquito-barred window, the board door and the shaded location.

irls are made to have a strong version to anyone of the opposite ex by such teasing. If this does ot happen, they may be made to eel that there is something to be shamed of in caring for one another hen they are old enough for this ort of thing, and hence we have se-ret meetings, walks and talks. And ore than one child has lost much f his reverence for father and other when made to realize that ey were once a pair of those much diculed lovers.

Right along this line comes the ractice of tormenting newly mar-ed couples. Why make a horrible ightmare out of one of the most acred things in life? Oh, you will ay that it is common—and it is, and s coarse and vulgar as it is com-on. Why should a man, just be-ause he has taken upon himself one f the sacred duties of life—the car-ng for the one he loves—be made submit to indignities which would e punished by law if committed at me other time? Why should a irl, because she has taken upon her-elf the duty of making a home, be ubjected to vulgar, and often in-ecent, "jokes?" Is there no sense f the fitness of things in America? ust we go on allowing these marks f savages and barbarians? For at is where these customs origi-ated.

Let us stop and think awhile along is line, and not stop thinking until re that we know what constitutes joke, and until we are ashamed to ugh at anything which is coarse nd impure. GENE HARRISON.

Today

"Each day is a life."

When you get up in the morning, row back your shoulders, take a eep breath. Say to yourself, "An-ther day—another life!"

For all we know, it may be the nly day we'll ever have. Let's ake it the best day we can. Let's rive to see that it is a day worth hile. Let's do all the good we an. Let's get all the happiness we an today.

Right now is the only time you an control. Yesterday is a record. omorrow is a secret. Today is ours—is mine.

—William Johnston in the Amer-an.

"Comin' Thru the Rye"

Probably very few persons under-tand the expression, "Comin' Thru he Rye." There is in Scotland a mall stream called the Rye. The irls forded it going to church, chool and to market, and as the ater was a foot or two deep, they ad to hold their skirts up. The oys would meet them in midstream nd kiss them without any diffi-ulty, as the girls couldn't drop their kirts to make any resistance. Thatis hat the poet meant when he wrote 'Comin' Thru the Rye," but most eople think he meant a field of rye.

Extra Pie Dough

Often when baking pies some ough is left. Roll out and bake in art tins. These may be used at any ime in the next day or two by slip-ing in the oven a moment to reshen. They will be found deli-ious when filled with creamed hicken or other meat that is left ver. MARY RUTLEDGE.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6067—Ladies' Dress—A delightful frock is here pictured, and one quite easy to make. It has the fashionable and convenient front closing and may be made with the empire or regulation waistline. The skirt is a four-gored model, having inverted plait or habit back. The pattern 6067 is cut in sies 34 to 42 inches bust measure. Medium size requires 6 yards of 36-inch material, with ⅝ yard of 22-inch all-over embroidery.

6036—Girls' Blouse Dress—A pretty frock for the little girl is here shown. It is made in the popular blouse style and is very becoming to any small miss. The blouse is slipped on over the head and the kilt skirt is joined to an underwaist. The sailor collar and cuffs are fashioned of contrasting fabric with navy blue or red serge for the frock. The pattern 6036 is cut in sizes 6 to 12 years. Medium size requires 2⅞ yards of 36-inch material and 1 yard of 27-inch contrasting goods.

6105—Ladies' Apron—A splendid apron design is here offered, and one that any woman can finish in a few hours. The pattern includes separate sleeves. The apron may be made of gingham, percale or chambray. The pattern 6105 is cut in sizes 34, 38 and 42 inches bust measure. Medium size requires 5 yards of 27-inch material.

6173—Misses' Blouse Waist—We have in this design the new Balkan blouse, which is so very becoming to girls and to slender women as well. It may be made plain in middy style, or the fullness may be gathered into a hip band, this being the latest manner. Linen or pique can be used to make this waist. The pattern 6173 is cut in sizes 14, 16 and 18 years. Medium size requires 2¾ yards of 36-inch material.

10-10-27—Comb and Brush Case—Such a case is a necessity for the woman who travels. White or tan linen is suggested and the embroidery may be done in white or colors.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

Instead of letting your extra shoes lie loose on the closet floor, take a brass curtain rod and screw it to the closet mop-board; this will leave a space of some two inches between the rod and the wall. The shoes may be neatly set in, toe down, and will be well out of the way.

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These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our **triple-galvanized, high-carbon steel**

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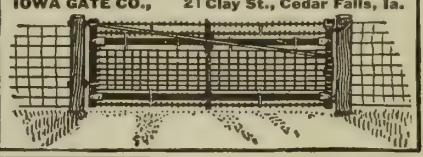

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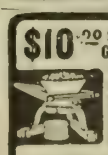

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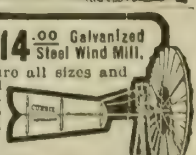

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Mexico Plans for Reclamation of Public Lands

By Frank G. Carpenter

MEXICO CITY—Many of the plans which were originated by President Madero have been adopted by his successor. This is especially so as to the new movements for building up Mexico. The Department of Public Work and that of Agriculture are being carried on along the same lines, and the gradual subdivision of the lands and the giving them back to the people has been put forth as one of the policies of the Huerta administration.

Lands at a Few Cents an Acre

A short time before President Madero was killed I called at the Department of Public Works and had a long talk with Senor Rafael Hernandez, who was then a member of the cabinet. He is a relative, by marriage, of the Madero family, is a man of great ability and has had largely to do with the originating of the movements here as to the public and other lands. When I called upon him he was making plans for the reclamation of such lands which had been ceded by Mexico to certain foreigners, who had not complied with their concessions. Said he:

"Mexico has awarded 10,000,000 acres of excellent land to outsiders at a few cents per acre. We have given concessions to companies and private parties to survey our public lands and to look into the rights of the squatters. In some cases the reward for this trouble has been one-third of the waste lands. This work has extended over a number of states, and in connection with it the title to millions of acres has passed from the government. As a consideration for surveying 9,000,000 acres in lower California one American company got the title to 3,000,000 acres, and it had also the right to buy the remaining 6,000,000 acres at a cost of about 2 cents gold per acre, payable on time without interest. That company now owns something like 4,000,000 acres, which is fitted for colonization. Its lands are some of the best in Mexico; they are already worth a vast sum and their value will be increased by the completion of the Panama canal, after which the lands will probably be colonized.

"Other concessions of great value have been granted in other localities," Mr. Hernandez continued, "and so much of our best lands have been lost. What we are doing, however, is to go over the concessions and see whether the concessionaires have complied with the terms upon which they took over the lands. If they have not done so, we are doing so. We have already been able to recover from 25,000,000 to 30,000,000 acres, and we shall probably get back as much more. This will make something like 60,000,000 acres, or considerably more than two states the size of New York or Pennsylvania."

"But that must relate only to the lands forfeited by companies which have not carried out their part of the bargain?"

"Yes," replied Senor Hernandez. "It is only where the companies have not carried out their contracts. Where they have complied with the laws and regulations their property is as safe as it could be anywhere in the world, and we would not have it otherwise. We are ready to stand by our contracts, although they may have been bad ones at the time they were made."

Millions in Chewing Gum

"How about other concessions outside lands?"

"Many concessions have been granted for almost nothing, covering property which ought to give a great revenue to the government," Senor Hernandez said. "Take, for instance, chicle, the chewing gum

Gathering India Rubber

which is now working the jaws of millions of United States citizens. That comes from here; it oozes out of a tree found in our public forests and is gathered based upon a tax assessed on a value of the gum at 18 pesos, or $9, per ton. The actual value of the chicle at the seaports is at least $300 a ton, and when it is landed in New York it is worth at least $500 in gold. That concession is still in force, but we shall change it as soon as its term has expired.

"Another concession is connected with guayule, a plant which grows up our high plateaus, of which they are now making rubber. According to the terms of the concession, the government should have one-third of the net profits. In some recent returns our share of a sale of 500,000 tons of this stuff was about $8,500, whereas it should have been $200,000 or more. It is easy to figure the actual value of a ton of guayule. I should say the stuff is worth $125 a ton, and that that 500,000 tons was probably worth $625,000 in gold, of which the government should have had a full third. Nevertheless, the company sent us in 7,000 pesos, or $8,500. We objected, and they finally paid over $80,000, but they should have paid more."

American Capital in Mexico

"But does Mexico want American capital?"

"Yes," replied the secretary. "We are glad to have you people come to Mexico, and we think we can show you opportunities to make more money, perhaps, than in any place else on this continent. We want bona fide immigrants, and we want foreign capital to develop our mines our farms and our industries. As it is now, we have already hundreds of millions of dollars' worth of United States money invested here, and when conditions become a little more settled we have no doubt but that we shall have hundreds of millions more. There is no antagonism between Mexican and American interests, and I believe that the relation of the two countries will be closer and more cordial as time goes on."

Big Reclamation Schemes

The conversation here turned to the new irrigation schemes which the government has under way, and Senor Hernandez said:

"We expect to do a great deal in reclaiming our government lands and in the introduction of irrigation works which will water not only them, but those of private parties as well. A great part of this country is high and dry, but we have many torrential streams which might be held back by dams in reservoirs, which would give water for irrigation. Such undertakings are costly, and we have arranged that they may be carried on through government loans. We have established here at the capital what might be called the 'Bank of the Farmers.' It is really a loan association for irrigation and agriculture; it was organized as a stock company, but it is now operated as an official institution, the government having purchased most of the shares. This bank advances money to farmers at a moderate rate of interest, provided they invest at least 40 per cent of the loans so received in improving their properties. It has already loaned about $50,000,000, and during the last seven months it has effected transactions aggregating almost 14,000,000 pesos.

"In this bank, under certain conditions, farmers can have loans up to 60 per cent of the value of their property. For instance, a farmer owning a property worth $100,000 can get a loan of $60,000, and if this is invested in irrigation works he can get a second loan of $36,000 more.

Artesian Wells for Farmers

"We have also an appropriation from congress of $250,000 a year to be used in artesian irrigation; this is to be invested much like your own reclamation fund, which has done so much to irrigate tracts in the west. We are using the money to sink wells in different parts of the republic.

"We have three classes of projects; one is the drilling of wells for the small landholder, say the man who owns 1,000 acres or less; if he wishes to have an artesian well bored we have our engineers report on the possibility of finding water, and if their report warrants it we will sink an artesian well with the understanding that if sufficient water for irrigation is struck the owner of the land will pay the cost of the boring and a small interest thereon. The second class is as to land holdings of medium size; that is, estates of 100,000 acres or so. In

his case when the engineers' reports re satisfactory the government ores wells, but in this case only on he understanding that the private wner is to have only half of the and that can be irrigated by the ater supply, and that he must give n equal territory to be irrigated by he other half to the government. The latter part is then government and, and as such it is divided up nd sold at the high rates that irriated tracts easily bring.

"The third class deals with the rrigation of the big estates. Take, or instance, a man like Terrazas, ne great land owner in Chihuahua, ho has an estate of 7,000,000 or ,000,000 acres. If we should bore ells on his estate it would be with ne understanding that we were to ave a grant of 100,000 acres proided we could strike water suffiient for the irrigation of that land. his tract would then be divided up nd sold and Terrazas would expect o make his profit out of the increased value of the surrounding erritory.

"In all of these projects the oney received by the government or the sales of land goes back to ne reclamation fund. This fund ill rapidly grow and in time we exect it to result in the adding greatly our irrigated territory."

Irrigation in Imperial Valley

I here referred to the Imperial lley of California and asked Senor ernandez what would be done with at part of it which extends down to Mexico. He replied:

"Our part of the Imperial valley quite as valuable as that which s in the United States. It will be rigated by the Colorado river, nich, as you know, makes a great nd across the Mexican boundary, d then returns to the United ates. We have had surveys made ere in connection with the United ates government and have made ch a water agreement with you at we can reclaim an equal terriry with yourselves. I should say ere is at least 600,000 acres of at land upon which we can put ter, and this will be worth in the ighborhood of $200 an acre when e water is turned in. There is no l on the face of the globe richer an that of the Imperial valley, and the main system of irrigation has eady been completed it will take t a small amount of money for us throw our part of it open to instment and colonization."

Mexico's Cotton Lands

"How about your cotton plantans? Can these not be increased irrigation?"

"Yes, we have plans to that ef-t. We have immense zones that suitable for cotton, and we have concern which is making final rangements to cultivate about a arter of a million acres; this will e us all the raw cotton we need d leave something for export. As is now, our plantations are turng out an annual yield of about ,000,000 pounds, nearly all of ich is used in our factories."

"How much cotton can you raise r acre?"

"We have tracts which produce 0 pounds, or almost a bale and e-third to the acre, and we have ner plantations which do not yield ore than 250 or 200 pounds per re. Our best cotton region is the Laguna district, lying in the central states not far from Torreon. The soil there is exceedingly rich, but it must have irrigation. There are schemes for dams in that vicinity which will increase the irrigated area. Then we are growing cotton along the coasts of the states of Guerrero and Oaxaca, and near the coasts in Vera Cruz and Tamaulipas. The climate of the Pacific coast is especially favorable for cotton and the cultivation will increase there as the transportation facilities are developed. Indeed, the construction of the railroads, already projected, will greatly enlarge our cotton belt,

How They Plow in Mexico

and we shall soon figure as one of the first-class producers in the world's cotton markets."

Mexican Beef for United States

"How about your stock ranches? Will you be able to supply the United States with beef in the future?"

"I do not see but that we may be able to do so," said the Mexican secretary of agriculture. "You people are growing so fast that you will soon be unable to feed yourselves, and we are so situated geographically that no other country can compete with us in supplying your needs. We have something like 120,000,000 acres of pasture lands and 5,000,000 or 6,000,000 head of cattle grazing upon them. We have several million sheep and we are now exporting something like 200,000 head of cattle a year.

"The stock industry is one which we could greatly increase with additional capital and better farming. We must improve our pastures and increase the number of drinking places and build sheds and barns."

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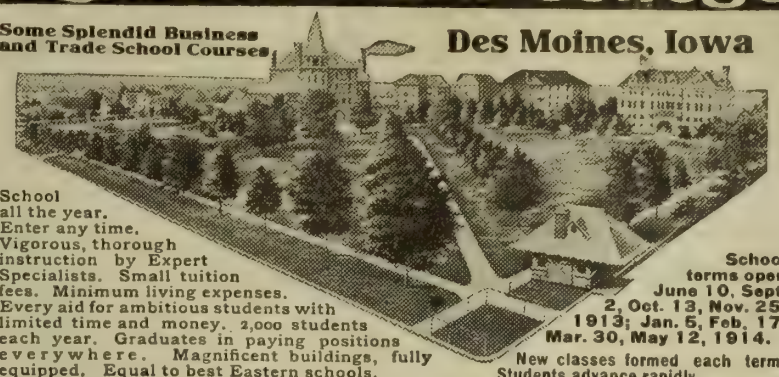

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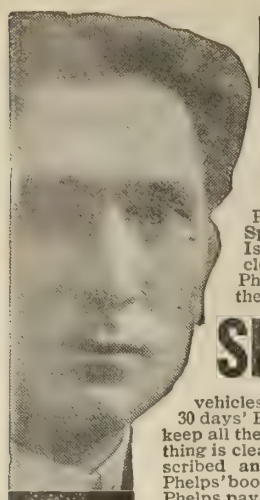

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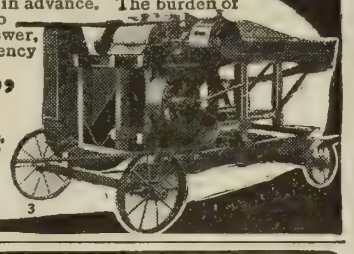

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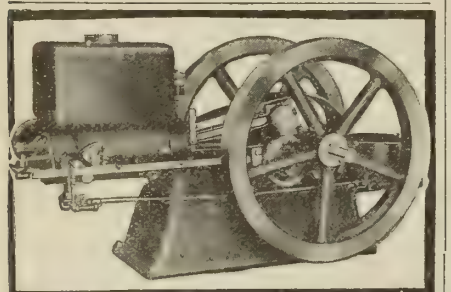

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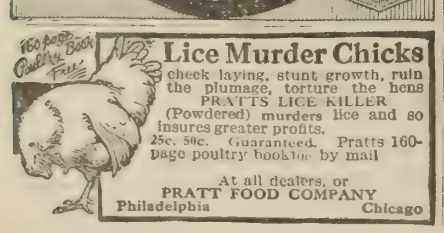

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Pertinent June Poultry Notes
Genuine Roup in Kansas Flock

THIS is the month to get rid of the early-hatched ducklings. And also to cut down the heavy feeding of corn. Let grass make up for it. Filled up on corn, the hens rather lie about in the shade than bother to look for fresh grass, seeds and bugs.

This is the month the lice multiply ten to one, especially the mites. Don't put off until tomorrow cleaning them out faster than they can hatch. Keep the roosts often scalded, the cracks the same, and the nests burned out and nest straw changed often, and mites can do the flock no harm.

The big head lice—for the chicks, fluff lice for the older fowls—come on fast in this and the next two months. These, with another trouble or two, shut off the lives of the June-hatched chick. If you have given the hen a clean nest to sit in and dusted her well about the head and fluff feathers with any good insect powder, there will be no big lice to give the June chick the "sleepy sickness."

A chick's brain is susceptible to much heat, but its tender feet are more so. Let a hot sun and ground on both and you soon have a chick sleeping itself to death, to say nothing of its being unable to walk if it wasn't sleepy, on account of its burning feet. Remember to keep not only the June, but the July, hatched chick safe in the shade until it is 10 days old at least, after which time in most lands its feet and brain can bear the heat.

White diarrhea, if it be in the flock, catches the hen-hatched and brooded chick most severely in the hot months. Hot weather gives a peculiar malignancy to this disease, but one thing is to our advantage in this if we could only know it. The first of the chicks to take it were hatched with it, and show it in the first five days of life. Kill these immediately and thoroughly clean all germs they have left from floor and surrroundings, and those not hatched with it may come off all right, because it does not, seemingly, pass from body to body after a chick is a week old. The well ones must eat from off the droppings to get it. Thus no need to let all the June chicks die of it.

This month, if you had excellent early hatches, is an excellent month to have caponizing done. The June capons get such a good start to extra size. Give plenty of air and ventilation. Undersized chicks, listless and rough of feather, too often result from closing too tight at night against four-footed thieves. Screen wire is cheap and effective against such thieves. This month the hens prefer to begin a lookout for nests deep in weeds, grass, etc. Be sure these hidden eggs are good when found and put on market, for buyers are now on the lookout and mark future eggs from such farms.

IDA M. SHEPLER.

The Genuine Roup

Mrs. C. D., Kansas: Would like to know what is the matter with my chickens, and what will cure them. Have been feeding bran mash, wheat screenings and corn. Lost a chicken occasionally. Ran out of screenings and fed oats. Now more died, and on dissecting these found the crop packed with oat hulls. We stopped the oats, but now they continued to die, six or seven a day. All showed a diarrhea. They would only be sick a day or two, and all would die with full crop. Their combs turned dark. Most of the dead were pullets. Have now about ninety left out of 240. It seems that they will stop dying off at times, since New Year, to begin anew. The sick have a bad smell. Will tell you how we doctored. The houses were fumigated, cleaned, disinfected; sick ones have been taken from the well. I changed feed to millet and kaffir corn, and parched their corn, then baked ground corn, thick with soda, and this seemed to help some, though it did not last. We fed Venetian red, red pepper, Conkey's roup cure, Haller's poultry remedy, Eureka poultry mixture and Security cholera cure—and yet they die. Some have died this winter of roup.

Answer—I give this letter in full to show the various means resorted to in trying to save the flock. It shows that medicine is nearly always powerless to save a flock stricken with malignant disease as long as the disease germs linger somewhere to breed anew the disease and somewhere, or how, this has been the case in this flock, despite disinfection and remedy.

First, the speedy malignancy of the disease is what stopped the food in the crop almost instantly. It was useless to change the food. This was not at fault. Every symptom points to the diphtheritic form of roup. Some of the fowls had it in the form that is mainly thought of as roup. These the owner recognized as having roup, but when it became malignant, bringing on the intestinal trouble, the dark heads, the quick deaths by heart failure or real apoplexy, she could not understand it.

In diphtheritic roup, which is the real roup, after all, the deaths come so fast as to suggest cholera, but the dark heads, the bad smell, the intermitting time between outbreaks, tell the nature of the disease plainly to one fully acquainted with this form of the trouble. It would be useless to suggest more medicine than has been given, unless it might be keeping the drinking water well disinfected and changed often. The failure, I am sure, has been in allowing the sick to remain with the well to greater extent than the writer assures us. Killing quick, and burning quick, and not allowing fowls to roost together in large numbers, in this case will bring best result.

There is no use wasting sympathy on a man who can't be happy with good health, good meals and good weather.

The Stull boys, farmers living four miles north of Diller, Neb., recently captured a live porcupine in a timber on their farm. This is thought to be the only animal of the kind in this part of the country.

Don't judge by size; a fly can do more harm than an elephant.—Youth's Companion.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

A Veterinary Inquiry

B. S. M., Amarillo, Tex.: I have a mare 4 years old that I bought about a year ago; she has been ridden very hard since a 2-year-old, but has been running out all spring. About two months ago she got a little soft swelling on her right hind leg on each side of the pastern joint. They don't seem to be sore to the touch, but she limps when she trots. Can they be removed by letting her rest and applying some kind of blister? She dropped a colt about two weeks ago and is in good flesh. She weighs about 900 pounds. Will you please tell me through the columns of your paper what I should do for her? She also has a small splint on the inside of the right foreleg about two inches below the knee. Can that be removed?

Answer—Blister the pastern every two weeks for three applications with a cantharides blister. Wash the part in the morning and at night rub the blister in well. Tie the animal's head so that she cannot get her mouth to the part. In the morning wash off and keep greased with lard. It is doubtful if these soft enlargements are the cause of lameness. She should not be worked until the lameness has disappeared. The splint which has come on the foreleg cannot be taken off; they do no damage, but are a small blemish.

From an Idaho Subscriber

R. M. S., Wrencoe, Idaho: In this vicinity, eight miles west of Sandpoint, Idaho, there are thousands of acres of cut-over timber land. This land is owned by corporations and smaller lumber companies. It is worth from $5 to $50 per acre, and most of it can be bought upon easy terms.

A man can burn this land over and seed it down as soon as the ashes are cool, and the clover will grow from two to three feet high in a season. Five or six acres so seeded will provide pasture for as many head of cattle. As fast as he clears the land he can fence it. Then as he extends his clearings he can extend his fence, and it will not be long until he will be raising hay enough to winter a large bunch of stock. Most of this land is level, and there is a nice creek running through every section around here.

The land closest in is three-quarters of a mile from the railroad station, school house and postoffice, and the same distance from the Pend d' Oreille river, which is one of the prettiest rivers in the northwest. It is from a quarter to a half mile wide, and the current in low water is from one-half to one mile per hour. It is just like a lake. Children 8 and 10 years old go all over it in rowboats. The farthest homestead would be only two miles away. There are families who settled here fifteen and twenty years ago, who came here without a cent, took up a homestead and lived from hand to mouth and part of the time without clothes enough to cover their backs. They were hard workers and fought it out. Today they are worth from $15,000 to $20,000.

The climate here is temperate; the summers are warm and the winters are not so very cold; the springtime is beautiful beyond description. We generally get about one and a half feet of snow in the winter, just enough to make good sleighing. The summers are long and mild; there is plenty of rain, so it is not necessary to irrigate. If one locates near a creek he can put in a hydraulic ram and have water anywhere he wants it, at slight expense.

For game, there are deer, bear, cougar, lynx, rabbits and partridges. The fishing in the river is good nearly all times of the year. Trout and whitefish abound. "Dolly Varden" trout have been taken that weigh twenty-five pounds. There are also trout in the creeks.

This is one of the best places in the northwest in which to live. It is handy to get in and out of. The Great Northern railway is on one side of the river, and the Spokane International on the other. We are sixty-seven miles from Spokane and eight miles from Sandpoint and Lake Pend d' Oreille, one of the most beautiful and picturesque lakes in the world. If one wished to buy improved property instead of raw timber lands, there is plenty of opportunity, at reasonable prices. They raise strawberries here measuring eight inches in circumference, potatoes weighing three pounds, and the finest fruit that anyone could desire. One man had one-fifth of an acre in strawberries and the second year he sold $90 worth, besides all they canned for their own use. Another man raised 300 sacks of potatoes, 200 sacks of rutabagas and twenty-five sacks of cabbage on a little more than one acre. Strawberries, blackberries and raspberries yield abundantly here every year. They are always a sure crop. This country is free from tornadoes, earthquakes and floods. The land is fifty to 500 feet above the river, which never rises more than fifteen feet. There are plenty of good opportunities left here yet for the right man.

Comment—The Twentieth Century Farmer man endorses all that this writer says about the productiveness and beauty of that region, and the climate as well. He has also had some experience with the fish and the game there, and would like to have one of those "Dolly Varden" trout at this moment, whether on the end of a line or spread out on a nice platter before him, done just to the right brown.

Price of Hog Cholera Serum

A. S., Loup City, Neb.: I read in The Twentieth Century Farmer about the reduced price of hog cholera serum. What would now be the most for a large hog, also for a pig? Where can the serum be obtained, also the instruments to be used with the same? Do the instructions come with the serum or instruments? Can one do the work himself, or would it be necessary to have an experienced veterinary do it?

Answer—The serum may be had on application to the veterinary department at the state farm, Lincoln, Neb. The ordinary dose of serum is 30 c. c. for every 100 pounds of hog. A shoat weighing forty pounds receives the full dose; shoats weighing less than this, a less dose. The price of the serum is now 1¼ cents per c. c. To illustrate, if a hog weighs 200 pounds, a treatment would require 60 c. c. This, at 1¼ cents per c. c., would cost 75 cents.

Full instructions regarding the proper use of the serum may be had from Dr. J. H. Gain, head of the veterinary department, state farm, Lincoln.

Unless a man has had some experience in such matters, it would be better to have the work done by a thoroughly qualified veterinarian; but any farmer can do it as well as a "horse carpenter."

Unless there is cholera in the neighborhood, it would not pay to go to the expense of serum; but as soon as cholera appears in the neighborhood prompt action should be taken.

Candid Inquiry and Candid Answer

N. C., Leigh, Neb.: I saw an article in your last paper about the Independent Harvester company that I am going to write about. I am a stockholder in the same company, and I am quite interested in it. I will send you a clipping from a Chicago newspaper that I received last week, and I would like to know your opinion about this. I would also like to know whether The Twentieth Century Farmer is controlled by the International Harvester company or not?

About farm credits, I think that the farmer who can give good security is as well entitled to loan money from the United States as the banks.

Comment—There is just one thing, and only one, that controls The Twentieth Century Farmer. That one thing is what The Twentieth Century Farmer regards as the best interest of its readers, the farmers. It will do what it can to protect and to promote their interests. There has been no attempt on the part of the International Harvester company to control it, or even to suggest what it should do. The same cannot be said of the Independent Harvester company.

If this paper thought the Independent Harvester company could subserve or promote the interests of the farmer, or of its stockholders, it would not hesitate to say so. It believes, however, that it is a grave menace to both, and at present cannot recommend it. If in the future it should be convinced to the contrary, it will not hesitate to say so. The article referred to was prepared by the publicity man of the Independent Harvester company, and is an attempt to try the case in the newspapers before the courts have taken action on it. It would be well for all stockholders, and for the public in general, to suspend final opinion until all the facts are at hand.

A Missouri Man's Opinion

W. R. T., Neosho, Mo.: The Texas Co Operator no doubt has the right plan with reference to farm credit. It is a good thing to have this matter discussed. The farmer needs credit the same as a bank needs it, and can use money as well as the bank can. He should be able to get it at the same rate of interest, because he can give just as good, or better, security. This is also the opinion of my neighbors.

Comment—This correspondent refers to the plan proposed by some people to have the government loan directly to the farmer in the same way that they loan to the national banks. We are glad to see our readers interested in this matter and pleased to receive expressions of their opinion.

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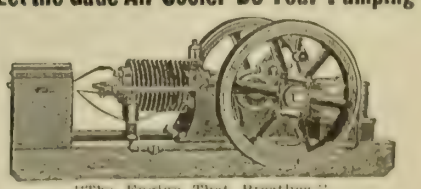

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Review of Live Stock Market

By A. C. Davenport

MAY hog receipts at the large western markets have been more or less disappointing in point of numbers, but have left little to be desired in the matter of quality and weight. As compared with a year ago, the decrease in numbers is very marked, but when it is remembered May receipts a year ago were excessive at all points the shortage is not so very remarkable. Coming as it does, however, at a time when stocks of provisions are lighter than usual, this shortage in the number of hogs marketed is certain to be reflected in higher prices during June and July unless receipts of hogs during these months are unexpectedly liberal. In any event, there is little likelihood of receipts of hogs during the next two months reaching such proportions as to materially weaken the market. Consumptive demand, both of the fresh and cured product, has never been broader at this season of the year and with no heavy stocks for packers to fall back on, there is little question but that the current consumption of pork will be more than sufficient to sustain hog prices at their present very satisfactory levels for some months. Commercial and industrial conditions will undoubtedly exercise a strong influence on the market, but pork being in the list of necessities, there is little likelihood that even a turn in affairs will cause any serious decline. Just at present the feature of the trade the increasing demand for hogs by eastern butchers. The eastern crop is ab ut all in, and during the next five or six months eastern packers will be compelled to draw a very large percentage of their supplies from western markets. This is also considered one of the bullish features of the situation.

Large Crops Important Factor.

There has seldom been a time in the history of the country when the crop prospects were more favorable. Not only is the acreage planted unusually large, but the condition of the crops is exceptionally good. For the last ten days or two weeks crop experts throughout the country are sending in uniformly favorable reports of the crops, but with characteristic conservatism they mention a horde of insect pests which are likely to more or less seriously affect the yields On the whole, however, the crop situation is exceptionally favorable and indications are that yields of both grains and grass will establish new records. This will undoubtedly have its effect on the live stock production of the country and it is feared will bring out strongly the fact that the farms and ranches of the country, taken as a whole, are lamentably short of animals to utilize its big crops The fact that ordinarily at least 80 per cent of the corn crop is utilized on the farm indicates the importance of this item in figuring up the amount available for commercial purposes. It is very likely to have a stimulating effect on farm production of live stock, which has been on a low ebb for several years. Unless the large share of these big crops is consumed on the farm prices are bound to be seriously affected. Big crops usually spell prosperity for the whole country, but they are not necessarily highly profitable to producers unless they can be utilized or marketed to the best advantage.

At this time of the year it is customary for the various experiment stations throughout the country to bring their feeding experiments to a close and make their deductions therefrom. At the Illinois, Indiana, Michigan, Iowa and Nebraska stations within the last week the public has been invited to witness the results of these feeding experiments and to learn something of the methods now most profitably employed in various sections in bringing meat animals into marketable condition in the most profitable manner. The use of the silo and the more general use of alfalfa throughout the central west have almost revolutionized cattle feeding and the burden of the experiments in recent years has been to ascertain the most profitable proportions of ensilage and alfalfa to be used in connection with corn as a feeding ration. It is a very noticeable fact in all these experiments that the country is getting away from the old notion of a simply corn and hay diet, and is learning to balance the ration so as to secure most profitable results.

Live Stock Notes

Herefords and Duroc Jerseys.

We spent a very pleasant afternoon last week with Elmer E. and N. T. Youngs at Lexington, Neb. It is always a genuine pleasure to visit their farm. Their pleasing personalities and the many things of interest they have to show the visitor make this doubly so. To begin with, they have one of the finest equipped stock farms in the state. Their specialty is Hereford cattle and Duroc-Jersey hogs.

DUROCS.

They have about 120 head of spring pigs, seventy of them being of March farrow and the balance of April farrow. They are sired by The Knight by the Champion Red Knight, Colonel Inventor by Inventor. There are a few litters by other boars of note. The pigs are of a strong boned, smooth, stretchy type and are coming along in good shape. They have an abundance of range and alfalfa to further orders. They are given every advantage necessary to develop strong, vigorous constitutions.

HEREFORDS.

The Herefords number about 125 head and are representative of the best families of the breed. There are forty-five head of breeding cows, and thirty of these have dropped calves since the first of the year. The bulls at the head of the herd are Preston and Tempter 3d. Preston is a double grandson of old Lamplighter, and Tempter 3d is a son of Beaumont. They are two of the thickest fleshed bulls in service in any one herd in the country and are especially strong breeders. They have seventeen head of heifers, sired by Preston, that are just about right. They will all be bred to Tempter 3d during the summer. There are fourteen head of yearling bulls by the same sire, that carry about as much scale as any bunch of bulls we have ever seen for their age. There are some outstanding good herd bull prospects among them. They certainly will have some lineup for their sale later on. Just keep this farm in mind and watch this column for further information if you want anything in their line.

O. G. Smith & Son's Durocs.

We called on O. G. Smith & Son of Kearney, Neb., last week and found them with one of the best line-ups they have had for a long time. They have 122 spring pigs sired by Queen's Wonder, Model Goods, Queen's Wonder Again and Uneeda Wonder. The spring pigs are coming along in good shape, a large majority of them being already weaned. They also have some mighty good fall stuff. Among these is a litter by Model Goods and out of Sell's Crimson Beauty that are going to make some one sit up and take notice. There are five boars and two gilts in this litter that are all good. In fact, there are about four boars that are all herd headers, and we would advise anyone wanting a boar to keep them in mind. They have good bone and are right up on their feet, good backs, even side lines and splendid heads and ears. Their breeding is especially good. Model Goods, their sire, is by Golden Model and out of a W. L. A's. Choice Goods dam. Their dam, Sell's Crimson Beauty, is by Crimson Wonder Again and out of H. A.'s Queen. She is a litter sister to Queen's Wonder. Queen's Wonder, it will be remembered, won fourth place at Lincoln last year and was just taken out of the pasture and shown. Keep your eye on him this year. He is a comer. They also have a son of this boar to show in the junior yearling class, that is especially good. He is much the same type as his sire. Watch these columns for future information on this herd.

Smith's Durocs and Herefords.

Arthur Smith of Lexington, Neb., breeder of Duroc-Jersey hogs and Hereford cattle, has 140 head of spring pigs this year. They are sired by Genoa Chief by Lincoln Chief, Garnett's Wonder by Lincoln Wonder, and Rosebud King by Echo Top King. They are of March and April farrow mostly and are just doing splendidly at this time. Taking them all the way through, the litters are about as uniform as any we have seen for some time. If all goes well, Mr. Smith will be in a position to offer some mighty choice boars this fall.

His Herefords have passed through the winter in good shape, and every cow of breeding age either has a calf at foot or is well along in calf, either by Comrade 2d by Comrade, a half brother to Fast Freight, or Majestic by Preston. While Mr. Smith's herd is not large, yet he has a line of foundation stock that will take rank with any herd in the country.

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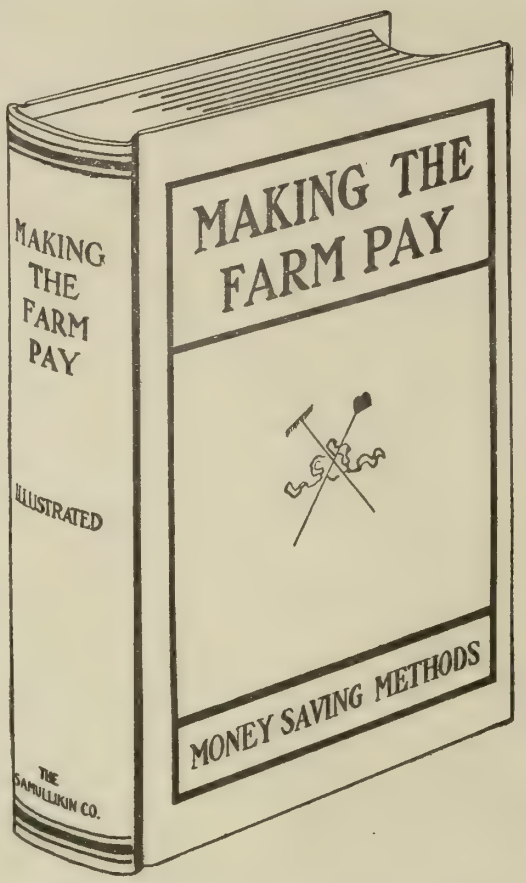

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Prattle of the Youngsters

Certainly Not

A naughty little girl was told that she didn't behave she would be ut up in the chicken coop. "You n shut me up in the chicken coop you want to," replied she, 'but I n't going to lay any eggs."

An Earnest Prayer

Grace, aged 5, had twin brothers year older than herself, who were ischievous.

"Papa," she said one day, "every ght when Harry and Willie say eir prayers they ask God to make em good boys."

"That's nice," replied the father.

"Well," queried the little skeptic, hy don't He?"

Good Advice

A reverend gentleman was addressing a school class recently, and is trying to enforce the doctrine at the hearts of the little ones re sinful, and needed regulating king out his watch and holding it . he said:

"Now, here is my watch; suppose doesn't keep good time—now goes fast and now too slow. What all I do with it?"

"Sell it!" shouted a flaxen-haired ungster.

The Sheep

The other day in a Cleveland hool this composition was handed by a little German boy:

"The sheep are weak and foolish imals. They are very useful. We n use everything on them except eir bleat. The sheep learn their epherd very easy, but otherways ey are dumb animals.

"They eat hay, grass and carrot up. And the captain of the sheep called the Belle-buck."—Woman's me Companion.

A Thing Worth Doing

Small Thomas overheard his other saying to his older brother at it was a tactful thing to ar to think people younger than ey were.

His sister's French teacher arriv- shortly after, it fell to Thomas entertain her until his sister ared. Thomas decided to do it up own.

"How old are you, Miss Grey?" asked politely.

"I'm dreadfully old, Thomas," e answered. "Oh!" said Thomas, lping a litle with the unusual ef- rt, "I—I never thinked you was re'n—s-seven."—Lippincott's.

Late News

In earlier days it was a custom in any households for each child to arn a verse from the Bible each nday. In this way the children came familiar with the wonderful ok, and to them the experience deribed by Rev. E. J. Hardy could t have happened.

Sir Ernest Shackleton said one orning to a little waiting maid ho brought him tea, "What a rainy y, Mary! It is almost like the ood."

"The flood, sir?" responded the ttle maid, with a puzzled smile.

"Yes, the flood—Noah, you know, e ark, Mount Ararat."

She shook her head and murured apologetically, "I ain't had me to read the papers lately, sir."

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Secretary Houston's Program

THE new secretary of agriculture has a big program mapped out. Two propositions are engaging the attention of the department, which, if successfully carried out, will mean much to the man on the farm. Secretary Houston, with an available appropriation of $50,000, has started an investigation of the marketing of farm products. This is a problem which the individual farmer cannot work out for himself. Naturally, this investigation must include the co-operation of producers.

Secretary Houston's views on this subject, and the methods by which the department will make the investigation, will be given to our readers next week in an interview with Edgar C. Snyder, our Washington correspondent.

Bright and Breezy

Easy to Tell

"Uncle Jack," said a young lady, who was spending a few days in the country, "is that chicken by the gate a Minorca?"

"No," replied Uncle Jack, "he is a Leghorn."

"Why, certainly," said the young lady. "How stupid of me! I can see the horns on his legs."

Being Good

Too many people have the wrong idea of goodness," said Judge Ben B. Lindsay in an address in New York. "Their idea of goodness is the Puritanical one expressed by little Jimmy.

"'Jimmy,' said the lad's teacher, 'what is it to be good? You don't know, do you?'

"'Sure I do,' Jimmy answered. 'It's not doing what you want to do.'"

Avoiding the Issue

Gloom in the law office of Platt & Jones was thick enough to cut. Clients were unknown, and neither of the partners had any ready money. Nevertheless, at the close of day, Jones, who was young and audacious, approached the senior member of the firm, who was working out an imaginary case.

"I say," he began, nervily, "lend me five for a week, old man."

The other shook his head, without looking up. "I might do it for a weak old woman," he said, "but not for a weak old man."—Youth's Companion.

Disfigurement Explained

One day an Eldorado (Kansas) man met with a citizen who evidently had had trouble. His lip was split open and two of his front teeth were missing. His left eye was entirely closed and his right orb of vision was surrounded by a deep border of blue-black color.

"Been fooling around a mule?" cheerfully asked the Eldorado man.

"Nope," gloomingly replied the man with the split lip. "I saw a man yesterday and we got to talkin' about Kansas and other states. He said to me that Kansas is no good; that any man is a fool who will live in this state."

The Eldorado man flared up at once. "The man is a liar!"

"Yes," said the disfigured man sadly, "that's what I told him."—Kansas City Star.

Its Gender

A somewhat angular, severe looking spinster was standing on the station platform outside a mail coach, inspecting with undisguised curiosity the ingenious net arrangement which is able to sweep in mail bags while the train is in swift motion.

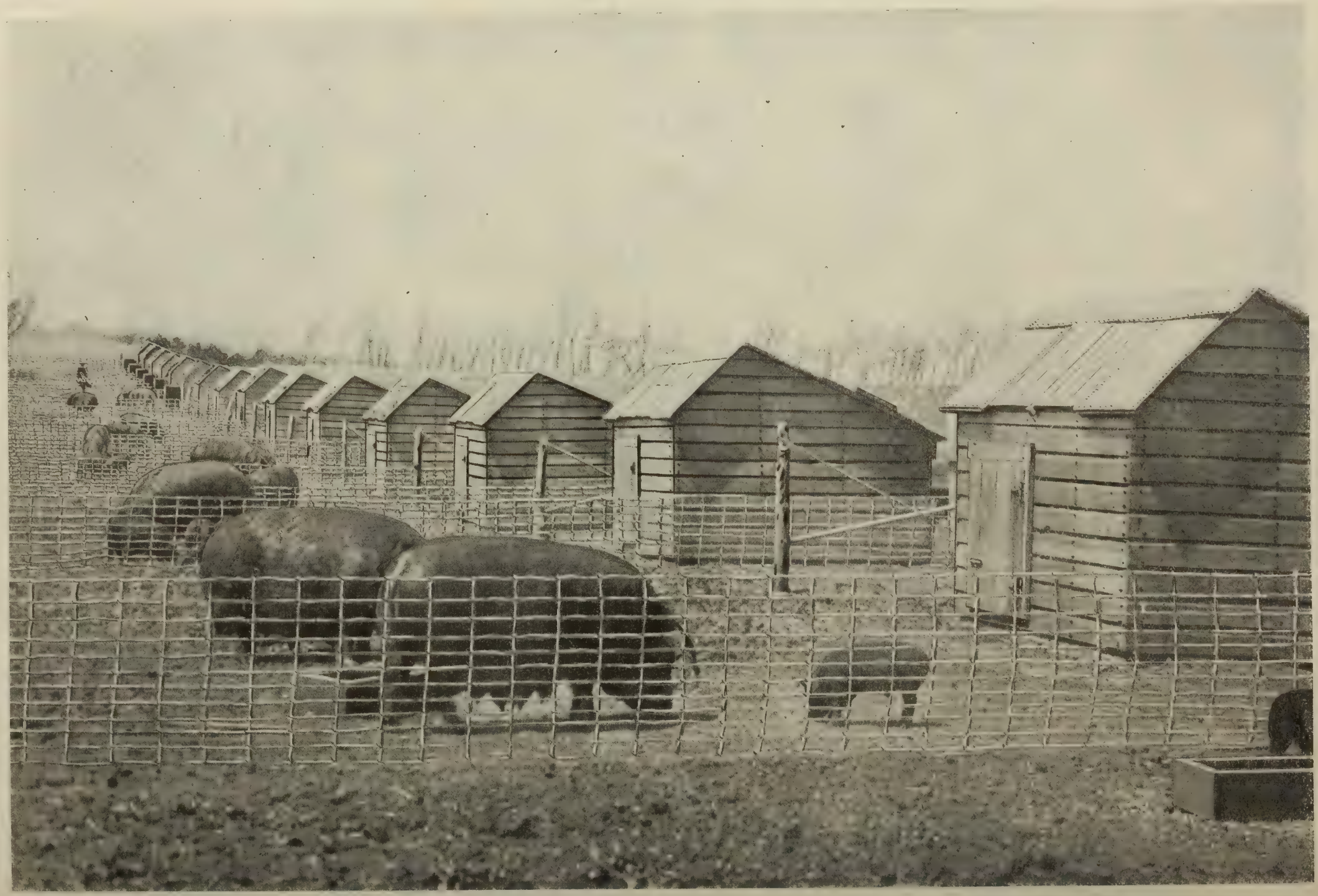
"Is she working all right?" asked one of the officials.

"Aye, aye, Bill," replied his mate, when suddenly the lady touched him on the shoulder.

"Why do you call it she?" she inquired, as usual athirst for information.

"Because, madam, it's a mail catcher," replied the courteous official.

And the sniff of the angular spinster almost drowned the shrill whistle of the engine, then preparing to move on.



The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Alfalfa Ration Valuable for Hog Production

It is a Necessary Factor if Hogs Are to Be Grown at a Profit

A MISSOURI valley farmer, whose principal business for years has been the growing of hogs exclusively for the market, declares that if he could not have alfalfa he would have to go out of the hog business. He expresses the opinion that if all the items of cost in growing hogs in this territory were taken into account, it would be found that 50 per cent of the farmers here produce and market hogs at an actual loss. Of course, accurate statistics on such a subject are impossible. The best judgment of the men best qualified to judge is all that can be quoted in supporting this statement. It is undoubtedly true that a very large proportion of the farmers that are raising hogs principally on a grain ration are raising them at a loss. This does not apply to the dairy farmer who has plenty of milk that he can feed to hogs. But it is an assured fact that the use of alfalfa wonderfully cheapens the process of hog growing, and materially increases the profits of it.

Alfalfa in the green state is used for pasturage and when cured as hay is fed in that form.

Things Not to Do

To those unacquainted with the nature of the plant, a few words of caution are needed with reference to the use of an alfalfa field for pasture. Alfalfa is not naturally a pasture grass. When one growth of alfalfa is approximating maturity, new buds on the crown of the plant just below the surface of the earth start to grow and soon push their young shoots through the soil. This is the way in which the plant produces several growths during the same season. In order to give these young shoots the proper chance to grow, the older growth should be cut as hay and taken away. This being understood, any man that uses an alfalfa field as pasture for his hogs knows that it is just as necessary to mow the pasture at the proper time as it is to mow a field that is kept exclusively for hay. That is the only method by which the growth of the new shoots may be promoted, and the vigor and vitality of the field be preserved. Accordingly, no one should pasture an alfalfa field with hogs so close that he cannot cut it regularly for hay. If the field is pastured too closely, the chances are that the alfalfa will die, and the field become useless as pasture within a very few years. An alfalfa field should be pastured in such a way that no one would imagine from looking at it that it was being used as a pasture, except from seeing the hogs there.

Close pasturing has other bad effects. A field that is pastured too closely, so as to keep down the heavy growth that shades the ground, becomes weedy, and weeds are the bane of alfalfa. Close pasturage also permits blue-grass to come in, and blue-grass, if given a chance, will always run alfalfa out.

The farmer in pasturing should keep watch of his alfalfa field, and as soon as he sees that he is pasturing it too heavily he should take out part of the hogs.

Cultivation to Kill Out Weeds

The proper care of an alfalfa hog pasture also demands proper cultivation whenever it is needed. There are tools made for cultivating alfalfa that will take out every weed or plant that is not tap-rooted and still will not injure the alfalfa plant. Such tools as this are the proper ones to use. A field that is heavily pastured has its surface firmly packed, and this firmed surface soil prevents the proper growth of alfalfa. Such cultivation as has been alluded to will not only take out all the weeds and blue-grass, but will give a deep, fine mulch to the surface which counteracts the packing down by the hogs' feet and promotes the most virile and luxuriant growth of forage.

When alfalfa hay first began to be fed to hogs a conversation between two neighbors was overheard. One said to the other: "Come down and see what that fool neighbor of ours is feedin' his hogs. Blamed if he ain't feedin' 'em hay." At the present time every wise farmer that has alfalfa hay is feeding it to his hogs in winter. There are careful feeders and experienced growers, the principal winter feed of whose brood sows consists of alfalfa hay. If the hay is fed uncut, the best method in which to feed it is by using a rack built for the purpose, such as is described on page 9 of this issue.

Best Way to Feed Alfalfa

It is not economical for the alfalfa grower to feed alfalfa meal to his hogs. The only reason for grinding alfalfa is to reduce the bulk for shipment to distant markets. More pounds of pork may be grown from a ton of alfalfa passed through a cutting box and cut into as short lengths as possible than can be gotten from a ton of alfalfa meal. This fact is probably due to the greater permeability of the cut alfalfa to the digestive juices. In feeding cut alfalfa, the best way to feed is in a trough, so constructed that the hogs can get only their noses into it, and cannot root out the feed and waste it. When the cut alfalfa is in the trough, a ground grain ration may be spread over the top of it and a pail of water thrown over it, and the hogs will clean it all up.

Alfalfa is rich in protein; that is, in the element of food that contributes to growth of muscle, bone, nerve and sinew. On this account, it is of especial value for growing stock. For this purpose it is the cheapest food known. It has about the same value, ton for ton, that bran has, and can be produced at much less expense.

The man will be fortunate in these days that makes money out of hogs without alfalfa. But the man that has alfalfa and uses it with good judgment is almost certain to make money.

Why Hogs Root

Some people hesitate to pasture alfalfa because they fear the hogs will do destructive rooting in the field. Except after a shower, when the hogs like to play in the upper half inch or so of moist soil, hogs will do no destructive work in an alfalfa field, provided they have plenty of range and are supplied with the proper mineral elements of their food. A hog roots deep in the soil for the purpose of getting certain elements that are not supplied in his regular ration. If these elements are supplied in abundance and kept constantly in supply, no danger to the alfalfa field should be apprehended from this source. Every grower of hogs should keep constantly before his hogs a mixture designed to furnish these missing food elements. One of the best, and at the same time least expensive, is had by mixing with a bushel of ashes four quarts of air-slaked lime, four quarts of salt and a couple of quarts of copperas. If a little hypo-sulphite of soda should be added, it will aid digestion, but is not actually necessary. A hog that has free access to such a mixture as this, providing he has plenty of range, will not do destructive rooting in the field

Individual Hog Houses

MUCH of the success attained in raising pigs from the time they are farrowed until the time they are weaned and able to shift for themselves, lies in the facilities at hand for their proper care and handling. In this connection, it is safe to say that the best method is that of having an individual house and pen for each sow and her litter. This does away with the stronger pigs robbing the weaker ones and gives them an equal chance.

The illustration on the opposite page shows an arrangement of this kind on the farm of Herman Toelle, breeder of Duroc-Jerseys at West Point, Neb. The individual houses are seven feet square, with a three-foot wall in the rear and a four-foot wall in front, with windows in the slant of the roof, facing south. The approximate cost of each house is $20. There are sixteen of these houses on a gentle incline, facing the south, and each sow and her litter has a lot containing about one-eighth of an acre.

Farmers Settling in Southeastern Wyoming

The Old Free Range Country Becoming Agricultural

Dairy Farm of N. E. Corthell Near Laramie, Wyoming

"GOD knew what He was doing," said former Secretary of Agriculture Wilson, in a speech at Laramie, "when He placed this soil on the Laramie valley and covered the state of Wyoming with natural resources possessed by no other spot on earth. The granite rocks on these mountains contain 8 per cent of potash, and the soil contains all the ingredients necessary to produce plant life. This section is not troubled by rains washing away the essential qualities and leaving the soil impoverished, as in other sections. The moisture is absorbed by the land and all the nutrient remains."

Southeastern Wyoming, in the vicinity of Laramie, the capital, where this speech was made, is one of the most beautiful spots on earth. The Medicine Bow mountains curve about the land, which is watered by the Laramie river and underlaid by a lake of ice-cold, clear, pure water—real melted mountain snow.

Free Range Giving Way to Homesteads

This whole region has been one of large stock ranches, where a few ranchmen have made great fortunes in raising stock. Now these ranchmen are giving way to the real farmer, who will cultivate the land. Farming on horseback is of no avail now. The lay of the land is level, or nearly so, with good drainage. The traction plow does most excellent work here, for the lands are covered with natural grasses, which, owing to the looseness of the soil, are easily torn asunder, so that the cost of plowing by power is only about $3 or less per acre.

This district is served by two railroads—the Laramie, Hahn's Peak & Pacific and the main line of the Union Pacific. The wagon roads are fine—no hills of consequence or other obstacles to transportation. Rural mail, telephone, telegraph, besides the stage, are constantly available. The National Forest Reserve is located in this vicinity, where logs and poles can be had free for building fences and making other improvements. There are saw-mills in the reserve that will sell first-grade white pine lumber for $22 per thousand, and there is plenty of wood to be had for the hauling. Coal is abundant and good, at a price of $2 to $3 a ton. As there are two stucco plaster mills and other things for building near, such as lime and sandstone, it is apparent that building may be done cheaply and well.

Experiment Station Helps Farmers

Wyoming has a live agricultural college and experiment station, which is of practical assistance to the settlers throughout the state, but especially in its immediate locality. A settler can call the college by telephone, ask any question about grain growing or stock raising, and get, without cost, a reply that should completely satisfy the inquirer. If he is too far away to make use of the telephone, letters of inquiry are given prompt and courteous attention.

Prof. T. S. Parsons, agronomist of the university, says that forage crops do remarkably well in this part of the state; that it is doubtful if a better showing can be made anywhere. He has a plot of ground on the university farm near Laramie, where he is growing twenty-six varieties of alfalfa, testing them out for hardiness, etc. The animal husbandry farm is but a short distance away and is presided over by an up-to-the-moment director. These two experimental farms are run in conjunction with the Wyoming University, the object of the whole being to help every citizen of the state in his farm work. They have an equipment which cost more than $500,000, and thirty professors.

Wyoming's Capital City

Laramie is a city of about 10,000 people, with paved streets, electric lights, Union Pacific rolling mills, round-house, machine shops, flouring mill and elevator, a feeding and shipping stock yards—a division point. It has a new sixty-five-room hotel, a department store and other stores that would be a credit to a city several times its size. Churches, schools and dwellings are well kept, suggesting fine taste and prosperity. Most of those who live in the city and country have emigrated from states farther east.

J. H. CARSE.

Wyoming University, Laramie, Wyoming

Western Nebraska as a Producing District

III—Pure Water and Variety of Feed Good for Cattle and Horses

A New Farm Near Hemingford, Box Butte County

WESTERN Nebraska is largely devoted to the raising of live stock, just as it should be, just as it is adapted to be by its natural resources, its forage crops of almost every variety—grasses, hays, etc. Western Nebraska is peculiarly adapted to the horse and cattle-raising industries, since it is possessed of almost innumerable varieties of wild grasses and forage plants.

No other section of country on the continent can boast of so many distinct varieties of wild or native grasses of feed value to the grazing animal as western Nebraska. No other country can record larger gains among beef herds during the grazing season. Three hundred pounds of gain on stock steers during the grazing season, from May to October, is not an uncommon or extraordinary report from steer owners who have weighed in and weighed out of the sand-hill pastures.

Greater Gains Possible in the West

Why are these extraordinary gains possible, when the tame-grass districts, back in the domesticated, soil-subdued, tame-grass lands of the eastern and central western farms cannot point to such pasture achievements? The reason is plain to any intelligent, practical stock handler, when the grazing facilities of the two localities are fully analyzed and their feed advantages set forth as to opportunity and encouragement of animal appetite.

On the eastern and central western farms we find the farm steer corraled, so to speak, in a ten or twenty-acre field, seeded to red clover, timothy, white clover, blue-grass or some other distinct variety of pasture or tame hay grass. This tame-grass pasture is usually crowded to its full capacity; if not, it lacks variety—the same old menu day after day, week in and week out, until the grazing animal feeds more from necessity than any real enjoyment it gets from appetite and the satisfaction of taste, the real promoter of flesh accumulation.

The sand-hills steer of western Nebraska enjoys a comparatively free and untrammeled life. His pasture boundaries are unknown to him. He travels day after day, and his feed and scenery are new. The invigorating influence of fresh pastures, clear, pure, running or pumped water, with sunshine and an anti-tuberculin atmosphere, which he is constantly breathing, with more than a hundred varieties of wild or native grasses that he may taste each day in his travels over hill and valley, tell the story of why this favored steer of the sand hills grows faster and takes on more flesh in a given time than is possible for the steer of the tame-grass lands.

Imagine a cow beast that may have the opportunity of tasting more than a hundred varieties of grasses and forage plants of nutritive value for the grazing animal all in one day. Has this fortunate animal any advantage over the one-grass steer of the tame-grass country? This explains why greater gains are had in the pastures of western Nebraska than on the farms of the east, south, or any other district for that matter.

How do we know how many wild grasses and nutritious forage plants are provided in western Nebraska? Prof. Bessey of the Nebraska University made a special study of this subject more than twenty-five years ago and issued reports from 1887 to 1893, in which he classified these various features of herbage throughout the state of Nebraska, dividing the state into six principal botanical regions, naming and defining the grasses found in each of these divisions. There are embodied in this report 154 named varieties of grasses, the great majority of which are native of the sand hills region.

Upon this basis of grazing opportunity, we find western Nebraska one of the most successful producing districts of any country in the world, when made to conform to the natural adaptation of its resources. The higher altitudes—in some places almost a mile higher than the eastern side of the state—the excellent quality of its waters, the natural healthy conditions and freedom from disease, all combine to make this district of country the stockmen's paradise.

Part of a Bunch of Horses, Containing Ninety-Eight Brood Mares—No Feed Nor Shelter the Year Round but Open Range

Suited to Horse Breeding

The breeding and growing of horses in western Neebraska has become a feature of stock industry that is receiving more attention than formerly. Western Nebraska was for many years a large producer of horses conforming more to the type demanded for army service. It was the hundreds of western Nebraska horses that were introduced into the government service during the Spanish-American war that influenced the demand for the western range-bred horse for the South African war, and which gave this type of horse so much fame as exceeding in endurance and war service the horses of all other countries. It is only in recent years that there has been an effort directed toward horse improvement—the breeding of more and larger horses, approaching the draft class, for which this district is equal to any district of country on the continent. The growing of horses for the markets of the country must be observed just as accurately and intelligently as the breeding and growth of beef cattle. There is a good demand for the right kind of horses. The horse raiser must study this demand and learn what it means to the horse-raising industry, then apply his horse sense in the effort to produce just this kind of an animal. A large or medium large, active horse will always be in demand if he is stylish, symmetrically formed, well muscled and active. The logy, lazy, listless, stupid horse, no matter how large he is, is not wanted on the farm or in any other place.

There are thousands of good horses now being raised in western Nebraska, where the greatest of attention and care is observed in getting the right kind of sires. The horsemen in this district of country are now beginning to be awakened to a sense of the possibility of money-making and to the wisdom of the production of a class of well-bred horses that are attractive to any horse fancier, whether he is in need of a horse or not. What is more fascinating to the average citizen than a bunch of nice, big, vigorous, stylish horses in the open pasture, unrestrained, free to be natural and exhibit their qualities in form and finish just to suit their natural inclinations?

Wintering of Horses

The horse picture herewith represents a winter grazing scene of high-grade draft mares and colts as they feed on the table-lands and buffalo grass of western Nebraska. This bunch of horses has practically never been given prepared feed except such as they have gathered from the stalk-fields and straw-stacks. They know nothing of grain feed or hay. This is not a commendable plan of wintering horses, even in western Nebraska, yet thousands are let run on the range the year around, to hunt their living from the grasses so abundantly provided. The best horse raisers, and those who are making the most money in the business, raise grain crops—spelts, oats and corn—and in winter feed liberally, and thus grow their horses into market size and condition at least a year sooner. Western Nebraska challenges the world to beat it in producing serviceable horses.

The range horse—the horse that knows no restraint, the horse that lives in the open from the time it comes into the world until he is called upon to enter into the actual fulfillment of horse duty—is the horse in demand

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The Nebraska wheat fields have again taken on that look of ready money.

"Paramount influence" is a commodity that has been somewhat over advertised.

Trachoma is the scientific name for granulated eyelids. In its acute stage it is very infectious, and contagious, and should receive immediate and careful attention. A person affected in this way should not use towels or wash basins that are used by others, and, as far as possible, should be kept isolated.

The fair southland is not far ahead of the middle west as to mild spring weather, after all. While we had a cold spring, it passed, in most places, without doing any damage to crops or fruit. Maryland, on the contrary, reports that all kinds of fruit were badly damaged by May frosts, and the same is true of other states. The injury was particularly great in the far eastern states.

The usefulness of any public board engaged in public service, if it is composed in the main of non-assertive men, may be seriously crippled and impaired by a single amateur with plenty of self-confidence and self-assertion. The others, to avoid trouble, are inclined to let such a one have his way. This is true of boards of education as well as of other boards. It should not be permitted, for education is a serious and important matter. The tail should not be permitted to wag the dog.

Nebraska Feeders Meet

The largest and most successful meeting of Nebraska live stock feeders ever held in the state took place Thursday, May 29, at the Nebraska State Farm and Experiment Station at Lincoln. This was the occasion of closing up an experimental feeding test that had been carried on by the animal husbandry department, under the direction and supervision of Prof. R. K. Bliss. The feeders of the state had received a general invitation to attend these exercises and inspect the cattle fed and hear the explanation of the feeding work practiced on these steers by sections, lots and divisions, so as to illustrate what the various rations had accomplished.

This was, in a sense, rather a new departure for the experiment station, in the way of enlisting the attention of the feeders in turning out and profiting by the actual observation of the cattle fed, and following every feature of this work in detail down to each individual steer, and the ration he had enjoyed during each day of this feeding test, 157 days. The steers were a lot of common-grade native cattle, having the evidences of some Shorthorn and Hereford blood in them, but no evidence of excellence in breeding, or steers having any special advantage as a feeding proposition.

The results in detail established the value of corn and alfalfa as a cattle feed. The combination of alfalfa, corn and straw brought the best results. The average profit per steer on this ration was $17.42. Other combinations of feeds went as low as $5.96 per steer. The steers fed on corn, alfalfa and straw made a daily average gain of 2.29 pounds. The best gain made where alfalfa was not used was 2.01 pounds per day.

The scale of prices of feeds used in acquiring the above results were: Corn, 42 cents per bushel; alfalfa hay, $8 per ton; corn silage, $3; straw, $3; prairie hay, $7, and oil-meal or cottonseed meal, where used, at $24 per ton. Alfalfa was so pronounced as a good feed ingredient that even at $20 per ton it was advocated as a profitable feed. A very full and detailed report was read of the entire experiment; also a review of the feeding results for several years past was given in brief by Prof. C. B. Lee, which elicited much inquiry and asking of questions, indicating the unusual interest taken in this work.

Prof. E. A. Burnett, in his opening address, referred to the rapidly increasing population of the country, and the rapidly decreasing tendency toward cattle production, two conditions which are widening the breach between supply and demand. He asserted that the solution is the growing of more cattle on the farms of the corn-belt country, and for several years to come. At present prices, he claims that the farmer can afford to grow his own feeding steers, not as 3-year-olds, but of the baby beef classification, calves and yearlings. He asserted that the 15 to 18-month-old cattle are the market toppers as a usual thing. The question of cost of a steer fed out to maturity could not be answered, as it permitted of too many conditions, and no records of this sort of proposition had ever been attempted.

The feeders demonstrated their belief in such meetings by acting favorably upon a suggestion that there should be organized a state association of the feeders of Nebraska. The time being too short to enter into details of organization, it was decided to name an organization committee from the convention to carry into effect the completion of this work and report at the meeting of organized agriculture next January. Prof. E. A. Burnett and R. K. Bliss, with five leading feeders of the state, were named for this committee.

It was estimated that there were present between 200 and 300 feeders of cattle, and this, coming at a very busy time on the farm, emphasized very emphatically that the feeder interests in Nebraska realize that this is an important period in the history of this line of live stock industry.

Too Well Contented

One of the obstacles that those who are trying to develop a better agriculture have to meet and overcome is too much content on the part of farmers with their present achievements and their present conditions. There are many localities in the Missouri valley where the farmers are in easy circumstances, with farms paid for and money in the bank, and they are contented with their condition just as it is, and disinclined to put forth any effort to improve it.

This content arises from a wrong conception that the farmer entertains of what he should try to achieve. Farming should not be regarded merely as a money-making game, as an occupation to be used solely for providing means for a livelihood, and at death leaving sufficient property to give the children a good start in life. Every farmer should realize that a part of the burden of the world rests upon his shoulders, that he helps to feed and clothe the world, that by every crop he raises the world is so much richer, has so much more to eat and to wear. The obligation to provide this rests in part upon his shoulders. He should not be content simply with a livelihood or with a certain amount of money in the bank. His aim should be to develop his holdings to the highest possible degree of production. If he really made an art of farming, this conception would follow as a matter of course. The farmer should take pride in what he does because it is worth doing, because it benefits the world just so much. He should look at something more than the dollar side of his operations. The man that is contented is hardly worth while in the world. It is never-ending unrest and dissatisfaction that is continually driving men to higher and better achievements. No farmer should be satisfied with money. The only thing that should satisfy him should be doing the best he can under the circumstances. The farmer that gets this idea into his head, or perhaps it would be better to say, into his heart, becomes a much more valuable citizen, of much more worth to himself and to his community.

Distribution of Produce

The economic handling and distribution of produce, fruits and vegetables has become a matter of great interest to both producer and dealer, and, incidentally, to consumer. Fruits especially are classed among the perishable products in trade, and therefore enter into the class of risks that demand the closest observation of system in package, handling, shipment, storage and distribution of any feature of food product that the commercial trade is called upon to dispense. That this feature of the food supply of the country has been neglected and poorly managed for the best interest of producer, dealer and consumer, there is abundant evidence to verify in every producing district and every market distributing center.

The fruit-growing districts in this country are practically without limit. Fruits of all kinds are produced, and in abundance, every year. Where there is a failure from some weather or climatic cause, there are other districts able to take up the deficiency and supply the shortage, if only put under a proper organized system of distribution.

Thousands of bushels of the very best quality of fruits are wasted each year in the orchards because of lack of system and knowledge of how to handle the crop to get it into market in good, merchantable condition, and at the proper time. The proper distribution of fruits in the various markets, so as to avoid over-supply and glut, and thereby a loss, may be accomplished through co-operative organization of producers and sales agencies.

The fruit growers' associations of the country should be able to supply the trade at a reasonable price if the fruit crops produced and brought to market condition could be saved for shipment and distribution. The apple crop of the United States should be more economically handled, and more uniformly distributed throughout the consuming period, and at a price much below that now charged the consumer. Thousands of bushels of apples are rotting each autumn under the trees all over the apple-growing states, and the retail dealers sold just an ordinary quality of apple throughout the winter season of 1912 and 1913 at 35 to 50 cents per peck.

Organization will help in securing better quality and more uniform supply in all the markets of the country. Let the orchardist be encouraged to raise more fruit, and let the supply govern the price in the retail market. This will satisfy the consumer, and the present waste will be largely corrected and turned to encouraging the more general use of fruits, because of the better quality and the cheaper product.

Considerable progress has been made in soil surveys in different parts of Nebraska, and more extended work will be carried on during the present season. After a survey is completed the report is prepared, together with soil maps, in colors, showing the different types of soil, and where located, and other matters of detail that it is desirable to know. These may be had from the department at Washington.

More Live Stock

The Missouri valley territory needs more live stock on the average farm. This is especially true of the territory west of the Missouri river, where too exclusive attention has been given to grain growing. Sooner or later this territory will learn that the soil cannot be kept continually producing grain for market and maintain its fertility. In the end live stock will be necessary to restore and maintain the producing capacity of the soil.

Iowa and Missouri have already begun to learn this lesson. This is especially true of Iowa. When crossing the state it is gratifying to note the average number of live stock on the farms as compared with what it was a few years ago.

But before Kansas and Nebraska materially increase their holdings of live stock they must make more adequate preparation for the care of them. More land must be thrown into pasture. There must be more extensive seeding to clover and to the grasses to provide this pasture. The average farmer in this territory generally remembers the bad years much more distinctly than he remembers the favorable seasons. Because during an extremely unfavorable season he failed to secure a good catch of clover or of grass, leads him to the conclusion that it does not pay to seed down land to grass because the hot, dry seasons kill it. Accurate review of seasonal conditions for the last twenty years shows, however, that there were more seasons in which such grasses did well than there were in which they failed. Such seeding is necessary before increasing the number of live stock, and it is necessary also to assist in restoring or in maintaining the fertility of the soil.

In Kansas and Nebraska there is considerable agitation that looks toward increasing the number of dairy cows on the average farm and the building up in general of the dairy industry. The development of the dairy industry cannot take such strides as it should in this territory until ample provision is made for dairy stock in pasturage and in hay. This imperatively demands a more extensive seeding to clover and to the grasses. There is no system of farming in this territory that will pay better than introducing a seeding of clover into every rotation, and rotating regularly on every farm. The more grass, the more live stock; the more live stock, the more fertility; the more fertility, the greater the production. There is another side to it, too. The more dairy stock there is upon the average farm, the more money will be coming regularly each year into the pockets of the farmer. This, when counted up at the end of the year, will beat grain-growing all to pieces.

Kangaroo farming is an important industry in Australia. The hides are valuable, and the tendons extremely fine; indeed, they are the best thing known to surgeons for sewing up wounds, and especially for holding broken bones together, being much finer and tougher than catgut.

Rack for Feeding Hogs Alfalfa

This is a picture of a rack for feeding hogs alfalfa. It has been in use on a Nebraska farm for many years. The frame of the rack is built V-shaped, though this does not appear very clearly in the picture. The sill at the bottom of the rack is a 2x6, and the pieces along the top are 2x4. The frames for holding the sides of the rack at the ends and in the middle may be built of 2x4 or 1x6 pieces. The sides of the rack are twenty-six-inch woven wire fencing, the heaviest that can be bought, and this is turned bottom side up, so that the big meshes are at the bottom. The hogs then can eat the hay through these large meshes without getting it under their feet to be trampled upon and wasted. In building the rack it is best to staple to the sill and to the top over each cross-wire so as to prevent the cross-wires from slipping. Alfalfa fed in such a rack will all of it be utilized, and the hogs will eat much more than they will when it is thrown out upon the ground and trampled over by them.

The Pig

We want to say a good word for the pig. In the first place, he is not nearly so stupid as many imagine. We have seen him pick out numbers and letters of the alphabet and do some of the same tricks that are taught intelligent horses and dogs. Then he is not a creature that by nature prefers filth and mire. Give him a clean sty, and, in hot weather, a wholesome pool of water to lie in, and he'll keep himself looking very respectable. It is by his wallowing in good, clean mud that he keeps his skin in healthy condition. When the mud dries and flakes off it carries the impurities of the skin with it. But shut him up in a foul pen, or confine him in an undrained mud-hole of a barnyard, and what can he do but look up at you out of his degradation and shame?

Particularly do we desire to protest against the New England habit (and the custom is wider than New England) of compelling him to live under horse and cow stables and wallow and root in the by-product that comes down to him from the floor above. Easterners often talk of "native pork." They think that a roast or a spareribs from some farm close at hand must be extraordinarily fine. Unsuspecting mortals! It is not to be compared with a piece of pork from some western-born and bred pig that has had wide pastures to roam in and been fed on corn and the spare milk from the dairy. The vast majority of these western swine live amid much more sanitary and pleasant surroundings than their eastern relatives.

But besides all this it is a form of cruelty severely to be condemned to doom any animal to such vile, unkept, uncleaned sties, pens, yards, as those in which the most of our eastern pigs are confined. They deserve a far better treatment both on their own account and that of those who will ultimately eat them.

And then a word, pleading in their behalf, that they meet death at last in a merciful way. No food animals are killed more brutally, as all of us know who are familiar with the slaughter houses, and the farms of the country. Seized, stabbed, then allowed to stagger about until they drop from loss of blood—this is the farmer's ordinary custom with them. At present our agricultural papers are telling of farmers who have abandoned this barbarous practice, and, before using the knife, destroy all consciousness by dropping the poor victim with a bullet from a small rifle. This is the only humane—yes, human—way to kill the pig. "A bullet properly placed with any of the small-caliber rifles, say those using 22-long cartridges," writes an experienced farmer, "will drop them instantly." Draw two lines, in imagination, one from each eye to the base of the opposite ear, and where they cross is the spot at which to shoot. This farmer, and scores of others, testify that this method of stunning in no way interferes with the bleeding.

Personally, we have always had much sympathy with all four-footed pigs. We are glad of the chance to say this word for them. The other variety of the species—the one that walks erect—well, we have not been thinking of him. Wandering Ulysses' companions turned into swine were still better associates in many respects than some men would have been. It was Dumas who said: "I am fond of animals, but I abhor beasts."

Note—The above, clipped from Our Dumb Animals, a magazine published in Boston and having a wide circulation, especially in the eastern states, is a high compliment to the western hog and to his owner. The advice given therein is also worth following.

Dr. Andrew L. Draper, a well known educator, thus describes the right kind of education: "Education that has life and enters into life; education that can use English to express itself; education that does not assume that a doctor must be an educated man and that a mechanic or a farmer cannot be; education that appeals to the masses, that makes better citizens and a greater state." This is the kind of education we all want.

South America becomes more civilized all the time. A school of dairying on an extensive scale is planned by the Argentine government.

Better Farming Association

South Dakota to the front! The Better Farming Association of South Dakota announces that it has arranged to take a number of boys on a better farming survey trip, starting Monday, June 16, and making a continuous tour of a large district of the best farming section of the state, for a period of one week. The delegation of boys will be selected from the respective school districts comprising the territory to be canvassed. Boys eligible for this trip must have made good records the past year in school and also be interested in farming and farm life.

The object is strictly educational advantage for the boys who form this class of inspectors of actual farm operations. They will study soil conditions, crops, live stock and buildings, the garden, horticulture and the farm system of landscape gardening. Practical work in all forms of stock judging is, too, a part of the program. It is planned to go to the farms listed in this program of visitation and take each up in systematic rotation of inspection and study and move right along from one to the other.

The state national guards have supplied the class with the necessary camping equipment, tents, etc., and wherever they are overtaken by the shadows of evening they will pitch their tents, cook their suppers and rest till the light of another day, when they will fold their tents and take up their journey to the next farm on the program. It will be a week of strenuous work for the boys, a season of study, recreation, and also amusement, as each day there will be one hour devoted to active athletic exercise.

One of the strong points in this plan of training is to get the several ideas of the farmers and their reasons for the various practices pursued by them in their farm work—the practical and valuable ideas of the farmers on the methods of farming in which they have obtained their best results. This excursion will be out over one Sunday, and wherever this may be, the entire company will observe the day by attending church in a body, thus conforming with the moral and religious customs of our country.

On the 20th day of May, almost four weeks before it was planned to start, there were sixty boys enrolled for the trip. That this system of observation and farm demonstration instruction will prove a pronounced success as an educational proposition, there is scarcely the shadow of a doubt. The well planned work outlined by this organization, entitled "Better Farming Association of South Dakota," is a stimulating impulse to both local and state interests that is bound to get results.

H. F. Patterson, superintendent of this association and manager of the work outlined, merits at the outstart our congratulations and good wishes for the greatest of success in this farm-boy enterprise. May other states take up the good work outlined by Mr. Patterson and give their farmer-inclined boys the public endorsement that will put a premium on farming in the estimation of all well balanced, thoughtful boys.

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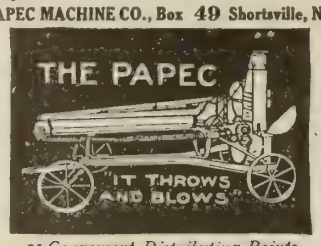

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An extra stroke of the pen when writing to advertisers on this page will state that you saw their advertisement in The Twentieth Century Farmer.

An Old Settler's Skunk Story

Learns How to Get Rid of the Perfume

THERE is an old settler that hangs around the office of this paper more or less, and sometimes recounts some of his varying experiences. He told a story about skunks the other day that seemed to be well worth printing. Here is the way he told it:

"More than thirty years ago, when I was on earth the first time, I was hunting quail one day in the winter along the shore country of Cape Cod in Massachusetts. On coming out of the brush I saw the queerest looking hunter, equipped in the queerest way, that I had ever seen at that time. He wore a bushy beard and long hair, which was surmounted by a well worn and greasy cap, and his clothes were of a nondescript character, common then to the natives of that section, and they also were in the last stages of usefulness from wear. He was accompanied by a one-eyed pointer dog, and carried as tools of his business a hatchet and an iron bar.

"'Hello, brother!' I said. 'What are you hunting?'

"He was rather startled by my question and sudden appearance, and, after looking me over, replied in an unwilling tone, 'Skunks.'

"'How on earth do you get them,' I said, 'with that outfit?'

"'Oh,' said he, 'that's easy. The old dog finds the hole where they are in and then I dig them out and kill them. Skunk skins are worth a good deal more than mink skins nowadays, and they are worth hunting.'

"I was surprised. There was not the least scent of skunk about him, and so I said:

"'You have not had much luck lately, have you?'

"'Got eight yesterday,' he replied. 'Dug them out with the bar and killed them with the hatchet.'

"'Didn't you get pretty well scented up?'

"'Oh, yes. I got pretty well peppered, but I don't mind it; I am used to it. The fact is, I kind o' like the smell if it don't come too strong.'

"'Do you change your clothing every day? I don't smell any skunk about you now.'

"'Oh, no; had on this same suit yesterday.'

"'I don't see how you got rid of the smell. You don't smell of a skunk at all now.'

"'That's easy. When I get home, after I have got my pelts all cared for, I build up a good, hot fire in the kitchen stove, hang my clothes up over the stove, and put a pie-tin on the stove with some good, sharp vinegar in it, and let it boil. The steam from the vinegar kills the skunk smell. That's the way I fixed these clothes last night. When I first began this skunk business it made the old woman gag when I came into the house, and she ran outdoors, but she's got used to it now as well as I have.'

"'That's a pretty good story you are telling, but the main point is, is it true?'

"'You bet it's true. If it was not I should have to quit skunks or the old woman would quit me. As it is, I make a pretty good thing out of it now every winter.'

"I never forgot the old man's story. Years afterward, after I had accumulated a family, I settled on a farm in Nebraska. One afternoon the inside boss told me there was a skunk in the cellar. I told her the story the old man had told me that morning down on Cape Cod, and said that I guessed we had better try it. The first thing, however, was to get the skunk out of the cellar. But he was finally gotten out, leaving good evidence behind that he had been there. The inside boss took a one-burner gasoline stove down cellar and set it a-going, with a pie-tin of hot vinegar boiling above it. It actually did the business. When the children came home from school an hour later they could not detect the least odor. There was not the least sign that we had been having an interview with a skunk. I have tried it often since, and it always works. There is no need of burying clothes that are skunk-scented. Hang them up where vinegar vapor can get at them, and that will do the work. If anyone is unfortunate enough to get some scent on their person, in the hair or beard, a thorough wash with hot vinegar will destroy all trace of it. If you want to print this you can. It's true, and I'll swear by it. I have tried it often enough; I ought to know."

One of the plumbago grinders connected with this great "Family Blessing" has known the old settler for a great many years, quite intimately, and vouches for the truth of what he says. He has tried it himself, and finds the old man's recipe reliable. This will be good news enough to farmers and farmers' wives with whom skunks occasionally become too intimate. The old man told us some other things about skunks that we may give to our readers in some future issue.

Practical Farming Demonstration

A. B. Mobley, a Tennessee farmer, is cultivating his crops under government instructions. A short time ago a field demonstration meeting was held on his farm and over 100 farmers gathered there to listen to addresses and to observe the results of the government methods. Considerable interest has been aroused in this work.

In a business sense, Wall street is as solemn and noiseless as a cemetery highway. Lambs are few and growing scarcer, and the crop of wool is barely enough to keep the tires of limousines inflated. The evil reputation of the street is striking in.

Flies breed in filth and carry filth with them wherever they go. It sticks to their feet and legs. It is not pleasant to think of eating food flavored with such condiments.

Water your horse as often as possible. Water in moderate quantities will not hurt him so long as he keeps moving.

PUT AWAY PICKLES
Mathematician Figures Out the Food Question

If anyone requires a clear head, it is a teacher of mathematics. He must reason in the abstract, as it were, and full concentration of mind is necessary if correct results are to be forthcoming.

An Ohio man writes:

"I am a teacher of mathematics and for 15 years prior to four years ago I either took a lunch, composed of cold sandwiches, pickles, etc., to school or hurried home and quickly ate a hot dinner.

"The result was that I went to my afternoon work feeling heavy, dull of brain and generally out of sorts. Finally I learned about Grape-Nuts food and began to use it for my noonday lunch.

"From the first I experienced a great change for the better. The heavy, unpleasant feeling and sour stomach caused by the former diet disappeared. The drowsy languor and disinclination to work soon gave way to a brightness and vim in my afternoon work, a feeling entirely new to me.

"My brain responds promptly to the requirements put upon it, and what is of more importance, the results have been lasting and more satisfactory the longer I have used Grape-Nuts as a food.

"My wife had been suffering from weak stomach, accompanied by sick headaches nearly all her life. She is invariably relieved of these when she sticks to Grape-Nuts, either eaten dry or with milk. Her stomach has gradually grown stronger and her headaches less frequent since she began to eat Grape-Nuts." "There's a Reason." Name given by Postum Co., Battle Creek, Mich. Read the booklet, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Original Stories By Our Young People

The Meadowlark

sang, and 'twas as heaven's door
ome angel hand had left ajar,
d from its portals straight did pour
aro music borne from star to star.
sang, and every dreamy vale
Vas sweeter for its liquid voice,
d echoing hills took up the tale,
While zephyrs whispered low,
"Rejoice!"

breast of gold, thy limpid note
s still more golden than thy breast,
d from thy tiny, feathered throat
ing melodies of life the best.
ere is no fairy vale so sweet
ut thou dost make it sweeter still,
d elfin sprite of music meet
Where thou are found to do thy will;
"Rejoice!"

—A. J. Waterhouse.

***

As soon as the sun rises in the rning, the meadowlark perches the nearest telephone pole or ce post, or even on a bush or tall k, and begins to sing. He sings roughout the day and never stops til the last rays of the sun die ay at night, and no matter what are doing or how badly things e going for us, his cheerful song is vays bidding us to cheer up.

The meadowlark is as bright and shiny to look at as he is to hear. s breast is a clear yellow, with a oad black bib across it, and there e black dotted lines down his sides low his wings. His back is gray- brown, with strong black marks,

d his tail feathers largely white. e has a long, slender bill, with ich he digs in the earth for the gs of bugs and beetles, and for e army worm and cutworm, which considers about the finest meal ere is. He is also fond of chinch gs and grasshoppers and eats ousands of them every day when ey are to be found.

The nicest thing about the mead- lark is that he does not leave us the winter, as so many of the ds do, but stays around and lives the grain that has been left by e farmer in the fields and on the eds of harmful weeds. In the ring, as soon as the bugs begin to r, he stops eating grain and goes r the bugs. Then he begins his ng, which all winter has been ent. In some of the southern tes it used to be thought that the eadowlark ate the wheat that had en planted and a great number of ese birds were shot. Some men o knew all about bugs examined e crops of these dead birds at one ne and found not a particle of heat, but instead they found hundreds of the larvae of the boll-weevil, which is the worst enemy of the cotton crop, and also of the cutworm, the army worm and the grasshopper. So the farmers had been killing their best assistants.

Most people have some faults, and so do most birds, but no one has ever found any faults in the meadowlark. He looks good, sounds good and his actions are all good. If you find his nest in some hollow or beside some low-growing bush, be careful not to disturb it, for the eggs or little birds it may contain will some day eat up thousands of grasshoppers and bugs and worms that might otherwise destroy whole fields of wheat or corn.

(Prize Story)

By Everett Van Horn, Aged 9, North Loup, Neb. Red.

Yesterday, school being out, Nile Van Horn, Clifton Van Horn, Jerry Hill and I went down to the river to have a picnic. We took some weenies, cookies, sandwiches, cake and some candy for our dinner. We started out, with our dinner, fishing lines and some bait. When we got down to the river we laid down our things and drank out of a little spring, which was about forty rods this side of the bayou. Then we went down to the little bayou and threw in our lines. It was not very long before I had a bite. I then, in a little bit, brought out a good-sized sunfish. Nile just then brought out another, and we kept pulling them out until we had ten. We did not catch any more, so we set our lines and caught two frogs, which we used for bait. After that we caught five more fish. Then we went to our picnic dinner, which we ate with a good appetite. Jerry caught another fish after dinner. Then we played until half-past 4. We then started home, thankful we had caught some fish and satisfied with our day's fun.

(Honorable Mention)

Taking Care of Sister

By Agnes Peterson, Aged 10, Honey Creek, Ia. Red.

It was Monday, and it was mother's washing day, so Johnnie had to take care of little Nellie, who was only 2 years old. Johnnie took her out in the orchard, where the daisies grew very thickly. Nellie liked to pick them, but Johnny did not want to. He wanted to go and look for birds' nests, but could not leave Nellie. At last he thought of a plan. He could take Nellie with him. Nellie said she would like to go, so both started out to look. In a little while Nellie pointed at a bird's nest and said, "Oh, pretty, pretty!"

"Why, Nellie, how clever you are!" said Johnny.

"I want to take birdie home with me."

"No, birdie has little babies herself."

So Nellie trotted home with Johnny.

The Lost Dog

By Altha Taylor, Aged 10, Tempe, Arizona.

My little sister and I have a little dog named Tip. One day we took him and went to play with some little neighbors. We went from there for an auto ride and he started to follow us, but he could not keep up, we went so fast. We thought he had gone back home, but when we got home he was not there. We felt so bad that sister and I both cried. Mamma went with us to try and find Tip. We went by the neighbor's where we had been playing, and they had found him in the bed room on the bed. He had gone to bed to take a nap while we went for our ride. We were so glad to see him that we just hugged him.

Every evening after the sun is down we play ball with Tip. He likes to run and catch the ball.

Additional Stories

Blue — Lela Norris, Cleman, Neb.; Theresa Peterson, Honey Creek, Ia.; Olga Larson, Hardin, Mont.; Pearl Bale, Brimfield, Ill.

Red — Hallie Field, Carl Guenther, Bruno, Neb.; Ruth Claypool, Independence, Mo.; Ruth LeDeux, Stilwell, Kan.; Florence Jewett, Ishwood, Wyo.

Flag Day

Just 135 years ago today, the 14th day of June, 1777, the Continental Congress adopted the Stars and Stripes as the flag of our country. There were thirteen white stars on a blue ground and thirteen red and white stripes, representing the thirteen original colonies. Betsy Ross made the first flag, which was submitted to the Continental Congress and accepted. There was a star and a stripe added for each state admitted to the union, until there were fifteen. The flag, with fifteen stripes on it, was carried all through the war of 1812. In 1818 five new states were added, and, as so many stripes would be confusing to the eye, the plan was changed, and a star added for each state, but the stripes left thirteen to represent the original colonies. This is the way it is today, but we have forty-eight stars, a far larger number than the members of that congress probably ever dreamed there would be.

Our flag now stands for the thirteen original colonies and for the forty-eight states that compose our union. And it stands for more. It stands for home for the finest country in the world, and the one of which we are justly proud. It stands, too, for our duty to keep it so. Our country is just us, and the stronger, truer and more upright we are the better our country will be. We can only have the finest country in the world by being the finest people in the world, and each one of us must do his share.

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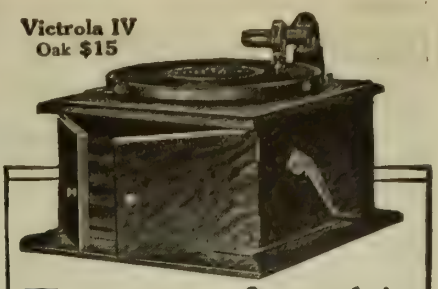

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HAROLD SOMERS, 180 DeKalb Ave., Brooklyn, N. Y.

Of Interest to Our Women Readers

The Bulwarks

With women throwing brickbats
Because they want to vote,
And sirloin too expensive
To put it down your throat,
Yet still to tribulation
My soul will never bow,
While mother rocks the cradle
And father guides the plow.

Though corporations tumble,
And banks around us fail,
Though militants are fighting,
And bluecoats go to jail,
Old Glory and the nation
Are safe and sound I vow
While mother rocks the cradle,
And father guides the plow.
—Minna Irving in Leslie's.

Our Home Chat

At the graduation exercises of the University Medical school in Omaha last month Dr. Frank Crane of New York City gave an interesting talk on adulterations in foods. He told of "chocolate candy" which on being analyzed was found to be composed of absolutely no sugar and absolutely no chocolate, but of glue and coal tar dye; of white flour that had lost most of the nutritiousness and wholesome properties in the process of milling; of so-called fruit extracts sold at the soda fountains which have absolutely nothing to do with fruits, but are made of acids and alcohol; and of many other articles of food and drink that are daily sold to the people.

He spoke of the clever advertising of these products that deceive people so that, as he said, "the mothers believe these ads and feed this denaturized bread to their babies, so that annually 235,000 of these children under the age of 10 are put where white bread and chalky biscuits are no longer needed."

He said that the physicians of the future would "have to go into the school room and into the great manufacturing establishments and many other places of business in order to keep the children from being starved and the adults from being poisoned."

This may be the duty of the doctors, but it is unfair to put all the burden upon them. Is it not also the duty of the mothers and homemakers to see that the children and others entrusted to their care are not daily starved and poisoned? Can we not, by the use of a little common sense, see that the flour, candy, flavoring extracts, etc., that come into our homes are pure and nourishing? Do not buy things because they are cheap. Buy what you know to be good, no matter if the price is a little more. Absolute purity and cleanliness are not to be achieved without cost, and the best is always likely to be a little more expensive. THE EDITOR.

Baby's First Wardrobe

"A sensible layette for the baby," said a nurse, "can be purchased for less than $15, and will include not less than four dozen diapers, four pairs of stockings, four bands, six skirts (three flannel and three outing), four shirts, four night slips and six day slips, three little muslin caps, a cloak, three pairs of bootees, four pads and two rubber diapers.

The first thing to be considered when selecting the material is the health and comfort of the infant. An infant's wardrobe should be warm, but at the same time as light as possible. For the day slips choose dimity, lawn, batiste or any fine, soft goods for which you have a special preference. Do not make them elaborate, as babies have a way of outgrowing them so fast that time might better be spent otherwise. Make the dresses so that they just cover the feet—about twenty-seven inches for the average child. Very long dresses drag on the baby's feet and back and are more uncomfortable for the mother to handle. Feather stitching, hand-run tucks or a little touch of hand embroidery is trimming enough, as frills of lace or embroidery at neck or wrist tend to irritate the delicate skin.

For the night slips one can use long cloth or outing, and as it takes only two yards for each one, the cost of the entire four will be very small. If baby is to come in the winter months, it is a good idea to turn a hem and run a draw string through the bottom of the night-dress so that it can be drawn up tight, and if baby is restless he will not become entirely uncovered and take cold. Perhaps more care should be expended on the little shirts and bands than on any other part of the baby's wardrobe for the reason that they are worn next to the flesh. For winter or summer wear the shirts should be of medium weight wool, mixed with cotton or silk. The majority of mothers prefer woolen for the bands, but there are competent mothers who staunchly advocate a fine, soft linen. Probably for summer babies the latter might be preferable, as its possibilities for irritation are fewer than flannel. As a rule bands are twenty-seven inches long and about seven inches wide, so three-quarters of a yard of either material will be sufficient. Do not hem them, as the hems press onto the little body and form a bruise. As most mothers prefer some form of finish on the bands, pinking will be found to be very satisfactory.

For diapers, bird's-eye cotton seems to be a general favorite. Four dozen will not be any too many—two dozen 18x36 and two dozen 36x36. After they have been hemmed wash them so as to entirely remove any stiffness. The pads for placing under baby may be any size, but those 27x36 are good. Take a yard and three-quarters of good grade cheesecloth and sew it up like a bag. After putting in cotton to make it as thick as you desire, sew up the open side, tack here and there to make it firm and quilt on the machine. While the rubber diaper was not heard of in our mothers' day, still it is almost indispensable for the modern baby. To some the rubber diaper complete may seem expensive, but where one buys the rubberized material by the yard (in any department store) they do not come dear at all. Bind the edge with linen tape and fasten with buttons.

In selecting stockings, buy a good grade of linen and wool mixed. If one provides stockings, bootees are not really necessary till baby is put into short dresses. Baby's first caps are usually very simple affairs and can be made from scraps of any fine material. The caps with the turnback Dutch flap is a great favorite, as it lends itself so well to a touch of embroidery. For the cloak, eiderdown or French flannel are very suitable. Personally, I prefer a capeless cloak, for the reason that a cape usually drags in the neck and is often the cause of spinal trouble.

In making any of the above garments be sure the seams are flat and as thin as they can be.

MAME GRIFFIN DUNN.

When the Baby Runs Away

Many a busy young mother on a farm is kept uneasy by the little 2-year-old who wanders away or runs out to the horse lot or the pig pen when the mother is busy and neglects to watch him. Let me tell you what to do so you will always know when the little fellow is safe. Get a 10-cent sheep bell—the kind you can hear for some distance, yet which is not harsh and loud. Tie it by a strong cord around the baby's neck. He will be greatly pleased with the pretty toy and soon will not leave the house without it. What a difference! The mother about her work will hear the merry tinkle as the little fellow runs here and there and will know by the silence when the baby is on forbidden ground. I have tried this with my baby and know the steps it saves and the worry it avoids.

MRS. T. A. M'CULLO.

Library Paste

To make a paste equal to what one buys under various names, take a cup of water, put into a small saucepan, add a piece of alum as large as an almond, let it come to a boil; when the alum is dissolved, thicken with flour stirred into cold water; use about two teaspoonsful of this thickening. Let boil up. Take from stove and beat until nearly cold; add about ten drops of carbolic acid and pour into jars.

MRS. A. TREMPER.

Chocolate Cream Cake

Buy fresh, but solid, cream chocolates of different flavors, such as vanilla, lemon, orange or maple. After you have iced a layer of white cake with plain white, boiled icing, slice the chocolate creams in thin slices and lay over the icing, saving the best rounds of the creams for the top of the cake. Treat each layer the same. Some other soft candies may be used in the same way, giving a pleasing effect, as well as making a delicious icing.

MARY RUTLEDGE.

The department of home economics at Fort Collins, Colo., now has an enrollment of 250 girls. They study house management, home sanitation, foods, home nursing, cooking, household economy, millinery, farm architecture, English and music. The number of girls in every state who are taking up homemaking as a profession grows larger each year.

Cleanliness is sure death to the fly. Keeping the premises cleaned up, so the fly will have no filth in which to breed, will save much annoyance during the warm weather.

tyles for Home Dressmaker

All Patterns on This Page Ten Cents Each

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—Ladies' Coat. Every woman needs g coat, and here is an excellent pat- for making such a garment. This is 54 inches in length. Linen or weight serge can be used to make coat, with the trimming of braid. pattern 5777 is cut in sizes 32, 36, 40 44 inches bust measure. Medium size ires 4 yards of 54-inch material, 3¾ s of braid.

Girls' Dress. This dress is made a long waist and short, plaited . The pattern provides for a gulmpe. n, percale, gingham or serge can be to make this dress, with the trim- of contrasting material. The pat- 5308 is cut in sizes 4, 6, 8, 10 and 12 . Medium size requires for the 2¾ yards of 36-inch material, with rd of 27-inch contrasting goods. The pe requires 1⅛ yards of 36-inch ma- l.

—Ladies' Bib Apron. This dainty n has a bib in front which extends the shoulders and forms a wide col- ffect in the back. The skirt section e garment is small and is pointed ront, sloping upward and backward. pattern 5160 is cut in one size and ires 2 yards of 36-inch material.

—Ladies' Waist. This pretty waist be made with or without the peplum. an also be made with either the spierre or turn-down collar. Ponges messaline or linen can be used to e this waist. The pattern 5952 is cut izes 32 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material.

5912—Ladies' Waist. This waist closes at the front and is made with a removable chemisette. Three tucks at each shoulder give the necessary fullness. Linen, silk or madras can be used to make this waist. The pattern 5912 is cut in sizes 32 to 42 inches bust measure. Medium size requires 3⅛ yards of 36-inch material, ⅝-yard of 18-inch all-over and 2⅜ yards of insertion.

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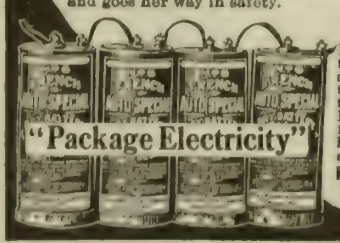

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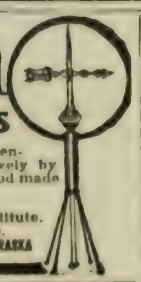

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Courting by Hand Telephone

Customs of Love and Marriage in Mexico

MEXICO CITY—This letter is written for the dear "little chickens" of the United States. I mean chickens in the Mexican sense. The young women and girls of this country are affectionately called "chickens." If they are under 18, they go by the name of "pollitas," or little chickens, and if over that they are called "pollas," or grownup or big chickens. The comparison is even carried out as to the men. If young and marriageable, they are known as "gallinos," or young roosters; if old and tough, they are called "gallos," or old cocks.

I am writing this for our girls rather than for the boys, but I doubt not it will form good feed for our old roosters as well. It is about the women of Mexico—how they look, how they love and how they are courted and wedded.

Mexico's Beautiful Girls

I wish I could take you with me through the Alameda here at the capital or around any of the big plazas of the interior cities when the band plays Sunday evenings. The girls are then out en masse, and the boys as well. The girls walk by themselves and the boys by themselves. Each sex goes double file, and so that they face as they pass. The men stare hard at the girls. It is not improper here for a man to look at a woman, and if he ogles her she thinks it a compliment. This ogling goes on even in the business streets during shopping hours, and it flies from carriage to carriage along the fashionable drives. The amorous glances, however, come from only the men. The girls are so watched that it takes a sly maiden, indeed, who can sneak a love-look out of the corner of her eye without the knowledge of the mother, aunt or duenna, who always goes with her to keep her in order.

Not many years ago it was the rule for the girls to have their faces half hidden by their mantillas, and even now this is done somewhat by the sevillana or little mantilla, a small shawl of black lace, which they drape over the head on going to church. The Mexican custom forbids one going to church to show her clothes. She cannot wear a hat or bonnet to worship, and she must go clad in black, with her head draped in black lace.

A Mexican Beauty

No Wonder They Ogle the Girls

I do not blame the men for admiring the girls. Mexico is a land of beautiful women, and the pollitas especially seem good to my eyes. The girls mature here much sooner than Uncle Sam's maidens. At 12 they are as old as our girls of 16, and at 14 they are ready for marriage. A great many girls marry at 15 and 16, and the girl who has no husband by the time she is 20 is on the road to old maidenhood.

After that her beauty begins to decline. At 25 or 26 her sedentary life has turned her plumpness to fatness, and after 30 she needs some anti-fat remedy. The young girls here have complexions of a brunette order, with rosy cheeks and dark eyes and hair. The hair is often as black as midnight in the tropics and it grows so luxuriantly that it falls to the waist. It is seldom tortured with curling irons and it has a good wash every week, so that it is fluf and clean. Here in the city it often worn in the most modern wa but as a rule it is brought down ov the forehead, almost meeting t eyebrows. Some girls wear th hair banged.

The features of the Mexic women are fine. Many have fac of a Greek cast, with good for heads and straight noses. Th have pearly teeth, shapely necks ar the easy carriage of the Aste Their eyes are beautiful; they a large, dark and liquid, and fra and honest withal. They are not all bold, and a modest demeanor rather the fashion. The women a well formed and graceful and a all good dancers.

Dress

I have spoken of the dress wo in the churches. It is different c the band-playing evenings, when o riding or at the opera. Then th richer girls of the capital wear co tumes from Paris, and they are well clad as the women of any pa of the world. Mexico has mar French dressmakers and milliner and there is a profusion of lace embroidery and ornaments of gol and precious stones. The stree costumes on the Alameda are fin and the girls come here to sho them. It is only among the ol families, back in the country, tha the mantillas are used upon suc occasions, and the Spanish costum is fast passing away.

How to Become Acquainted

The social customs here are fa different from ours. In some re spects the Mexican way is a relic o the dark ages, and in others it i more free than that of the Unite States. Take the matter of meet ing the girl you admire when yo may not have the means of a goo introduction. If you first see he on the evening parade, it will no be improper for your eyes to cour hers. You may even follow he home and then send a present, ask ing her to accept it from one wh has had the pleasure of seeing an admiring her charms. This gif may be a bouquet, a pot of flower or some pretty trinket.

With it you must send your name and address, and at the same time fix an hour at which you will stroll past her window. If the present is accepted, a reply of thanks will be returned, to which will be added a wish for the welfare of the giver. Then comes the walk past the window, which is the beginning of the "bear act," of which I will write further on.

But suppose you get your first sight of your girl at a ball. Here the ladies and gentlemen do not mingle together except in the dances. As you enter you see the ladies seated on one side of the ball-room, while the men stand in groups around the doorways or stroll through the halls. When the music begins, the gentlemen can select their partners without the formality of an introduction, and you can pick out your unknown pollita, or "love at first sight," even if you have never met her before, and ask her to dance. You may even tell her how much you admire her, and during the waltz if you whisper sweet nothings into her pearly-pink

r, she will only cast down her es and modestly thank you for the mpliments paid.

At the end of the dance you will id her back to her seat, and if u have made a favorably impres-n, she may let you have another nce later on. She is coy, how-er, about giving her name and ad-ess, but, if she likes you, she may ggest that if you are really in rnest you can easily find out. is means that you may follow her me and thus learn where she es. After that the servants or hers can easily give you her name. is being accomplished, the way to urtship is open and the "bear act" ay begin.

Courting by Telephone

And now comes the real court-ip, which is known as "playing the ar." I have seen a little of it ring my stay in the Central Amer-an countries, but here in Mexico e custom has been greatly im-oved, and it is now carried on en by hand telephones, in which liet, standing on the balcony or hind the bars of her second-story ont window, throws a combination ceiver and transmitter to her meo on the street below, and the o whisper their love messages ck and forth over the wire. This the latest innovation, and as yet is not very common.

The old method of "playing the ar" may be seen on any resi-nce street at certain hours of the y or evening. The man is not lowed to call upon the girl, and cannot meet her alone. He has e right, however, to walk up and wn the street in front of her use and to ogle her at a distance. e may even chat with her, if she lls, as she sits on the balcony or hind the bars of the first-story ndows. All of the Mexican resi-nce windows are barred, and these ar "little chickens" are kept, as were, in iron cages.

The regulation procedure is as llows: We will take the lover o as yet is comparatively un-own. He may have sent his pres-t and have intimated that he eatly admires the girl. She knows en he will come to walk in front her window, but she may not pear. However, if he comes again d again at the same hour, and e likes him, she will finally come rth, and after that the visits may continued from day to day. If e likes him not, she may not ap-ar at all, and after a week or so may give up in despair.

Even when the man's suit is fa-rable, his courtship goes slowly. e first reward may be only a ile, the next a few words from e maiden, and later on a bunch of wers or some little present of her n needlework may be dropped. e man may serenade her, and ter on she may beckon him to me closer under her window, and, she is well up to date, may drop wn the hand telephone and thus t him hear the sound of her voice. This "playing the bear" is ex-ected to continue at the pleasure the lady, and the "bear" is sup-osed to be on hand every day, rain shine, for the purpose. If he mes only when the sun shines, he considered a "fair-weather lover" and is apt to find the blinds closed after the first heavy rain.

I have heard of cases where such courtship has gone on for years, the "bear" frollicking about for months before the fickle maid would exchange a single word with him. In one instance here a young man has kept it up for three years, and he has not yet gotten to the telephone act. The other day this beaux was asked why he continued to "play the bear" when his sweetheart gave him so little encouragement. He replied: "Oh, I love her so dearly, and she is so rich!"

Marriage Not Easy

After the courtship has progressed, the engagement been announced and the wedding day fixed, there are still a lot of difficulties to be overcome before one can get married in Mexico. If a man is from the United States, he must have three ceremonies, two in Spanish and one more in either English or Spanisn. He must give public notice of his intention to marry by having it posted up on the official bulletin boards for twenty days, and his marriage must take place before the civil authorities and also before the priest. The three ceremonies consist of a contract of marriage, the civil marriage and the church service. The contract and civil marriage must be performed before a judge and four witnesses, including the American consul. The ceremony of civil marriage is in Spanish, and the contract gives the names, ages, ancestral families, business and residences of both parties. The civil marriage has to take place before the church marriage, and for the latter the priest is expected to publish the bans for five Sundays. All this costs money.

Groom Buys Bridal Outfit

In a Mexican marriage the groom has many expenses which in the United States are paid by the bride. He is expected to furnish the trousseau, but he sometimes fixes the price, informing the mother how much she may spend. This being done, his mother-in-law-to-be does the shopping, picking out for the bride the gowns and lingerie needed including even the shoes, stockings and small toilet articles. She then sends the bill to the groom.

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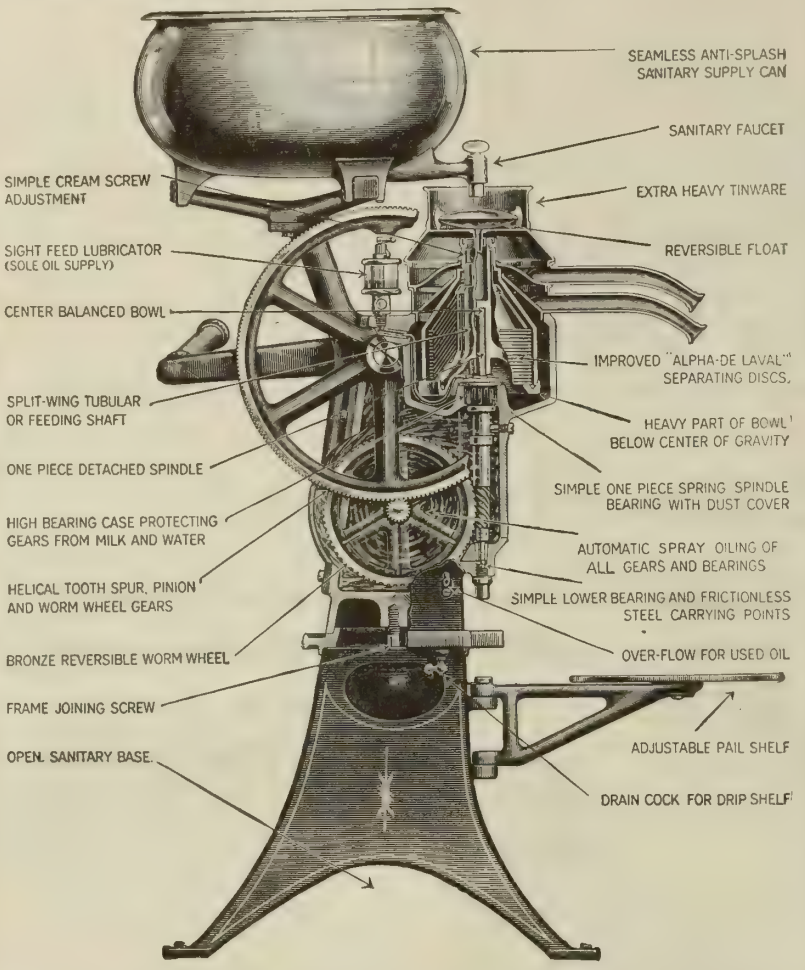

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Preserving Eggs for Winter Use

Capons and the Art of Caponizing

ON THE farm those who put by eggs for winter use at home or sale seldom begin storing them away until all of the chickens are hatched. Eggs being most plentiful in April and May, this seems the logical time to store them away for the high price given in December and January, but on the farms these eggs are needed as breeding eggs, while the after-harvest eggs are not.

Water-glass eggs are not quite so good as fresh eggs, but they are the nearest in taste to a fresh egg of all the preserved eggs. It is difficult to tell a water-glass egg from a fresh egg; in fact, as decomposition does not touch a fresh egg put down right in water-glass, it is quite likely to be a better egg after a year than the egg you eat that has laid around in a hot sun for a week.

Orders are, preserve the early eggs, because these are thought not to contain the bacteria that rot an egg. I cannot see where this could apply, if your flock is healthy, and the nests are clean, and you pack the eggs the day layed, and, as it should be, the roosters are penned away from the flock during the packing time.

So the first requisite is a healthy flock. Give the flock plenty of shell-forming food to make strong egg shells. Keep the nest straw clean; gather the eggs each day, and do not keep them over twenty-four hours before placing in the solution. Keep them in a cool place after bringing them in. They must be quite clean when put in the solution.

Your druggist should get the water-glass (sodium silicate) for you at not more than $1 a gallon. One gallon will make ten gallons of preserving fluid. Stone jars are best to use. These must be tightly covered, and set in a cool, dry spot to keep the eggs best. A five-gallon crock will hold about fifteen dozen eggs. The water you make the solution of must be boiled and cooled. After pouring in the amount of water-glass needed for the amount of solution you are making, stir it until well mixed. Make it fresh for each amount of eggs put in, and let it just cover the eggs nicely. You can use small jars or self-sealer glass cans for small numbers of eggs. These last must be placed in the dark. A temperature of 60 degrees is best to keep the solution One pint of the preservation to nine of water is the rule. If too much air gets into the solution, it will turn white. This does not hurt it, but it is best to keep the solution well covered.

Capons and Caponizing

There will quite likely be more young cockerels caponized toward the last of June and first of July than at any time before. In certain states in our country the capon industry is advancing, with New Jersey and Massachusetts leading all others by a long distance. Boston, New York and Philadelphia are the important markets for capons.

As long as 2,000 years ago China did a large business in the capon trade. From China it spread into the Roman states, and now France grows the largest number of capons of any country.

As with other male animals that are desexed, the capon changes in nature. He grows sluggish and docile, and refuses to fight. He never crows, and his comb and wattles are so small that his head seems entirely too small for his big body, and the luxuriant growth of hackle and saddle feathers that must be left on when gotten ready for market to show that he is a capon.

The age and size of the cockerel caponized is very important, for it must neither be too small or too old—from 2 to 4 months old and from two to three pounds in weight. If the cockerel weighs less than two pounds, it is too small to work handily with, and if over 4 months old for most breeds, there is not only greater danger of it bleeding to death, but of being a slip, although cockerels 5 months old have been caponized. They can be safely caponized at any time of the year if of the right age.

The larger the capon the higher the price per pound. Some breeds are easily operated on; others are not so easy. Claim is made by some, and denied by others, that the big Brahma is difficult to operate upon. Of course, this breed must grow a very large capon. On the other hand, it is declared that the Langshan is one of the easiest breeds to caponize. The beginner in caponizing often grows discouraged in the work because half of the cockerels prove to be slips, and as that they grow no larger than the ordinary male of the breed, and are little good whatsoever. One finally learns how to do the work right.

IDA M. SHEPLER.

About Crosses

If you are building up a flock in any way, either for extra size, color or laying capacity, then you must be very careful about mating brothers and sisters in the flock, for in this line of breeding is where you get your greatest retroversion—the going back to mongrel ancestors—and spoiling all of your work in upbuilding. This fact, like most laws of nature, is scarcely explainable. We know it only by its working. Again, scientific breeders use this law, when they find a once fine lot of pure-bred chickens showing degeneracy of type for some reason, to bring back the original type. For instance, should the progeny of a hen of the perfect type show up in a disappointing way, with little or none of the mother's perfection, then, to get back her perfection in the next generation, mate the brothers and sisters of the progeny of this perfect hen, and many of the chicks next hatched will show the exact type of the grandmother, and these can be saved to breed back her perfection into the flock.

Consul John H. Grout of Odessa, in enumerating the uses to which millet is put in Russia, states that the shelled seed is boiled to a porridge and forms an important item of food.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Young Colt with Distemper

A. E. Bures, Nelson, Neb.: I have a sucking colt about 5 weeks old that has a bunch just back of its front leg next to belly that keeps gathering matter. I squeeze this matter out two or three times a day, but it seems to get no better. It also has two smaller bunches under belly that came later. The first one has been there about three weeks. He also has two wire cuts that have been on him about two weeks that don't seem to heal very fast. I have been using peroxide of hydrogen. Please inform me through your Readers' exchange what to do.

Answer — These enlargements should be opened freely and with a syringe cleaned out with some antiseptic, such as a 5 per cent solution of some coal tar dip. From your description I would suspect that this colt may have what is known as strangles, a form of distemper which is very severe on young colts. In this trouble a great many abscesses are apt to form in different parts of the body. It would be well to consult your local veterinarian for the purpose of having him inject this colt with either bacterin or antistreptococcic serum. If there are any more colts to be foaled on the place it would be well to have them injected a few days after foaling to head off any trouble of this kind.

That Terrible Heel-Fly

A. J. C., Winnebago, Neb.: I have discovered the heel-fly which has been such a mystery for so long in the west, and I would like to tell our readers about it. I want to get it in your paper because I know it goes all over the west and the east. I suppose everybody has heard of the heel-fly, which stays in the west only. They bite the cattle on the heels. They start biting about the month of April. Some people say that the heel-fly is a little fly, and others that it is a large one, but no one ever said they had seen one yet.

I have looked for them myself, and looked very carefully, and I have got eyes that field glasses can't improve.

I thoroughly believe I have discovered the mystery of the heel-fly. I was on a dairy farm in the sand hills in the spring of 1912, when the heel-flies were very bad all day, and at night when the cows were in the barn they would kick just as badly as when in the pasture. I got down and rubbed their heels, and I found the thorns of the cactus sticking in their heels. Now, just at this time, when the cactus starts to grow in the spring, there is wax on the thorns that smarts their heels. When they stand in the water it cools them and stops the itching, but when they come out of the water the itching starts again, and I think that is all there is to the heel-fly.

Comment—Anyone that has had trouble from "heel-flies" would do well to look this over and see whether the trouble does not come from thorns or possibly from some skin disease of the heels.

Sunlight Fades Color of Horse

G. H. J., Johnstown, Neb.: Will you please advise me, through the columns of your farm paper, if you know of anything that will keep a black horse from fading color during the summer months also, if there is any remedy that will aid in getting the milk from a cow whose teats have stopped up?

Answer—It is the direct, intense sunlight that causes the color of a black horse to fade. The only way in which to prevent it is to protect it from the sunlight.

Use flexible milking tubes for the cow. Almost any veterinarian has them, and will apply them, or they may be bought of any veterinary supply house, and the owner can apply them himself. It may be that some dilation of the teat openings is desirable, and this can be done by any competent veterinarian.

Foaling Time for Colt

G. C. P., Ten Sleep, Wyo.: I have heard that June colts are not as well as earlier colts. If so, will you please explain why?

Answer—There is nothing in the time of the year that modifies or affects the value of the colt. Any colt's value depends entirely on two things—its breeding, and the care it receives. Of course, the earlier a colt is foaled the stronger and more vigorous it will become at the time when summer weather is severe and insects are numerous. The stronger it is the better it will be able to resist these adverse influences. A young colt has a hard time of it during fly time. The old notion of being born under a lucky star, or at the right time of the moon, has no foundation in truth. Any time of the year is good enough for a colt, or for any animal for that matter, if it has the proper protection and care.

Opinions on Farm Credit

J. A. B., King, Ark.: I saw a letter in No. 649, on page 18, of The Twentieth Century Farmer in regard to farm credits. You asked the readers of your paper to write and let you have each one's opinion on this subject. I favor this plan and think it is the only safe and sure plan for the farmer. The sooner we get this the better. This should be done at once.

Answer—This correspondent refers to the plan of having the government loan money direct to farmers at a low rate of interest, just as they have loaned money to the banks for a number of years. We shall be glad to get other opinions on this matter. The next correspondent refers to a different plan of farm credit. The letter explains itself.

M. C. K., Garden Plain, Kan.: The best way, in my opinion, for the operation of a land mortgage credit system in America would be for each state to organize a land mortgage association, as suggested by H. C. Price in your issue of May 10. This article is very interesting, and should be carefully considered by every reader of The Twentieth Century Farmer.

J. F. S., Atkinson, Neb.: I should be in favor of the government's loaning money to farmers at a cheap rate of interest. Of course, every borrower should put up good security for the money he borrows. Why not cut out this useless middle man, and the high rate of interest? They get the homes of lots of people.

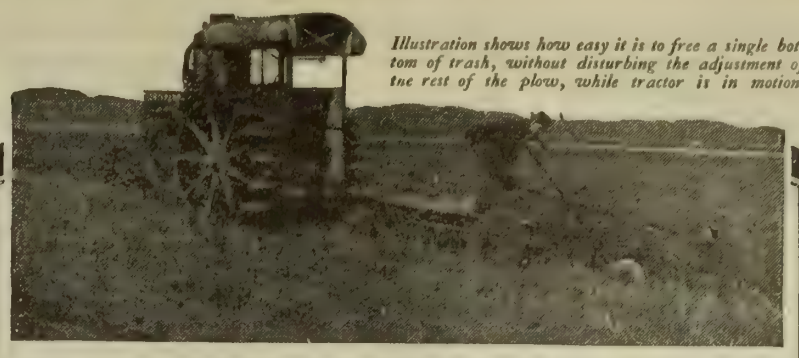

Illustration shows how easy it is to free a single bottom of trash, without disturbing the adjustment of the rest of the plow, while tractor is in motion.

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In the meantime, the tractor continues on a true course—there is no slack on the steering gear. Moreover, the furrow wheel on the plow keeps the plow right in the furrow, even though the tractor swings a foot or more to either side. Result: straight, even furrows of uniform depth, full field length, and **more acres plowed** because there are no delays.

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J. E. Vawter, Beverly, Kans.—"25 hogs lost 1 mile east; 50 hogs lost 2 miles north; 20 hogs lost 2½ miles south of me, but I used Merry War Powdered Lye and escaped loss."

Mrs. Joseph Giesken, Parnell, Mo.—"After we began using Merry War Powdered Lye we never lost a hog."

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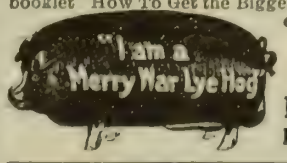

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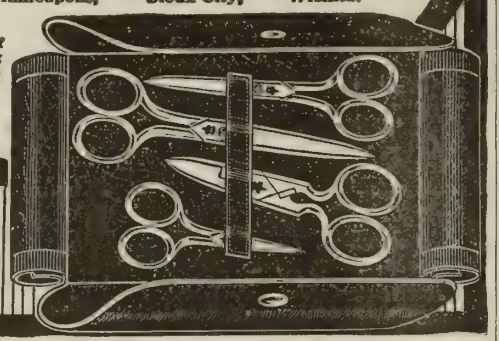

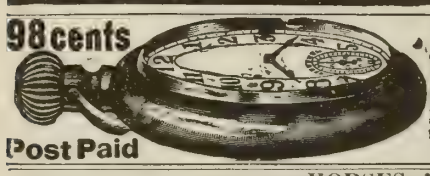

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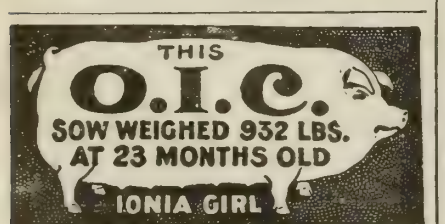

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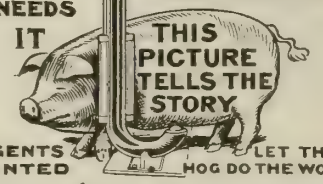

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Live Stock Market

By A. C. Dapenport

Right now, while the available supply of meat in the United States is attracting considerable attention, the marketing of stock at the principal western markets is of vital importance, since it is from these markets that the rest of the country is practically supplied. At the six leading western markets, Chicago, Kansas City, Omaha, St. Louis, St. Joseph and Sioux City, the combined receipts for the month of May were 517,292 cattle, 1,584,071 hogs and 812,001 sheep. This shows a decrease of 35,094 cattle, 174,583 hogs and an increase of 103,154 sheep as compared with the corresponding month of 1912, indicating that the available supplies of cattle and hogs are still decreasing, while there has been a very moderate gain in the supply of mutton. A table showing the five months official receipts and which tells the same story will be of interest:

	1913.	1912.	Decrease.
CATTLE.			
Omaha	366,853	380,561	13,708
Chicago	1,200,839	1,394,389	193,550
Kansas City	654,305	599,327	*54,987
St. Louis	324,731	277,238	*47,493
St. Joseph	176,303	192,487	16,184
Sioux City	163,752	187,691	23,939
Totals	2,886,783	3,031,693	144,910
HOGS.			
Omaha	1,221,908	1,563,426	341,518
Chicago	3,120,412	3,523,830	403,418
Kansas City	1,076,053	1,235,072	159,019
St. Louis	1,117,292	1,189,844	72,552
St. Joseph	720,175	965,694	245,509
Sioux City	646,231	855,614	209,323
Totals	7,902,141	9,333,480	1,431,339
SHEEP.			
Omaha	865,836	836,792	*29,044
Chicago	1,848,977	2,052,148	203,171
Kansas City	842,392	916,951	74,559
St. Louis	301,669	354,958	53,289
St. Joseph	362,398	313,384	*49,014
Sioux City	56,308	60,204	3,896
Totals	4,277,580	4,534,437	256,857

*Increase.

The following table shows the combined receipts at Omaha, Chicago, Kansas City, St. Louis, St. Joseph and Sioux City for the first five months of each of the following years:

	Cattle.	Hogs.	Sheep.
1913	2,886,783	7,902,141	4,277,580
1912	3,031,693	9,333,480	4,534,437
1911	3,257,765	8,255,542	4,063,945
1910	3,173,593	6,105,619	3,002,990
1909	3,151,285	8,475,048	3,254,465
1908	3,228,497	9,667,731	3,261,851
1907	3,697,802	8,134,264	3,715,294
1906	3,446,685	7,887,272	3,957,157

Those who have kept track of the vital statistics of the country have been aware of the fact for some time that for the first time in our history the United States is importing more cattle than are being exported. For the year 1912 our imports of cattle amounted in round numbers to 326,000 head, while six years previous, in 1906, the total imports of cattle were but 26,000 head. There is every indication that cattle imports will steadily increase from now on and the only question seems to be where to get the cattle. In this connection it should be bourne in mind that the cattle shortage is not confined to this country, but is a world-wide condition. In Australia, three years of drouth have cut down the herds of that country by the million head, so that it will take them some time to get back to a normal exporting basis. In Argentina, notwithstanding its vast expanse of range country and cultivated area, they have been exporting cattle and beef faster than they have been producing them and the country is facing a shortage.

In the course of time Canada may produce a sufficient number of cattle to cut some serious figure as an exporting nation, but this, too, will require many years. About the only available source of supply open right now is Mexico and the revolution in the southern republic makes that source of supply extremely doubtful. Should the new tariff bill provide for the free admission of cattle on the hoof, Mexico would be in a position to furnish us with cattle to restock the depleting ranges in this country, but for the present that seems a rather remote possibility.

Taking everything into consideration and viewing the situation from a world point of view, there is only one thing for the American producer to do and that is to start in breeding cattle on a large scale in order to make up the deficit produced by the settling up of the western ranges.

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A perfect worm expeller and preventive. A conditioner and mineral balancer.

Guaranteed Analysis:

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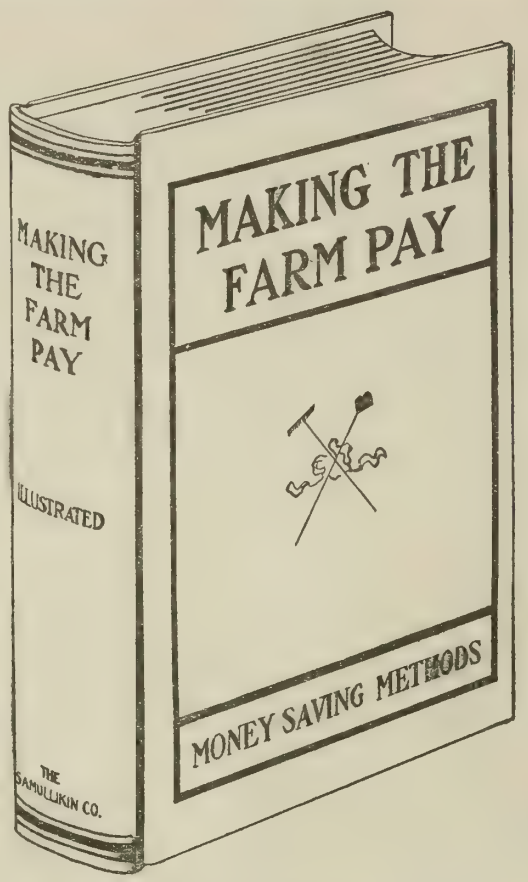

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Prattle of the Youngsters

Making Himself at Home

Doris was radiant over a recent addition to the family, and rushed out of the house to tell the news to a passing neighbor, says the Bristol Times and Mirror.

"Oh, you don't know what we've got upstairs!" she cried.

"What is it?"

"It's a new baby brother!" And expectanty she watched the effect of her announcement.

"You don't say so! Is he going to stay?"

"I think so"—very thoughtfully. "He's got his things off!"

Striking the Trail

"Good afternoon, Johnny," said the nice young lady visiting his mother's house in the sweet cause of charity. "Why don't you come to Sunday school? A lot of your little friends have joined, and we are going to have a lovely party."

Johnny shook his head. Then he suddenly exclaimed:

"Has a boy named Johnson, with red hair, joined yet?"

"Yes, dear," said the nice young lady, "and he seems to like it. He's such a good little boy."

"Huh! Is he?" muttered Johnny. "Well, if he's there I'll come, too. I've been looking for him for three months, and never knew where to find him before."—Chicago Journal.

Apocryphal

Apropos of John D. Rockefeller's purchase of a mine for $400,000 that he sold to the Steel trust for $80,000,000, a Chicago broker told, rather bitterly perhaps, an apocryphal story about the oil king.

"When John D. was a baby," he said, "his mother used to sing him to sleep. 'Sing a song of sixpence,' was the lullaby she employed.

"As soon as little John D. learned to talk, his first logical remark was an interruption to this lullaby.

"'Sing a song of sixpence,' crooned his mother.

"And the baby, shaking its little head and smiling in a wheedling way, said:

"'Make it a quarter, ma, and I'll go right off.'"

Honors Were Easy

At the mention of the word hieroglyphics during a conversation the other day, Major General Wotherspoon expansively smiled. He explained that it reminded him of the letter that Bessie wrote to her little friend Mamie.

One afternoon, the major general said, Bessie's mother found her busily writing. Bessie, being only 5 years old, the chirography closely resembled the kind that Mark Young inscribed on a laundry check with a stick.

"What in the world are you doing, Bessie?" said the little one's mother, entering the den and finding the youngster with pen, ink and paper.

"I'm writing a letter to Mamie Jones," replied Bessie, glancing up from her work.

"But, my dear," smilingly interposed the mother, "you don't know how to write."

"Oh, that doesn't make any difference," said Bessie, resuming the letter; "Mamie Jones doesn't know how to read."—New York Times.

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Putnan Writes Again

OUR old friend, Farmer Putnam, who is a great traveler and has written a number of letters to The Twentieth Century Farmer, has been busy in Colorado for the last three months helping Governor Ammons run the state. He has written us a very interesting letter, telling us what the governor is doing for the live stock industry. The Ammons ranch is located in the middle part of Colorado, about 7,500 feet above sea level. The governor has 4,000 acres and 3,600 head of cattle. Farmer Putnam talks of the practical side, as well as giving us some gossipy things about the governor's private life.

Bright and Breezy

She Found the Work

"Jamie," sharply called out his mother, "you've been loafing all day. Satan always finds some work for idle hands to do. Take this basket and bring in some kin dlings."

Flattery

"How long have you owned that dog?"

"I doesn't own him," replied Mr. Erastus. "He was lookin' aroun' foh somebody to feed 'im an' he happened to choose me, an' I was so complimented by his fondness foh my society dat I hadn't de heart to shake 'im."—Washington Star.

Captain of Industry

Some young men from Boston applied to an old fisherman up in the country to see if he could get some bait. He thought he could, and started off. Three hours afterward he appeared with a ten-quart pail full of angle worms. The boys were alarmed lest there should not be money enough in the party for such a wealth of bait, but they put on a bold front and someone asked, "How much do we owe you?" "Well, I don't rightly know," answered the old man; "the ground is kinder solid and the worms is far down, and it's been hard on my back to dig 'em; but I've half a mind to go fishin' myself tomorrow, an' if you'll give me half the bait we'll call it square."

Suppose?

Colonel Arnold A. Rand, a commander-in-chief of the Loyal Legion, at Memorial day dinners sometimes tells an Artemus Ward story of the civil war.

"The student of the rebellion"—thus he will begin—"scarcely needs to be reminded that the great glory of General John A. Dix 'was his memorable order, in the first days of the secession: 'If anyone attempts to haul down the American flag, shoot him on the spot!'

"That utterance sent an electric thrill through the heart of the north, but Artemus Ward, in pretended concern, buttonholed Dix and said, in his modest, hesitating way:

"'But — general — suppose he hasn't any spot?'"

Who Owns the Block?

The street orator interrupted his harangue to address the portly man smoking a fat, black cigar.

"My friend," he queried, "how much do you spend per day on smoking?"

"Oh," replied the individual accosted, "about 50 cents to $1."

"Don't you know that it is wrong to waste all that money?"

"Oh, I don't know that it is."

"If you had saved it all these years past you might own that big business block there."

The portly man turned languidly with a question.

"Do you smoke?"

"Certainly not!" answered the fervent speaker, indignantly.

"Do you drink?"

"I should say not!"

"Do you own that business block over there?"

"No."

"Well," rejoined the portly man, calmly resuming his fat, black cigar, "I do."

Mother

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Methods for Securing a Stand of Alfalfa

The Time of Sowing, the Preparation of the Soil and the Kind of Seed, Important Factors

THE three factors that most largely determine whether a good stand of alfalfa is to be secured are the time at which the seed is sown, the proper preparation of the soil for the reception of the seed, and the kind of seed that is sown.

In considering the first factor, the alfalfa grower should take into account the nature of the alfalfa plant, and determine what conditions are necessary in order that it may have the fewest obstacles possible to contend against during the period of its early growth. When the alfalfa plant has become fully established and matured, it will endure almost any hardship and still survive and produce profitable growth. But during the first weeks of its growth it is very tender and sensitive, and will succumb to influences over which almost any other plant would triumph. There are very few plants that are more tender or more easily killed than young alfalfa.

It cannot bear the competition of weeds, and throughout the corn belt weeds flourish during the early part of the season. The presence of crab-grass in a field renders it very uncertain whether a stand of newly-sown alfalfa can be secured. Crab-grass is the worst of the enemies with which it has to contend.

Weeds have their seasons of greatest growth. It is best, then, to delay the sowing of alfalfa until after the main part of the weed season has passed.

Too Much Mowing Hurts Alfalfa

In the earlier day it used to be recommended that alfalfa be sown throughout the corn belt early in the season, and then mowed frequently in order to prevent the excessive development of weeds. But it does not do young alfalfa any good to mow it, at least until it approaches the season for blossoming. If the young plant is cut off before this season arrives, it must lie in the soil partly dormant until it can send out new shoots from the buds on the crown of the young plant. This being forced to partial dormancy, weakens the vitality and vigor of the plant. Any plant, if it is cut off below the seed leaves, dies at once. But it materially weakens the young plant to cut it before the time for blossoming arrives, no matter at what distance above the seed leaves.

The best way to do is to wait until the main weed season has passed, until after the crab-grass season has gone entirely, and then sow the seed. The young plants that spring from seed so sown will then be free from the competition of the weeds, and can make vigorous and profitable growtth. It will not become necessary to cut it until blossoming time comes. For this reason it is stated that throughout the corn-belt region the best time for sowing alfalfa is from the 1st to the 10th of August, but not later than this. There are seasons when alfalfa sown even as late as the middle of September does well, but no one can afford to take chances of this kind. When sown at the time here recommended, the growth until winter should be left on the ground. It will afford a mulch protection to the young plants and also help to catch and hold the snow and the rain until the following spring.

Preparation of the Soil

The ground upon which it is proposed to sow alfalfa later in the season should be deeply plowed as early as possible and given thorough cultivation. The main purposes of this cultivation are to kill all weeds as they start to grow, and to place the soil in such condition as will conserve the moisture and make a proper bed for the reception of seed. small grain as soon as it was harvested, giving the soil thorough cultivation, and sowing the seed the first of August. If the season is favorable, this plan will generally be successful. But it is much better with seasons as they run, and one takes fewer chances of crop failure, to follow the plan here first outlined.

It sometimes happens on certain kinds of soil that, after the seed is sown, a heavy, spanking rain, followed by sunshine, leaves a heavy crust upon the surface of the newly sown field. This crust must be broken. Otherwise, when the young shoot grows up to the crust and cannot penetrate it, it bends over and grows downward and dies. A light roller—a corrugated steel roller is to be preferred—or a weeder, properly adjusted, are the proper instruments to use for breaking this crust and doing the least damage to the sprouting seed.

Right Kind of Seed to Sow

The main consideration in securing a good stand of alfalfa is the selection of proper seed. Every grower should buy his seed as nearly as possible direct from the man that produced it. Commercial seed cannot be depended upon; it is so thoroughly mixed with seed grown in different sections of the country. There is much southern seed brought into this country for mixture with northern grown seed. In order to give the mixture the right appearance, seed that is grown under irrigation, and is consequently very plump and bright and attractive in appearance, is also frequently added. This seed will all grow upon testing, and will grow well during the first season, but the southern-grown seed cannot stand our northern winters and gradually dies out, and the irrigated seed cannot get along without its supply of moisture in the soil. In order to avoid the possibility of the damage resulting from the use of mixed seed, every farmer should buy his seed as nearly as possible directly from the man that produced it.

Natural Law Applied

Everyone knows that live stock taken out of poor pasture and put into pasture where the growth of grass is rank will thrive wonderfully and take on an entirely new appearance. This is the result of a change from adverse to favorable conditions. The same law holds true with reference to the growth of plants. If the seed that the farmer sows is grown under such conditions of soil and climate that only the strongest and most vigorous plants survive and bear a crop of seed, and this seed is sown under conditions more favorable to vigorous and luxuriant growth, the crop derived from it will respond wonderfully to the change in conditions. Throughout the corn belt, the farmer should get his seed from a locality where the conditions are adverse, where the rainfall is less, the winters colder and more intense, and the winds more severe than in the locality where he proposes to use it. It will then respond both in luxuriance of growth and in vigor and vitality to

Mother

If I were hanged on the highest hill,
Mother o' mine, O mother o' mine!
I know whose love would follow me still,
Mother o' mine, O mother o' mine!

If I were drowned in the deepest sea,
Mother o' mine, O mother o' mine!
I know whose tears would come down to me,
Mother o' mine, O mother o' mine!

If I were damned of body and soul,
I know whose prayers would make me whole,
Mother o' mine, O mother o' mine!

—Kipling.

In order to accomplish these purposes, the field should be thoroughly cultivated as often as weeds appear, and should be provided with an adequate earth mulch after every heavy rain. This earth mulch will prevent the excessive evaporation of the moisture that the soil receives from the rainfall. Soil that is handled in this way during ordinary seasons will be found to have plenty of moisture for the germination of the seed at the time the seed should be sown. But if in an unfavorable season there is not moisture sufficient for seed germination, the seed should be sown just the same, and left to lie in the ground until there is sufficient moisture to start growth. It is just as well for the seed to have it lying in the ground as it is to have it stored in a sack in a granary.

There have been farmers that have secured good stands of alfalfa by taking off a crop of

the changed conditions to which he submits it. Seed grown without irrigation on the high table-lands of western Nebraska, South Dakota and Montana answers to these requirements, for there the rainfall is less, the winters more severe and the winds more difficult to endure.

But in order to secure such seed the farmer must use foresight, must know when he is going to need the seed, and then take measures in ample time to secure it. This paper will be glad to furnish advice in this matter to persons desirous of securing the best kind of alfalfa seed for their respective localities, provided its advice is asked early enough to be made of practical benefit.

The directions here set forth apply in the main to the corn-belt region of the United States. Outside of the corn belt, at a greater elevation than prevails in the corn belt, where the season is shorter, the rainfall less, and the winters more severe, the alfalfa should be sown thirty days earlier than is recommended for the corn belt. This earlier sowing is necessary in order for it to attain sufficient root hold upon the soil to enable it to pass through the winter without damage.

Throughout a large portion of the territory that this paper serves there seems to be no general need of inoculating the soil with nitrogen-gathering bacteria. In nearly every locality there are small, isolated spots in every field where such inoculation seems to be necessary. Such spots may be most successfully treated by scattering over them a few shovels full of earth taken from soil where alfalfa flourishes. This will provide the necessary inoculation. Under other circumstances, where there seems to be a general need of inoculation, the best method of inoculation has generally been found to be to take soil from a field where alfalfa flourishes and scatter it very lightly over the field that needs such treatment. In soils deficient in lime, a liberal application of lime rock is indispensable. For general purposes it will be found that lime, with a good coating of farm manure, furnishes all the inoculation necessary. When these fail, the farmer may resort, for purposes of experimentation, to any commercial methods for soil inoculation. But before trying them he should determine for himself, by actual experiment, whether inoculation is necessary.

Throughout the corn belt and in all humid and semi-humid sections, the best results are obtained by sowing twenty pounds of seed to the acre. It is best to sow this seed broadcast, putting on ten pounds of seed to the acre going one way, then crossing the field in putting on the other ten pounds. When sown in this way there will be no balks or vacant spaces in the field. In regions of scantier rainfall, proportionately less should be sown, depending on the amount of the rainfall, since each vigorous plant requires a certain amount of moisture for its full development, and where too many plants are trying to grow each will make slight growth for lack of moisture.

The farmer that carefully and thoroughly follows the directions here set forth may be assured of success in growing alfalfa. Even if he should fail at first, he should try again, and keep trying until success is assured, for there is no crop grown more profitable to general agriculture and to the agriculturist than alfalfa. It will be remembered that Mohammed's spider tried and tried and tried again, did not give up, and finally succeeded. Let the prospective alfalfa grower take a lesson from the spider. It will be certain to redound to his profit.

Western Nebraska as a Producing District

IV—Land and Conditions Are Well Adapted to the Dairy Industry

THE dairy industry is one of the possibilities of the western Nebraska citizens, both those who are large land and cattle owners, as well as those of small holdings—the homesteaders of practically no resources except their determination to make a home and business out of the free and given them by the government. This latter class represents a very large portion of the sand-hills population, who acquired lands under the 640-acre homestead act and who are deserving of success and prosperity for the efforts put forth in fulfilling the requirements of a five-year residence.

Grade Holsteins Recently Shipped from Wisconsin—Some of Them Have Record of 600 Pounds of Butter-fat Per Year

Many of this class of western Nebraska citizens, farmers and small stockmen, have been prospered beyond their anticipation and are enthusiastic in praise of the country, while others, less fortunate in securing good land and with less means and aptitude for the work of home building, have failed or partially failed in their ambition to secure a satisfactory business. This is not entirely the fault of the country, though spotted and irregular in its land conditions in many districts. It is the man, after all, that plans and manages for success or failure, and his aptitude to the work to be taken up is the key to the situation.

Dairying for Man of Limited Means

The dairy business appeals to the homesteader of western Nebraska, to the land owner of small or limited means, as the surest way to make a living and at the same time grow into the cattle business. The raising of live stock on the cheap and nutritious grasses is the most forcible proposition to present, no matter how inexperienced the person having the subject under consideration. The resources of all countries must be studied in order to know what the country is best able to produce. It is a plain and easy task to fix the adaptability of this district of Nebraska. Its dry climate, its abundance of the best pasture and hay grasses, at once suggest live stock growing in some of its various phases.

To the man of means the raising of horses, cattle or sheep is very naturally suggested, and when properly arranged for and intelligently handled and managed has proven most profitable. To the man of small means, where less land and less stock becomes necessary for the start, there is no line of work better for the successful utilization of this district than dairying.

Beginning in a Small Way

Some of these small land owners, homesteaders of very limited means, started with a few cows from which the milk product was used in the manufacture of butter, and this alone was marketed at the nearest trading point. The buttermilk was used to grow the calves until they could be fed on other feed and developed into cows and steers. Each year this process has been the means of raising some of the poorer class of homesteaders to a feeling of independence as to their ability to make a home. Others got the small start of a few cows, and by joining in with cream-gathering routes were able to sell the product of their cows so as to provide the necessities for a comfortable living, and grew the calf crop each year into heifers and steers, which soon added to the herd the means of increased profits and gave encouragement that meant the establishing of the small ranch industry. This has done much toward bringing the sand-hills homesteads into a condition of habitation that no other plan of utilization could have accomplished.

It has been asserted by those who have been in position to know that with ten good cows, well handled in dairy production and calf raising, any active, energetic young man has a sufficient basis to establish a breeding herd of at least fifty cows and heifers, after allowing for 1 per cent of calf loss from accident, non-producers, etc. The steer increase, with the sale of dairy products, will provide a comfortable living for the family while proving up and adding the necessary improvements for the home and ranch.

Question of Hauling Cream

The dairy industry is receiving encouragement through all parts of western Nebraska by the investment of local capital in the establishment of creamery plants for the manufacture of its cream into a good quality of butter, which has found a ready market in both local and shipping demands. These creamery centers, which are usually located on the line of railroads, are supplied by the homesteaders and owners living within hauling distance. The dairy industry, thus encouraged from a cream-gathering point of view, has been the means of increasing the demand for the dairy cow, and in some localities there have been large numbers of dairy cows shipped in to satisfy this trade. The calves are all raised and the herds are increasing.

The dairy industry is a hard proposition in districts where long hauls by wagon are necessary to reach shipping points with cream or butter. Neighborhood co-operation in delivery is the only way that such a situation can be successfully handled. In a country of pasture and feed such as nature has provided over western Nebraska, and which will be developed and improved by man as time goes on, there can be no misjudging the results of this district in its steady increase as a cattle-growing and dairy-producing country.

There are more cheap lands in western Nebraska, lands offered from $10 to $30 per acre, that possess the qualities of soil for growing crops, and having the advantages of natural moisture sufficient to grow crops, a rainfall of eighteen to twenty inches per year, than most any other section of country that can be found within easy market range. This will be another big crop year in western Nebraska. All that is necessary is to get a liberal supply of rain in the spring and summer and crops are assured.

Problem of Marketing and Farm Credits

Secretary Houston Gives His Views and Outlines His Program for the Department of Agriculture

By Edgar C. Snyder

A MIGHTY, almost revolutionary thought is at work in the Department of Agriculture, brought into it by no less a person than the new secretary of agriculture, David F. Houston, and the thought has been set to work in a methodical manner, superlatively reflective of the habits of this keen analyst of the needs of the great agricultural classes of the country.

In fact, two big thoughts, or propositions, are interesting the department at this time, and if they should be worked out successfully —and there does not seem the least chance of failure—the circles of activity, of happiness and prosperity—of modernity, in other words —for the "bone and sinew of the nation," as our farmers have properly been designated, will be assured. And the loneliness of the farm, with its corresponding heartaches, and the unprofitable drudgery, will be dissipated like mists of the morning.

Eutopian! Nothing of the sort. Just a little in advance of the great majority of his fellows is Secretary Houston, and he is big enough and capable enough and enthusiastic enough to see these problems, which are now interesting the department mightily, on the high road to success before his term as secretary of agriculture comes to an end.

When I asked him, the other day, what the department was most concerned in, Secretary Houston turned in his swivel chair and looking out of one of the big windows of his office, across the flower gardens in riotous color, through the long lane of elms to the spires of the postoffice and beyond, said, slowly and in a well modulated voice:

"Two propositions are now before this department, to the solutions of which our best thought will be given."

"And they are?" I inquired.

"They both go back to the same general notion, or principle. We have the study of marketing brought up to us in a provision in the last agricultural appropriation bill, which provides a sum of $50,000 to acquire and diffuse among the people of the United States useful information connected with the marketing of farm products.

"The problem of marketing is one the individual farmer cannot be brought to work out by himself. It rather involves the co-operation of producers with a view, not only to increasing their products, but standardizing, or improving them; to their proper packing for the market; to the discovery of the best places at given times to send the product, and to the minimizing of the machinery in order to get the product to the consumer in the interest of efficiency and economy.

"This problem brings uppermost the general subject of organized effort on the part of those who are to benefit from its solution, at the same time the study of all forms of betterment for farmers as a class or for rural communities.

"In the problem which confronts us there must be taken into consideration the fixing of prices, or closed markets. Those charged with the duty of inquiry must have for their aim increased production, the furnishing of a better product, the discovery of the best market, and the best method of reaching the market in the most economical way. This on the side of marketing.

"On the side of credit, we understand the farmers cannot get money any cheaper than other people offering equal security, and they cannot get money unless they have the proper credit basis; but, with this basis established, farmers ought to be able to secure as favorable credit as other people.

"Co-operation is a much abused word," continued the Secretary, as he flicked the ashes from a long, thin, black cigar, which he smoked as if it really brought solace to his highly trained mind and better fitted him to discuss the complexities of the propositions.

"Many things in the name of co-operation are presented to the farmer that are not really so. There are many co-operative enterprises that are pure fakes. They are no more than private combinations run for personal gain. Co-operation, therefore, as it is often practiced and is coming to be understood, is not to be applied descriptively to the movement we are about to undertake. Organization is the term to be employed in connection with our efforts—not organization which looks toward holding crops back from market and influencing prices, but which promotes potentiality and improves conditions of rural living.

David F. Houston, Secretary of Agriculture

"These observations simply suggest the caution the department must use, and the difficulties with which it must deal. The department must discover facts; study conditions as they exist; what the needs are, and undertake a critical examination of co-operative arrangements to determine permanent elements of value, and furnish full information about them to the country.

"At the proper stage, it may be part of the program to attempt a demonstration, especially in the field of marketing in selected localities, in order to show the benefits that cannot help but accrue if wisdom be shown in the handling of the subject.

"Then, again, the question of how to secure capital for the farmers is one of the most far-reaching problems we have to deal with—how to bring about the association of small farmers who cannot provide a credit basis individually, but who will be provided with capital to carry on their work through mutual action and support, as we find in Europe, and especially in Prussia.

"To help in the solution of this problem, congress has appropriated $25,000 to send a commission abroad to study co-operative farm credits, and that commission is already at work, the report of which will serve as a basis for our activities.

"There has been a tremendous interest developed in this country in the two phases of rural economy to which I have called attention. In a number of states there are significant beginnings of activity in these directions. In the New England, and some of the other eastern states: in Wisconsin, Minnesota, North Dakota and California, and in Florida especially, the questions are in process of solution, while a number of state institutions are planning to attack the problem, the universities of Wisconsin, Minnesota and Texas showing marked signs of interest in raising the standards of farm life, and giving the toilers on the farms larger returns for their labor.

"It is an interesting fact in this connection that more books have been written in the last two or three years, and are in process of writing, on these wonderfully interesting phases of rural life and rural organization than have been written in the preceding fifteen years.

"As I have said before, the department recognizes clearly the complexities which surround these problems and the overwhelming necessity of approaching the subject simply, so that there shall be no misleading of the public and the consequent necessity of back-tracking.

"The danger is that in the excitement attending this new subject, hasty and ill-conceived proposals will be placed before the people for their adoption without due consideration, and which will necessarily make its solution that much harder.

"Then, again, there are many legal aspects to consider. Laws and constitutions of the states will need attention, to the end that the result aimed at may be achieved with due regard to all conditions involved in their solution. It will, therefore, be our policy to make haste slowly.

"The department is now engaged in completing the staffs of these two services and developing definite projects in each of these fields.

"For the head of the rural organization service I believe I have found the right man in Dr. Thomas Nixon Carver, professor of political economy at Harvard University. He was born in Iowa, having been brought up on a farm in that state. Needing money to pay his way through college, he started a milk route, which he sold at his graduation to some one else who had to earn an education. He won degrees at Cornell, Johns Hopkins, Oberlin and the University of California, and later

CONTINUED ON PAGE TEN

THE TWENTIETH CENTURY FARMER

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Farmers interested in barley culture will do well to secure Barley Bulletin No. 1. It may be had from the chairman of the barley committee, W. H. Prinz, Chicago.

Abolish the swill barrel. It is a feeding place for flies and draws them, and it is a breeding place for all manner of malign germs. It is only a little better than a cesspool.

The Department of Agriculture is taking steps looking toward utilizing the thousands of tons of slag that are a by-product of blast furnaces. This slag contains lime and phosphorus, which may be used as fertilizers.

The late legislature in Minnesota passed a law prohibiting the shipment of cream by rail more than sixty-five miles, except in properly iced and thoroughly sanitary refrigerator cars. Representative Steenerson of Minnesota has now introduced a similar bill in congress.

During the ten months ending May 1 the records of the Department of Commerce show a total of American exports amounting to $2,107,873,911, as compared with $1,890,708,608 for the same period of the preceding year. This is far ahead of the entire year's record of any previous year.

Argentine beef dealers are in trouble. Six of the leading Argentine companies recently presented to their government a note declaring that they were about to close their plants because other companies in that country were trying to establish a monopoly by selling beef in the English markets for less than cost. They demand justice from the government.

About Sending News Notes

The Twentieth Century Farmer wishes to call the attention, the careful attention, of all its readers to the fact that every issue of the magazine goes to press nearly two weeks before the date of issue. This is made necessary by the form the magazine takes.

The special attention of persons sending news items for publication, or notices of various kinds for which they desire publicity, is called to this matter. Probably in the majority of cases that the paper is asked to give publicity to any matter the request is received too late for publication in time for the publicity to confer any benefit.

Persons who desire publicity for the meetings of the various associations or for any matter that is set for a particular date, if they desire publicity through the columns of The Twentieth Century Farmer will have to send to the office the desired information at least two weeks in advance, and it would be better to allow even a longer time than this. This statement explains why publicity has not been given through the columns of this paper in certain matters. The fact is, the news was received too late for possible publication to be of any use.

This paper will be only too glad to assist all enterprises for the benefit of agriculture by giving them necessary publicity, but in order to do so it must have notices ample time in advance.

Wheat in Corn

The practice of drilling wheat in standing corn at the time for seeding wheat is endorsed and practiced very extensively in some sections of the country. The reason for this practice lies in the fact that the farmer that uses it saves time; that is, he gets a crop and a half from the same ground in a year. Whether this practice is worth while, depends upon circumstances.

Unless the wheat is drilled in such a way as practically to cover the whole ground; that is, by having the drill tooth run up close to the corn on each side of the row, there will be a wide, vacant strip left at harvest time where the row of corn stood the preceding year. This makes the finest possible ground for the propagation of weeds, and weeds are the greatest bane to modern farming. There is no practice that will develop weeds on the farm as rapidly as this shiftless method of drilling wheat between the corn rows.

Whether the wheat can be drilled up close to the corn row depends upon the kind of cultivation the corn has had beforehand. Such drilling will be easy enough if the corn is given level cultivation. But if the old practice of hilling up the corn at the time of lay-by is followed, the surface of the field will be uneven, will have ridges and furrows, and under such circumstances it will be practically impossible to drill the wheat in the corn as it should be drilled.

No one should attempt to drill wheat in corn unless the corn has had level cultivation. Then the practice might be indulged in to meet an emergency, or to fill a gap in the system of rotation. But such a practice to be profitable must be carefully done. No farmer should permit himself to do anything that will result in the increased production of weeds.

Importance of Pedigree

What is a pedigree worth? This depends upon circumstances and conditions. Some animals properly pedigreed are not worth much outside their pedigree history. Such animals should be avoided by the purchaser. Some method of inspection should be adopted by registration associations whereby such animals could be disqualified and cancelled from registration.

In the sale of animals, there is too much imposition practiced upon the purchaser by the seller in not making a prompt delivery of the pedigree and guarantee of certificate of registry and transfer. A pedigree is not always evidence of registration or eligibility to registration. The matter of purity of blood, reliable pedigree and a correct personal family history of the animal in question, should be made more exacting in all sales and purchases.

The selling of animals as pure-bred, pedigreed, registered, etc., without the delivery of the papers substantiating these statements, should be treated by the purchaser as only a partial delivery, and one-half the purchase price should be held back until the registry evidence is fully delivered. This can all be transacted through the bank of the purchaser by the deposit of balance subject to proper delivery of papers. If such precautionary steps were universally adopted by purchasers, there would be less complaint of delayed pedigrees, and suits brought to force pedigree delivery. It would prevent a lot of fraudulent, pure-bred transactions that frequently cause an inestimable amount of trouble in communities where breeding animals are used, under the representation of being pedigeed that cannot be and never are pedigreed.

Again, such a system put into practice would correct the business methods of careless, indolent owners of pedigreed animals, who think after making a sale and giving a promise of pedigree and transfer that any time will do. It should be the business of all live stock breeders and dealers to have the necessary papers of transfer ready so as to comply with the conditions of sale when the sale is made.

There is no business in existence that demands so much accuracy, system and promptness in its successful operation as the pure-bred live stock business. Each animal has a personality in pedigree history that is his own, and no substitution or omission in any respect can be used in his representation when he passes into the hands of a purchaser. Lack of prompt fulfillment of pedigree or registration evidence is the surest means that any breeder can employ to discredit himself and his business.

Why Boys Leave the Farm

Here are two answers to the question that is being so frequently asked, "Why do boys leave the farm?"

Boys leave the farm because farm life is not made attractive enough for them. The home farm is conducted in such a way that they get no idea of farming beyond hard work in all kinds of weather, without apparent appreciation and without recompense. No one could expect a boy to remain on the farm where there is no really enjoyable home life—nothin to lighten severe labor, nothing to relieve grinding drudgery. The wise farmer, instead of being merely the boss of his boys, will take them into his confidence, will establish a companionship with them, will remember that he was once a boy himself, and will try to look at life from the boys' point of view, and make life worth living to them as they see life. He will take them into his confidence, will discuss his plans with them and be a boy with them. He will himself take pride in what he does because it is worth doing, and doing well, and he will try to develop in his boys this pride in doing good jobs well. Pride in what one does relieves the drudgery and dissipates the grind of farm life. Boys hunger for appreciation. When they do a good job, the wise man will not forget a word of praise—not fulsome, over-done praise, but wise, helpful appreciation. It will make the boy feel that he amounts to something, is worth something to the home farm.

The boys need social diversion. Make the home life such that when the boys want to have a regular rip-roaring good time they will want to come home to have it, and for the time being let the old folks be kids again and enter heartily into the youthful life, with its hopes and aspirations.

Another reason why boys leave the farm is because they want to demonstrate their capacity to do things for themselves. They want a chance to show that they can be self-supporting. Why would it not be a good plan to give them this chance right on the farm? Let them have an acre or two of ground and see what they can do with it, and in which they can take a legitimate pride. Give them a pig or a calf or a colt that they can call their own, that will be really their own, so that when it is sold they actually get the money for it, and learn in this way the reward that comes from taking care of things, and in this way also lay the beginning of the foundation of the business life.

The average boy does not hate work. He hates drudgery; he hates the dull grind, with no reward in sight. Give his notions of independence and of pride in what he does a chance to grow on the home farm; realize that he has the beginnings of a man in him, and take as much pains to develop his manliness as is now taken to get all the labor possible out of him, and one of the causes for boys leaving the farm will be abolished.

With the telephone, the automobile and cheap transportation, most of the advantages of city life are now brought to the farm, or at least

they may be brought there. Let the boys share in these to the full. Let them feel that they are in a sort of partnership in all farm operations, that, in a measure, proprietorship is theirs, and they will learn to love the farm.

Always work and never play
Takes the boy's content away.
Always play and never work
Makes of him a useless shirk.
Mixing both work and play
Makes of him a man some day—
A man induced by Nature's charm
To live upon and love the farm.

Ruling in Merino Shows

The rulings of the American Delaine Record Association on the requirements for exhibition of all merinos exhibited in Classes A, B and C are that all sheep exhibited in these classes be shorn close and evenly on or after January 1 of the year exhibited. Lambs to be eligible must be dropped on or after January 1 of the year exhibited and be placed on record as shown by certificate of registry. This applies to all state and county fairs in the United States.

This is the best piece of exhibition legislation, or ruling, ever adopted for the interests of the pure-bred sheep industry of America. It is fair alike to all merino sheep breeders who come under its restraining influence. It will at once remove a lot of prejudice as to deception and unfairness in shearing and in birth date of lambs exhibited. It is not, however, complete or exacting enough unless it requires the affidavit of two disinterested citizens who witnessed the shearing. It is a long step in the right direction, however.

It is to be hoped that all state fairs, county fairs and sheep shows incorporate these rulings into their premium lists, and instruct their superintendents, insofar as their official power lies, to see to the enforcement of these rules, and every other rule governing in the sheep department. A rule violated, and the offense passed unnoticed and unpunished is far worse in its exhibition influence than if the rule had never been adopted or printed.

There is no advantage or evidence of unfairness in these rulings to any breeder, unless to the exhibitor who does not want to breed so early as to have January lambs to take care of, or who is not prepared to handle winter-shorn sheep. The March lamb and the March-shorn sheep is still privileged to exhibit with the competitor having two months the advantage in growth and fleece. The professional exhibitor is not seriously restrained, except in showing last fall's lambs and last fall's shorn sheep.

Hustle may do the thing by eighteen hours' toil in dust and sweat—efficiency thinks, pushes a button, and it is accomplished.—Sheldon.

Farm sanitation begins with getting rid of flies, and that almost ends it, too. Flies are much more than half the battle.

As a rule, the man who uses bad judgment lays the results to bad luck.

The only man who can keep you from making a success is yourself.

Practical Poultry Production

The subject of poultry production, viewed from a practical standpoint, is one in which more persons are interested than all others besides, judging from the advertising columns of the real estate agents throughout the country. The city town lot, acreage property and suburban residence propositions are presented with much emphasis placed upon the opportunities for going into poultry raising as an industry that these small properties afford. "Just the thing for a poultry ranch, where a family can make a comfortable living, with little labor and very little outlay in fixtures." There may be two lots or one large lot, one acre or several acres—it possesses the same qualifications as to its ability to make a good and sure living for a family with comparatively no labor and small capital.

This idea of poultry raising being an easy and sure means of large profits has been tried thousands of times by the man of small means and small property accommodations and small experience, and nine times out of ten they have failed. That the city man or town man who is obliged to keep his poultry confined to a yard or small lot cannot conduct his enterprise on an egg and meat basis and pay expenses year in and year out, is the evidence generally of those who have tried it.

An account of a new government experiment enterprise in poultry raising and egg production informs the poultry interests of the country that Uncle Sam has a new poultry farm, located thirteen miles out from Washington City, near the Maryland Experiment Station. This farm consists of sixty acres and is to be developed upon practical lines, simple and inexpensive, and can be copied without great expense. An experienced fine-breed poultry fancier is to be put in charge. The poultry specialty work throughout the country is to be studied and investigated thoroughly, with the view of developing egg-producing breeds, cross-breeds and doing general experimental work in poultry and egg improvement.

This new enterprise is directed at a feature of the poultry industry destined to shoot over the heads of the small poultryman, the suburban chicken man, that each year joins the ranks, that each year is persuaded that there is money in the little chicken enterprise and a comfortable living for the family. The poultry fancier and poultry experimenter who is trying to develop a big egg-record strain of hens is doing it at a cost of labor, attention, feed and general expense that no ordinary poultry raiser can afford.

What the public needs, and wants, more than any other necessity of poultry information, is demonstration information from Uncle Sam's experts of what can be produced in the w y of poultry and eggs in actual sales in the commercial trade of the country from the one-acre chicken farm, the five-acre chicken farm and the ten-acre chicken farm. This is the class of chicken people who are numbered by the tens of thousands and scattered all over the country, from the Atlantic to the Pacific and from the Great Lakes on the north to the Gulf of Mexico on the south, and have been patiently waiting for this information for years. "How can we conduct the small poultry industry so as to make it remunerative?" and "What is the plant and the cost of it complete with which this kind of an industry can be carried on?" It is one thing to suggest, but an entirely different thing to demonstrate.

A full and complete diagram of the grounds and plant, every penny of expense for every particle of material used, for purchase of stock to start with, feeds and supplies of all kinds, every hour of the time devoted to the actual operation of the business, and just as accurate a statement of receipts from sales of fowls, eggs, etc., will be kept. The poultryman, the beginner, wants to know just what has been done on the small plant, the possibilities under good care, system and the best of supervision.

The farm poultry, which has from the beginning of time been responsible for the egg supply of the general egg trade of the country, and the general poultry supply of the meat trade, is easily accounted for, and needs no explanation. It is the poultry business under confinement, under restraint, that demands demonstration, and this in the capacity that the man or family of small means can invest in with some degree of assurance of what it can be made to yield.

Farm Accounts

It is becoming every day more and more necessary for every farmer to become an actual business man. Competition is becoming more and more acute. Margins of profit are becoming narrower and narrower, and if the farmer is to be certain that he gets any more out of his operations than is necessary to support him, or makes money in any other way than by the natural increase in the value of his holdings, his business must be conducted in accordance with strict business methods. He must know the cost of everything that he sells in order to know at what prices he must sell in order to make a profit. He should have an accurate account of all expenditures. He must know whether on the whole he gets out of any crop or any animal more than they have cost. At the end of every year he should know whether his holdings of personal property are worth more or less than they were at the same time the preceding year.

The easiest method of accomplishing this is with the aid of a regular system of farm accounts. Many of the farm account systems advocated in the public press are too complicated for use by the ordinary farmer. But, on the other hand, there are simplified systems for keeping book accounts of all farm operations that may be utilized by any farmer, and will be found to involve very little trouble or expense and prove of great benefit and help. This paper recommends such a system of keeping farm accounts to its readers. It will be glad to answer any questions from them in regard to this matter.

Tile Drainage

It has been pointed out in the columns of The Twentieth Century Farmer that only a certain class of plants can grow in soil in which there is free water. Aquatic plants, such as pond lilies and other plants of similar habits of growth, require free water in the soil for their best development. But the cereals—in fact, all plants cultivated by the ordinary farmer—cannot thrive in soil in which free water is standing, or in soil that is too wet. Proper deveopment is prevented in such soil, not merely by the presence of the water, but by other conditions which always attend the presence of free water in the soil.

In a rolling country, such as is to be found in eastern Nebraska and throughout most of Iowa and Missouri, the hills are likely to be more or less springy in their character. The water from these springs reaches into the low-lands between the hills, in most cases through underground channels. In addition to this natural spring water, the rainfall runs off the hills into the lower land. Unless there is some natural outlet afforded for the water that thus accumulates in the low-land, this land becomes, by reason of the existence of moisture, less productive than it otherwise might be.

It is on such lands as these that under-drainage is of prime importance, and the best method of underdrainage is drainage by the use of tiles laid at the proper depths under the surface. Such drainage not only carries off the water and reduces other conditions in the soil unfavorable to growth, but it makes possible a greater degree of aeration of the soil which is necessary for the most profitable growth.

Certain parts of Iowa have already learned this lesson, and it is very gratifying to note the piles of drain tile along the railroads at the different stations and to see tiles scattered over the field preparatory to being put beneath the surface. In certain parts of Iowa nearly every farmer is putting in drainage tile. He could not spend money more profitably. He will be sure to reap the reward of such investment.

Certain parts of eastern Nebraska should follow his example. Already there are several large drainage districts in Nebraska through which immense drainage canals have been cut, thus permitting much water to run off. But the work will not be completed until the fields adjacent to these drainage canals are tiled, and in this way thoroughly drained. There are farms in eastern Nebraska that used to be valueless that have been given a value clear beyond ordinary land in the same neighborhood simply by thorough tile drainage. At some future date this paper may have something more extended to say with reference to this matter, and may describe some farms where this improvement has resulted in a vast increase of value. In the meantime tile drainage is most earnestly recommended to all readers who have land in which at any season of the year free water is liable to accumulate.

Dip for Dollars

Dipping sheep and swine is a paying proposition. Every time your stock pass through a Dr. Hess Dip solution they increase in value. This is because Dr. Hess dip renders them less liable to disease and free of tantalizing vermin. *It's the healthy hog that puts on the fat,* hence

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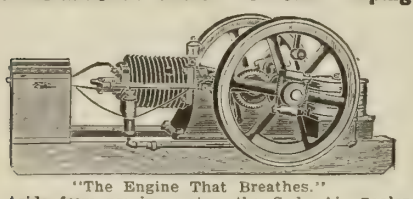

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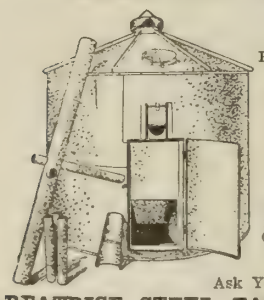

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Cold Storage for the Farm

By Syvanus Van Aken

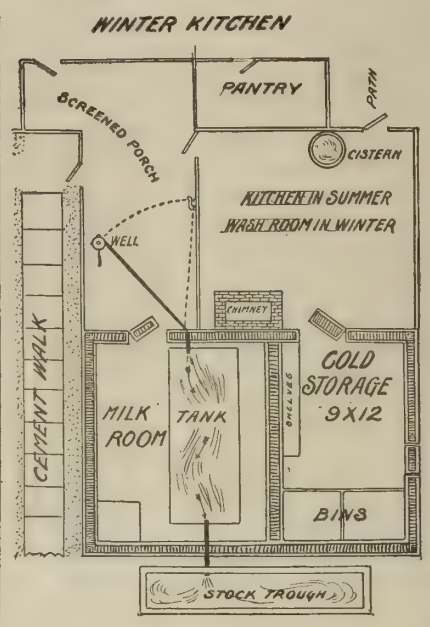
THE question of farm cold storage is of growing importance. An arrangement for convenience in one place can seldom be copied in every detail for another, but may offer valuable suggestions for many others, so in describing our arrangement for cold-storage, etc., in lieu of a cellar, I shall omit such details as must vary with each individual location and simply describe this one as it is. With the exception of the plastering, not a stroke of professional work was done upon this addition to the house. From stone foundation to chimney cap, it was the work of home talent.

Like many others, this cold storage was built in a section too level to admit of a cellar under the house and the only substitute must be a cold-storage room, that being more healthful anyway. The addition was built to include a summer kitchen, milk room and cold-storage room, connecting with the main house by means of a porch, which affords a sheltered passageway from one to the other, as well as covering in the well. As a further convenience the entire porch is screened to keep out flies. Double walls are used only for the cold-storage room and milk room. These were made by using six-inch studding boarded solidly outside and in, and filled between with dry sawdust as built. The sawdust extends to the top and covers the loft with a ten or twelve-inch layer also.

The floor is left on a level with the ground, but the soil was first thrown out and then replaced with gravel, well tamped, and then covered with a layer of cement, which extends up the stone walls around the room to the sills, thus inclosing everything water-tight. Windows and doors are also made double, but the other window is removed during the summer, and should be replaced with an awning. Across one end of the cold-storage room are bins made so as to be entirely removed at will, so that each summer the room can be thoroughly cleaned with the least inconvenience. Shelves, one above another, accommodate several hundred cans of fruit, as well as empty cans, seed boxes, flower-pots, etc.

Along one side of the milk room is a tank two feet wide and as long as the room, to accommodate milk jars. A two-inch steel pipe, with elbow turned upward on the outside, passes through the double wall and into the tank. At the other end, a trifle lower, its height being determined by the desired depth of water, is a similar, but straight, pipe leading to the stock trough on the outside. Then, for convenience in occasionally emptying and scrubbing the tank, it must have a drain pipe near one end, and the cement floor of the whole room should gradually slope toward this point, where it must have connection with a tile drain, the trough pipe opening into the mouth of the larger floor drain.

The position of the tile drain must depend somewhat on the lay



of the land, but pipes from the pump trough, from the milk room floor and from the cistern overflow, into which the cistern pump trough is also drained, may be conveniently brought together into a single drain at no great distance from their starting points.

From the pump a heavy tin conductor, with an elbow at each end, the one turning downward inside the upturned steel elbow mentioned above, the other turning upward and falling just under the pump spout when in use, carries the water to the tank. When not in use it is swung around against the wall, where it lodges in a hooked support and is out of the way. All the water for cattle and horses is pumped through this tank and serves to keep the milk and butter cool during the summer. A cupboard in this room is also the summer receptacle for all quickly perishable cooked things.

Few of these double-walled rooms built above the ground are absolutely frost-proof in the severest weather. They could doubtless be made so by sparing no expense in making thicker walls, but, with few exceptions, the rooms as described are sufficiently warm. When, however, there is reason to fear the cold, a thermometer is placed in the room, and if it is likely to become too cold, a fire is built in the wash room and the connecting doors kept open until the temperature has been raised to a safe degree, when they are again closed. This is necessary only when the cold is very severe or long protracted.

Sun Power Irrigation

Frank Shuman, an American engineer in Egypt, has installed a 100 horsepower engine for irrigating from the Nile. By an ingenious arrangement of mirrors the sun's rays are utilized to heat the water to a temperature of 600 degrees Fahrenheit. The steam thus generated operates a pump delivering 3,000 gallons per minute. The plant will last for generations, being constructed entirely of concrete, iron and glass. It requires no stokers nor coal, so the cost of operating is very small.

Problems of Marketing and Farm Credits

(CONTINUED FROM PAGE SEVEN)

became professor of economics at Harvard, who has 'loaned' him to us.

"Charles J. Brand of Illinois has been appointed to the position of chief of the new farm marketing bureau, and with him will be associated a number of experienced men who will be charged with the working out of these much-sought-after farm economies.

"Mr. Brand is a graduate of the University of Minnesota, and has been in the service of the department nearly ten years, coming from Chicago, where for several years he had charge of the section of plant economies of the Field Museum of Natural History. He has been engaged in several important lines of work during his connection with the department, and for the last year has had charge of the farmers' co-operative cotton handling and marketing and paper plant investigations of the Bureau of Plant Industry."

Most Anybody Can

Somebody said that it couldn't be done,
But he, with a chuckle, replied
That "maybe it couldn't," but he would be one
Who wouldn't say so till he'd tried.
So he buckled right in, with the trace of a grin
On his face. If he worried, he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it.

In hot weather or in drawing heavy loads, watch your horse's breathing. If he breathes hard, or short and quick, it is time to stop.

Please the Home Folks

By serving

Post Toasties

They are among the good things to eat, but not in the cook book, because they require no cooking.

Toasties are always crisp and appetizing — **ready to eat direct from the package.** You save heaps of time and avoid hot work in the kitchen.

Some rich cream—sugar if you want it — or cool fruit juice, with these fluffy bits of corn and you have a dish that is fascinating for any meal of the day.

Toasties are sold by grocers everywhere.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Reverence

Mother says when folks are old
That I must be polite,
And run to do their errands,
Because, you see, 'tis right.

She says that I must love them all,
And try to make them glad,
'Cause old folks get so lonesome
That sometimes they are sad.

Sometime, then, when I'm grown up
And very old, you see,
Perhaps some other children
Will be real good to me.
—Myrtle B. Carpenter.

Billy, "the Setting Dog"

Dear Boys and Girls: This is the picture and the history of a real dog, who lives in Council Bluffs, Ia., and belongs to a man named Page Morrison. It doesn't sound true, but it is, as many people in Omaha and Council Bluffs can testify, for crowds have been out to see him with his chicks.

Billy is a cocker spaniel 5 years old. Three years ago his strange love for little chickens was disclosed when he became almost delirious at the sight of a bunch of chicks that had been brought into the house after being hatched on a cold April day. It was naturally supposed that the dog wanted to "mouth" the chickens and he was scolded and punished, but all that summer he looked with longing eyes, but never dared to disobey. It was noted that he was always on the best of terms with mother hen, and in the following April, when another brood came off, he was permitted, under strong

guard, to touch them with his nose. Affection was then disclosed to be the motive that inspired him and all restraint was removed.

Billy has been the constant guardian of the brood. When they were tiny little things he "nosed" them back to the mother whenever they got ten feet away. Every night he was their faithful guard. In fair or foul weather he slept with his nose at the threshold of the coop.

This spring, when the old hen was again given a setting of eggs the dog never left her side longer than a moment. At dawn one morning he aroused his master by furious scratching and barking at the kitchen door. When Mr. Morrison appeared the dog seized his clothing and pulled him toward the coop, where the hen was on the nest dead from the debility of age.

The dog watched the burial in the yard near by. The eggs were left to chill in the nest, but when Mrs. Morrison passed an hour after she was astonished to see the dog had taken the place of the dead hen. Nearly a week after eleven of the sixteen eggs hatched.

Billy never leaves his brood. The sound he uses to call them cannot be expressed in words. It is neither a bark, a whine, nor a yelp. It's a gurgling attempt to "cluck."

The chicks understand it, especially when he is scratching for worms, and he can dig more worms in a minute than a hen can in an hour. THE EDITOR.

Picture Contest No. 3

This is the third picture about which you are to make a four-lined verse. Notice the children very carefully, and write just four lines, no more. We cannot consider verses which contain more than four lines, and several of these have been turned in to compete for the other prizes. The authors of the two best verses will receive books. Send your verse in to the "Picture Contest Editor" of The Twentieth Century Farmer, being sure to sign your name and give your age and address. Writing, neatness, correctness of spelling and punctuation will be considered in awarding prizes, as well as the age of the author. All verses must be in by July 12. Awards on Picture Contest No. 2 will be announced in the next number.

(Prize Story)

Don

By Julia Riggs, Aged 12, Volin, S. D. Blue.

We once had a dog whose name was Don. Don was a very smart dog. He would shake hands with anyone he met. Even sometimes uptown he would stop and shake hands with someone he knew.

At night he would go and pull an old coat to the place he wanted to sleep; then he would say his prayers, and he would not stop until we said "Amen." One time we said, "That's enough," but he would not stop until we said "Amen."

Once when I got up he was gone. Somebody had stolen him, or he had run away. We all felt very sorry to lose him because he was such a good dog.

Honorable Mention)

Buster

By Roy Long, Aged 10, Wells, Neb. Red.

About three years ago, my papa gave me a black Shetland pony. He is very cute and will stand on a box and do other tricks when I want him to. My brother rides him to school every day. We have a little saddle for him.

One day last winter we hitched him to our little wagon. He became frightened at some other horses and started to run. He ran for quite a distance before he threw my brother out and broke our wagon all to pieces. We have never hitched him up again. He is very gentle, but sometimes he will want to run and be frisky. We had his picture taken, standing on a box, with my brother and me on him. He is 5 years old.

Additional Stories

Blue—Mary Verforth, Mesa, Ariz.; Anna Linquist, Verdigre, Neb.; Hazel Simpson, May, Okl.; Evelyn Buttell, Beason, Ill.; Carl Zibulka, Chinook, Mont.; Irene Hastings, Blair, Neb.

Red—Allison Hotaling, Page, Neb.; Mabel Mallory, Peru, Neb.; Pearl E. Bunnell, Rokeby, Neb.

Two Falcons

A curous story is told in "Game Birds and Wild Fowls." A colonel in the English army on a visit to Canada took with him two falcons. During the voyage across the Atlantic one was missed, and the owner made up his mind that it was irretrievably lost.

While in Halifax some weeks later he happened to see in a newspaper a paragraph to the effect that an American schooner, just arrived in port, had on board a fine falcon that had come on board during the passage from Liverpool. It at once occurred to the colonel that it might be his bird and he lost no time in visiting the schooner.

The captain of the craft was inclined to doubt his story, but the colonel suggested that his claim to the ownership of the bird be put to a test. He was to be brought into the presence of the falcon and if the bird was his he felt sure that it would show signs of recognition that would convince the bystanders that he was its owner. The trial was agreed upon, and the bird was brought into the room. The door was hardly opened before it darted for the shoulder of the colonel and evinced by every means in its power its delight and affection.

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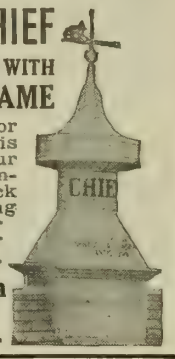

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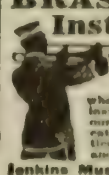

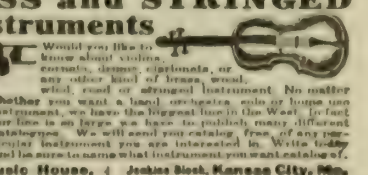

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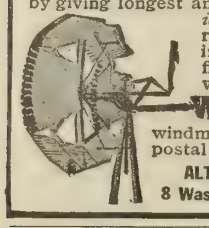

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DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. **Lasts all season.** Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers or 6 sent prepaid for $1.

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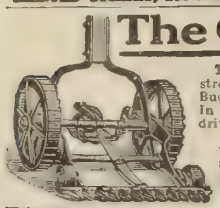

There are three things that destroy your lawns: Dandelions, Buck Plantain and Crab Grass. In one season the Clipper will drive them all out.
If your dealers do not keep them, let us know and we will send circulars and prices.
Clipper Lawn Mower Co., Dixon, Illinois.

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Of Interest to Our Women Readers

Worryland

Worryland's a wilderness
Where no tree nor flower will grow;
Where no sunbeam's sweet caress
Cheers the desert place below.

Worryfolk are sure to frown,
Be the weather what it may;
Keep in sight of Sunny Town,
And you cannot lose the way.

Hill paths are the best, you'll find,
Sunshine falls on every hand;
So, beware of paths that wind
Down the vale to Worryland.

Our Home Chat

We have heard much in the last few years on the conversation of our natural resources. Nowhere is this a more vital subject than in the kitchen, and at no time is it so important as during the 90 to 100-degree weather now upon us. The men upon the farm work all day long in the heat of the sun and suffer no ill effects, unless discomfort may be called an ill effect, but the housewife, shut into a kitchen, often small and at the best suffocating, with a range going part of the day at least and the steam of boiling water and cooking meat surrounding her and mixing with the air she breathes, is laboring under much less healthful conditions than the men who are in the direct sun. The steam in her atmosphere is more trying to the lungs than even the chaff and dirt of threshing are to the lungs of men. This cannot be helped, as a woman's work must be done within the house, but a little planning would save most housewives a good deal of wasted strength.

First and foremost, one may economize the heat as well as the fuel by having the fire going as short a time as possible. Do everything you can for which you will require a fire at once, and let the kitchen get as cooled off as possible at least once a day and for as long a time as you can arrange it. Try to get the fire out of the way in the morning and do not have it going again until you get the evening meal. It is well to have a fire as short a time as possible even if you have an acetylene or gasoline stove, as any flame, no matter how small, heats the room up to an appreciable extent.

The fireless cooker is a great boon to the woman on the farm. The meat and potatoes may be placed in this at noon or in the morning, and after a cool and pleasant afternoon the housewife can quickly serve an excellent meal. It takes a little practice to learn to use the fireless cooker properly, but once you become accustomed to it you will never be without one, and it will save you its price in fuel in a short time, not to mention the nervous energy it saves.

The matter of getting overheated is not one of avoiding discomfort so much as of being able to do the work necessary without suffering in the way of illness. It is not true economy to go without the little aids that lighten labor, as many a woman has found to her cost. Doctors are a pretty good sort, as a rule, and should always be called in case of illness, but it is well to have as little occasion for their services as possible. THE EDITOR.

Labor-Saving Devices

"If only I could have things to work with, I would not mind doing my own work," complained a young housewife, sinking dejectedly upon a porch chair, unmistakable signs of sweeping day enveloping her beturbaned person. "If I could afford a vacuum cleaner, now—"

"It would be in the attic inside of two months," said her aunt, quietly.

"Why, whatever do you mean?" demanded the niece indignantly.

"I'm going to risk telling you, dear, just what I do mean. Last year when I was here you swept the whole house conscientiously every week, and when you were through, and thoroughly exhausted, you said: " 'If only I had a good carpet-sweeper, how much hard work it would save me.' So I advised Fred to get you one for a surprise. I found it yesterday in the back of my closet."

"But that is not a vacuum cleaner," expostulated the young woman.

"It is not," agreed her aunt. "But let me tell you what I do with my carpet-sweeper. To begin with, I clean it carefully once every week, and then wipe the brush with kerosene; there is never enough of this to injure the most delicate rug, and it gathers up the dust quite wonderfully. I keep one for use upstairs and one down, to save carrying, because I use them both daily. Each morning as I do the chamber work I take from the hall closet my broom, dust-pan, carpet-sweeper, broom-bag and duster. I go over the rugs with the sweeper, brush up the floor edges with the covered broom and dust as much as is necessary. As this method raises but little dust, the work is quickly accomplished, and general sweeping day does not come nearly as frequently as of yore. The same method holds good with the rooms downstairs. In the rooms where I still have carpets I brush around the edges with the broom and finish with the sweeper. I should like a vacuum cleaner, and wish you had one, but in the meantime why not use what we do have?

"You have a good hose, with faucet attachment in the kitchen store-room, which must have cost at least $1.50, yet you carry all the water for washing and cleaning.

"Every time I go into your sweltering kitchen I hear you sigh for a gas range, yet your little two-burner alcohol stove, with its portable oven, stands on a trunk in the attic."

"It takes so long to get dinner on it, and there is no room for it in the kitchen," the young housekeeper said, irritably.

"To be sure, it takes longer with only two burners, but I have cooked for many summers for Uncle John and myself on my two-burner oil stove, and use the coal range only on special days. It has been cheaper and much more comfortable for me.

"How about the mop-wringer I sent you last Christmas?"

"You are hard to get around," said the niece, with a reluctant smile. "I—I never used it much—it makes the pail so heavy and awward to lift."

"It does, truly; but is it n easier to stoop and lift the pail few times than it is to bend ov and wring a heavy mop times wit out number? We shall never a complish our work without some e fort, of course, but why not choo the less difficult way?

"How about your washing m chine?"

Having become somewhat reste the young housekeeper was able t laugh at her aunt's persistence.

"It is too hard for me to ru auntie. We are going to sell it an buy a power machine, what w should have done in the beginning.

"And in the meantime you wi continue rubbing the clothes. L me tell you, dear; I find it easier t rub than to turn a machine, too But I do neither. I hire a boy a hour for 10 cents every Tuesda morning, and save a whole lot o time and hard work."

"I never thought of that."

"No, I suppose not. And do no think I am endeavoring to induc you to use something you do no wish to. I simply want you to se that you do not use what you al ready have. Some people prefer th old way of working, and they hav a perfect right to their preference Only do not get into the habit o purchasing labor-savers that yo will never use and that will increas your labor by cluttering up you house.

"Before you buy anything new learn to use what you already have."

ALICE MARGARET ASHTON.

Spoiling a Boy's Career

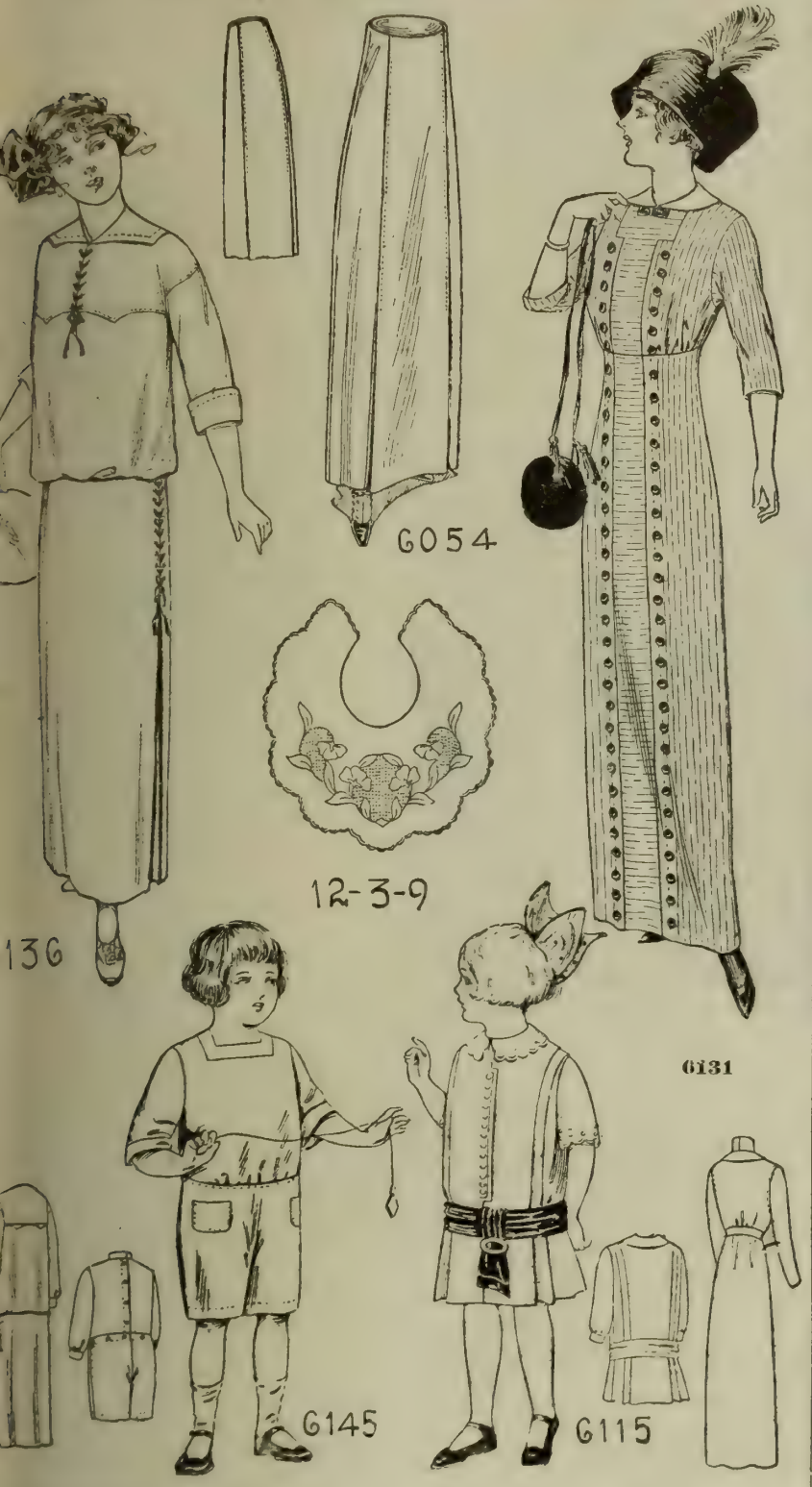
Many a boy is a disappointment to his parents because he does not choose the profession they have selected for him. How often we hear a proud mother say, "Johnnie is going to be a minister when he grows up," or, "We are going to make a doctor of William." As Johnnie grows up he works with machinery and is interested in electricity. But his mother has her mind set, so Johnnie studies for the ministry, and, although he tries hard to succeed, his mind keeps turning to cog-wheels and electricity. Eventually he gives up the ministry and becomes a mechanic, to the great disappointment of his mother. But does John prove a success as a mechanic after all? If he does, it is accomplished by extra work and long hours, for he has spent the better part of his youth learning to be a minister. His life might have been a great success in his chosen career if he had had the proper encouragement and help.

What grave mistakes we make, and see them too late! How we pull at cross purposes with our children! Isn't one honorable profession as good as another? For the sake of your future happiness, and the contentment of your boy, don't plan his career when he is still in the cradle. As he grows up let him select his own profession, and then, regardless of whether he chooses to be a minister, mechanic, farmer or doctor, offer him all the help and encouragement you are able to give.

MRS. T. A. M'CULLO.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each



Description of Patterns

6—Misses' and Small Women's Dress e blouse of this dress can be made r in the long or short length, or it be made in middy style. It can also nade to slip on over the head or but- at the front. The skirt is cut in four s. Linen or serge can be used to e this dress. The pattern 6136 is cut izes 14, 16 and 18 years. Medium size ires 5 yards of 44-inch material, with rd of 27-inch contrasting goods.

4—Ladies' Skirt—This is a six-gored el, with the closing at the left side he back. It has a plait at the lower of the front and back gores, which s convenient and graceful width to bottom. The skirt may be used for rate wear or as part of a complete ume or coat suit. The pattern 6054 is in sizes 22 to 30 inches waist measure. ium size requires 4⅞ yards of 36-inch erial.

1—Ladies' Dress—An excellent model n one-piece dress is here given. This s closes at the left side of the front may be made with standing or roll- collar and with four-gored skirt, in ire or regulation waistline. The ble row of buttons affords pretty ming and the frock is very chic. The ern 6131 is cut in sizes 34 to 42 inches t measure. Medium size requires 5 yards of 36-inch material or 3⅞ yards of 44 inch goods.

6145—Boys' Suit—Every small boy needs a play suit, and here is an excellent pattern for making one. It can be made with either the round, square or standing collar. It can also be made with either the long or short sleeves. Linen, chambray or cashmere can be used to make this suit. The pattern 6145 is cut in sizes 2, 4 and 6 years. Medium size requires 2⅛ yards of 27-inch material.

6115—Children's Dress—This pretty frock is made of pale blue linen or cashmere, with black velvet sash. It closes at the front and may have long or short sleeves. The tucks at the shoulders front and back produce a becoming width to the childish figure. The pattern 6115 is cut in sizes 2, 4 and 6 years. Medium size requires 1⅞ yards of 36-inch material.

12-3-9 Baby Bib in Punched Embroidery—A loose-weave material must be used. Outline the floral pattern and do the background in the punched embroidery.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want.

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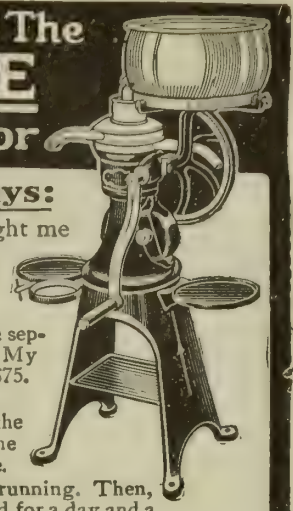
Why He Prefers The BEATRICE Cream Separator



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Less than 2 minutes is all the time it takes to clean the machine with the patented device. It will leave the machine thoroughly clean and sanitary. Try it and see.

My BEATRICE beats any machine I ever had for easy running. Then, the close skimming. Why, I've let skimmed milk stand for a day and a half and you couldn't find a speck of cream on it. And—I haven't done so little repairing since I owned a separator. That's a point ***you*** want to consider.

The BEATRICE is a guarantee of separator satisfaction. That's what you want. Ask your dealer or write for booklet to the nearest address below. **600 lbs. capacity, $55. 800 lbs. capacity, $65. 1000 lbs. capacity, $75.**

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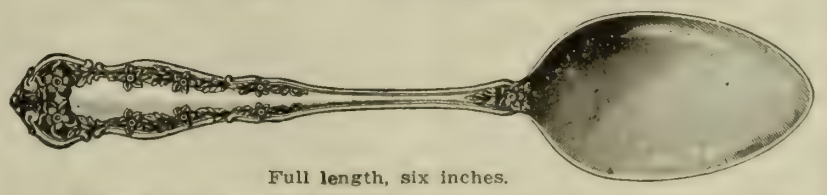
Get this dessert spoon



Full length, six inches.

Through The Twentieth Century Farmer, this beautiful dessert spoon, designed and made especially for this magazine by Wm. Rogers & Sons, may be obtained for the cost of handling, 35 cents. The beauty of this spoon is bewitching.

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Please send my dessert spoon to

Name.....

Address.....

Enclosed find 35 cents to pay for postage and handling.

If you wish teaspoons and forks you may still get them—spoon, 10c; and fork, 20c.

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Silverware Department

Twentieth Century Farmer
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(POSTPAID)

A new edition (Spring and Summer, 1913, issue) of **EVERY WOMAN HER OWN DRESSMAKER,** illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

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McClure's Magazine.
Ladies' World.

Address **Twentieth Century Farmer, Omaha, Neb.**

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are made of the finest fir that grows, from our forests in the famous Puget Sound Region. Close and straight of grain. No sap or knots. Wonderfully durable.

The doors are swinging and quick detachable. Door bars form strong ladder from which hoops are easily tightened. A newly patented idea. *Write today for special silo folder* and delivered prices. We can usually arrange practically carload rates even on single silos. Special offer to one farmer in each township.

Save 40% to 60% on Lumber and Millwork

Cut out the five needless middlemen. Put their price-doubling profit in *your pocket*. Buy of the producer. We own thousands of acres of timber land in Washington, Oregon and British Columbia. One continuous operation, from tree to shipping platform—one overhead expense—one profit to pay. We guarantee materials of better quality than you can buy locally or your money refunded. All orders shipped within 24 to 48 hours. Delivery takes an average of two weeks.

Write today for catalog and price list. Send bill of materials, if possible, for estimate.

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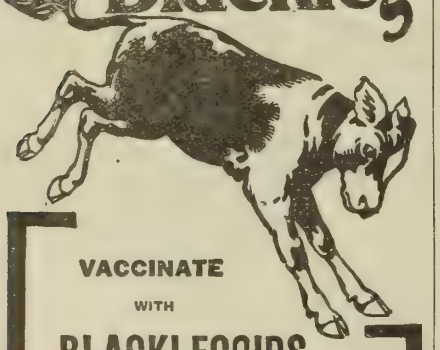

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DETROIT, - MICHIGAN.

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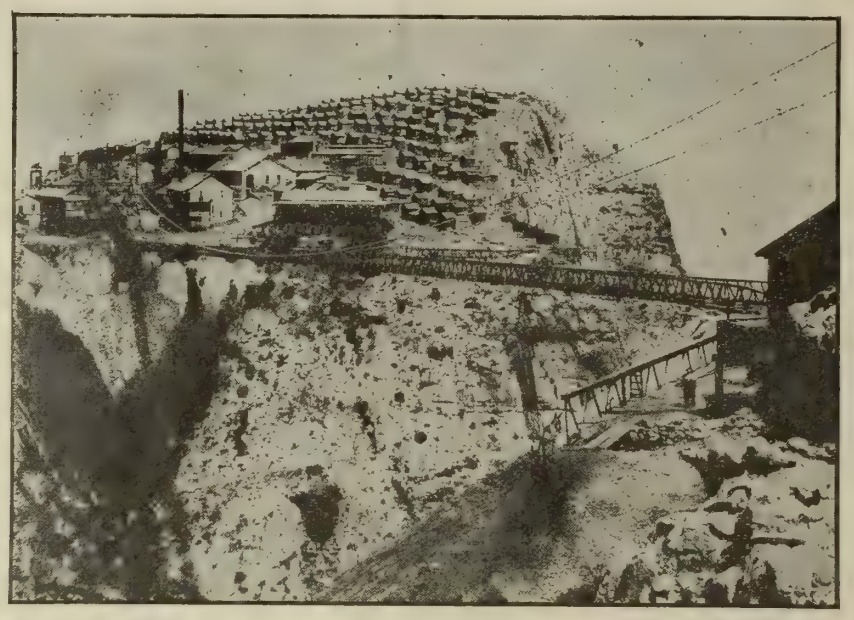
Mines of Mexico Mostly Owned by Americans

By Frank G. Carpenter

MEXICO CITY—I want to tell you of the vast quantities of gold and silver and copper which notwithstanding the revolution, Mexico is taking out of the earth. The rebels and the banditti are retarding mining in some localities, but most of the properties are being run at their full capacity, and the output this year will run high into the tens of millions of dollars. We have now, it is estimated, more than 223,000,000 of good, hard American dollars invested in Mexican mines, and our people are large owners in almost every mineral region. There are American mining engineers and prospectors even now investigating some parts of the country, and I am told there are many mineral regions which have hardly been touched.



Mining Camp in Western Mexico—Little Shacks on Hill Are Houses

World's Treasure Vault

This land of Mexico is the world's great treasure vault. It has been producing silver and gold for more than 300 years and since the discovery of America its total yield of the precious metals has been between four and five billion dollars. It has produced one-third of all the silver now in use upon earth, and its total output of gold and silver is 33 per cent more than all the money which is now in circulation in the United States. In other words, if you will take all the gold coins in this country, including the bullion in the treasury, all of the silver dollars, amounting to five hundred or six hundred millions; all of the quarters, half dollars and dimes, all of the treasury notes and all of the United States and national bank notes, all the gold and silver certificates, and, in short, every dollar's worth of silver and gold coin and every bit of currency and shovel them together in one pile, that pile would not equal the value by five hundred or one thousand million dollars in money that has come out of Mexico's mines. The amount is greater than all we have in our savings banks and four times as big as our national debt.

Output Increasing

More than this, the quantity of metals mined is steadily increasing. The production in 1908 was the greatest in the history of the country and that of 1910 was nearly as great. Today Mexico ranks at the head of the silver producers. It is fifth among all those in which gold is mined, and this is so notwithstanding much of the mining is by old and wasteful methods, and that there are localities containing mineral deposits which have scarcely been touched. It is said that three-fourths of the mineral possibilities are as yet unexploited. And, moreover, the mines are rapidly going into the hands of Americans, who are operating them after the most modern methods. The new smelters and the cyanide process are taking the places of the mule-crushers and patio methods, and the percentage of gold and silver gotten out of the ore is on the steady increase. During the last ten years almost $600,000,000 worth of gold and silver have been taken out of Mexico, and in 1911 the metals produced yielded $81,000,000. Since 1877 Mexico has produced more than $1,100,000,000 worth of gold and silver, and there are now over 30,000 mines in operation, with something like 1,000,000 acres of mineral properties.

Mexico's Big Silver Mines

The silver mines of Mexico have formed the chief revenue of the country for more than a century, and the yield of last year was greater than ever before. Some of the mines have yielded phenomenal quantities. Those about Zacatecas have produced more than $1,000,000,000, and those of Chihuahua have yielded four or five hundred millions. Today silver mining is going on all over the country. The Pachuca district, in the state of Hidalgo, has a large number of properties, half of which belong to the Rio del Monte company, which is a subsidiary of the United States Smelting and Mining company.

Guanahuato and Chihuahua

In Guanahuato the Americans have renovated and increased the silver mining industry, which has been in operation there for more than 200 years. They have sunk their shafts far below those of the Mexicans, and have put up enormous mills capable of dealing with hundreds of thousands of tons of ore every year. They get the power from waterfalls 180 miles distant and are mining with the most modern machinery. In 1911 the output of that region was more than $14,000,000.

A little farther north, in Chihuahua, are silver mines which have been operated for more than three centuries and which are still working, the output of the district running now from one to two millions dollars per year. In this region is the Batopilas mine, which was modernized by the late Governor Shepherd; the Santa Eulalia mines, now controlled by the American Mining and Smelting company, and the famous Parral mine, whose estimated output for the present year will be $3,000,000.

In San Luis Potosi the richest district is Catorce, which has silver and lead mixed with gold, and in Durango there are deposits formed of a network of silver veins mixed with iron and other metals. In Oaxaca there are more than a dozen mineral zones, containing silver, gold, copper and lead, and two of the mines there have increased their

BEGAN YOUNG
Had "Coffee Nerves" from Youth

"When very young I began using coffee and continued up to the last six months," writes a Texas girl.

"I had been exceedingly nervous, thin and very sallow. After quitting coffee and drinking Postum about a month, my nervousness disappeared, and has never returned. This is the more remarkable as I am a primary teacher and have kept right on with my work.

"My complexion now is clear and rosy, my skin soft and smooth. As a good complexion was something I had greatly desired, I feel amply repaid, even though this were the only benefit derived from drinking Postum.

"Before beginning its use I had suffered greatly from indigestion and headache; these troubles are now unknown.

"I changed from coffee to Postum without the slightest inconvenience, did not even have a headache. Have known coffee drinkers, who were visiting me, to use Postum a week without being aware that they were not drinking coffee."

Name given by Postum Co., Battle Creek, Mich. Write for booklet, The Road to Wellville."

Postum comes in two forms.

Regular (must be boiled).

Instant Postum doesn't require boiling, but is prepared instantly by stirring a level teaspoonful in an ordinary cup of hot water, which makes it right for most persons.

A big cup requires more, and some people who like strong things put in a heaping spoonful and temper it with a large supply of cream.

Experiment until you know the amount that pleases your palate and have it served that way in the future.

"There's a Reason" for Postum.

luction to about $1,000,000. re is also work going on in ora, where in the past was found biggest lump of silver on record. weight was 2,750 pounds, and it discovered by a poor Indian, al- igh by a dispute as to the own- ip the whole went to the crown.

Gold of Mexico

Iexico is now annually turning about twenty-five million dol- worth of gold. The country never been as important in gold ing as in silver mining, and to- the bulk of its gold comes from er veins which also carry more less of the yellow metal. The d is a by-product of the silver. e chief gold-producing camp is ut El Oro, in the state of Mex- where both French and English ital are invested. This region is of the largest gold camps of erica, and it has some valuable es. The Dos Estrellas has been ing over $1,000,000 a year on capital of $300,000, and the oles has paid nearly $4,000,000 a capitalization of $125,000. e of the mines has a vein of gold ich in places is thirty feet wide. There are also gold-bearing veins Sonora, Sinaloa, Chihuahua, xaca and Lower California. In last state are many placer nes, some of which are doing ll. The most of Montezuma's d must have come from placer nes, for one of his presents to rtez was a Spanish helmet filled the brim with grains of gold. He o sent the Spanish general many ornaments, shields and helmets of pure gold and two circular plates of gold as large as carriage wheels. The amount of gold taken from Montezuma and sent to Spain is estimated to have been worth at least $7,000,000.

Where Copper and Iron Are Kings

In the future, however, the meaner metals are liable to surpass gold in the production of Mexico. The copper-mined mineral in 1910 and 1911 was worth more than all the gold produced that year, and the iron possibilities are such from the great iron mountain at Durango that that gross metal will some day yield millions. Today the three most important copper mining enterprises are the Greene Cananea and the Montezuma and the Boleo, in Baja, California. The Boleo mine has had a uniform output for nearly ten years, and the Greene Cananea produced in 1911 more than 41,000,000 pounds of copper. The amount of copper in sight in western Mexico is beyond conception, and the country is sure to be one of the greatest of the copper producers for generations to come.

As to iron, new deposits of that metal have been recently found in Oaxaca and Vera Cruz, and these deposits are said to amount to many millions of tons. The most famous iron mass of the country, however, is the great iron mountain, which rises almost out of the city of Durango. This is perhaps the greatest mass of iron on earth. It is a mighty hill of solid iron a mile long and almost a quarter of a mile wide, rising to a height over three-fifths that of the Washington monument. The ore is hematite, and it is from 60 to 70 per cent pure.

The hill is said to contain 600,000,000 tons of ore above the surface, with no notion of what may be below, and it has been estimated to contain several billion dollars' worth of iron. There are similar deposits in Lower California and Sweden, but nothing of this size. The mountain contains enough iron to supply the whole republic of Mexico for all time to come, and with the possibilities of its unknown depth it has enough probably to last the world for a thousand years.

American Money in Mexican Mines

But let me tell you how Uncle Sam is interested in these Mexican mines. Our people own more mineral properties than the Mexicans themselves and all other foreigners. According to the estimates of William H. Seamon, a mining engineer, who has had a long experience here, the United States owns more than two-thirds of all the mineral properties in Mexico. The investments are worth $223,000,000, while those of the Mexicans themselves are only $7,500,000, and those of the English, who stand next to us, are only $43,000,000, or about one-fifth as large. In addition to this we have more than twice the amount invested in smelters, having put more than $26,000,000 into that industry, while the Mexicans and all other nations together have smelters worth only a little over $10,000,000.

There are scores of American companies which have mineral properties here and there is hardly a city or town in the United States which does not own more or less mining stock. There are some very large companies. Take, for instance, the American Smelting and Refining syndicate. It has smelters and mines scattered all over the country and some of its organizations pay big dividends. The present value of the company's property is estimated at $75,000,000, and in twelve years it has paid dividends amounting to $58,000,000 and accumulated a surplus of more than $17,000,000. This company's smelting plants have a combined capacity of 5,000,000 or 6,000,000 tons and its refineries of almost 500,000 tons every year. In 1911 the net profits were more than $6,000,000 and the dividends on its common stock were 11 per cent.

There is a great deal of American money invested in the Guanahuato silver mines and there are four great mining companies working there. The Amalgamated Gold Mines company owns properties in the Laluz district. It has installed modern machinery worked by electricity and it has fifty-two steel cyanide tanks. The Guanhuato Consolidated Mining and Milling company, with offices in New York, has a dozen or more mines, including the Sirena, which has been worked for more than 100 years.

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HARVESTING OATS ON BLACKBURN FARMS—NEAR LARAMIE, WYOMING.

Many a "one lunger" has prolonged his life to a ripe old age here.
Pure air, many sunshiny days and perfect water with a climate neither too hot or too cold accounts for the cures.
Microbes with an affinity for warm blooded animals cannot live in this climate, so hog cholera is unknown.
In healthfulness for man and animals, this locality yields to no other.
Land lies so that tractor plowing is easily and cheaply done.
Soil grows all the small grains and grasses to perfection and yield is enormous.
With the very best food and water and healthful surroundings, stock raising is not only sure but remarkably profitable. The big ranches have made fortunes.
These lands are offered you by the owners—not agents.
The water system of Blackburn Farms has been in operation for over twenty years so that if there were ever any defects they have been remedied long ago.
No pioneering to be done for the roads are fine and the telephone, telegraph, rural mail and stage are all available as well as the main line of the Union Pacific Ry. with its scores of trains each way, besides the Hahns Peak Line.
Laramie is a market sufficient to answer splendidly the needs of all. It takes your grain and stock and pays cash for them as well as your produce at high prices. Stores here equal those of any city three times its size.
The Wyoming University with its stock and grain farms and thirty professors and $500,000 equipment assures you of the very highest scientific aid in farming as well as the education of your boys and girls.
Settlement now composed of farmers from Iowa, Illinois and Nebraska.
Land prices low and terms liberal. Send for free booklet.

LARAMIE DEVELOPMENT COMPANY

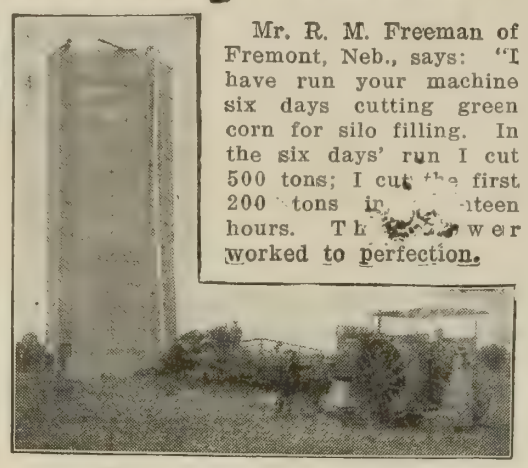
THOMAS CAMPBELL, Assistant Secretary

Telephone Douglas 4823 OMAHA, NEBRASKA 444 Board of Trade Bldg.

See the Smalley Cutter In Action!

If you want to see a real *show*, just watch this Powerful Smalley "cut up." See it take fodder by the ton and cut it into small, fine pieces, shoot it into a giant silo 60 feet high. Some *improvement* over the old slat-apron Cutter that requires an army of workmen to feed it, and balks when it comes to filling a *tall* silo.

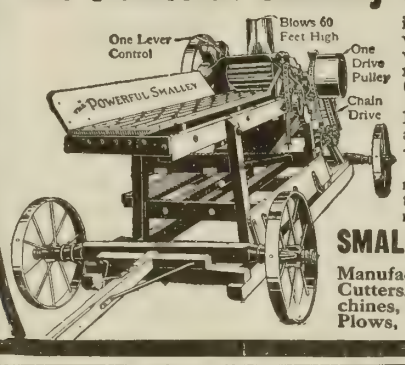
Four-fifths of all Silos are now filled by Smalley machines.



Filling a Mammoth, 60-foot Silo on George Crow's Farm, near Hutchinson, Kas.

Mr. R. M. Freeman of Fremont, Neb., says: "I have run your machine six days cutting green corn for silo filling. In the six days' run I cut 500 tons; I cut the first 200 tons in [illegible] hours. The blower worked to perfection.

The Powerful Smalley Force-Feed Silage Cutter



is a regular "hawg" for work. Makes no difference whether you have **green** or **dry** ensilage—or whether it's **corn, oats, peas or alfalfa.** Now furnished with Alfalfa Grinding Screen if wanted (for making alfalfa meal).

Only one drive pulley on Blower outfits. No Idler to bother with. Ten per cent steel guaranteed in all foundry castings. No oiling by hand—hard oil cups on all important bearings.

Get a post card quick and send for Smalley's new big illustrated Catalog, Finest Silage Cutter Book ever printed, yet absolutely free. Write **now** for it.

SMALLEY MFG. CO., Box 141 Manitowoc, Wis.

Manufacturers of Ensilage, Alfalfa and Hand Feed Cutters. Combination Ensilage and Snapping Machines, Drag and Circular Saw Machines, Champion Plows, Cob Grinders and Feed Mills. (71)

S. C. WHITE LEGHORNS

The greatest of all layers—regular egg machines. Shorewood strain produced from Lady Mourine and Prince Peerless, trap-nested true to standard. Bred-to-lay-sure-to-pay. Stock and eggs for sale. Orders booked for future delivery. Send 10c for a copy **"Good Poultry,"** our quarterly magazine, 25c a year, with 3 months' egg record, each issue practical instruction on the business side of poultry raising—the Shorewood way. Write tonight.

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than the high-priced lands farther South. So cheap! So easy to buy of us.

Aitkin County, Minnesota

This is where you ought to locate. Write for Descriptive Folder and Maps.

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FREE Literature will be sent to anyone interested in the wonderful Sacramento Valley—the richest valley in the world. Unlimited opportunities. Thousands of acres available at right prices. The place for the man wanting a home in the finest climate on earth. Write to a public organization that gives reliable information. Sacramento Valley Devepolment Association, Sacramento, **CALIFORNIA**

COME TO MINNESOTA

Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.

HODGSON & RINK, Fergus Falls, Minn.

Bloodsucking Mites

are the hot weather scourge of the poultry yard. Kill the pests before they ruin your flock. Use PRATTS LIQUID LICE KILLER or PRATTS DISINFECTANT Guaranteed. Dust the fowls with Pratts Powdered Lice Killer. Pratts 160-page poultry book by mail. 10c

At all dealers, or PRATT FOOD CO., Phila., Chicago

The Silo That Men Want

Silos have been in use long enough for men to know the kind they want. They want **STAVE** silos. They want silos with **heavy steel frames.** That's how the Saginaw came to be the favorite. The Saginaw has a Steel Frame—like a modern, big city building. It has the Angle Steel Rib that prevents "cave-ins." It has the All-Steel Inner Anchor and Heavy Malleable Base Anchor which keep the silo on its **foundation** and perfectly erect. It has Steel Spline-Dowels, which interlock staves and make a solid wall. And the **heavy, all-steel** Door Frame forms a rugged frame-work to build around. Just remember these facts in buying your silo.

This Whirlwind Filler is a crackerjack. Fast as lightning. Cuts and shreds perfectly. Knives and cutting head are both adjustable. Can remove knife for grinding in 30 seconds. Runs in 4 wide-apart bearings that hold it absolutely rigid. Heavy cutter head insures uniform cutting, no matter how uneven the feeding. Fan blades can't get loose, because they are part of the wheel. Feed table is just **waist-high.** Easy-running. It's a marvel at cutting, shredding and elevating silage.

Send Postal Now and get Book 62 on Silos or Book 62 on Silo Machinery, or both. They are FREE. (66)

THE McCLURE COMPANY
(Formerly Farmers Handy Wagon Co.)
Saginaw, Mich. Cairo, Ill. Des Moines, Iowa
Minnesota Transfer, Minn. Fort Worth, Texas

$10.00 Sweep Feed Grinder. | $14.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
Seventh St., Topeka, Kansas

FREE LAND INFORMATION

You can learn the facts about any section of the country through **THE TWENTIETH CENTURY FARMER'S FREE LAND INFORMATION BUREAU,** which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will send postage for reply, and write the

Land Department of This Paper

Questions and Answers Bearing on Many Phases of Poultry Industry

Favus

Hardin, Mo., D. C.: I take your paper and like it. Would like to ask you a question, to be answered in the poultry columns. My chickens look well, and do not seem sick, but they are losing the feathers on their necks, the skin of which looks red. Can you tell me what it is?

Answer—More than likely the chickens are afflicted with what is called favus—a skin disease caused by a fungus parasite, and common to other animals, such as mice, rats, cats and even man himself can catch it. At first it does not affect the health, but if allowed to spread to main parts of the body will affect it. There are several remedies, but calomel, mixed with eight parts vaseline, or even lard, is one of the best, as well as safest, remedies. Wash the affected skin with warm soapsuds, dry, and apply the calomel ointment once a day. This, after two or three or a few applications, should kill the fungus causing the disease. Sometimes, when the trouble has invaded different parts of the body, and white scales are forming thick, it is better to have your druggist mix you up an ointment made of nitrate of silver and vaseline—three grains of the nitrate of silver to each half ounce of vaseline. This ointment is highly poisonous. Wear gloves while doctoring the fowls.

Chickenpox

X. Z.—A disease came into our country. Some people said it was merely sore head, some dry roup, and some real roup. It was first heard of last fall among the young flocks. This spring it traveled all about and has come to me. I first thought my pullets had a bad cold. Some I killed; some seemed to recover. They were often out in the wet and damp. Next I thought they had been fighting, as the comb and wattles looked funny and bumpy. After a while the bumps got larger and got on the side of the mouth, on top the beak, then about the right eye. They never turned dark about the eye at all, but stayed yellow and gristly looking, and the eye in cases got bloody; before they were ready to drop off the comb or wattles these lumps would turn a dirty dark gray, and looked like warts. As long as the warts did not get about the eye, the pullets seemed well, layed well and were hungry. It is mostly pullets that go blind. I am so discouraged, and afraid to touch these chickens. There is no hard breathing, no choking, as the first sick ones showed, though these first showed no spotted-up combs. Can I use the eggs for food and set them?

Answer—Your first sick chickens quite likely had a severe cold, or roup. Chickenpox often follows roup or cold. In the absence now of hard breathing, wheezing or choking, or signs of membrane or cheesy stuff in the mouth or throat, I judge your chickens have the chickenpox. Of course, those yellow nodules could go into the mouth, but if they do not, by touching up the warty places with iodine, feeding good mashes, to which you have added some sulphur, and disinfecting floors, roosts and drinking water, you are nearly sure to get rid of it when dry, hot weather comes. But, remember, if you neglect to do this, it will stay about the place, and when the damp weather comes on in the fall will attack this year's hatched chicks. Kill and burn all that show the sore eyes or that get droopy, and do not allow any hen to hatch or brood chicks that shows these warty places on comb or wattles. This disease is called dry roup by some poultry keepers, sore-head by others. Chickenpox is what it is. Yes, you can use the eggs.

Braekel and Other Breeds

A Reader: Could you tell me where I could get the Braekel, the chicken that sings? Would also like to know how many American breeds we have, and which is most popular. Answer on poultry page and oblige.

Answer—I wish you had given me your name. A personal answer, remember, comes to you sooner. There are times this is absolutely necessary if you would get an answer in good time.

Two subscribers of late have asked for the Singing Braekel, and I could not find a breeder of these fowls anywhere within my range. But since your question came in I came upon an address put away of the Braekel. The address is S. J. Hoyt, Waverly, N. Y. I do not know that he now has the Braekel, but judge he has. The Braekel is imported from Belgium and is not standard in our country. I think it must be taught to sing its little tune. It is kept for its laying quality, not its voice.

American breeds are: Plymouth Rock—Barred, White, Buff, Silver-Penciled, Partridge and Columbian. All are of same shape, size and weight to be standard. Wyandotte—Silver, Golden, White, Buff, Black, Partridge, Silver-Penciled and Columbian. The others are: Javas—Black and Mottled. Dominiques, Rose-Comb. Rhode Island Reds — Single and Rose-Comb. Buckeyes—Pea-Comb.

The Plymouth, having the start, is, of course, most numerous for the Barred. Wyandottes and Rhode Island Reds are now giving it a good race for popularity, especially certain colors of the Wyandotte.

In England and some other countries some poultry keepers think America should have due credit also for bringing the Brahmas and Leghorns to their present perfection.

IDA M. SHEPLER.

When Automobile Driving

Don't start car on any other than first speed.

Don't watch the fellow behind—he is watching you.

Don't move the gear lever without disengaging the clutch.

Don't slip the clutch too much, as it will burn or wear beyond repair.

Don't move the feet away from the clutch pedal when the car is moving.

Don't place the hands above the center of the steering wheel at any time.

Don't take your eyes off the road for any reason while the car is rolling.

Don't let the clutch in fast, especially when starting the car from a standstill.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Weather Forecast by Telephone

J. C. D., Monroe, Neb.: I saw an article in a stock or farm paper two or three weeks ago—I think it was your paper—directing a person who wants the weather forecast to call the telephone central and obtain it. At Columbus they refuse to give it, after taking the matter up with the wire chief on May 7. He informed me today the manager refused to give it. Would you mind taking this up through the management of the Bell headquarters in Omaha and advise me?

Answer—Appended is a copy of the letter received from the telephone company that gives full explanation:

"Yours of May 19, addressed to Mr. Yost, was referred by him to myself for reply. I am returning herewith J. C. D.'s letter to you, and wish to advise that we have instructed our chief operator at Columbus to see that he gets weather service on calls. In doing this I am, of course, assuming that J C. D. is a subscriber to our company's service. Otherwise, of course, my instructions would be of no value to him.

"As announced in your paper, we furnish weather conditions, through our chief operator, wherever there is a call for them. We have so few farmers connected with our Columbus exchange that I presume J. C. D.'s call is the first we have received, and arrangements to furnish the service to Columbus had not been made on account of lack of request. If you should hear anything further from J. C. D., I should be pleased to be advised."

Changes in Upper Wisconsin

Editor Twentieth Century Farmer: Two striking changes have taken place in upper Wisconsin this year. One is, the settlers coming to that portion of the state are people with about twice the means of those who have come in the past. The other is in the largely increased number of head of cattle being taken from the South St. Paul stock yards to be fitted for the market on the pasturage of that portion of the state.

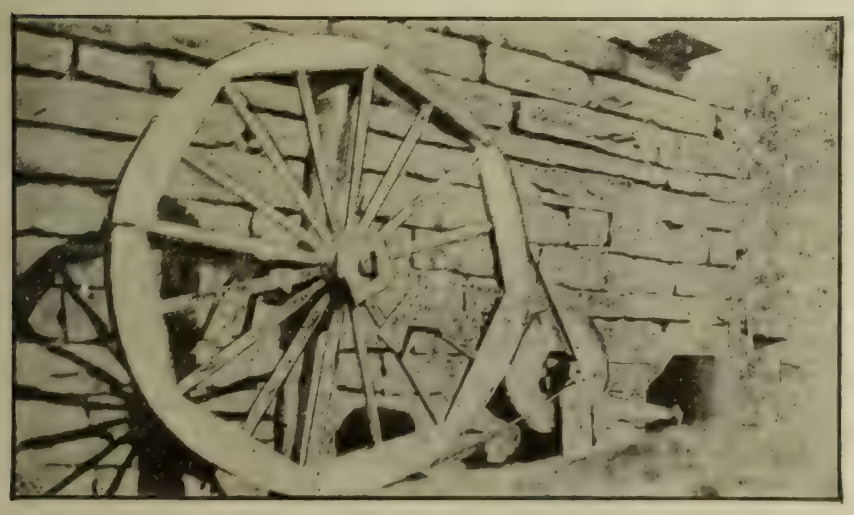
The idle lands of the state are rapidly being taken and put under improvement, and dairying and stock-raising, together with the growing of potatoes and sugar beets, engage the attention of the settlers. Many pea canneries have been established in recent years and more will be installed this year.

A. D. CAMPBELL.

Appreciative

J. L. S., Emery, S. D.: I have received the Keen-Kutter knife and think it is a very good knife. I have taken The Twentieth Century Farmer for a number of years and think it a good farmer's paper; in fact, it is good for everyone.

Home-Made Forge



H. D., Buxton, N. M.: I am sending a photograph of a home-made blacksmith's blower. It will work nicely in a home-made forge. Such a home-made blacksmith's shop is very handy, for the blower is made of boards 1x12 and can be made any size that is desired. This one has fourteen-inch fans. There was a little piece spliced on the 1x 12s in order to make the sides high enough so that the fan could turn free inside. The fans are made of sheet steel. The hub is made of wood, with four spokes or more, if desired. The fans are fastened to the spokes. The shaft to which the fans are fastened is made of a piece of half-inch pipe. A hole is drilled crosswise through the hub, and through the shaft, and a pin put in to keep the fans from slipping. The pully is also made of wood. It is two inches in diameter, and is fastened to the shaft in the same way that the fan is fastened. The blower is covered with tin, air-tight, the only hole being in the center for the air to pass through. An old buggy wheel is fastened to a post and connected with a belt to the small pulley on the blower A crank is fastened to the big wheel with which to turn it.

The Sign of a Good Dairy Farmer

WE USE THE DE LAVAL Cream Separator

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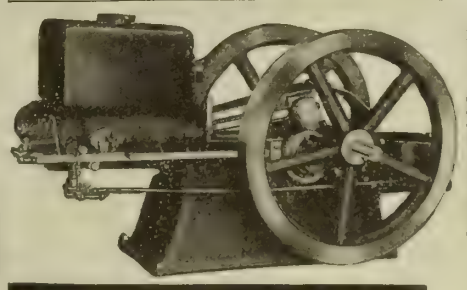

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When you want what you want when you want it, the Market Place of The Twentieth Century Farmer is the proper medium through which to get it.

Review of Live Stock Market

By A. C. Davenport

IN THE meat supply of this country pork undoubtedly occupies first place. Beef and mutton will always be more or less popular and used largely in the cities, but the meat of the average man, from one end of the country to the other, is pork, so that the question of the available supply of hogs is at all times a very important one. Just at present the situation appears to be this—receipts at the leading western markets so far this year compared with 1912 show a decrease of 1,500,000 head, but since the average weight of the hogs has been from ten to twenty-five pounds heavier than last year on account of the greater abundance and cheapness of feed the decrease in receipts of hogs does not necessarily actually reflect the decrease of the supply of pork. Values for hogs on the hoof are fully $1 higher than at this time last year. There is a broad and growing demand for both the fresh and cured hog product and no danger whatever of any decrease of the home demand in the near future.

Big Hog Demand in Sight

The big cotton acreage in the south means a heavy call for pork from that quarter this summer, and in addition to the splendid home demand, there is always the possibility of exporting pork to other countries at a good profit, so that the indications now are that hog breeders will get busy this fall and with anything like a favorable season the pig population will be greatly increased within the next six months or a year. There is another point of view that makes it highly probable that pork breeding will be a very popular form of farm work this fall, and that is the practical certainty of heavy crops of all kinds. This will mean an unusual demand for feeder cattle and feeder sheep, and in case of the inability of the country to fill feed lots on a reasonable basis, farmers will naturally turn to hogs as a profitable medium for the marketing of their surplus crops. There does not seem to be the slightest possibility of any very great supply of hogs in this country and every indication that pork production will be a profitable occupaton for the next few years. Free the hog from the danger of cholera and he is undoubtedly the most profitable animal on the farm and by long odds the most satisfactory medium for the marketing of both grain and grass. Recent discoveries by the bureau of animal industry of the Agricultural department have rendered it possible to practically immunize hogs against swine plague, so that there is all the more incentive now for farmers to engage extensively in this very profitable branch of husbandry.

The Beef Shortage

According to recent bulletins from Washington, it has just begun to dawn on the government and the people that the United States is no longer exporting beef. It cannot be said that there is an actual, acute, shortage of beef in this country, but there can be no doubt whatever as to the fact that no surplus exists, and the day of exporting either live cattle or dressed beef to Europe is gone forever. It was in contemplation of this condition that the Washington Chamber of Commerce memoralized congress to enact legislation to prevent the indiscriminate slaughter of calves. The matter of beef supply is no longer a local proposition, but is a world-wide problem. California, having suffered from drouth for many months, is short on beef cattle, but finds that Australia, from which country it might have drawn supplies is in similar shape and has a greatly reduced exportable surplus of beef. The shortage of cattle in California has recently been brought to public attention by the shipment of six train loads of cattle from eastern Colorado to the coast. The seriousness of the situation is demonstrated when it is remembered that coast markets have very seldom had to go east of the continental divide for their beef supply. Down in Argentine there are indications of a beef shortage of serious proportions and this is brought to light by the threatened clash of Anglo-Argentine and American packing industries. Cattle prices have been going up by leaps and bounds and the opinion exists that within the next few years the Argentine Republic, like the United States of America, will cease to be a cattle exporting nation. All of this goes to show, however, that the American cattle grower must be awake to the dangers of the situation as well as to its opportunities. There is every probability that in the very near future he will be compelled to submit to very strong competition in the markets of both the Atlantic and Pacific states, and there is only one course open to him—that is, to breed and mature a class of beef in this country, particularly in the central west, that can not be affected by foreign competition.

Very Few Spring Lambs

It is in-between season in the sheep market and the situation presents some very peculiar conditions. Owing to the shutting off of lamb supplies from Colorado and the west and the disappointingly small receipts of spring lambs from Kentucky and Tennessee, there has been a very sharp advance in mutton values and every indication that this advance will be sustained or increased until the western grassers begin to move freely. The shortage in the supply of southern spring lambs this season is attributed to the fact that southern breeders were afraid of the tariff situation, but in any event the supply from this source has been smaller for several seasons past. As southern lambs are counted on by the packers to furnish them supplies during the in-between seasons, it can readily be seen that lamb prices are bound to be pretty high until the grass stock from the west begins to move. All accounts agree that the lamb crop in the west has been large and there is certain to be an exceptionally vigorous demand for them this fall.

Harness Hints

Look to your harness. Avoid these faults especially:

Bridle too long or too short.

Blinders pressing on the eyes or flapping.

Throat latch too tight.

Collar too tight or too loose.

Traces too long.

Breeching too low down or too loose.

Snakes are repulsive to human beings and our first instinct is to kill them. An exception should be made of bull-snakes, which are not only harmless, but very valuable in keeping the gophers and rattle-snakes thinned out. If you don't want your alfalfa fields ruied by gophers, let the bull-snakes live in them.

Canada is to spend $10,000,000 on the first section of a highway connecting Montreal and Quebec. The road will be built of macadam.

A mammoth oil-driven harvester that is being tried out on Australian wheatfields strips about sixty acres a day.

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T W

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha June 28, 1913 | Number 655

Alphabetical and Topical Index to Date

Semi-Annual Review of the Leading Articles and Special Features Appearing in This Magazine

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A Sunday Morning Drive Over a Good Road

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Farmer Putnam Helps Ammons Run State

The Old Missourian Spends Three Months in Colorado and Gets Well Acquainted With the Governor

WELL, Mr. Editor, I reckon you've just about give me up. I hain't let you-all hear from me fur near three months, but it's because I been busy out here in Colorado, helpin' Ammons run the state. Ammons is the governor here now and it's the fust time us farmers has got a man in the chair that knows somethin' about our agriculture problems. You hear lots of fellers git on the stump durin' campaign and preach about how they was raised on the farm; how their heart goes out to the soil tiller, how when they git into office they're a-goin' to reform things by lowerin' the farmer's taxes and loadin' 'em on the big guns in the cities and the corporations, but when it comes to a showdown the farmer gits it in the neck, as usual.

Well, we got a different kind of governor in Ammons. He didn't promise to reduce the farmer's taxes, but he did say that when he got into office he would, if he could, make everybody pay their share, and he got some laws through that is goin' to bring in more revenue fur our agricultural colleges and other institutions by uncoverin' property that ain't been taxed before. We've been hard up here fur several years, but it ain't been because they wasn't no money in the state, but because it got away from the assessor.

But that ain't what I was goin' to talk about so much as what Governor Ammons is doin' fur the live stock industry. You kin generally size up what kind of a man a farmer really is by seein' what he's doin' fur his live stock. If he's a-lookin' fur the immediate dollar and don't give a hang fur the future of the soil or the country, he's apt to be pretty rough on his stock, let 'em run out all winter on stubble or in snow-covered pastures. If he's got business sense and humanity about him he feeds his stuff through the winter, raisin' enough durin' the summer to carry him through.

There used to be a time in the cattle business in the west when the stockman didn't give a hang fur the comfort of his cattle; when you could go over the range in spring as soon as the snow went off and pick up a carload of bones every mile. I knowed men that made a good livin' offen bones they picked up that way, and the ranchman didn't git nothin' outen the deal except the hides, and sometimes them was half ett up by the wolves. We still find some that hain't learnt no better.

If you want to know about the other kind, though, you got to go up to the Ammons ranch to Middle Park, Colorado. When a man shows that he can run a place like that, with about 3,000 critters on it, he's sure fit to be governor. This ain't no big flat stretch of country, neither, but it's way up in the Rocky mountains, about 7,500 feet above sea level. They is, in all, 4,100 acres, about one-third of it so's you kin cultivate it, the balance runnin' every which way, over rocks and peaks, down gulches and up toward the clouds. Pines and aspen trees makes the hills look pretty, and they is no end of ice cold spring water. Down most every gulch they is plenty to drink, and the winter leaves snow enough to irrigate the land all summer.

Governor E. M. Ammons

Of course, you could raise crops without irrigatin', because they has nice summer showers, besides the snow in winter that leaves the ground in fine shape, but by usin' water durin' the growin' season when needed the crops is doubled. I seen oats, barley, wheat, field peas, sugar beets, turnips and other stuff growin' on 1,100 acres in the valley, and every bit of this goes into cattle. They ain't no sugar factories up in that neighborhood, because it ain't settled up much yet, but it seems to pay a lot better to have the cattle carry the crops off in beef then if Ammons had to ship the stuff to some other factory to have it ground up.

The ouly thing that is shipped out is timothy hay, and last summer when ordinary timothy was bringin' $8 a ton in Denver, Ammons was gittin' $12 fur his on the cars at Parshall, his shippin' point. That price wasn't because it come from a ranch owned by a man who was then runnin' fur governor, but because the hay was worth it. Up in them high mountain districts the summer season is pretty short, but Providence makes up the difference by givin' the sun peculiar power to put sweetness into everything that grows, includin' the mountain gals. Sugar beets that would taste like turnips if growed along the Mississippi in the rain, under the influence of the Colorado mountain sunshine, comes out so's you kin cut 'em into cubes and use 'em in you're coffee without bein' refined. It's the same with them rich grasses. You-all know about the North Park, Colorado, cattle that alus wins the grass-fed premium at the International in Chicago; well, Middle Park is the same kind of country, only a little farther south. The grass is so rich in them districts that, along in the evenin' about sundown, if you hide behind a rock on the bank of a stream, you'll see the rainbow trout come jumpin' up outen the water to graze fur supper. They love the grass the same as cattle, and Bruce Ammons—that's the governor's son—was tellin' me that he often laid on the banks in the evenin' with a Flobert rifle, pickin' off trout that comes up to eat wild timothy or redtop.

"That's what makes them Middle Park trout so slick and fat," he says.

But to return to the truth before I git too far away, after the hay crops is cut they is enough grass left to pasture the stock till the middle of December, then the snow stays on till spring, and durin' the winter months the cattle has to be fed.

Pure-bred Herefords is the kind of stock the governor's got on his ranch, and he says them's best fur that climate. They come of hardy Scotch stock and, back in the days when the Highlands was in the hands of the clans, the forefathers of them Herefords learned to rustle on the rough pasture. That give 'em endurance.

Now, up in the mountain parks of Colorado and Wyoming, the Herefords has got many ad-

vantages over Scotland. They is more sunshine fur one thing, and better grass and more of it, and then they don't run the risk of diseases. Up high like that the air is rare and pure and it develops the lung power of the animals. Then the spring weather ain't cold and damp like in most places, and in winter they're kept near shelter, so they don't have to lay down and die in the blizzards, like they used to in the days when stockmen thought winter losses was part of the profit of the business. Another thing about Herefords is that they ain't wild like some strains of cattle, and a puncher kin find 'em in the hils without goin' to too much trouble.

Besides breedin' blooded stock, Ammons buys yearlin's from other rangemen and keeps 'em till they're 2-year-olds; they're fed on clover hay till January and then shipped in to Denver fur the feeder market, in such condition that ninety days will fill 'em out and give the feeder a big profit. This business has been growin' so fast that Denver last January had about 1,000 feeder buyers here from all parts of the middle west, and the prices paid was bigger'n anything ever heard before fur that class of cattle.

You cain't raise no corn up in these mountains—that is nothin' but sweet corn fur the table—because the season's too short. But they is tryin' out barley and it makes a fine feed. Some of 'em feeds wheat, too. With them small grains to use as finisher on stuff that comes from grass as fat as a butterball, it won't be long till you'll find fancy baby beef on the market, comin' direct from such places like the Ammons ranch. One of his neighbors, Dr. T. F. DeWitt, won champion in one class of fat steers in the Western National at Denver last winter, fattenin' on barley and turnips.

Barley run sixty-four bushels on an average on the Ammons ranch last summer, wheat sixty bushels and oats seventy-four bushels. Of course, that's irrigated. With the valley land at 7,500 feet bringin' small grains at them rates and grass good all the way up to timber line at nearly 11,000 feet, the feller with a mountain ranch like this don't have to be governor to be happy.

The governor says to me when I was talkin' to him about it the other day:

"Say, Put, I don't see what anybody wants with a office like this exceptin' the honor that's in it. It's nice to know that the people thought enough of me to git me into a box like this, with fine silk curtains on the windows, potted plants standin' all around, a mahogany table to sit at, and sign papers, a leather back chair, a green carpet on the floor that they stuck the state $100 fur, oil paintings of other governors on the walls lookin' down at you, and sayin', 'There's another poor fool wants to try to please the people.' I say it's all right, Put, fur a man that likes honor, and I don't mind a little of it myself, but take it from me, Put, when I want to be downright happy and contented ag'in I'll go up to Middle Park, git on a cow pony, dig the spurs into his hide and say, 'Now, Jasper, see how fast you and me kin tear around over them hills and round up that bunch of steers.' I tell you, Put, bein' a statesman ain't what it's cracked up to be. I sit here from 8 in the mornin' till 5 at night shakin' hands with people that voted fur me, and are askin' half my kingdom as their reward. If I don't promise it to 'em on the spot they go out sore; if I do, they go away callin' me a darn liar."

"Well, Mr. Editor, I'm leavin' Colorado fur good now and goin' back east a spell, so you cain't tell where I'll be next time you hear from me. THOMAS JEFFERSON PUTNAM.

Baby Beef as Cause for Cattle Shortage

The Indiscrimate Slaughter of Young Animals is One of the Factors Which Offset Supply of Beef Cattle

THE baby beef proposition is a subject that has been discussed from every point of view as a money-maker for the feeder. The agricultural colleges and experiment stations have spent years in demonstrating to the public that more beef and better quality can be produced for the cost of feed consumed by the use of the calf or yearling in the feed lot than with the older or more mature animal. This doctrine coming to the public with a basis of good authority has had its influence in the last few years in changing many farmer steer feeders to feeders of calves, to the handling of these younger things, because of the great demand for baby beef and the feeding advantages claimed in handling this class of cattle.

In times of scarcity the demand is for more beef, and the resources for production are limited; therefore, the urgency to extend the available means of beef production to its limit, in ability to yield in quantity of beef, as well as in increased numbers of beef animals. The source of beef supply is the calf—the baby beef, in fact, and this feature of the situation must be taken into account when a shortage of beef confronts the meat supply of the country.

It is important in times of beef cattle scarcity that an increased number of cows be employed in producing calves so that the grower of cattle and producer of beef may be afforded the means of increasing the beef supply for the market. It is not good business policy to attempt the correction of a great scarcity of beef by vealing the calves, thereby sacrificing a whole year's effort in the cow to increased beef production by the hurried contribution of a few pounds of veal, rather than mature this animal by giving it two or three years more time, when its yield of beef would be measured by many fold that of its pounds of veal.

The baby beef in any of its forms is alike destructive to the principle of beef production, when it is quantity rather than quality that is desired. The present demand is for beef. There is a scarcity of meat. We need the best efforts of the big mature beef animal; we need the produce of the herd to come forward with its full beef-carrying capacity, not the sacrifice of the produce of the herd in the interest of a few pounds of veal or baby beef.

Bunch of Young Grade Herefords—"Baby Beef"

The great inroads that are being made in the beef cattle industry, or beef production, are seen each day throughout the autumn calf-weaning season at the big central stock yards; where calves by the thousands are coming forward from the range and the beef cattle-producing districts to be disposed of to the slaughter, or go into the feed yards to be finished as baby beef, because of the high prices paid. These hundreds of thousands of little, immature things carry with them great possibilities of future beef development, if they were only given the opportunity to develop it. Each of these represent one whole years' effort of a mother cow in her attempt to place before the beef consumers of the world the only reasonable and effective solution to the question, "What is the matter with the supply and demand of the meat products to feed the people?"

There is no industry that can withstand the destruction of its crude material and furnish the world its finished products. How long would the cattle supply of the United States last if the production of all the cows were turned to veal? If there is a beef cattle shortage existing, if there is a general cattle shortage existing, it is due to the increased demand for veal and baby beef, which has checked the volume of matured animals for the beef supply. The cultivation of the appetite for veal by the hotels, restaurants and eating houses, and the general advocacy of "baby beef as the money-maker" by the experiment stations throughout the country, in their results of feeding tests, combine to center attention upon the immature bovine. It is the consumer's appetite on the one hand and the feeder's pocketbook on the other that is contributing mainly to the present scarcity of beef by taking these immature animals before they arrive at beef age and beef production.

Western Nebraska as a Producing District

V—What Has Been Done and May Be Done on Some of the Kinkaid Homesteads

THE Kinkaid homesteader has been made a prominent figure in Nebraska history, not because he was a peculiar or particular type of man, but because he was introduced or influenced into the homestead proposition by the extraordinary offer of 640 acres of land upon practically the same basis of homestead requirement that applied to the homesteader that preceded him in filing upon 160 acres as the maximum acreage that could be obtained. It was generally believed by those most familiar with the government lands remaining in Nebraska prior to 1904 that a section, even, would scarcely justify a five year's residence, and the necessary improvements for proving up.

The 640-acre homestead was extensively advertised and thousands of prospectors came to see this free land district of Nebraska. Some filed on claims, others did not like the appearance of the land they saw, and left the state without filing. It was a difficult task to see and understand just what was available, as ranchmen and homesteaders had claims scattered all over the better sections of the sand hills country that had been filed on and proved up prior to the passage of the 640-acre homestead law. Thus the matter of selection of a claim and the filing almost necessitated the assistance of a surveyor or someone familiar with the particular neighborhood, in order to get enough smooth land with the claim to justify the venture.

This feature of claim hunting and land designation resulted in favor of the home man and such friends as he desired to assist in getting the best claims. The resident Nebraska homesteader, as a rule, had the advantage and most generally was the lucky man in getting located where he could work out his homestead plans and purposes. The Kinkaid homesteader must not be judged as a class, sometimes designated Kinkaiders, with the impression they are all alike, either very prosperous or very unthrifty or poverty-stricken. They are merely representatives of humanity as people are found everywhere. Some were fortunate in getting good, productive land, while others were not so fortunate and have taken land that is not capable of providing a comfortable living for a family. The one may be a good manager, a hustler adapted to his undertaking, while the other may be totally out of sympathy with his work and undertaking; the one will succeed, the other will fail.

As an illustration of the successful Kinkaid homesteader, we will mention a district of country in northern Sheridan county, about twenty miles northeast of Rushville, adjoining the Pine Ridge Indian agency. This particular district comprises ninety sections of land, a strip six by fifteen miles lying along the south side of the reservation, called the Extension in its official relation to the reservation, laid off at one time by the government as a means of protection against bootleggers having access to the reservation. Bootleggers were not permitted to cross this strip called the Extension; therefore, they were more readily detected and arrested, even, before they approached the reservation lines.

Judge Westover's Kinkaid Homestead, Twenty-Two Miles from Rushville, Neb.

The year following the opening of the public domain in Nebraska to homestead entry, under the 640-acre homestead act, the government Department of the Interior decided on opening this strip under the 640-acre homestead law. This being a small tract of land, did not excite public interest and, therefore, became a local matter and was practically all taken by Sheridan county citizens, who had not already taken their full allotment under the homestead law. This strip of land was taken by sections, half sections and quarter sections, depending upon how much land the applicant had already had by homestead filings.

Opportunities for Young Men

This division of land is comparatively like all other districts of land in this part of the state. It is not all good; there are some hills, but these are generally clay hills and fine grazing lands. There is a little creek winds its way through this land. A more beautiful, clear, sparkling stream of water cannot be found outside of the mountain stream. It is called White Clay creek, but why we cannot imagine, as its clear, crystal waters ripple and hurry along over stone and through the sand, with its deep, black soil banks on either side.

The valley through which this stream passes is one of the most picturesque and beautiful farm land views in the country. The valley land is mostly under cultivation and is producing large crops of all kinds of grain and alfalfa. The stream is abundantly lined with native timber of good growth, that gives the valley the appearance of some of the old eastern farming districts. In the timber and along this stream are found all kinds of wild fruits in great abundance. There are thousands of acres of excellent agricultural lands in this valley, divided into farms of from 160 to 640 acres, that cannot be excelled for the prices asked in any state in the union. Old men in some instances have homesteaded, and they now want to quit active life on the farm. It is the young man's opportunity.

What Two Men Have Done

There are two examples of homesteading in this valley that are deserving of special mention, as they illustrate what a Kinkaid homesteader can accomplish when he has the means at command to build, put under cultivation and develop his homestead—Judge Westover and ex-Postmaster J. N. Brooks, both of Rushville and well known citizens of northwestern Nebraska. These gentlemen have each a half-section homestead in White Clay Creek valley; they are beautiful, rich farms, with improvements to correspond with the needs and demands of their farming and live stock operations.

They were able to exhibit as fine specimens of vegetables in August of last year, when we called to see their farms, as anyone would desire to see or produce. Everything in the line of vegetables that is grown in this latitude was in the garden and truck patch of Mr. Brooks'. In fancy, taste, cultivation and production of vegetables he might be termed an expert, as he has demonstrated under his own supervision and labor the possibilities of northwestern Nebraska in vegetables. Mr. Brooks is a careful farmer, inquiring into the cause of failure in every department of his farming operations and quietly rejoicing in his successes and achievements. His age, 76, is a little against his realization of all he has planned in this new farm venture, though he has the stamina and ambition of a much younger man than his years indicate. He is living like a prince in the matter of home comforts; his table reminds one of the old eastern farm homes, where the tables are said "to groan under their weight of good things."

Judge Westover is nicely fixed with buildings for every convenience of farm operation; everything is in up-to-date order. Shade trees, orchard, flowers and shrubs indicate that there is a disposition to beautify, and the evidence discloses plenty of help—three interested, active boys of the family, one a university student, with agricultural training that is practicing his class instruction on the other boys, a kind of farm instructor. The work on this farm shows up fine and suggests that the Westover homestead is well managed and will rate among the best in the state.

This district of Nebraska is yet in the cheap land section, where good tilled lands can be bought for half their real value, all things considered, estimating on location and production, compared with land prices on the eastern side of the state.

J. N. Brooks Lives Like a Prince on His Kinkaid Homestead

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Nebraska has never reported a more perfect and uniform stand of corn.

The fruit damage threatened by the seventeen-year locusts is not resulting so seriously as at first indicated.

The Texas cattle are coming north to Nebraska and Dakota pastures by thousands, owing to the southern drouth and grass shortage.

C. I. Lewis, a fruit expert of Oregon, says that there is going to be an increased demand for cherries. He believes that cherry pies are becoming so popular that more and more canneries will put them up.

The California Cured Fruit Exchange issues a statement that the fruit crop as a rule will not be more than 50 per cent of last year. Prunes are estimated at 40 per cent. Missouri valley apples will serve just as well for fruit.

The highest price paid for fat steers in the South Omaha market in two months was paid recently for a load of cattle fed by Frank Mulhair of Lynch, Neb., which brought $8.50. There were eighteen head, weighing an average of 1,462 pounds. They were fed since last October, being started on snapped corn and alfalfa.

The Canadian government has estimated the number of graduates from government agricultural establishments who have actually taken up practical farm work. They find that 75 per cent of these graduates are actually engaged in farm work. Of these many have taken up crown lands and others are acting as farm managers for others.

Breed and Feed

A nervous, excitable farmer and trader recently asked his industrious, hard-working, hard-sensed neighbor, "How are we ever to solve this question of high prices for meats?" And was answered, "Just do as I am doing; keep quiet, saw wood and keep right on breeding and feeding to the full capacity of your resources, and it will solve itself." This is the logical answer. It is increased supply that is demanded, and it is up to the producer to furnish it. Just how soon the results of this course of operation will be felt in the markets of the country depends upon how earnestly the work is taken hold of by land owners and those in position to become producers.

There is no question as to the ability of the country to produce a very large surplus above the demands of home consumption. It is all in the effort, in the inclination to produce. This country is not half way up in its producing ability in any one line of production. We have no very definite knowledge of what might be done in corn production and swine growing, if our resources were fully employed in this direction. We sometimes hear certain states spoken of as being practically up to their limit in corn acreage or other crops. This is not correct of any state or division of our country, and our acreage is not half way up in its ability to yield. Intensive cultivation is not employed, and scarcely understood by one tiller of the soil in a thousand.

The boys' acre corn contests that are being encouraged in many states under the various forms of organization and plans of premium incentive are doing more to illustrate what an acre of land, well managed, will do in yield of corn than all other influences combined. These contests are numerous, some under county, some under state and some under national supervision. But the lessons taught prove to the farmer that 100 bushels per acre is one of the easy tasks to accomplish, and with no special additional expense, except a little more labor in cultivation.

The breeder of the meat-producing animals may gain an advantage in the quality of his stock, a factor in meat production that he cannot afford to overlook. This is something he must have right in the start, in order to get the advantage of the later results of growth and development. The balance is in feed and care, and the keeping of all his farm and crops will accommodate comfortably. Better have a little too few for the feed than a few too many. "Keep quiet, saw wood and breed and feed" is a homely expression tersely put, but one full of suggestion and meaning.

Every now and then we see a paragraph in some eastern exchange, "We have no success with alfalfa; it don't seem to be suited to our soil or climate," etc. We would recommend those eastern farmers to drop their experimenting, sell out and come to Nebraska or Kansas, where alfalfa grows easier than weeds. Where two tons per acre, first cutting for 1913, is reported from hundreds of farms on the east side of the states. Land owners in Nebraska and Kansas are getting rich seeding land to alfalfa for commercial hay purposes alone. Four cuttings each year and a general average of five tons per acre per year. Good quality of alfalfa new hay is selling in the markets at from $10 to $12 per ton.

Present Grass Crop

The grass crop in Nebraska is above the average at this season of the year, in both pasture and hay grasses. The western and sand hills districts of the state report extra good grazing, and cattle are taking on flesh rapidly. There were but few thin cattle this spring when turned out and cattle at once found a good living on the range or pasture inclosures. This was greatly in favor of early grass fat cattle, and it will be realized at the markets before the usual season for this class of cattle to appear. This condition will hold good among all the Nebraska cattle, both range and farm hay-fed last winter. There is but a small per cent so far of hay-fed in Nebraska, but the idea is gaining favor.

The present season to date has been very favorable for the grass crops of all kinds. The pastures are short of cattle, many estimating from 25 to 50 per cent less than two years ago. The decrease for the last two years is very pronounced, and the active demand for young cattle of all kinds is talked of in every neighborhood. Breeding cattle, cows and heifers have never been so scarce, and fresh cows are in strong demand at exorbitant prices, seemingly.

This condition is encouraged on the western side of the state by the homestead demand, where this class of settlers are trying to buy and add to their stock whenever they can find a cow for sale. This means a dairy demand, as the Kinkaid homesteader is persistently adding to his cow herd. The abundance of grass is a very encouraging condition to Nebraskans everywhere and will be an incentive to a more active demand for all classes of cattle. The grass feed of the country is the strongest influence in the bracing up of cattle prices, as it is estimated a cheap feed for all classes of grazing animals.

The first crop of alfalfa is now being cut and is exceptionally good all over the state, and the second crop is assured by the excessive moisture to be also a very heavy and good crop. The prospect in most places indicates that there will be at least four crops cut this season; only a few seasonable showers will be necessary—just enough to give each crop a start. Alfalfa is the great hay crop among feeders and will demonstrate its ability this year to relieve the high prices to which hay scarcity sometimes forces the markets. The alfalfa acreage means hay, practically every acre of it, while the meadow lands in native grass may be diverted to pasture uses. There has been a very large increase in alfalfa acreage, and this will continue for years to come. Many small farmers and some ranches have not yet introduced alfalfa in their hay acreage.

Cultivating Alfalfa

For increased production, cultivation is as necessary for alfalfa as for any other crop. It has been the general custom to cultivate alfalfa when it is planted wide enough apart to permit a horse to travel between the rows. But people as a rule have not regarded it as necessary to cultivate alfalfa when sown either by broadcasting or drilling. However, the benefits to be derived from cultivation are as apparent in the latter case as in the former. On some soils and in some seasons regular field alfalfa must be cultivated if the highest returns are to be had.

In order to determine when alfalfa should be cultivated, and how often, it is necessary for the grower merely to bear in mind the precise purpose which cultivation is intended to secure, and then use cultivation only when it is necessary to accomplish these results. Cultivation of any crop is needed for the purpose of destroying the weeds that hinder growth, to loosen up the soil so that it may take and hold the rainfall, and to make thorough aeration of the upper soil possible. Whenever it is necessary to secure either of these ends, cultivation should be resorted to. Sometimes, and on some soils, the winter leaves the surface of the alfalfa field in such a condition that when the sun comes out it will harden and bake and solidify. In order to prevent this condition where it is apprehended, cultivation should be resorted to. Sometimes, after taking off a cutting of alfalfa, the ground is moist where it has been sheltered by the heavy growth, and when the cut is removed there is danger that the surface will bake and harden. It should then be cultivated in order to prevent such a condition. If the field is very weedy, cultivation is also necessary. The grower must use his own judgment to determine when cultivation is necessary, and will probably prove of benefit.

There has been considerable discussion as to what tool is best adapted to this cultivation. The ordinary blade disk is to be rejected for the following reason: When the ground is very hard, in order to make such a disk do effective work, it must be set at full angle, and the disks must be very sharp. When used in this way many alfalfa plants will be cut off. There is also danger that the blades will split the crowns and the roots as deep as the blades penetrate. This permits the water to enter and causes decay of the roots. There have been instances where one-third of a stand has been destroyed by such use of the ordinary disk.

The spiketooth disk should also be rejected for the reason that, while it makes a very desirable mulch of the surface soil, the spikes split the crowns and otherwise injure the roots, thus inducing decay.

There are upon the market tools that are admirably adapted to just the kind of cultivation that the ordinary alfalfa field needs. They will take out all weeds except those that are tap-rooted, leaving the finest kind of an earth mulch upon the surface, and will not in any way injure or destroy alfalfa plants. Such tools, or at least one of such tools,

should be found upon every alfalfa farm. It is said that if a man has thirty acres in alfalfa such a tool will pay for itself by the increased production of a single season, when the season is favorable.

The Twentieth Century Farmer would be glad to see cultivation of alfalfa coming into general use and will be glad to answer any question that its readers may wish to submit with reference to it.

The Profitable Dairy Cow

The profitable dairy cow means the profitable milk cow, it matters not whether she be in the service of a city milk dairy, country butter dairy, or just an ordinary family milk cow. The time has come when people are beginning to wake up as to what pays a profit and what does not. There was a time when the keeping of the cow had no significance. The cost of her feed and pasture was not charged up against her. A cow was a cow, big or little, old or young, and the cow that gave a whole lot of milk was a sort of nuisance. Milk had no particular value, except what little was needed about the house for cream and butter, and all over this requirement went into the swill barrel or direct to the pig trough, depending, of course, upon the enterprise of the cow owner in making the most out of the swill.

In those days the sale of butter was not much of an object with the busy farmer. Six cents was the average price per pound for good country butter. There was in those days, however, a sort of understanding that certain cows were heavier milkers than others, were easier churned from, yielded more and a better quality of butter, but there was no very positive censure placed upon the light milker; she was milked, kept in the herd and her milk went in with the whole mess and no account taken of it.

Things have changed. The genius of the age has invented a machine by which each cow's milk may be tested to determine how much butter-fat there is in the milk. Another machine of equal, or even more, practicability in the dairy industry has been invented which separates the cream from the milk, the butter-fat from the skim milk, and each cow is exposed to personal examination as to just what she is doing or is capable of doing, in the production of butter. And if she falls much short of a fancied standard that the cow owner has set she goes into the feed lot and off the farm to the beef market.

Do you know, brother cow owner, that this very system is getting after the poorer class of milkers in almost every herd in the country, and is cutting a wide swath in the present milk cow population, and that this depletion must be filled by better quality cows? The dairy breeds are in demand now to fill these vacancies, as they never have been before. Beef cattlemen, who never owned a dairy-bred cow, are buying just a few—two or three—just for milk, cream and butter. They do not intend to breed up. They do not intend to increase in production, but they will if they find there is money in it. The big producing kind of dairy cattle will increase because there is a good profit in owning them, in breeding and selling them. The high-class dairy cow is something to be admired, something to be desired, and the intelligent, well-posted cow owner will not be satisfied with anything short of this kind when once he realizes their availability.

What feature of cattle industry holds out greater inducements to the cow owner or cattle raiser than that of developing the well-bred, dairy-bred heifer calf? High-grade heifers are selling around $100 as 2-year-olds. In fact, a heifer from a good tested producing cow and a full-blood milking strain of dairy bull will sell at a big price, and no pedigree required. It is evidence of ability to produce that the cow buyer is after now. There is a great deal of faith in the inherent milking qualities of the dam now among cow buyers, just as in times of old. Our fathers and grandfathers, and grandmothers, too, for that matter, could pass a pretty safe estimate on what kind of a milker a heifer would prove to be by the qualities of the mother cow, and it generally proved true.

Harvesting Scene in Kansas

Farm of Chris Holm, Selden, Kan.

Stick to Combination Sheep

Some agricultural newspaper authorities are advising the sheepmen of the country to turn their attention to the mutton breeds of sheep, since the free wool idea seems to prevail with the law-makers. We are not prejudiced for or against any breed of sheep or any classification of shep designated by the terms mutton sheep or wool sheep, but would recommend, as in the past, under tariff protection, stick to the combination mutton and wool sheep for general sheep-producing purposes.

It is scarcely necessary for any advice to be offered the sheepman. He has known all along what he believed to be the most profitable sheep for his particular locality and his kind of feed and conditions for marketing. The range sheep owner cannot be governed by what seems proper for the corn belt farmer. The range sheepman knows the value of the merino, or what some people term the wool sheep. That designation would have applied more properly thirty or forty years ago than now, since the merino or fine wool sheep has for generations been bred in view of both mutton and wool qualities, until it is the basis of all large flocks on the western side of the Missouri river. The range sheep demands the flocking instinct that has been bred into the merino centuries ago, even before Spain and France became interested in these sheep.

The mutton breeds are the farm breeds, and have all along down through the sheep history of the world placed emphasis on their mutton qualities and ability to convert feed and good care into mutton, with wool only a side issue. These breeds have not the roving, roaming, traveling tendency that the merino has. The mutton varieties tend to scatter, spread out over a pasture like cattle or horses in their grazing, while the merinos flock together, are guided by recognized leaders of their band, and where these leaders go the flock follows.

To the beginner in the sheep business, we join in recommending not to be in too big a hurry in quitting sheep because there is no wool protection afforded the American flockmaster. It matters not what breed of sheep you are handling, whether on range or corn belt farm, keep the sheep and give them good care until you have demonstrated a profit or loss in the industry. Sheep will be raised in America until the end of time, and, as in all past periods, some sheep owners will make money and some will lose.

The millions and millions of acres of range on the western side of the United States will continue to raise sheep, and better sheep than they are raising today. If wool has a value, and it has, more wool will have a greater value, and more wool will be demanded of each sheep in the flock. The same system of measurement will be exacted from the sheep in relation to its mutton product. There are going to be greatly improved conditions in the sheep industry, instead of a confiscation of interests.

Our factories want wool, and need wool, and no country can produce a better quality of wool than the United States. Our markets want mutton and need mutton to supply the mutton eaters of this country and no country in the world can lay down in our markets a better and healthier quality of mutton than can be produced on American corn and alfalfa. We are in the sheep and wool business to stay, and if we don't like free wool after a period of four years, we will go back to tariff. Don't change business on account of politics; change politics rather on account of business.

Ice on the Farm

At no season of the year does the advocacy of the farm ice house come with more convincing argument than when the thermometer is up in the 90s, and everybody is seeking the shade and is thirsty for a cool drink of water. This is the time that the housewife without ice can most effectually demonstrate the need of the ice supply by an exhibit of soft, flowing butter at the noonday meal, and every meal for that matter.

A good plan is for the housekeeper, wife or head of the house, when things get pretty hot on those occasions, when the thermometer takes an upward flight, to have a contract signed up guaranteeing the installation of an ice house, fully equipped for cold storage purposes, on or before the first of December next. It is at these times and on such occasions that man is most susceptible and easily dealt with. He wants ice just as badly as any member of the family, but when he cools off and gets tempered down to autumn conditions of weather he feels as though he would never again need ice water.

The winter season is the logical period for ice accumulation. It is the time of year when the thoughtful, provident farmer, with his knowledge of the needs of the family provides for the summer. The man who is always looking ahead and making provision in advance has little to worry about as time moves along. It is scarcely necessary to say that there is no available ice supply on my farm, nor near it. There is usually a stream, or reservoir, or place where a few neighbors can get together and provide a basin that can be filled with water and furnish ice for several families.

Running water is the proper source of ice supply; the collection of the water in the basin can be guarded and kept clean. In many localities there can be dams constructed across canyons and catch the surface waters from rains and melting snow. This is often recognized and recommended as an expedient in water supply for stock, but for ice to be used about the house for family use it would not be considered the proper thing from a strictly sanitary point of view.

Pure, clear, cool water for the family should be the first thing provided. Ice is so frequently used in cooling drinking water that the supply should be of such a quality as to be fit for use in the house in any capacity needed. What is there that comes so near satisfying thirst on a hot summer's day as a pitcher of pure, clear water, with a chunk of ice floating in it?

Japan is finding an outlet for its surplus population in South America. California fears the Japanese. Brazil welcomes them. Fifteen hundred Japanese were landed at Santos, Brazil May 15, to be the first members of a permanent Japanese colony under an agreement between Brazil and Japan. One hundred and fifty thousand acres of agricultural lands have been set apart by the Brazilian government for the colony. Another large colony will be established next year. In another hundred years we will know where wisdom lies—in North or South America.

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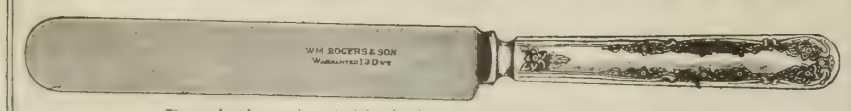

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Nebraska Feeders' Association

It Should Have a Thousand Active Members

THE importance of an organization representative of the live stock feeding industry of Nebraska is apparent to every thinking citizen of the state. The feeders of Nebraska represent the largest and most important business and money investment of any single industry associated with agriculture in the state. The feeder is the man who makes prices of stock and prices of feeds in the neighborhood where he is located. The feeder is always a buyer and usually a good buyer; he never keys his price to the elevator. On the contrary, he is a competitor, and is forced to pay above elevator prices for the feed he buys.

If you have a head of stock that you want to sell, the feeder is the man you look to for your market. The feeder ships out and brings the proceeds back into his own town or community. His money is usually employed in handling the surplus production of his neighbors. A district of country with many feeders in it is always a guarantee of enterprise, industry and business activity. The feeder is usually a home product, developing from the ranks of the progressive farmer whose speculative instincts call him to business operations beyond those embraced in the plain duties of crop-growing.

The feeder is progressive, if he is successful. The feeder is a student from the standpoint of intelligence in investigation of methods and system in feeding and handling stock in order to cheapen production and increase profits in the feeding business. The feeder is often a breeder, and the feeding and breeding industries are so closely linked together that the one is to a very large degree dependent upon the other. Better breeding in a community means better advantages in feeding. As the meat-producing animals of a state or district of country advance in the scale of meat production and quality, this influence is reflected in the feed yard. It is again found in the market when the final finish is recorded and the packer has attached his seal, and the product passes on down the line to the consumer, who pays all expenses and asks no questions.

The feeder business is a great industry. It is beyond the comprehension and understanding of the great masses of humanity who comprise the consuming element. The people eat and are filled, yet they know not and care but little from whence it came. They are as ignorant of the real source of production as the multitude that was fed on the manna. This condition illustrates the dependence of man on man, of one line of business or industry upon another.

The constantly growing tendency of the times is toward specializing. Thus the scientific feeder has developed to take a part in production that is not upon the common level of unskilled labor, but must be classed as expert knowledge and training. It is education in the scientific preparation and compounding of feeds and the practical work of management and supervision of the feeding operations, in all of their intricacies and details, which combine to make this work a success.

The organization of a Nebraska state feeders' association was suggested by G. W. Hervey of The Twentieth Century Farmer at the joint convention of the feeders of Nebraska and the annual closing of the cattle-feeding tests of the agricultural college at the state experiment station May 29, 1913. The suggestion received prompt endorsement by the appointment of an organization committee, which will draft suitable constitution and by-laws, and present them at a meeting to be held at Lincoln the week of organized agriculture, January, 1914, where the new organization will be introduced in its line of work in helping to build up Nebraska's agricultural interests and industries.

The occasion of May 29 at the Nebraska Experiment Station was planned by the animal husbandry department to give the feeders of Nebraska an opportunity to see and inspect the results of the steer-feeding experiments that had been in progress for the preceding five months. This occasion proved a surprise to everyone, especially in the matter of attendance by so large a crowd of practical feeders, men who are alive to the work of stock feed-

(CONTINUED ON PAGE EIGHTEEN.)

BOTH GAINED
Man and Wife Fatten on Grape-Nuts

The notion that meat is necessary for real strength and the foundation of solid flesh is now no longer as prevalent as formerly.

Excessive meat eaters are usually sluggish a part of the time because they are not able to fully digest their food, and the undigested portion is changed into what is practically a kind of poison that acts upon the blood and nerves, thus getting all through the system.

"I was a heavy meat eater," writes an Illinois man, "and up to two years ago was in very poor health. I suffered with indigestion so that I only weighed 95 pounds.

"Then I heard about Grape-Nuts food and decided to try it. My wife laughed at me at first, but when I gained to 125 pounds and felt so fine she thought she would eat Grape-Nuts, too. Now she is fat and well and has gained 40 pounds. We never have indigestion any more and seldom feel the desire for meat.

"A neighbor of ours, 68 years old, was troubled with indigestion for years, and was a heavy meat-eater. Now since he has been eating Grape-Nuts regularly he says he is well and never has indigestion.

'I could name a lot of persons who have rid themselves of indigestion by changing from a heavy meat diet to Grape-Nuts." "There's a Reason." Name given by Postum Co., Battle Creek, Mich. Read the little book, "The Road to Welville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

A Bird's Nest

Over my shaded doorway,
Two little brown-winged birds
Have chosen to fashion their dwelling,
And utter their loving words.
All day they are going and coming
On errands frequent and fleet,
And warbling over and over—
"Sweetest, sweet, sweet, O sweet!"

Their necks are changeful and shining,
Their eyes are like living gems,
And all day long they are busy
Gathering straws and stems,
Lint and feathers and grasses;
And half forgetting to eat;
Yet never failing to warble,
"Sweetest, sweet, sweet, O sweet!"

The Wren

The wren is one of our smallest and friendliest birds. It is a dear little brown bird with brownish grey breast, a long bill and sharp little eyes. When interested or excited about anything the wren cocks his tail as a horse does its ears, as you see in the picture. Wrens like to live in cavities with small entrances—too small to admit the little bird's worst enemy, the English sparrow. The farmer boy can encourage the wrens by taking an old cigar box and cutting a little hole, just too small for a sparrow to enter, and fastening the box in a tree or under the gable of the barn or house, but in a place where it will be safe from the cats. It is never too late to do this, for the wren raises several families of little ones each year, and is so fond of nest building that frequently the father wren builds a new nest while the mother is hatching the eggs, and the wren returns to the same nest year after year.

The wren is the nerviest little bird and the best fighter of its size in existence. They have been known to attack jays and hawks, to say nothing to pecking at cats and people

who tried to interfere with their nestlings. We had a family of wrens under our gable once, and every morning, when the father wren flew out to sing his morning song and get some breakfast for his family, a vicious sparrow would be perched on top of the wren house and would fly down and attack the wren from the rear. Every morning that poor little father wren had the usual fight with the sparrow, and finally beat him off so that he was left in peace. The father wren gets out and sings in the morning and then stays around the rest of the day and looks after the nest, while the mother wren goes hunting for food. The food is altogether bugs and worms. The wren never eats any seed or fruit. Grasshoppers, beetles, caterpillars, canker worms, spiders, cutworms, weevils, ticks and plant lice are their favorite food, and for such little birds they have dreadful appetites. One man watched a mother wren for four hours, and during that time she brought 111 insects and worms to the babies.

These are very valuable little birds and will become quite tame if you are good to them. Whenever you hear the wrens scolding, go out and see what is the matter, and if the cat is after them, drive it away, for one family of wrens is worth more than a whole drove of cats on the farm. THE EDITOR.

Awards in Picture Contest No. 2

(First Prize.)

By Irma Swaboda, Aged 8, Verdigre, Neb.

One little cat is sitting on the post,
The next one down below,
And the fourth one's back is a real coal black,
And the third one's eyes do glow.

(Second Prize.)

Robbie Jones, Aged 14, Milford, Ia.

Four drowsy cats, all in a row,
And they look like lazy loafers;
But maybe they're just resting up
From a tiresome hunt for gophers.

By Martha Plash, Aged 12, Reinbeck, Ia.

Four cats were sitting on a fence,
And all looked very handsome;
Along there came a great, black dog,
And then those kittens ran some.

By Hattie May Johnson, Aged 11, Willis, Tex.

My little kittens here you see
Are just as good as they can be;
Not often do four children dine
Who are as well behaved as mine.

Vera Shannon, Aged 13, Anita, Ia.

The house was pretty and neat,
The owner had gone to expense,
But what made the place the prettiest
Was four pretty cats on the fence.

One hundred and fifty-four answers were received this time. We are glad you like the picture contests, as you seem to. Please do not be discouraged if you do not get a prize, for you see how many verses there are. Try again for each one as it appears and you may be the lucky one next time.

A Sensible Fourth

The boys' holiday is almost here—the Fourth of July. No doubt you are already planning on the fireworks you are going to have. For the little ones, torpedoes are safe and will always be in favor, and the older ones will have fireworks in the daytime and rockets, pinwheels and Roman candles at night. The Twentieth Century Farmer wishes to add to the cautions of your mothers this admonition, "Be careful!" We don't want any of our boys to go through life after this Fourth minus an eye or a finger. There are many men whom we know who have been handicapped in this way all their lives through their own carelessness or that of their playmates when boys. Remember that it is not true bravery to do dangerous things just for the sake of doing them. It is well to disregard your own safety when by doing so you can help others, especially those weaker than yourselves, but it is plain foolishness to risk life and limb on a dare or just for fun. So be careful. You have our best wishes for a perfectly glorious Fourth. THE EDITOR.

(Prize Story.)

Pip and Polly

By Norma Burgher, Aged 11, Coulterville, Ill. Blue.

Once a lady gave mamma two turkey eggs. She set them under an old chicken hen and they both hatched; they grew very fast; one was gray and the other brown; we named them Pip and Polly. We fed them egg and onion for the first few days, and then bread and onion. We thought a great deal of them, but when they were about 3 weeks old they began to look droopy, and one morning when I went to let them out to feed them they were both dead in the coop.

After breakfast I took a hoe and dug two little graves side by side; then I came back to the house and my sister gave me two boxes and I put the turkeys in them; then I went in front, carrying the boxes, and my little brother followed with two large bouquets of flowers. We put them in their little graves and covered them over and then we laid the flowers on the graves. And every morning for a long time I put flowers on the graves of Pip and Polly.

Additional Stories

BLUE—Clarice Bass, no address; Opal Poston, Milldale, Neb.; Melba Young, Hershey, Neb.; Mabel Dial, Hershey, Neb.; Eva Millard, Sand Point, Idaho; Minnie Royle, no address; Clara Carmichael, Visalia, Cal.

RED—Earl Anderson, Malze, Kan.; Raymond Krueger, Bloomfield, Neb.; Hallie Field, Mound City, Mo.; Marie Rourke, Missouri Valley, Ia.

"Siloil"
Another Big Saginaw Success
True to our promise to improve the Saginaw Silo if it ever became possible, we have brought forth a wonderful wood-preservative called "SILOIL." We now offer the Saginaw SILOILED YELLOW PINE SILO and guarantee it to have many of the qualities of redwood. This remarkable oil, applied by our special High-Temperature Absorption Process, makes yellow pine absolutely insect and worm proof, rot-resisting and fire-resisting; prevents staves from swelling or shrinking, thus doubly insuring a solid, immovable structure.
SILOIL penetrates so thoroughly and is such a perfect preservative that it multiplies by ten the life of your silo. SILOIL is a permanent thing. SILOIL never evaporates, never dries out, cannot wash out or blister. Has the same preservative qualities as the ancients used on wood statues 2,000 years old. When you buy your Saginaw Silo, specify Siloiled Yellow Pine and you will get an investment that pays big dividends.
Write! By all means write for full particulars of this latest and greatest Saginaw success. We have a handsome new circular No. 62, just out, that explains. Send postal now to
Saginaw Silo
THE McCLURE COMPANY
(Formerly Farmers Handy Wagon Co.)
Saginaw, Mich. Cairo, Ill. Des Moines, Iowa
Minnesota Transfer, Minn. Fort Worth, Texas

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Give that air of prosperity necessary to success. Get a pair and identify yourself with SUCCESS.
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CUPOLA VENTILATOR WITH ANGLE IRON FRAME
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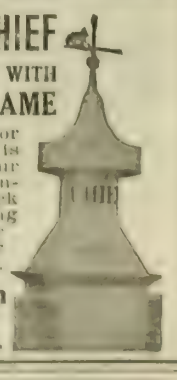


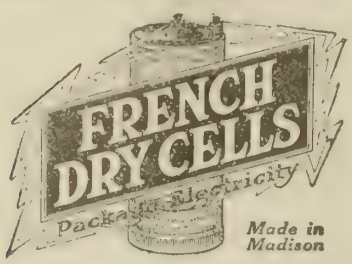
THE Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention the Twentieth Century Farmer when writing advertisers.

Electrify Your Farm!

Electrify your farm and save hours of time, miles of steps and a big pile of dollars. The power, convenience and luxury of electricity can be at hand *all the time*—summer or winter, rain or shine—if you use a few French Dry Batteries.

They Help All

Just the pressure of a button or a twist of the wrist and *presto!* the gasoline and automobile engine is started; both party and exchange lines of the telephone are working; gates and doors are opened; call bells are rung and scores of other duties are performed. Everyone in the family will benefit by the use of a few



Think of having electricity "on tap" all the time! Father, instead of fussing with a dangerous kerosene lantern in the dark barn, now simply pushes the button of an electric flasher. Mother doesn't stumble down the dark cellar stairs risking life and limb any longer. She "switches on" a light at the head of the stairs and goes her way in safety. A telephone between the house and the barn is a great convenience.

The mail-carrier can press a button on the mail-box 'way out on the road, which rings a bell in the house telling the folks that there's some mail in the box. These and dozens of other helps are yours with French Dry Batteries.

Get the Genuine

If you want a battery that will deliver a strong current for a *long time*, insist on the genuine French Battery—the dry-cell battery with an army of satisfied users. Poor-quality batteries give weak current for a short time and then "peter out" entirely. Don't take chances! Your dealer will tell you the particular French Battery you need. If you want to know more about French Dry Batteries and how they can help you do your farm work, send your name and address on a postal. Write today. (3)

"RANGER" BICYCLES

Have *imported roller chains, sprockets* and *pedals; New Departure Coaster-Brakes* and *Hubs; Puncture Proof Tires; highest grade equipment* and many advanced features possessed by no other wheels. *Guaranteed for 5 years.*

FACTORY PRICES direct to you are less than others ask for cheap wheels. Other reliable models from $12 up. **A few good second-hand machines $3 to $8.**

10 DAYS' FREE TRIAL We ship on approval, *freight prepaid*, anywhere in U. S. *without a cent in advance.* DO NOT BUY a bicycle or a pair of tires from *anyone* at *any price* until you get our big new catalog and *special prices* and *a marvelous new offer.* A postal brings everything. *Write it now.*

TIRES Coaster-Brake Rear Wheels, lamps, parts and sundries *half usual prices.* Rider Agents everywhere are coining money selling our bicycles, tires and sundries. Write today.

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Special Proposition To Silo Buyers.

It will pay you to get full details of our offer before you buy any silo. Get our big portfolio showing how other farmers make big profits. Get our special factory prices on

Champion Silos.

The kind that makes good. Has all modern improvements, continuous door front, special anchors, double latch ladder, etc.

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1749th St. Des Moines, Iowa. Get Our Big Catalog.

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America's "best yet" breed — pure White—every way desirable. In great demand. Bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms Co., Saugatuck, Mich.

DAISY FLY KILLER

placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers or 6 sent prepaid for $1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

Of Interest to Our Women Readers

Our Own

If I had known in the morning,
How wearily all the day
The words unkind
Would trouble my mind,
I said when you went away,
I had been more careful, darling,
Nor given you needless pain;
But we may vex "our own"
With look and tone,
We might never take back again.

For though in the quiet evening,
You may give the kiss of peace,
Yet well it might be
That never for me
The pain of the heart should cease;
How many go forth in the morning
Who never come home at night,
And hearts have broken
For harsh words spoken
That sorrow can ne'er set right.

We have careful thought for the stranger,
And smiles for the sometime guest,
But oft for "our own"
The bitter tone,
Though we love our own the best.
Ah! lip with the curve impatient;
Ah! brow with that look of scorn,
'Twere a cruel fate
Were the night too late
To unde the work of morn.

—Margaret Sangster

Our Home Chat

There is nothing that we need to cultivate more than tact. Tact is what makes us endurable to our friends and neighbors and, contrary to the apparent belief of many people, it is not misplaced when used on our families. I went to a luncheon not long ago at which there was present a girl who would have been perfectly charming had she been possessed of tact. She was pretty, well-dressed, bright, witty and very sweet-mannered, but the effect of all this was spoiled by two remarks she made. Just before the salad came on she said, "Head lettuce is lovely, but it always looks cheap to see the common kind served." Almost immediately the salad was brought in and proved to be garnished with common lettuce, to the great embarrassment of the hostess and everybody else. Our hostess had spoken of a new summer gown which had just been brought home from the dressmaker's and which she was to show after lunch. "I cannot endure the brilliant cerise shades so much in vogue now," said the tactless girl, "and I can't believe anyone of good taste would wear them." When shown the new gown it proved to have a girdle of the very shade so frankly criticised. Of course, we pretended to have forgotten the remark, but for my part it was very prominent in my mind, and nothing she could say of the dress sounded sincere to me, and I have no doubt the hostess felt the same way.

Girls are always writing tearful letters to the editors of women's columns in the different papers, of which the burden is, "What can I do to become popular?" No one can give anyone else a recipe for personal charm, as that is something which we are born either with or without, but we can always become less unpopular by refraining from making uncalled-for adverse criticisms, both of people and of things. "If you can't find anything good to say, don't say anything," is an excellent rule to follow and saves some embarrassing moments.

THE EDITOR.

It Pays to Advertise

I had been noticing in a certain paper the advertisement of a washing machine and thought, "when I get another machine, that's the kind I'll get." Well, before long that time came. I hunted up my latest papers, but no advertisement could I find, so I concluded they had stopped advertising, and, not knowing the address of the firm, I purchased one from a mail-order house. Moral—Don't stop advertising.

AUGUSTA TREMPER.

Note: Another moral for the housewife might be, when you find the advertisement of a thing you are likely to want, cut it out and put it away where you can find it, together with the name of the paper in which you saw the advertisement.

A Fourth of July Children's Party

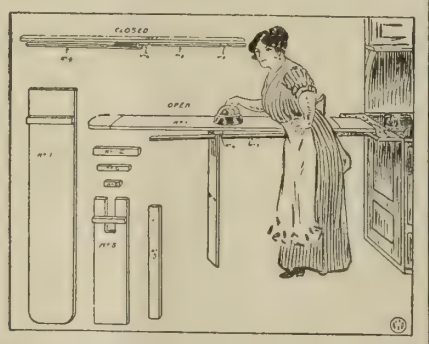
Where it is not possible to go to a regular Fourth of July celebration very pleasant times may be had at home. One time we celebrated at home with our litttle ones in this manner. There were many shade trees around the house, and they made stands for candy, cooling drinks and ice cream. Flags were floating and waving from the branches of the trees and decorations of fancy tissue paper looked very nice among the green. Pins were used for money, and with swings and fireworks it was like a real little celebration. They were not so tired and warm and enjoyed every minute more, perhaps, than if they had attended a large affair away from home. Of course, the neighbor children came to spend the day, and they had a happy time all around.

INA E. HEATH.

One-Legged Ironing Board

In response to a query from a reader, asking how to make a one-legged ironing board, C. J. Leis sends us in the accompanying, for which we thank him:

Fig. 1 shows top of board, Fig. 2



the 1x2-inch cross-piece on same; Fig. 3 is the 3⅝x3 inches spring, for which ceiling is best, as it will bend; Fig. 4 is a 1-inch strip to make the spring; Fig. 5 is the leg, which is hinged in two pieces at the top to No. 1.

Good Soaps

A knowledge of the chief characteristics of good household soap is necessary if one is to select soap intelligently. Among these characteristics the following may be mentioned as of the greatest importance:

No fabric should be perceptibly weakened by soap; white clothes should remain white, colored clothes unfaded and woolens unshrunken. A soap should not be wasteful of material or time—that is, it should neither dissolve too readily nor with such difficulty as to retard the work, or, in the case of soft soap, fall and lie undissolved in the botom of the tub. A soap should contain so little water that the bars will retain their form when dry, and shrink very little in drying.

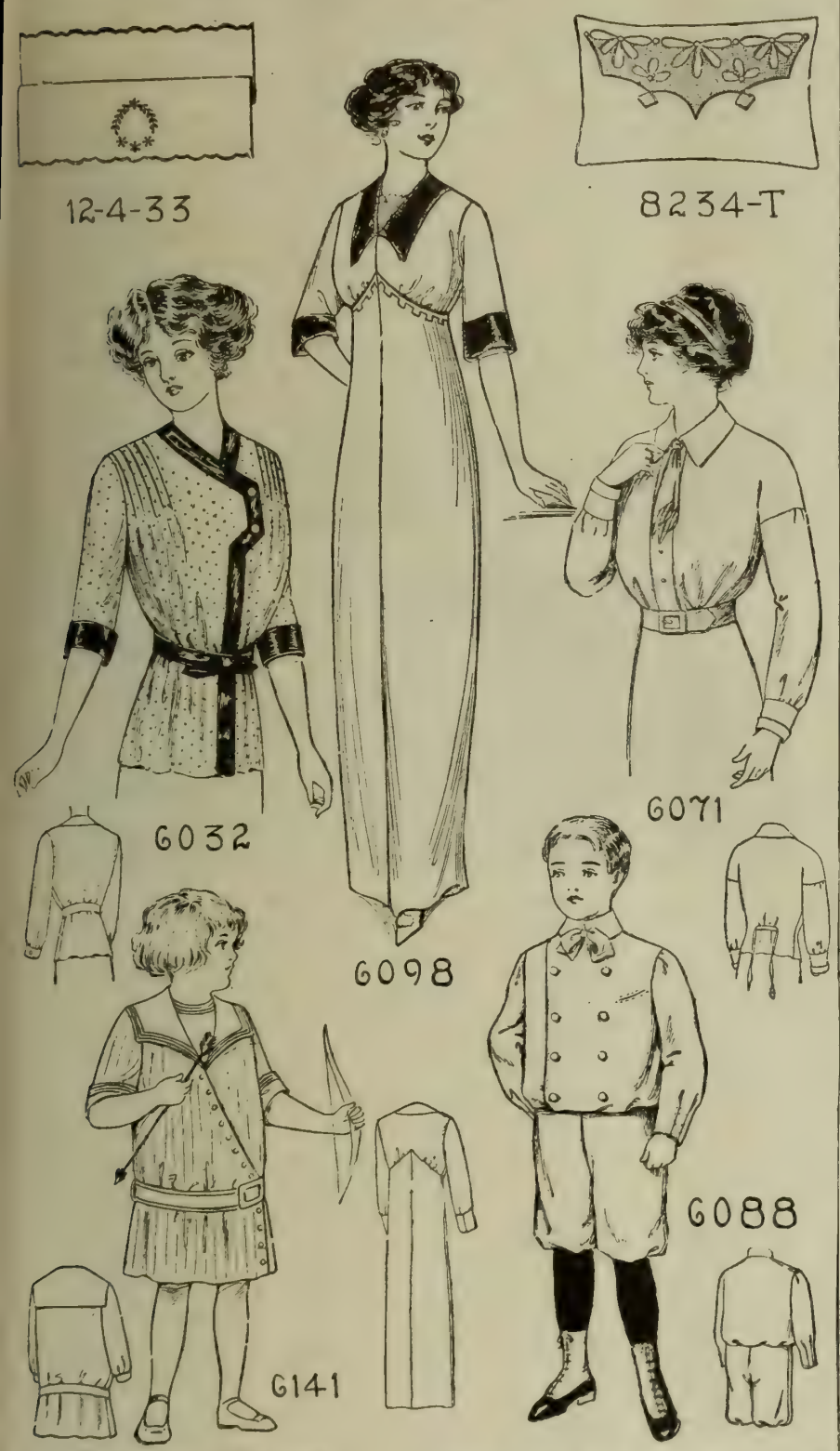
A soap should contain so little rosin that when the hands are washed with it they will, after being rinsed, feel smooth and soft, not rough and sticky. If it gives a yellowish tint to white clothes, it should be suspected of containing too much rosin. There should not be enough free alkali present to give the sharp, biting sensation of lye when touched to the tongue, although good laundry soaps usually contain some free alkali. This is not considered objectionable in a soap for washing white clothes. A soap should not contain so large a per cent of fatty acids that these will separate when the soap is dissolved in water, because such a soap causes yellowing of the clothes, and does not cleanse as well as it should. A soap should not impart to the clothes a decided and tenacious odor. A soap should not contain so high a percentage of rosin as to cause it simply to suds well without cleansing properly.

JUNIATA L. SHEPPERD.

The queen bee is a queen, not because of heredity, but because of environment—a bigger cell, better food, more care.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each



Description of Patterns

6032—Ladies' Dressing Sack. Quite a dainty dressing sack model is given in this number. The garment has a group of tucks at each shoulder at the front and the closing line is cut in fancy effect. Around the neck and down the front there is a band of contrasting goods. This contrasting material is likewise used for the cuffs and belt. The pattern 6032 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material and ⅞-yard of 27-inch contrasting goods.

6098—Ladies' Empire Wrapper. This charming negligee garment is an entirely new design and one that is sure to appeal to the woman of refined taste in matters of apparel. It is simple to make and may have either long or short sleeves. Cashmere, crepe, soisette, silk or wash fabrics may be used to make this wrapper. The pattern 6098 is cut in sizes 34, 38 and 42 inches bust measure. Medium size requires 3¾ yards of 36-inch material and ½-yard of 27-inch contrasting material.

6071—Ladies' Shirtwaist. This shirtwaist can be made with or without the box plait at the front. It can also be made with the standing or rolling collar. Linen, madras or silk can be used to make this shirtwaist. The pattern 6071 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¼ yards of 36-inch material.

6141—Boys' Dress. This dress is just the thing for the small boy who has not yet worn the regulation trousers. It is made with a removable shield. The long or short sleeves can be used. Linen, pique, percale or chambray can be used to make this dress, with the collar of contrasting material. The pattern 6141 is cut in sizes 1, 2 and 3 years. Medium size requires 1½ yards of 44-inch goods, with ¾-yard of 27-inch contrasting goods and 15½ yards of braid.

6088—Boys' Blouse Suit. A clever little blouse suit for the small lad is here presented. The blouse closes at the left side, but there are two rows of buttons, giving a unique effect that is quite new. The sleeves are plaited at the bottom and the trousers are the regulation bloomers, finished with legbands or elastics. The pattern 6088 is cut in sizes 4 to 12 years. Medium size requires 3¼ yards of 36-inch material.

12-4-33—Embroidered Towel. This design is for guest towels, measuring 16x27 inches. There is plenty of room inside the motif for an initial.

8234T—Sofa Pillow in Punched Embroidery. The flowers should be outlined or worked solid. Work background in punched embroidery.

The Voice of Reconstruction

When a flood sweeps over a vast area, desolating the cities and towns which lie in its course, the appeal for assistance gets a unanimous response from the whole country.

With all commercial and social order wiped out, an afflicted community is unable to do for itself. It must draw upon the resources of the nation of which it is a part.

In such an emergency, the telephone gives its greatest service when it carries the voice of distress to the outside world, and the voice of the outside world back to those suffering.

At the most critical time, the nearest telephone connected and working in the Bell System affords instant communication with distant places.

And always the Bell System, with its extensive resources and reserve means, is able to restore its service promptly, and in facilitating the work of rebuilding, performs one of its highest civic functions.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

Every Bell Telephone is the Center of the System

Genasco
THE TRINIDAD-LAKE-ASPHALT
Ready Roofing

Trinidad Lake asphalt is "Nature's everlasting waterproofer". That's why it makes Genasco so enduring and economical for all your roofs.
Write us for the Good Roof Guide Book and samples. Free.
The Barber Asphalt Paving Company **Philadelphia**
Largest producers of asphalt, and largest manufacturers of ready roofings in the world.
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25c FASHION BOOK FOR... 5c
(POSTPAID)

A new edition (Spring and Summer, 1913, issue) of EVERY WOMAN HER OWN DRESSMAKER, illustrating 200 up-to-date and easily made garments for ladies, misses and children, is now ready. To those ordering a pattern, we will send this 25c book, post paid, for 5c extra; without pattern, 10c. Address all orders for patterns and books to

Pattern Department,
Twentieth Century Farmer,
Omaha, Neb.

This Coupon and 18c
good for the next numbers of all of the following magazines:

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McClure's Magazine.
Ladies' World.

Address **Twentieth Century Farmer, Omaha, Neb.**

You can buy any cut in The Twentieth Century Farmer for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as we have only one of each kind.

The Marvelous Fertility of Blackburn Farms

IS PROVEN CONCLUSIVELY BY THEIR IMMENSE PRODUCTIONS.

A 40-Acre Potato Field on Blackburn Farm.

For instance, one farmer there grew 7,000 bushels of potatoes of very superior quality on forty acres in 1909.

Another grew 137 bushels of weighed oats per acre, while yet another produced 42 bushels of winter wheat, and brewing barley yields 60 bushels.

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Abandoned Mines in Mexico Which May Yet Yield Millions

MEXICO CITY—Since I came to Mexico my eyes have been bulging at the stories I hear of the lost treasures of Mexico; they come from old prospectors, from mining engineers and from men posted as to the Mexican mineral territory. At the College of Mines, in this city, you may see gold and silver from workings which once turned out millions, but are now filled with water; and in the government records are notes of vast properties which have long since been abandoned. When Alexander Humboldt, the great scientist, traveled over Mexico more than a century ago he counted 3,000 mines, and I am told that fully 2,000 of these are not now in existence. Of some the very records have been lost, and they are now known only by tradition.

The Patio Process of Silver Reduction—"I Saw the Mules Trotting About in These Big Vats of Silver Mud"

Abandoned Mines

When Mexico got its independence by overthrowing the rule of Spain it entered upon an era of revolution which lasted for years. During that time some of the most profitable mines were abandoned. The water rushed in, their works were destroyed and for a time their very existence was blotted from the knowledge of man. There are still many old dumps and the remains of old workings scattered here and there throughout the whole Mexican territory. Some of these old dumps are said to contain fortunes. It used to be that a mine had to produce at least $30 to the ton to be worth operating, so that rich ore only was taken and the poor left on the side. We have in the United States mines which are now paying well at less than $5 per ton, and the cyanide and new smelting processes are bringing out tens of millions of dollars' worth of gold and silver that formerly went to waste.

Treasures of the Aztecs

Many of the mines of the Aztecs are still to be found. When Cortez had conquered Montezuma he got him to send his taxgatherers out over the country to make records of the location of the best mines; they brought back an itemized list, but it is doubtful whether it was a true one. Cortez was even less successful in his attempts to find where the Aztecs had buried their treasures; he tried to screw this information out of Guatemozin, the nephew of Montezuma and his son-in-law. This prince was tortured by fire to make him disclose the secret. He at first claimed there was no treasure, but finally said that the gold had been thrown into the waters. Cortez then searched the lakes about Mexico City, but his divers found nothing, although they dug up a disc of pure gold as big as a cart wheel out of the garden of Guatemozin.

The treasures of Montezuma are still undiscovered; they are said to have been worth $80,000,000, and there are documents, in picture language, which itemize the shields, helmets, sandals and plates of solid gold, and the gold grains and dust which were worth this great sum. One tradition locates the burial site of the treasure at Coyoacan, not far from Mexico City.

What Cortez Got

There is no question as to the extent of the precious metals of the times of the Aztecs. The king who preceded Montezuma was a miser, and he had collected a treasure which, Cortez says, was greater than that possessed by any monarch of Europe. Much of this consisted of grains and nuggets of gold and gold utensils and trinkets. Cortez had a great part of it melted and cast into ingots; he sent one-fifth of the product to Spain, and, among other things, a gold cannon, which the Aztecs cast for him, and a platter of gold so big that a 200-pound hog could have been served upon it. He describes how gold was sold in birds' quills as an article of merchandise at Montezuma's capital, and expatiates upon the great beauty of the shields, helmets and plates which were carved by the Indians.

Old Workings Which Now Pay Big

Some of the best mining properties of today are old workings which have been pumped out and reopened. Take the Real del Monte, near Pachuca, in the state of Hidalgo; that mine was yielding millions when we were fighting with King George as to the tax upon tea. It has been abandoned again and

again, and it is now owned by Americans, who within the last five years have made it pay something like $5,000,000 in dividends.

The Real del Monte was owned 165 years ago by a mule driver named Terreros; he developed the mine and became the "Coal Oil Johnnie" of his time; he loaned the king of Spain a million dollars, and presented him with several warships fully equipped. In return the king gave him a title of nobility and he was known as the count of Regla. You may see his bust on the front of the national pawnshop here in Mexico City; he gave the money to found that institution; the sum was $300,000, and the aim was to beat the usurers by loaning money to the poor at a low rate of interest.

Count Regla once asked the king of Spain to come over and visit him, saying that he would plate the walls of his bed room with silver and carpet the paths upon which he walked about the place with silver bars.

Fortunes Lost and Won

Shortly after Count Regla's death a subterranean river burst into the Real del Monte, and it was under water when Humboldt came; he described its possibilities and his report formed the basis for a mining craze in which the property was capitalized and offered in England. The stock was in great demand and the $500 shares sold as high as $80,000 each in the open market. Cornish miners were brought over and shiploads of machinery installed. During the next twenty-five years $20,000,000 were spent in operating the property, and the output was only three-fourths of that amount. The company finally went bankrupt and the mine went into the hands of others, who are said to have taken something like $40,000,000 worth of metal out of it. The men who own it now had to pay several milions in assessments before they could make it again pay, but up to July, 1910, they had received $4,405,000 in dividends.

The Wonderful Mines of La Luz

The mines about Guanajuato, which are now turning out millions for Americans, originated through the discovery of the La Luz mine, out of which more than $800,000,000 in silver was taken. This mineral region was known to Cortez, and the La Luz mine was discovered in 1547, only fifty-five years after Columbus made his first voyage. It was found by a company of Spanish soldiers, who made a fire on a rock to keep warm, and were amazed to find puddles of silver amid the flames. They then investigated and found that the country about was full of silver. They began mining with Indians, carrying the sacks of ore to the surface by means of a notched pole; each Indian had a bag of this ore on his back and he climbed with it out of the mine. In this way hundreds of millions of dollars' worth of ore was taken out. Another mine more lately discovered right near the La Luz was the Valenciana. From 1760 to 1887 this mine produced more than $300,000,000 in silver, and it was mined in the same rude way.

Bought by Americans

Later on these mines stopped working and became filled with water; they were then bought by American syndicates and are now being operated with the best of mining machinery. A great electric plant has been installed, the power for which is brought for more than 100 miles, and some of the old dumps are being worked over. It is claimed there is enough ore in the dumps to keep the smelters running for twelve years without going down into the mines, and that the average cost of production will be less than half a dollar per ton. Among the companies now operating there are the Guanajuato Consoliddated Mining and Milling company, the Guanajuato Development company, the Guanajuato Reduction and Mines company and the Guanajuato Amalgamated Gold Mines company, all belonging to United States capitalists.

Stories of Lost Mines

The extent of the mining territory here is so great that you can get traditions of lost mines from all parts of the country. The mining regions are to be found in almost every state, but the principal ones are in central and western Mexico; they run from the border of the United States as far down as Oaxaca, a distance as long as from New York to Oklahoma City, and they go from there westward as far as from New York to Boston. The best mines are on the western slopes of the mountains at from a half-mile to a mile and a half above the sea level.

Gold is spread over a vast area of the Sierra Madre, and there are placers in Sonora and elsewhere. The prospector's best chance is to take one of the disused workings or lost mines and follow it back to the original vein. I am told that there is a 12,000-acre ranch in Sonora, every square yard of which gives color to the prospector's pan. The source of this gold was looked for for generations and was finally found in a hill ten miles away, but the vein has been worked out. Some day the old ranch may be run through the mill for the scattering bits of flour gold it contains.

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No-Rim-Cut tires have 10 per cent more air capacity than the same rated size in clinchers. And air is what carries the load.

This over-capacity, on the average, adds 25 per cent to the tire mileage.

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The Vital Bands of Wire

But our braided wire bands are considered essential to a faultless tire of this type.

Again and again other ways have been tried. And thousands of tires came back for replacement because the ways were wrong.

So the demand has come to Goodyears, in an overwhelming way. We have sold over one million automobile tires in the past 12 months alone.

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Now, our mammoth production has brought down the cost of this wanted type of tire.

No-rim-cut tires used to cost one-fifth more than clinchers. Little by little the cost has been cut.

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Turkeys and Capons Are Profitable

The Respiratory Organs of a Fowl

A FARMER that I know of, to keep his boy satisfied with his lot upon the farm, gave him a bit of land for potato raising. He furnished the boy seed potatoes the first year, then told him he must pay the expenses following. The boy raised 100 bushels of potatoes the first year, realizing much less than half that amount in dollars at selling time, as anywhere in our land potatoes, in good years, seldom bring over 50 cents a bushel. There was lots of hard work connected with the experiment and some expense. For two years the boy put in his potato crop, but was using his judgment on another venture in making side money on the farm.

His mother gave him all the chickens hatched by three hens if he would tend them and give her back the pullets. He did this, keeping the cockerels, which he caponized. The sale of these, in proportion, brought him so much more money than the potatoes that it encouraged him another year to buy a couple of turkey hens to add to the chickens he was going to look after again for his mother. The turkeys he raised this next year brought such encouraging prices that he made up his mind to drop the potato and capon business and try for the profit on turkey raising alone. This did not seem to take his time away from the general farm work that he was now old enough to do, for morning, noon and evening he looked after the poults. He was a strong boy, with a boy's talent for making good coops and nesting places, under protection, for his turkey hens, and to his surprise, next year after his first start with poults, he found himself the proud possessor of 100 (and some over for good measure) healthy, growing poults.

They say that it was his close watch and care of these that made it a success to him, but then he gave them careful care because it is the only thing to do if you hope to succeed. Not a turkey sold brought him less than a dollar, and some more, and, with expenses for feed all counted in, it beat the potato crop by far for that boy. He is going to keep it up, too, and he knows to do so he must keep good stock, must feed right, and must not let them rough it—all that others say to the contrary—but what he wonders over is the few hens he must keep to produce such a large number of poults, for he says forty-eight out of every fifty eggs produces a turkey for him as a start toward living, and he does some careful thinking, and not forgetting details, to keep them all alive. IDA M. SHEPLER.

The Respiratory Organs of a Fowl

The respiratory organs of a bird of any kind differ greatly from those of any animal we keep about us. Their lungs resemble those of reptiles, and it is certain that in spite of their varied forms all have descended from some common form of reptilian ancestor.

The lungs of a fowl do not hang freely as those of other animals, neither have they lobes. Like those of a tortoise, they lie close in to the back and are fastened not only to the ribs, but to the interstices between the ribs.

And yet, for all of this seeming rigidity and resemblance to those of cold-blooded animals, a fowl's breathing organs are of highest order, and, as its heart beats faster than its other forest or barnyard friends, its temperature is relatively higher also.

The reason for the foregoing is the numerous and spacious air sacs in or connected with its lungs at the sides. From here the air sacs pass into the large wing bones, breast and thigh bones, as well as other bones. It is this large store of air in the sacs that give elastic and free movement to respiration, and the air, extending even into the quills, enabies great flights of some birds.

A bird has no vocal chords in its larynx; and this organ merely closes tightly together, needing no lid, it seems, for protection. The organ of voice in a fowl, or, rather, all birds, is situated where the trachea divides to form the bronchia. This is not found in any other class of animals.

Air passes freely in and out of a bird's body, but it has no sweat glands, and all moisture is carried out by respiration. The lungs of a bird not only do all the work of the skin in getting rid of the water taken into the bird, but that of the kidneys also.

This is why a bird breathes rapidly, and why in breathing it throws off an immense amount of carbonic acid, so deathly depressing if rebreathed, and why the sickness of fowls are peculiarly dangerous and difficult of any cure.

IDA M. SHEPLER.

Rheumatism

Mrs. C. C., Nebraska: So many of my chickens are lame, and show a white powder on the comb. I feed well, especially animal food to make them lay; but my hen house is a poor affair, and the yards are low and often muddy. The lame birds do not seem sick, but incline to sit around because the joints are swollen and red. Is it liver disease?

Answer—It is rheumatism. The white, powdery stuff on the comb indicates poor digestion and a run-down condition for some reason. This of itself, aided by so much animal food, would induce a gouty condition that damp quarters would soon settle into rheumatism of the inflammatory kind. This, if not stopped, will finally kill the fowls. Give warm quarters, plenty of grass and cooling foods, no meat at all. Put sixty grains of iodide of potassium in each gallon of drinking water.

A Minnesota man has made the following calculation about the cows of his state: "If all the cattle in Minnesota were one cow she would browse the tender herbage of the tropics, whisk the icicles of the North Pole with her tail and supply milk enough to fill a canal reaching from Kansas City to the Gulf, on which to ship the boatloads of her butter and cheese."

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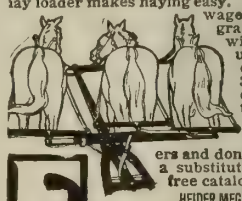

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

How to Use Farm Papers

J. B. O. L., Maplehill, Ia.: I would like to ask a few questions in the interest of every farmer and would like to hear what some of them have to say in reply. Why not use the agricultural papers to keep each other posted in different ways? For instance, if one farmer buys a certain article or implement and finds after testing it that he has been duped or deceived, or that it is not adapted to the use intended for it, or that he is not thoroughly satisfied with it, why not state the facts in his paper, in order to put others on their guard. He can justly give the name of the article or implement and the name of the maker, and not be violating any laws.

One year ago this spring I bought a disk drill and was fully convinced by the dealer that it was the best and only drill worth having. Last spring it gave fair results, and I made no complaint, but this spring the ground was wet and it gave very poor service. The dealer now claims that I bought the wrong kind, as now some other kind is far better, and, of course, he handles only the best. But the farmers are still buying the kind of drill I got left on. Why should not I let my brother farmers know through our paper the name and kind of drill this is and put them on their guard? We should have some protection in this matter, and if not through our farm paper, how can we keep each other posted?

On the other hand, if a farmer goes to buy an implement on time, the first thing the dealer does is to look up his rating, which he has in his little book. If he is good, all right; but if the rating is bad, there is nothing doing.

I also bought a corn planter three years ago. At that time it was just the thing, but the dealer who sold it at that time does not handle the same kind now. This winter I wrote the factory for up-to-date repairs. They answered by saying my planter is out of date, and up-to-date repairs will not fit it. They said, however, they would sell me a new, up-to-date planter and allow me a small amount in exchange for my planter, as that was only good for scrap iron. Now, why not make these things known to every farmer that reads our farm paper, and give the names of the implements and of the factories?

Answer—A wise farmer will use his own judgment for purchasing implements and not depend exclusively on what the dealer has to say. As a rule the dealer is not a practical farmer and does not know as well as the farmer should know what tools should be used. It is hardly fair for a farmer that does not use his own judgment in such matters to lay the blame anywhere except upon himself. A little thought, a little study, and a little foresight, stands the farmer in good stead, especially in making purchases of any kind.

Hogs in the Orchard

A reader asks if it will injure the apple orchard to let the hogs root it up. In other words, can he trust his hogs in doing a good job of orchard cultivation?

It will not hurt the orchard to be cultivated by the hogs. Hogs are quite frequently kept in orchards for this purpose. They will root just as long as there is sod on the ground. They root for worms, and when this supply is gone you usually have a bare, hard, uneven surface, difficult to plow or put in a good state of cultivation. Orchardists generally are plowing up their orchards and keep them cultivated lightly on the surface. Some sow to clover, cut it and let it rot on the ground as a mulch and fertilizer, and report good results. We would recommend keeping the hogs in an alfalfa pasture, and if there are fallen or refuse apples, not otherwise used, give them to the hogs in their pasture.

Cow Gives Bloody Milk

C. W. A., Madison, Okl.: I have a cow that gives bloody milk. She only gave bloody milk out of one teat about one month ago, but now she gives bloody milk out of all four teats. The cow is in good condition. I feed her kaffir corn chops, and she has good grass pasture to run on. Her bag isn't bruised. If you can tell me what to do for her, will be glad.

Answer—There are several causes for bloody milk. Where all of the quarters are affected, it might be caused by the cow being hurried up from pasture, as running will often bruise the udder sufficiently. With a large flow of milk shortly after calving, it is sometimes caused by breaking of small blood vessels due to congestion. Where but one quarter is affected, a small tumor may be the cause, and then tuberculosis would be suspected. Take off pasture for a while so as to reduce the milk flow somewhat and give a teaspoonful of sulphate of iron on the feed night and morning.

Small Farm Tractor Wanted

J. L. P., Lead, S. D.: Please tell me what you consider the best all-around tractor for a small farm, a tractor not to exceed twenty horsepower, and what is called a one-man outfit. Our soil is a heavy gumbo, and it needs power to work it. We think we want an outfit that will take the place of horses on the road and on the farm.

Answer—There are a number of tractors on the market that seem to answer the description of the tractor here called for. As a general thing, this paper hesitates to give its advice in such matters, thinking that the man who needs the machine is better qualified to judge as to what will best meet his needs than anyone else, whether he be editor or dealer.

Hogs Stiff All Over

X. A. L., Haxtum, Colo.: I have a bunch of hogs, ranging in age from three months to one year, that are stiff all over. They walk with great difficulty; they eat and drink well. They have been that way for about a month and don't seem to get any better. They run on alfalfa, and I feed them some corn that has heated in the bin and is mouldy. Would like to know what to do for them through your paper.

Answer—We would suspect that the mouldy corn were causing this trouble. We have known instances where mouldy feed has killed hogs.

"DE LAVAL"
means a cream separator with the "trouble" left out

That's the way a user who had a lot of personal separator experience and the opportunity to observe a great deal of other people's experience aptly describes the meaning of the name "De Laval" on a separator—"a separator with the trouble left out."

To many buyers of a cream separator and other farm machinery there's more meaning in that simple statement of fact than in a hundred other claims and arguments that might easily be made for the De Laval.

And if anyone would know how and why the "trouble has been left out" of a De Laval machine a new De Laval catalog—the most complete and interesting story of the cream separator ever published—to be had for the asking, will help to make it plain. See the local agent or address the nearest office as below.

THE DE LAVAL SEPARATOR CO.
NEW YORK CHICAGO SAN FRANCISCO SEATTLE

When Hog Cholera Rages It's a Fine Thing to Know YOUR Hogs Are Safe

Next time you read in your paper about an epidemic of hog cholera, how it is killing off hogs like flies and causing the loss of thousands and thousands of dollars, and you are beginning to wonder where it's going to break out next, just remember this: You can assure the safety of **your** hogs by taking this inexpensive precaution—go to your dealer and get a few cans of

Merry War Powdered Lye

Mix it with the hog's feed or drinking water according to the directions printed on the label and feed it **twice every day. This treatment has prevented hogs from catching cholera, even though raging right in the neighborhood.** It has been **proved** time and time again. Here is just one example among hundreds of similiar ones:

"We have had hog cholera all through our district. Those who have been using Merry War Powdered Lye have missed it. One man in particular who buys it by the case has cholera all around him, but so far his hogs have escaped." **C. M. COOPER, Prop., "The Right Place," Dawson, Nebraska.**

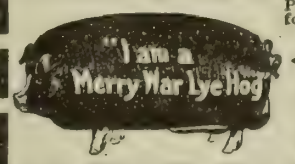
THERE ARE NO SUBSTITUTES

Don't experiment with an old-fashioned, ordinary lye. Get MERRY WAR POWDERED LYE—the **time-tried** remedy—the specially prepared lye that is **safe** to feed to hogs—that actual **experience** has **proved** to be the **safest, most dependable preventive** of hog cholera the world has ever known. **Insist** on the genuine and **refuse substitutes.**

Costs only 10c a can—enough to protect a hog from cholera, keep him free from worms and make him strong, healthy and on his feed for **two months.** Tones up digestion and prevents feed waste by changing every pound into firm flesh and juicy fat. Produces the kind of hogs that bring top notch prices.

At the price of **5c per month, per hog** you insure against sickness and greatly increase the size of your hogs.

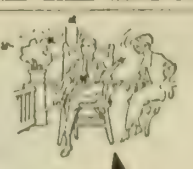
Make a test for yourself. MERRY WAR POWDERED LYE comes in 10c cans **(120 feeds per can).** It is convenient to buy in case lots—4 dozen cans for $1.80 at grocers, druggists or feed dealers everywhere. **There are no substitutes. WE WILL SUPPLY YOU DIRECT $4.80 for 4 dozen cans —IF YOUR DEALERS WON'T SUPPLY YOU.** Write for our valuable booklet "How To Get The Biggest Profits From Hog Raising." Sent FREE for the asking.



Which Kind Do You Want?

E. MYERS LYE CO.
Dept. 88 St. Louis, Mo.

Treat Them



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everyhere—

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Delicious—Refreshing
Thirst-Quenching

Demand the Genuine — Refuse Substitutes.

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At Soda Fountains or Carbonated in Bottles.

THE COCA-COLA COMPANY, Atlanta, Ga.

Review of Live Stock Market

By A. C. Davenport

THE nervous condition of the fat cattle market was well illustrated the last week when values declined 25 to 40 cents, or fully as much as they had advanced during the second week in June. It looks sometimes as if the big packers had the market under perfect control, but the happenings of the last two weeks have shown that neither the so-called "Beef trust," nor any other agency has any control over the beef market at present, and the old law of supply and demand is asserting itself everywhere. Owing to the fact that beef prices have been at a very high level for many months, the packers have naturally pursued a hand-to-mouth policy, and for this reason prices have fluctuated sharply from day to day as receipts increased or decreased. During the last week the principal bearish factor in the trade was the exceptionally heavy supplies of half-fat beef from Missouri, Iowa and southern Illinois. A severe drouth has forced these cattle onto the market and forced prices down sharply. Until these drouth-stricken sections have cleaned up, or until they have experienced relief from the drouth, there is every prospect of a very depressed feeling in the beef market. Another bearish feature of the situation is the fact that Atlantic coast beef markets are now getting the high-priced beef of two weeks ago, and this always results in a shortened demand, and more or less of a slump in values. It now transpires that the much heralded cargo of Argentine beef sent to New York City a few weeks ago was a good deal of a joke. In the first place, it constituted but a drop in the bucket as far as New York's necessities were concerned, since that market usually requires 25,000 cattle a week, and of these over half are sent there "in the carcass" from the west. The Argentine beef offered in the metropolis sold from 2 to 4 cents per pound under the American grades, and reports from consumers were so unsatisfactory that dealers are not asking for any more Argentine beef at present. There may come a time when South American beeves will be necessary to make up the deficit in this country, but that time has not arrived yet, and when it does come the home-grown beeves will undoubtedly command a big premium. Right now all reports from the west are to the effect that there is plenty of grass and cattle are doing well. The difficulty, however, is that there is a shortage of cattle on feed, and the western crop of grass beef will be unusually good, as well as unusually late.

Hog Cholera Must Be Conquered

Officials of the bureau of animal industry, Department of Agriculture, as well as everyone else connected with the live stock markets of the country, realize the fact that one of the most serious conditions facing the country today is the shortage in the supply of pork. This is all the more remarkable when it is remembered that hogs are naturally prolific breeders, and under favorable conditions the hog crop increases very rapidly. It has been demonstrated during the last year, however, that the increase in the supply of hogs was not keeping pace with the growth in population, so that while high-priced hogs were a boon to the producers, they were a burden to consumers. The question naturally presented itself, why, under such attractive conditions, does not the supply of hogs increase faster, and the answer was, Cholera. The next question was, Cannot this scourge of cholera, or swine plague, be controlled or eradicated? Evidently the bureau of animal industry is of the opinion that something along this line can be accomplished, for an appropriation of $75,000 has been set aside for the experts of the department to start a campaign to eradicate the disease. According to best figures available, the losses in this country from cholera last year exceeded $60,000. This is certainly an enormous waste of property, and, if the disease can be controlled or eradicated, it is a very unnecessary waste. At all events, the bureau is evidently going to make a strong effort to rid the country of this scourge, and in its efforts it will have the hearty support of producers and dealers all over the country. Many private concerns are already engaged in the manufacture and distribution of cholera serum, but this work has not been altogether satisfactory to the government, and the Department of Agriculture proposes shortly to exercise a rigid supervision over such of these plants as engage in an interstate business, and the hope is that by controlling the manufacture of this vaccine the authorities may arrive at a solution of this difficult problem. Hogs are becoming too scarce and entirely too valuable to lose, and the entire trade will welcome the efforts of the Department of Agriculture to rid the country of this plague.

Southern Lambs Flood Market

More or less demoralization has featured the market for sheep and lambs the last week, and prices have experienced one of the heaviest declines in the history of the trade. Spring lambs, as well as shorn lambs and yearlings, show declines ranging from 75 cents to $1.50, and buyers have shown by their actions that they expected a still further break in prices and did not desire to have any more mutton in their coolers than they absolutely had to. The principal reason for this severe decline in value is found in the fact that the southern lamb crop turns out to be much larger than expected; or, rather, marketed so much earlier than expected. The southern lamb-producing territory has been suffering from a severe drouth for several weeks and this has forced many producers to market their crop three or four weeks earlier than usual. This congestion of southern lambs, on top of unusually liberal supplies from the corn belt, has completely flooded the market and demoralized the trade. It will undoubtedly mean a bare spot in supplies a few weeks later, but for the present it means that western lambs will have to suffer severely from competition from the south. Word from the west is to the effect that an unusually large lamb crop has been produced, and with plenty of feed everywhere, the fall markets will undoubtedly receive exceptionally liberal supplies of northwestern lambs. Prospects for a liberal supply of feed in the corn belt are so favorable that there will undoubtedly be an exceptionally heavy demand for these lambs for feeding purposes, and the country can be assured of an ample supply of excellent mutton the coming season.

Nebraska Feeders' Association

(CONTINUED FROM PAGE TEN)

ing, especially cattle, and who are interested in every detail of the business. Close inspection of all the live stock interests on the state farm seemed to be the purpose of the visitors, as well as of the experimental division, where tests of certain combinations of farm feeds had been employed to ascertain what gains could be produced on certain lots of cattle, costs of feeds, profits or loss in the feeding operation, etc., just such a process as is being very generally carried on all over the country among the experiment stations.

The benefits to be derived by these feeding tests are variously estimated by different persons, both experimenters and cattle feeders. The strongest point brought out, and one of greatest benefit to the feeder, is the knowledge of the type of steer that can be most profitably handled in the feed yard. The greater variety of quality in the bunch of steers used on such occasions proves of greatest educational advantage to the inexperienced feeder, as he learns the type of the profitable feeding steer and the steer to let alone.

It is sufficient to say that one of the greatest needs for such an organization is co-operation with the state experiment station in its live stock operations, especially feeding tests. The State Feeders' Association, when properly organized and in working condition, can be of invaluable advantage to the experiment station by helping plan feeding tests and in making these tests comply more fully to the demands of the practical work of cattle feeding—to the feeding of cattle on the farm for the profit that can be derived from the business.

The experiment station is of no value to the state if it cannot be made of advantage to the industries of the state, to the various occupations and lines of soil operation that the land owners and land operators are interested in. Its work must include the things that need development most. The experiment station can be of great advantage to the feeder in its tests of feeds and combinations of feeds that can be carried on at the station by reason of its advantageous equipment and opportunity that is practically impossible by the feeder alone, even if he had the disposition and inclination to take up such work.

The present attitude of the Nebraska feeder is one of co-operation with the experiment station. The recent plan of inviting the feeders to inspect the feeding results of the season just closed was a recognition that the feeder appreciated, and it has been the means of sending back to the farm and feed lot scores of feeders with a very much higher appreciation of the work and worth of the experiment station.

Bulletins published and mailed out over the state defining the process and results of feeding tests are of little practical value to the average feeder, because he does not read them and they are too complex even in their simplest form to be understood readily, and the average reader will not take the time to understand it in detail. The convention idea is the thing. It is the way to interest; it combines sociability, the forming of new acquaintances, the seeing of things, the opportunity of getting information by visiting with one's associates in business, of listening to practical addresses, of asking questions and engaging in discussions, and generally getting into the belief that the feeder of our meat-producing animals is a citizen of vastly more importance to the public interest than the mere accumulation of profit.

Introduce more special occasions in which the farmer is invited to visit the experiment station until he becomes acquainted and learns of the things of special interest in his line of industry. The feeders' association should hold at least two meetings each year at the experiment station, the annual meeting in January and the semi-annual metting at the close of the winter's feeding tests. Every farmer that feeds stock for the fat market should be a member of the state feeders' association. An organization of 1,000 men representing this industry would be a power within itself, and would command the respect of transportation companies and such other interests as they might have occasion to do business with in official representation. This is a period of organization, and every well regulated business man is expected to be organized, and the more fellows he has organized with him the better he is off. It is an old saying, but still holds good, "In union there is strength."

Live Stock Notes

Holstein Calves for Sale

Edgewood farms of White Water, Wis., are offering a number of high-class Holstein calves for sale at $20 each, crated and delivered at express station. Here is an opportunity to get a bull calf or a few heifer calves to start with at a very nominal price. Write them for further information, and say that you saw their advertisement in The Twentieth Century Farmer.

Benjamin's O. I. C.s

Anyone wanting a first-class O. I. C. boar, or a few gilts, or both, for that matter, will do well to write G. S. Benjamin of Portland, Mich. Mr. Benjamin has one of the largest herds of O. I. C. hogs in the country and is amply prepared to furnish prospective buyers with anything they want, at reasonable prices. Write him for further particulars, mentioning The Twentieth Century Farmer.

Red-Polled Cattle for Sale

Look up the advertisement of George W. Schwab of Clay Center, Neb., elsewhere in this issue, and write him, if you want anything in the line of Red Polled cattle. He has a particularly choice lot of females of all ages and also a few extra good bulls of serviceable age that he is offering for sale. These cattle are all right in every way, and Mr. Schwab is pricing them worth the money. The demand for this great breed of dual-purpose cattle is rapidly increasing, and we would advise our readers to write him at once, mentioning this paper.

Duroc-Jersey Hogs

September 27—Robert Leisey, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Shattuck, Hastings, Neb.
October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.
October 20—William Ferguson, Scribner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 8—J. L. Naiman, Alexandria, Neb.

FOSO Insures Hair and Scalp Health

To prove to you how wonderfully superior the Great Foso Hair and Scalp Treatment really is we will send our regular

$1.00 Package for 10c

This liberal offer is made to induce you to give FOSO a trial and learn for yourself how it **Quickly Removes Dandruff, Stops Falling Hair and Itching Scalp, Helps to Restore Natural Color and Stimulates the Growth of New Hair. Absolutely Harmless at All Times and Under All Conditions.**

No matter how tender your scalp you need not hesitate to use FOSO.

Foso is for sale by all leading drug and department stores, but you must send direct to us for this special offer. Simply write your name and address, enclose 40 cents, stamps or coin, and the FOSO Outfit (Shampoo, Tonic and Soap) will be sent you with all charges prepaid. Address

FOSO CO., 4137 Foso Bldg., Cincinnati, O.

Grain Belt Brand Vegetable Hog Potash

A perfect worm expeller and preventive. A conditioner and mineral balancer.

Guaranteed Analysis:
Potassium Chloride....16%
Calcium Phosphate....13%
Calcium Oxide (lime)..20%
Iron and Aluminum... 9%
Sulphur 1%
Carbon Dioxide..... 3%
Magnesia 2%

Do not confuse this valuable product with the various patent remedies on the market which sell at medicine prices. This is a high reduction of purely vegetable matter and does not contain an ounce of salt or filler of any description. Send today for circular fully descriptive of this product. Agents wanted in unoccupied territory.

UNION STOCK YARDS COMPANY, South Omaha, Neb.

WHITE PLYMOUTH ROCKS

Prize winning stock, bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices, gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms, Saugatuck, Mich.

BUTLER STEEL Grain Bin

Corrugated. Can't Cave In. Rat-Proof. Fire-Proof.

Can be used for store house. Capacity increased by additional sections. Keeps grain perfectly. Large door and removable shoveling board. Ask for booklet showing letters from satisfied users.

BUTLER MANUFACTURING CO. 1212 W. 10th Street, Kansas City, Mo.

JACOB WERNSMAN
Cedar Bluffs, Neb.
LIVE STOCK AUCTIONEER.

Thoroughly posted in pedigrees and values. Can furnish best of references from breeders for whom I have conducted sales. Write me for open dates.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha July 5, 1913 | Number 656

TEN REASONS WHY

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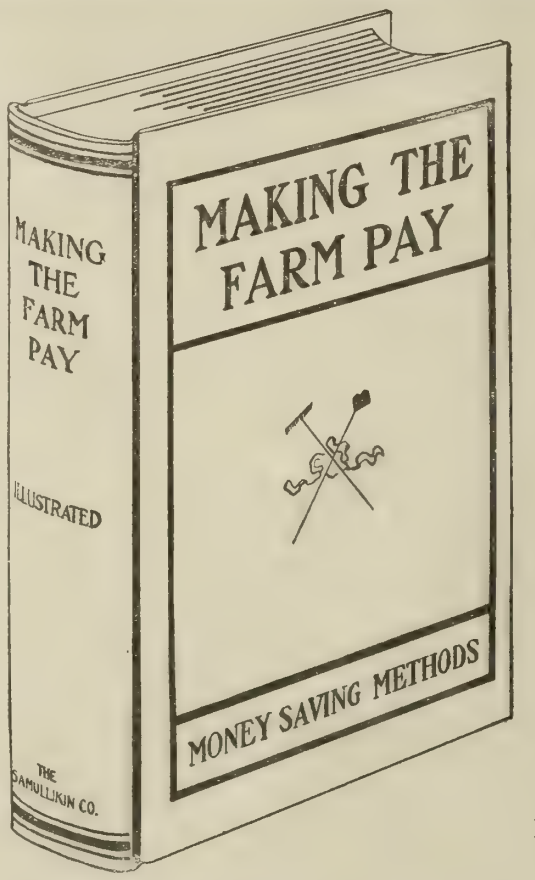
2—Because it takes up the PROPER rotation of Field Crops for different soils. Their adaptation and economic relations and explains the CULTURE DIRECTIONS of crops.

3—Because it explains FRUIT CULTURE and FORESTRY, showing how to Bud, Spray, Graft and Prune. How to KILL INJURIOUS INSECTS that affect fruit and shade trees; also insects that destroy field crops and garden products.

4—Because it tells how to make Vegetable Gardening and Trucking Pay. How HUNDREDS of dollars can be made, by using proper methods, on only a few acres.

5—Because it tells you how to Select and Feed farm animals for greatest net PROFITS; explaining the BALANCED ration and how MUCH feed and MANY dollars can be saved by proper feeding.

6—Because it takes up the Diseases of Farm animals, giving the CAUSES, SYMPTOMS and TREATMENTS of each, which will save you the loss of many dollars' worth of stock; these are explained in Common Terms that any one can read and understand; the treatments are COMMON REMEDIES that you should have in your home.



Size of book 6½x8½ inches. Bound in extra heavy cloth. Contains 500 pages.

7—Because it shows how to MAKE and FILL a silo and explains the VALUE of silage to the average farmer. It gives many rules on measuring feed and grain and many valuable hints and helps for every farmer.

8—Because it tells how to make Poultry PAY and discusses the different breeds — the "Setting" and "Non-setting," the "General Purpose" and "Fancy" breeds. The work tells how to caponize poultry, giving illustrations and cuts; also describes the diseases of poultry and their cures.

9—Because "Making the Farm Pay" is written by the BEST, practical authorities, and takes up improved methods of modern agriculture in all branches of farming; it is written by men who have DONE what they advise others to do.

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JUST HALF PRICE

FOR THIRTY DAYS ONLY

	Regular Price	Our Price for Both Only
Making the Farm Pay	*$2.50*	
Twentieth Century Farmer 1 year	*$1.50*	**$2.00**
Total	*$4.00*	

Address TWENTIETH CENTURY FARMER, Omaha, Neb.

Bright and Breezy

A Decided Change

"So Miss Brown is married! Well, I'm not surprised. She always despised her own name for its commonness, and declared she would change it at the first opportunity. By the way, whom did she marry?"

"A Mr. Smith."

Cautious Hiram

Two farmers met in a western town a day or two after a cyclone had visited that particular neighborhood.

"She shook things up pretty bad out at my place," said one, stroking his whiskers, meditatively. "By the way, Hi," he added, "that new barn o' yourn get hurt any?"

"Wal," drawled the other, "I dunno; I hain't found it yet."—Youth's Companion.

Human Rooster

An individual of considerable importance, by name Tootle, once attended a reception, accompanied by his wife. The announcement was made: "Mr. Tootle!"

"And Mrs. Tootle," was suggested, sotto voice, in corrective tones.

"And Mrs. Tootle, too!" resounded like the blast of a horn through the room, to the evident amusement of the large assembly.

Pertinent Question

Justice Van Devanter of the United States supreme court tells of a youthful law student who exhibited much precocity at getting to the real facts of a given proposition.

The law school professor was cautioning his class against neglecting a thorough review of the semester's work, and he pointed out in a general way what the approaching final examination would cover.

"I'll pause now to answer any questions," the professor added, in a kindly tone, "and then I must hasten to prepare the examination papers for the printer."

Nobody had any question for a moment, and then a solemn, thoughtful-looking young student arose and signified his desire to propound an interrogation.

Says he: "If I may inquire, who is the printer?"

Had His Revenge

He was a surly and quarrelsome old farmer, and the only person of any importance who had managed to avoid clashing with him was the mild-mannered minister.

But even this forbearing gentleman lost his temper when the farmer impudently turned his horses loose in the church-yard and refused to take them out again.

High words ensued, and the minister so far forgot himself as to call the farmer a "broken-down old mule."

Off went the farmer on the instant and crashed noisily into the village lawyer's office.

"The minister has just called me a broken-down old mule!" he bawled. "What am I to do?"

Now, the lawyer had once received a severe rebuff from the farmer, and had waited for years for a chance to repay it. Here was his opportunity, and he seized it with both hands.

"Don't come to me about that," he said, coolly. "I can't patch you up. I'm no veterinary surgeon."—Chicago Record-Herald.

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Tractor Plowing Demonstration

THE TWENTIETH CENTURY FARMER has completed arrangements for a motor plowing exhibition and power farming demonstration September 8 to 13, inclusive, at Fremont, Neb. The date is the week following the Nebraska State Fair.

Fremont has been selected as the location for the reason that it is a thoroughly enterprising city of 10,000 population, located about forty miles northwest of Omaha, in the heart of one of the world's richest agricultural districts—the valley of the Platte and Elkhorn rivers. It is on the main lines of the Union Pacific and Northwestern railroads and an important branch line of the Burlington, making it a very accessible point. Also for the reason that large tracts of cultivated land are available just outside the city limits.

In later issues of our paper, and through the daily and local newspapers announcements of the features and details of this plowing demonstration will be made.

Prattle of the Youngsters

Sure!

"When were you born?" asked the teacher as she was making up her records.

"When I was a little baby," answered the child.

Our Sins

"Now," said the clergyman to the Sunday school class, "can any of you tell me what are sins of omission?"

"Yes, sir," said the small boy. "They are the sins we ought to have done and haven't."—Ladies' Home Journal.

Why Not?

Tom—Mamma, when Willie has the toothache you always take him to the dentist's to have his tooth filled, eh?

Mother—Certainly, child.

Tom—I've got a pain in my stomach. Hadn't we better go to the pastry cook's?

Same Way He Came In

The base ball game was over and a large crowd surrounded the small gates, the only exit, when a little boy was seen climbing the wall in an endeavor to get out without being crushed.

When almost to the top a policeman saw him and shouted out to him: "Eh, lad, come down and go out the same way you came in."

The reply came back as the lad dropped over the other side: "I'm doing that, mister."—New York Globe.

He Knew Them

It was a canny little "brither Scot" who once embarrassed a devoted Sunday school teacher by an ill-timed attempt at interpreting the feminine character.

"Can any of you tell me," ran the innocent question, "why women do not take off their hats in church?"

Up went a little hand, and, permission to speak being accorded, out came the surprising reply:

"'Cos they hinna got no looking glasses to put 'em on again by."

Deep Roots

Bobby had the toothache and his jaw was badly swollen before he summoned up courage to have the tooth pulled. The dentist was encouraging.

"All right, Bobby," he said, "we'll fix that in a second. Open your mouth."

"I can't," said Bobby; "me jaw's swelled too much."

The dentist summoned his assistant.

"You take this big hatpin," he whispered, "and when I nod you jab it hard through the seat of the chair Bobby is in."

Then he turned back to Bobby.

"Come on, Bobby," he said again; "open your mouth."

"I can't," said Bobby; "me jaw's—"

Just then the dentist nodded and the assistant jabbed hard. Bobby emitted a terrific yell, and when he opened his mouth the dentist got the tooth.

"Well," he said, "I got her, Bobby, didn't I?"

"You sure did," said Bobby, rubbing himself where the hatpin penetrated, "but gee, doc, I never knew de roots went down so far."

Scene on Western Nebraska Cattle Range Before Time of Kinkaid Homesteaders

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Four True Stories of Minnesota Pioneers

Actual Experiences of Homesteaders as Told to a Nebraska Visitor

DURING the summer of 1912 we occupied a primitive cottage on one of the larger lakes in northern Minnesota, about fifty miles west of Duluth. We were six miles from the railroad, where there was a siding—no station or station agent—and where was also the nearest telephone, and were eighteen miles from a telegraph station—a good ways from civilization as we are accustomed to consider it.

The whole appearance and topography of the country was so different from our rolling Nebraska prairie that we found the change most interesting. The pine forests and hardwood trees, the sandy soil, the lakes and streams of clear water—crystal clear—the wild flowers, ferns and berries of all kinds, made outdoor life most attractive.

As the days went on I became acquainted with the farmers round about—if one may call those farmers who cultivate but a small percentage of their land. They are still pioneers in a new and sparsely settled country, with nature as yet largely unsubdued.

In order to ilustrate just what pioneering in that part of Minnesota means, I will give four actual cases, two of which I consider partial successes, one a pitiful failure and one a complete success.

The Lindstroms, two men and their sister, all well toward middle age, own 160 acres bordering upon a beautiful little lake. The sister had been a general houseworker in Minneapois and had saved up some money. The brothers had worked on farms in central Minnesota. Then their father in Sweden died and left them about $2,000. The younger brother, Carl, took a part of his share and got an "education." I gathered that he had gone to a business college. The Lindstroms bought the 160 acres from the man who had homesteaded it, cleared a few acres and built a cabin and barn. They put the rest of their money into improvements. They have a well-built, attractive, two-story house, a large barn and modern chicken houses, two wells, a pump in the kitchen, and fruit, vegetables and flowers, and about sixty acres of cleared land. They took much pride in their "improvements," and said with satisfaction that there was no bettter equipped farm in that whole region.

The main product of this farm was eggs. Carl, the business man, had made a contract with a large hospital in Minneapolis for so many dozen fresh eggs every week at a good price, and by going at it scientifically they were able to furnish eggs summer and winter. They raised their own feed—wheat, corn and hay for the chickens and the other stock, which consisted of five cows, two horses, calves, pigs and hogs.

The Lindstroms have a large garden, and in summer supply the campers and cottagers in the vicinity with the most delicious vegetables and berries, or ship them to the nearest large town. They also sell butter and chickens, and occasionally kill a calf or a pig, and sell what meat they do not wish to use themselves. They rent boats, too, to fishing parties on their lake, and take in many a dollar that way.

Mr. Lindstorm told me that, counting in their labor at what it would cost to hire it, they had made barely 1 per cent on their investment so far—this was their third year—but, of course, they had enjoyed a good living; they worked very hard, and for very long hours, and I thought to myself that they would have been better off if they earned a living working for someone else and loaned out their money; they would have received 6 per cent, probably, on their investments, then, and not have worked so hard; but, again, the satisfaction of owning a home and land, of being their own masters, cannot be set down in money value.

One evening as Mr. Lindstorm was driving us home we had been fishing all day on their lake we passed a little log cabin standing forlornly in a weed-grown clearing that was already going back to timber.

"How desolate that place looks," I said to him.

"Yes," he answered, "they didn't make a go of it. It was before we came; a young man and his wife homesteaded that quarter and built the cabin. They didn't have any money at all to start with, and couldn't have a well dug."

"Does it cost much to dig a well?" I interrupted.

"Yes, about $125, anyway; they have to be drilled. Sometimes there are springs, but there was none near here, so they tried to catch a little rainwater, and then used water from that pond you see there. Well, toward the end of the summer the man came down with the typhoid fever. The wife nursed him the best she could, but he died; then she took the fever, and the neighbors, though there are none nearer than half a mile, did what they could, but she died, too."

"Oh, how pitiful!" I exclaimed. "Just because they were too poor to dig a well."

"They ought to have known better than to come up here until they had some money ahead," remarked Mr. Lindstrom in his matter-of-fact way.

Early in the summer one of the cottagers in our camp wanted a new porch and engaged a carpenter to build it; he came at 8 o'clock every morning with a team and wagon and left at 6 in the evening. One afternoon I went down to where he was working and asked, "May I ride with you part way this evening? I want to see the country, but don't want to walk too far."

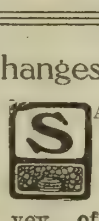
"Sure," he answered, heartily.

I rode about two miles and a half, and our acquaintance progressed so far that he invited me to go with him to town next day. It seems that more wire screen was needed for the porch and he had to go the eight miles to town to get it. It was arranged that I and a friend get up early next morning, row in our boat a couple of miles to the head of the lake, then walk a mile or more to his house, where he would be in readiness to start for town.

When we came to his house as agreed we persuaded his wife—a thin, worn little woman—to take a day off and come to town, too, and on the long drive I learned their story.

They came from Norway, and were attracted to this part of Minnesota because it was so much like "the old country." They bought 200 acres for a small sum from the man who had homesteaded it, and three years before, with high hopes, great courage and $65 in cash they began to conquer the wilderness. The land was absolutely unimproved a wilderness, indeed. The large timber had all been cut or burned, but there was a dense tangle of oaks, birches, small evergreens and underbrush. Mr Bjornsen cleared enough ground to build a little shack upon that the first spring, and then worked at his trade in the towns around. The poor little wife was sick, and twice a week she walked the five miles to town to see a doctor, but between times she was alone except for a German family living on the land adjoining. Sick and alone in the wilderness! Is it any wonder that her eyes are sad and despairing, that her body is thin and worn? One day when Mr Bjornsen came home, she began to cry piti-

Changes Made by Kinkaid Law



SAND hills range view in Cherry county, Nebraska, on ranch and range owned and operated by G. W. Hervey of The Twentieth Century Farmer prior to the opening of the 640-acre Kinkaid homestead law in 1904.

This view illustrates the landscape appearance, the excellent grazing and grass conditions in some of the better sections of the sand hills districts prior to the operation of the 640-acre homestead law. It suggests to the imagination the astonishing changes that have been wrought in the last nine years over the smoother lands in the western part of Nebraska. Prosperous homesteaders with comfortable homes and small farm herds are now to be found on each section for miles around this open grazing view. This emphasises the ultimate advantage of increased population to the better class of sand hills. Honor and praise of the name Kinkaid will thus be carried down to future generations.

fully. "What is it?" he asked. "Oh!" she wailed, "I can't even open the door without hitting against the brush."

That was the last straw, apparently, so he set about to clear a little more ground. Clearing without machinery, or a team even, is a desperate job. First, the trees and brush must be cut down and burned, then the stumps and roots must be grubbed up inch by inch and the ground spaded and raked.

That first winter Mrs. Bjornsen went to a hospital for an operation, which was only partially successful, but it took $100, about all the poor husband had saved from his earnings that summer and fall as a carpenter. The next spring Mr. Bjornsen built a house for a man, for which he received a pair of year-old colts, and for another job he earned a cow. He bought some chickens and a pig, but the colts were only an expense that next year. They and the cow ran wild during the summer, finding an abundance of rich, nourishing grass in the more open parts of the woods or on some dried-up lake bottom, but it was hard to provide feed during the winter.

The next spring, when the colts were 2 years old, Mr. Bjornsen broke them and began using them carefully, so as not to injure them. He cleared more land, working from 4 o'clock in the morning until 10 at night, day after day, in the woods, while Mrs. Bjornsen did all the work about the house and barn. Mr. Bjornsen built for himself a good barn, a chicken house and small granary, and, lastly, a neat, two-story frame house.

When we were there it had been a little over three years since they had come to the place, and they had fifteen acres of cleared land, the improvements mentioned; the rest of the land all fenced with barb wire; the team, four cows and three calves, half a dozen pigs and nearly a hundred hens and chickens. Mr. Bjornsen's crop of corn was the best I saw anywhere, and his potatoes and navy beans promised a bountiful yield. On this trip to town he bought cement to make a large frost-proof root cellar for his potatoes, pumpkins, squashes and the like.

On the drive I made some remark about my little daughter, and Mrs. Bjornsen said so yearningly, "I love little children, but the doctor in the hospital told me I would never have any."

"Why don't you take a baby to raise? They are a great comfort."

"Yes, maybe, but it's not the same as your own."

We were told by some of the other residents of our camp, those who had been coming up there year after year, that it was quite "the thing" to go for a day's fishing on Yates' lake and get one of Mrs. Yates' fried chicken dinners. Accordingly, one day we made up a party and went across the lake in a friend's launch. We walked over the half-mile of land separating our lake from Yates' lake, and were delighted

The Yates Original Log Cabin in Center, Additions Left and Right

with the general aspect of things before we saw either Mr. and Mrs. Yates. Their house lay on a hill overlooking the lake, a charming little body of water all enclosed in woods and brush. There were some magnificent pines around the house, and a smooth, green lawn on the slope toward the lake; on the house itself were climbing vines and in the back a flower garden ablaze with color. I think I have never seen larger and finer sweet peas and nasturtiums; and there were beautiful pansies, asters, poppies, phlox and many others, that quite came up to the illustrations in the ordinary flower seed catalogue.

Mrs. Yates was a comely, wholesome, clear-eyed little woman, and Mr. Yates a jolly soul who seemed well pleased with life. Their four children—two girls and a boy—were normal, healthy, happy little people; the baby boy of 3 was unusually bright and interesting.

We all went fishing in the forenoon and came in with royal appetites to one of the best dinners I have ever enjoyed—spring chicken, friend to a turn; bowls of steaming, fragrant gravy; snowy mounds of mashed potatoes, corn that was sweet corn—not field corn—freshly picked and cooked just right; green peas—marrow-fats that melted in one's mouth; cucumbers fresh out of the garden, flaky, hot biscuits and pats of golden butter; coffee and cream—real cream, thick and smooth; and then huge dishes of home-made ice cream; that, too, was the pure cream, sweetened, flavored and frozen—no cornstarch, no gelatine, no skim milk in that; and to go with it immense slices of delicious chocolate frosted cake, and more coffee.

After dinner, while Mrs. Yates did the dishes, I sat in the kitchen and led her on to talk of her past history and her present life. "We came here eleven years ago," she said, "homesteaded the 160 and later bought forty acres of meadow land. I used to live in town when I was a girl, and went through the high school. Mr. Yates was a farmer near our town and we lived with his folks at first. Edna, there, was a baby when we came to this place. I weaned her and we bought a cow. We had two horses to start with, and the next spring we bought two pigs and a half a dozen hens, and a full-blooded Plymouth Rock rooster. Did you notice what a fine flock of chickens I have now?"

"Yes, indeed," I answered; "they are beauties."

"Well, in the same way we raised the quality of our stock all around. Now our cows are almost pure Jerseys; the pigs, Poland-Chinas, etc. Mr. Yates thinks it pays to keep good stock."

"Did Mr. Yates clear all this?" I asked, pointing to the ample fields outside the window.

"Oh, yes, but we have a stump puller, and Mr. Yates had a man to help him, and we have been a long time at it. We raise beans and potatoes to sell, and corn and wheat and oats for our stock. I have a cream separator and a churning machine and sell butter every week in town. We sell a lot of garden stuff, too, and berries. You know the country around here is full of blueberries. Did you see my blueberry pickers?"

"No, I didn't know there was such a contrivance." She then showed me a scooplike affair with teeth like a rake in front, and explained that one just raked the berries off the bushes—they got the leaves and trash out afterward by fanning. She said they received 6 cents a quart for the berries, and the children could pick thirty quarts in a day without any trouble.

Though we paid only 35 cents apiece for that good dinner, yet nearly everything served came off the place, and Mrs. Yates makes quite a little from the visitors who come—and they come again. Mr. Yates, too, gets a dollar a day for each boat he rents. They own the whole lake, and have stocked it themselves with black bass. Our party of six caught ninety black bass, weighing from three-quarters of a pound to two pounds each, and a few Rock bass. We also bought a supply of fresh eggs, butter, sweet

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The Yates House Among the Pines, Overlooking Their Lake

Annual Meeting of Iowa Swine Breeders

Time Given to Discussion of Practical Subjects by Speakers on the Program

THE annual summer meeting of the Iowa Swine Breeders' association took place at the college at Ames on June 18 and 19. Prof. C. F. Curtis, to whom had been delegated the duty of welcoming the association, spoke flatteringly of the Iowa Swine Breeders as an organization. In noting their meetings from year to year he had learned that they, more than any other body of men whose meetings had come under his observation, met for the purpose of extracting information from each other and of learning as much concerning the conduct of their business as opportunity permitted. Prof. Curtiss spoke of the hog as representing the highest efficiency in turning the product of the farm into cash, saying that no other animal converted grains into high-priced meats as quickly and at as little expense. In support of this statement he cited the fact that the immense corn crop of Iowa, which was probably the greatest in the history of the state, had been marketed and, in the main, at a very low rate, but that, notwithstanding this, farmers who had fed corn to hogs had realized a dollar a bushel or more for it.

Forage Crops for Swine

The opening paper of the program was that of Prof. John M. Evvard, who treated upon "Forage Crops for Swine." He presented facts drawn from experiments made at the college, showing that the price per bushel realized for corn when fed in connection with an alfalfa pasture was $1.038 per bushel; with a pasture of green rye, 95.2 cents per bushel; with a pasture of oats, clover and rape, 95 cents per bushel; on rape, 92 cents; on sweet clover, 91 cents; on red clover, 90 cents; on oats, peas and rape, 87½ cents, and on blue grass and timothy, 75 cents. The professor considered it essential to the development of the hog that he have plenty of exercise and range of green crops, and the above figures represented the comparative values of those named. As a permanent pasture he recommended blue grass, because when once started it required little or no attention. Rape he recommended as a cheap and quick growth.

The professor's talk brought out a number of inquiries, the answers to which presented other interesting facts. Among these was the statement that, while tankage need not necessarily be a means of introducing cholera, it was at times contaminated after cooking, and in that case became dangerous. In this connection he advised that purchases of tankage be made from reliable factories. Replying to a question concerning the use of sorghum for silage, he said that in Iowa it did not at all compare in value with corn, but that in dry sections it was equally as good. He said that while there was no danger from feeding first crop sorghum, there was danger from second growth. Comparison of the value of feeds showed that skim milk at 25 cents per hundred had a value equal to tankage at $2.50 per hundred pounds, and that oilmeal at $30 per ton was not as valuable as tankage at $50 per ton.

How to Grow the Pig

The program provided for a paper on the subject of "How to Grow the Pig from Birth to Maturity," but the party to whom it had been assigned failed to appear, so that a brief general discussion took place. In this the general conclusion was that to attain the best results with pigs they should be started with new milk, shorts with a little corn or new milk, oilmeal and tankage. One speaker said that young pigs were the better for being fed five times a day providing only such a quantity be given them as they would clean up each time. A little later, feeding three times a day assured the same results. Blue grass pasture was commended as well, also, as red clover.

Colonel H. S. Allen of Russell, Ia., read a paper on the subject of "Handling Private Sales." Colonel Allen is a hog man with extended experience, from which he had gleaned a few facts of general interest, one being that the first essential of successful private sales is delivering the goods advertised or described in the correspondence. Another is that animals be shipped in good condition, in attractive crates and free from lice. He considered it important that correspondence concerning pigs should be clear and explicit in descriptions, so that no misrepresentations might creep in and that the prospective buyer be given a complete description of good and bad points of the pig which he might later buy. Pedigrees should be forwarded to buyers at the time of shipment. Speaking on the subject of shipping hogs on approval, Colonel Allen said that it was a matter to be handled carefully, and that when the prospective buyer was known to be honorable and of good judgment there need be no difficulty.

Public Hog Sales

On the subject of "Public Sales" Colonel H. S. Duncan of Clearfield, Ia., spoke at some length. He considered the public sale an educational feature where farmers as well as breeders might learn many things to their personal advantage and business profit. It was a school for them which might lead to inspiration for better stock. It provided them opportunity to learn comparative values, points of individuality and lines of breeding. He considered the public sale one of the best means of promoting and widening the influence of a breed. The public sale, however, depended for its effectiveness upon the observance of many minor details, chief among them being the merit of the offering. He advised that those who contemplate going into pure-bred hog raising be sure to obtain good animals as their original start. Sale dates should be claimed early; local interest should be cultivated, and when a sale date had been claimed all surplus animals in the herd should be reserved until that date. Catalogues should be freely distributed among farmers, and particularly those in the immediate vicinity. Farmers are the basis on which the pure-bred swine industry is built. The indivdual interests of patrons should be looked after on sale day. The seller should so arrange his business that all work connected with presenting the offering be completed the day previous, so that he might have time to give his personal attention to those who come. Speaking on the question of whether to hold sales on the farm or in town, Colonel Duncan advised that fall sales be held on the farm and that, owing to better facilities for the comfort of buyers, winter sales be held in town.

Some Pointers for the Breeder

W. M. McFadden, secretary of the American Poland-China Record association, took up the subject of "Some Points to Be Observed by the Breeder." He began by saying that the hog man should make hog raising his principal business; that he should not make it secondary to his farming operations, and that it should be the central idea around which revolve all his active business operations. A hog man should be a hog man 365 days in the year. He criticised those breeders whose enthusiasm was short-lived, urging them to take pride in their business and in every little detail concerning it. He thought that crates should be made light, good and attractive and that stationery should be neat, to the point and indicative of the methods of doing business. He thought good stationery added dignity to the business. Concerning what to raise, he said that a good many hogmen failed because they did not offer for sale the kind of stock the buyers were wanting to buy. He appreciated that it was an art for any man to recognize what kind of a hog would be in demand and be prepared to supply it. He urged breeders to keep clear of fads and hog bubbles. He believed that salesmanship was important and that it was only possible to be a good salesman by having a thorough knowledge of individuality of animals as well as a knowledge of good business practices. Talking about feeding and care, he said that a hog should be well bred and that improvement was the result of good care and good feed. There was no success without these, and good judgment in selection. He talked about different manners of disposing of surplus stock, saying that, while some people were successful in selling at private sales, others were not adapted to that way of doing business and succeeded best at public sale. He thought showing at the fairs was a means of presenting the business to the public that would be of advantage to any breeder.

Colonel John R. Tupper, Woodbine, Ia., had been selected for a talk on "What to Do with the Kicker in the Show Ring and Elsewhere." He did not waste much time on his subject. He said, "Let him kick." There always had been kickers and always would be, but that the kicker was an angel as compared with the knocker. He cited a number of instances where at public sales parties in attendance had, either through a spirit of malice or thoughtlessness, made remarks which had a tendency to discourage purchases. He believed that care should be exercised not to get into the knocker class.

Control of Hog Cholera

Perhaps the most general interest in any subject at the meeting centered in the talk of Dr. C. N. Stange on "Methods for Controlling and Eradicating Hog Cholera in Iowa." The doctor assumed a rather noncommittal attitude in his talk and his answers to questions presented. He said that hog cholera was first known in Ohio in 1833; that it reached Great Britain in 1860; then spread to Europe and South Africa, until at the present time it was known in practically all hog-raising countries. He cited the peculiar fact that hog cholera came and went in waves; that it increased in fatality for a series of years and then slacked up for a few years and started over again. Last year, he asid, there had been more cholera than ever before, and he expected that the high tide of the disease had been reached and that the downward tendency would start this year. Cholera germs have great vitality and have been known to live for two years. There is no positive evidence that they cannot survive for a longer period. Their tenacity is remarkable. Carbolic acid does not injure them. Ordinary disinfectants are valueless in their destruction. He said that hogs which had recovered from cholera do not acquire it a second time and that suckling pigs were not apt to take it.

The preventive measures urged were that hogs be kept away from streams of water flowing through the farm; that dogs be kept out of the herds and yards; that hog buyers who go from one farm to another be quarantined; that neighbors be not permitted to go through the yards. Virus might easily be distributed by any of the means suggested. Taking up the matter of vaccination, Dr Stange said that he believed in double vaccination, saying that serum vaccination and pen inoculation were not in line with his idea of effectiveness in results. In view of the fact that double vaccination introduces cholera into the herds, he advised that the yards be freshened up in some manner, disinfected in every possible way and that a careful system of quarantine be inaugurated so that there would be no possible chance for the disease getting into the herds on adjacent farms. He said that corn should not be fed to vaccinated hogs for one or two weeks after the operation, and stated that green corn had a predisposing influence toward cholera. In answer to questions as to the quality of

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Five years ago the banana was scarcely known in Germany. Today it has become a standard article of food, and is as plentiful in any German city of importance as in like cities of the United States; and it is sold as cheaply.

There has been good money in growing horses for a number of years past. There is likely to be good money in it in the future. The price of horses will no doubt advance or decline in about the same ratio as any other products; but the man who will engage in it intelligently and keep right on will not be in danger of having the sheriff hang out the red flag on his premises.

The Nebraska Improved Live Stock Breeders' association has published a directory of the breeders of pure-bred live stock in the state. It contains, besides the breeder's name and the kind of stock which he handles, the approximate number which he generally has on hand, and also the number which are for sale. Practically every breed of registered live stock is represented in this little book.

Under a special appropriation of $75,000 made by congress "for demonstrating the best method of preventing and eradicating hog cholera," the United States Department of Agriculture has undertaken practical experiments in combating this disease. The appropriation becomes available July 1, and work will be begun first in Dallas county, Iowa, and will be taken up later in Indiana, and in one or two other states. In Iowa the work will be done in co-operation with the state veterinarian and the Iowa State college.

Value of Pasture Grasses

There is not a proper credit given for live stock gains made on grasses in computing the comparative values of lands. It is true the lands that are adapted to pasture alone lack in their uses for agriculture, while the agricultural lands can be turned to pasture production when desired, and quite generally serve the purpose of profitably growing this crop. The lands employed in the growing of cultivated crops of hay or grain are devoted to the growing of these feeds six months in the year to be fed out in the growing of the stock the other six, but this crop production is accompanied by labor and expense in feeding and handling the feed. This is the expensive period of animal growth, and what is accomplished by it?

The months of November to April, inclusive, are not conducive of greater growth and weight of animal than the six months folowing—May to October, inclusive—though very much more expensive. If in the feeding season, which the former represents, there is secured a gain in growth of cattle of 300 pounds, the owner feels very well satisfied and regards his roughage and such grain as he may have used in the wintering of the cattle well invested. But when he weighs up his cattle at the last of October and finds that the pasture on his cheaper lands has in the same length of time produced as much gain, does he credit the pasture up even with the prepared feed? No, not usually. He forgets to make a comparison of the circumstances under which these gains were had.

The cattle in the one instance harvested their own feed in the pasture field, no expensive machinery employed, no hired help at big wages, board bills of labor and teams in the preparation of this feed, in feeding out, etc. The pasture grasses and the pasture lands are not generally estimated at what they are worth; they should be credited with the gain of beef they produce and its market value. Why is there not a big profit being harvested off a lot of these rich agricultural lands that are each year devoted to the grazing of cattle? Are there not some of the most productive lands in the corn belt employed in producing blue grass and white clover for pasture and making just as good returns for the investment as those in cultivated crops, all things considered?

There is no feed produced on the farm cheaper than the grass feed. It is the natural crop of the land and may be established and maintained at less expense than any other feed product that the land can produce. The grass crop produces more meat products and is a greater factor in the maintenance of the live stock industry of the entire country than all other feeds combined. Grass may be properly termed the panacea for all animal ailments. It is nature's own feed; it is an appetizer, an invigorator, a stimulant to the entire animal system, as may be observed in the rapidly changing conditions of the poorly wintered, emaciated, run-down animal as it goes onto grass in the spring season.

The value of grass as a feed is not fully appreciated by either the growers or feeders of live stock. This is partially due to the low estimate placed on pasture land values—lands not suited to agricultural and grain-producing purposes.

More Milk the Demand

It is interesting to note the claims of the advocates of the various beef breeds of cattle as to their special and general qualities as milkers. Even the Hereford breeders have entered the contention that their well defined specialty beef-producing favorites are capable of taking a creditable position in the ranks of the milk producers. This is one of the encouraging evidences of cattle improvement among this class of breeders. If all the beef cattle breeders would waken up to a realization of the need of more milk with the beef it would be a great benefit to humanity as well as help many half-nursed calves to get a start in the world.

The present agitation among the beef cattle breeders to increase the milk yield is owing to the demand from farmers who want to raise calves of beef quality and at the same time have the mother of the calf in the dairy part of the year producing milk and cream to help pay her year's boarding. It is estimated by scientific feeding tests that it will not pay to keep a cow a whole year on the farm just as a calf producer.

It cannot hurt any of the beef breeds to be lined up a little in a heavier milk yield. The very poor quality, light quantity milker will be discarded as a calf raiser on the farm. It is coming to this very rapidly. It is a matter of profit altogether, the keeping and raising of cattle. This is no longer a fancy only with the impractical man of money, who can afford to satisfy his likes and dislikes regardless of what it costs.

Fruit Prospects Good

Nebraska horticulturists announce this a great year for fruits, especially apples. Kansas sends out a reverse report. "Less fruit in Kansas" is a Topeka telegram of June 21. Both these announcements are authoritative, since their origin is the secretaries of the state horticultural associations. Kansas will be lighter on tree fruits, while exceeding 1912 in small fruits. Nebraska reports just the opposite condition. It is safe to say that both these states will have a large surplus to ship out of both tree fruits and vine or bush fruits.

Northern Arkansas and southwest Missouri are out with the announcement of the heaviest crop of peaches ever produced in these districts. The Ozark Fruit Growers' association is the name of a recently organized association which claims a membership comprising 80 per cent of the growers in these two sections. It is believed that this organization will handle over 2,000 carloads of peaches within thirty days after the shipping season opens up. There is little danger of a fruit famine this year.

Potatoes in Greenland do not grow larger than an ordinary marble.

Water on the Farm

"We never miss the water till the well goes dry." How true this is, and how many persons have had this experience by being a little careless, a little lax in providing abundant and ample water supply, not only at the residence, but at the barn, the stock lots and in the pastures. There is no economy in trying to see how many places about the farm one well will supply. It is a good plan to have two wells at the buildings, even if one is let stand idle part of the time. In case some serious mishap occurs with the water supply, it is very comforting to be able to apply for help at the other supply point.

There is more time consumed on some farms in getting the proper amount of water to all the stock and supplying other water demands than would pay for a well with wind power for every field and stock lot on the place. Water is the essential on the farm, lots of it, and good quality. With some things substitutes can be used and a period of scanty supply bridged over, but water must be had where people and live stock are kept.

Of course, the natural water advantages vary greatly in different localities. In some sections the spring, brook, creek, rivulet or rill is almost everywhere present to supply water, but in the great plains and prairie country the well must be looked to as the general source of supply. This means some expense and care in its construction and maintenance. There is great difference of opinion as to preference for well water or the flowing stream. The flowing stream often is found in the midst of hills, hollows and rocky cliffs, when the fancy of the land owner is for smooth, level ground.

The carrying of contagious disease by the stream is also urged by some. In seasons of excessive drouth many of the small streams go dry, not a drop of water in them, when the undersupply is still turning out its thirst-quenching liquid. It matters not what the source of supply, a never-ending reservoir must be ready to draw from. This is what makes land valuable. Give the farm the reputation of an uncertainty of water supply, and it has no purchasers, except as adjoining lands may be able to use it.

The reservoir on the farm, where a reserve of water may be held for stock watering purposes and other uses, is a valuable improvement and is almost always worth its cost as a selling proposition with the farm.

The total value of meats and food animals entering international trade is, according to the latest figures of the bureau of foreign and domestic commerce, Department of Commerce, approximately $450,000,000 per annum, of which about one-third is from the United States, and consists chiefly of pork and pork products.

In the press matter sent out by the publicity bureau of the Nebraska Board of Agriculture an attack is made on the feeding methods of the live stock department of the experiment station. To those who know the attitude of the State Board of Agriculture toward the experiment station this is not surprising.

Oats as a Farm Feed

It is sometimes said that oats is not a profitable grain to produce on the farm. This statement we assume has reference more to oats as a commercial grain. Judging from the large acreage produced in some states, it is certainly a very good crop to grow in many localities.

The fact that oats straw comes more nearly satisfying the animal appetite of the hay and fodder-eating beasts than do other straws is in favor of this grain, as it is easily fed in the sheaf and without loss. Oat straw is also quite generally used as roughage for wintering stock, especially where some grain is used in the ration. In the wintering of stock sheep there is no feed that can be used to better advantage than oats in the sheaf. When oats prices are not satisfactory, try feeding in the sheaf and see how clean both heads and straw are taken up.

The greatest value of oats as a feed has not been given much attention by the average farmer. The use of oats for feeding all young animals, colts, calves and lambs, is highly endorsed by all who have had experience in feeding and growing stock. It is the belief of many of our most skilled and economical live stock feeders that young growing animals cannot be successfully developed without the use of oats as a principal factor in the feed ration. There is no better feed for the healthy development of the breeding animals than a mixture of corn and oats, in about the proportion of three parts oats to one part corn. Some prefer this feed ground, while others want the whole grain, especially when fed to horses and sheep.

The feeding of oats in the sheaf is a new thing, generally, in the western states, though quite old in the sheep states of the east, where, more than fifty years ago, the feeding of this grain to the grain and fodder-eating animals was almost exclusively in the sheaf. It was quite frequently raised just for sheep feed, to be stacked and fed out to the sheep during the winter from the sheaf, opened and scattered lightly over the ground. It was the custom to cut the oats a little green, let it cure in the swath, then rake, bind and shock, where it would again have the benefit of a season of curing before it was put into the stack or mow, the purpose being to put the oats, both grain and straw, into the best possible condition for feed.

The sheaf plan of feeding the oats crop was convenient, clean and saving, the bundles being carried out on open ground, free from mud or litter, and carefully scattered so as to give each number of the flock abundant room to move about without tramping the straw under foot or soiling it so as to cause other animals following to refuse it. There is need of some experience in properly scattering or distributing oats in the sheaf so as to eliminate loss. Under no condition should sheaf oats be scattered when the ground is soft or muddy, and never on ground covered with the droppings of the animals.

It is necessary to have racks where the oats may be scattered in damp weather by opening the sheaves, thus giving the animals the same protection in the matter of waste that you do in feeding hay. The oat crop is about the easiest and cheapest crop grown on the farm, and should be grown as a farm feed. It will pay every year to have both threshed and unthreshed oats to feed.

There is possibly no district of country anywhere that will raise, uniformly, better crops of oats than the states between the Rocky mountains and the Missouri river. This crop, while largely grown for the shipping and commercial trade, forms an important factor in the feeding industry of the farm, but not to the extent that its feeding value warrants. The oats crop is usually large, forty to sixty bushels per acre, and, being a quick growth, easily handled crop; there is generally a place found for the oats field on most well managed grain farms. A system of rotation quite frequently observed also provides for the oats crop, and in this the oats becomes almost a fixed product on the farm, without much reference to its special feed or commercial importance.

Don't Forget the Sucklings

This is the season of the year that the young things, colts, calves, pigs and lambs, need attention in matter of water. See that drinking opportunities are made easy for this class of stock. The older animals can stand thirst much better and not suffer severe injury as a result.

It is always desirable to provide drinking places for the smaller and younger animals, separate from the grown stock, unless this is already easy of access. It is not sufficient during the hot season that the stock be given water at stated periods, once or twice or three times a day. Free access to water is a requirement in the successful handling of stock turned out to graze. They may take only a few swallows and go away from the tank and want to come back and drink more liberally in an hour or so. Water is cheap, or should be, on every farm, and it should be abundant, clean and easily obtained. It is these little things closely observed that enhance the opportunities for profit.

Salt is one of the recognized necessities for all kinds of stock, both old and young, and should be provided where the animals can go to it at will. This is the only safe plan of salting the farm animals when on pasture or yarded.

The keeping of a lot of stock on farm or range in good health depends mainly on the attention they receive from the person in charge. It is a business to learn and understand the every need of the domestic animals. Read, inquire and advise with old stockmen as to the various plans and methods of feed and care; it will be found profitable to have in your head. Then use as your best judgment dictates.

Big Hog Trade

There has developed within the last year quite a large hog trade at West Plains, Mo. Hog dealers commenced to go south into Arkansas and other adjacent teritory in view of gathering up a few hogs and shoats of the southern improved razor-back type to help take care of the corn crop of last year. It was found that plenty of hogs of all sizes could be had at reasonable prices—hogs that had cost but little to produce, as they lived mostly on the mast in the timber lands and in out-of-the-way neighborhoods, away back from railroad, and could be bought so as to justify the effort.

These hogs, when brought up into the corn country of Missouri and Iowa, responded promptly to the better care and corn ration and soon were ready for the market. The only trouble was to keep them free from cholera. It was deemed advisable b the importers of these southern swine to use the precautionary measure of immunizing them from the attacks of cholera. This necessitated a sort of port of entry, and a vaccinating plant was put in at West Plains, and all hogs coming by this route are treated to the cholera serum and then shipped on to destination. West Plains is now said to be the largest hog distributing point in this district of country for the supply of the Arkansas and Mississippi-grown shoats and hogs. Shipments of 1,000 head are not infrequent occurrences. These shipments are usually divided up among a neighborhood of farmers who are buying them for stock and feeding purposes.

If the southern outdoor, free, go-as-you-please hog can be produced with comparatively no prepared or expensive feed, and with freedom from the cholera scourge, this should develop a good paying industry, as the corn-raising farmer will pay just about corn belt prices for the immature hog, razor back or what not, just so the animal has the natural swine grunt and squeal to pass inspection, that it belongs to the porcine race.

Better seeding, sowing and reaping is not at all that is required for the desired improvement in our country life, better marketing comes in as one of the most essential factors.

More than 10,000 Iowa hogs are marketed on the Chicago market on an average every day of the year.

Austria's farmers raise 1,000,000 tons of cabbage a year.

Funny Deacon Phinn

I knew a comical old chap, with hollow cheeks and eyes,
Who always bore upon his face a look of pleased surprise;
He wore a wig upon his head and whiskers on his chin;
The children called him when he passed, "Old Funny Deacon Phinn."
He wore a pair of spectacles with frames of polished brass;
He drove a bony sorrel nag that anyone could pass;
He used to sit in his old gig and jerk the lines and grin;
And everybody laughed that looked at "Funny Deacon Phinn."
He had a funny yellow dog, with one eye that was blind,
That had a tawny, stump tail that stuck straight out behind,
To which the bad boys often tied old pots and pans of tin;
And, oh, how mad their meanness made "Old Funny Deacon Phinn."

Everybody Laughed That Looked at Funny Deacon Phinn

They used to cling to his old gig when he drove down the street,
And when he tried to beat them off they'd hide below the seat;
He'd crack his whip and fiercely say, "I'll tan each rascal's skin!"
The dogs would bark, but run away from "Funny Deacon Phinn."

The bad boys caught the dog one day and fastened with a wire
Some "crackers" to his stumpy tail and touched them off with fire
The dog ran yelping to the gig and with a howl jumped in
And scrambled underneath the seat of "Funny Deacon Phinn."

The crackers popped and fizzed away; the straw was soon ablaze;
The bony horse pricked up his ears and snorted in amaze.
Then men threw up their hands and yelled, and made a mighty din;
The horse in terror ran away with "Funny Deacon Phinn."

Before the frightened beast there lay a river broad and deep,
With treacherous quicksands in its bed, with banks abrupt and steep.
And, with a gleam of yellow light, horse, dog and man jumped in,
And nothing more was ever seen of "Funny Deacon Phinn."

Now, boys, 'tis dangerous to play such evil tricks for fun,
For you may do some awful thing to always wish undone
Don't fasten on to puppies' tails old pots or pans of tin,
Lest something come like that which came to "Funny Deacon Phinn."

—Eugene J. Hall.

Oak Park, Ill.

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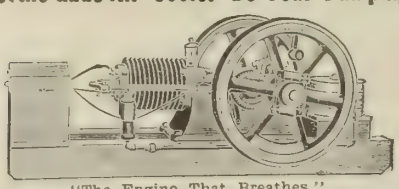

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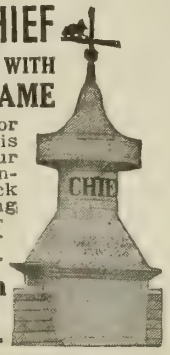

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Don't forget to mention The Twentieth Century Farmer when communicating with the advertisers on this page,

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Enemies

The alder was blooming, the bees were alert,
I buttoned a towel inside of my shirt,
I stript as I ran through the bushes, and then—
Kersplash in the hole! I was happy again.

My enemies followed and hid in the leaves;
They knotted my trousers and tied up my sleeves,
While I, all unconscious, caroused in the hole,
Alone and untrammeled, with peace in my soul.

How swiftly the tide of sweet solitude flows!
We're always returning to people and clothes.
While I loosened those knots by the creek at the hole,
There were bees on my back, there was rage in my soul.

—M. McR. Gray, in Youth's Companion.

(Prize Story)

The Tame Rabbit

By Clarinda Faith Brower, Augusta, Kan., Aged 9. Red.

One day last summer when my papa came in from the field at night, he told me to shut my eyes and hold out my hands, which I did, and when I opened my eyes what do you think I saw? It was nothing but a cute little bunny rabbit. Papa found it in the field when he was cultivating corn. I took it and put it in a little box and wrapped it up. I feed it grass, cabbage, lettuce, peas, beans, bread, potatoes, gravy, cake, pie, cookies, milk and water. It is now a great big rabbit and is very tame. When I am eating it comes in and jumps up on my lap and sits there and looks up into my face, which means it is hungry. I turn it out in the yard and it plays with the cats and dogs. I like it very well and am glad my papa found it. Here it comes, hopping up to my chair, and I must go and play with it.

(Honorable Mention)

Pomp and the Tramp

By Iris Armstrong, Helvey, Neb., Aged 12. Red.

One Sunday my uncle went to see his neighbor. While he was gone a tramp came along. He went up to the house and rapped at the door. Finding no one at home, he walked in. He did not see Pomp lying by the porch. Pomp was the dog. My uncle had told him to watch the house while he was gone. Pomp ran to the door and tried to get in, but it was shut. Pomp saw my uncle and aunt coming, so he ran to them and and then back to the door. They did not pay any attention to him. Then Pomp ran to them again and then back to the door. This time my aunt went with him. When she opened the door Pomp went in first. He ran into the bed room. My aunt saw the tramp there and called my uncle. He did not steal anything, so they let him go.

Additional Stories

Blue — Vada Thompson, Blackfoot, Idaho; Moina Adams, Hagerman, N. M.; Jessie Phillips, Roswell, N. M.; Grace Irvine, Hamlet, Neb.

Red—Sophronia Teek, Sabetha, Kan.; Erdie Hensley, Ulm, Mont.; Alva Hensley, Ulm, Mont.; Eva McMullen, Honey Creek, Ia.

Picture Contest No. 3

Two prize books will be given for the two best four-line verses about this picture. Write plainly and neatly, being careful of spelling, punctuation, meter and grammar, as all these things will be considered in awarding the prizes. Send your verse to the "Picture Contest Editor" of The Twentieth Century Farmer. All verses must reach us by July 12. Announcement of winners will be made in the issue of July 26.

Family Co-operation : True Story of Real Pumpkin Patch

"SAY, mother, I fear the bugs are going to get the best of your pumpkin patch. I noticed a bit ago they were working on the young vines," said Mr. Ranson as he came into the kitchen, where his wife was busy with the morning work.

"Well, William, you will have to go to town and get something to kill the bugs."

"I tell you, Lena, I am too busy, and will be all week, to drive seven miles to town to save the pumpkin patch."

"But, William, we will certainly miss pumpkin pies for Christmas and Thanksgiving."

"Well, my dear, you will have to work out the salvation of your pumpkin patch, for I'm heels over head in the crop and must push things while the season is on."

Eleven-year-old Ruth stood drying dishes, and, looking up thoughtfully into her papa's face, she said, "Papa, why couldn't we catch the bugs. I think it would be too bad to have no pumpkins for Hallowe'en and Thanksgiving and Christmas."

The father looked down on the little helper and smiled his approval of her interest in home affairs.

"Well, my little woman, that's up to you, if you think you can corner those pesky pumpkin bugs."

"Why, papa, I couldn't by myself, but Robert and Glenn and Nellie could help me. I heard you and mamma reading about operations last night, and we might have one."

"About operations?" and with a wink at his wife Mr. Ranson dropped into a nearby chair to learn what was in Ruth's head, for they watched with pleasure the development of their four children.

"Yes, papa, mamma read in The Twentieth Century Farmer about folks having operations — farmers' operations—and you said if they all worked together they could make things go."

Observing her father's amusement, Ruth appealed with her expressive brown eyes to her mother to help her.

"Yes, papa," said Mrs. Ranson, "she is thinking about the article I read about farmers' co-operative creameries, I think."

"O, I see," smiled her father. "But tell us your pumpkin bug plans, Ruth, for I will confess I shall miss the pumpkin pies a few months hence."

"Well, I could look over a few hills, and Robert and Glenn could, too, and Nellie could help a little, and mamma could teach us how."

"Well, mamma, with Ruth's help, you can organize a co-operative pumpkin bug crew, or whatever you want to call it. I must go, but if you save the vines, I'll pay for the work; count on that."

He arose, patted Ruth on her sunny curls and went, whistling, to see if the field could be cultivated.

Ruth forgot to put the remaining dishes away. "Mamma, let's call Robert and Glenn and tell them."

"Better plan a little first," suggested her mother.

"Pumpkin bugs smell awfully bad. What could we do with them?"

"If you do not crush them they do not smell so badly. I think you could get some old bottles and drop the bugs into them as you catch them."

"Well, papa said he'd pay us. What do you think we should charge?" said Ruth, with a business-like air.

"Why, ten bugs for a penny would be an easy method to keep count," replied her mother.

Ruth ran out and called the three younger children, and, returning, with them in close pursuit, she said, "Now tell them about the co—co—"

"Co-operative work," said her mother, helping her.

It took but a little time for Ruth to explain.

"Lets' go right now," said Glenn.

"I have just a little work to do yet," said mamma. "Suppose we begin our co-operative work now, and you help me."

"Tell us what to do," said Robert.

"The wood-box is empty." No sooner had mother said it than both boys went bounding down the steps to the woodshed. "And the dining room has not been swept." Ruth reached for the broom.

"And what shall I do, mamma?" asked little Nellie, who had been an interested listener.

"Go and get each one a bottle from the shed."

"Soon the co-operative bug club, as they later decided to call themselves, was gathered about the first pumpkin vine, watching mother pick the bugs gently by the head and shoulders and head them into the bottles, which they held near her."

Glen said, "Mamma, put one into each bottle so we will start even."

"My, just do look!" exclaimed Robert, as he turned a clod near a vine. "Bet you there are ten right here." And he counted nine into his bottle. "That's a penny for me with the one mamma put into my bottle."

"Yes," said mamma. "You will find many bugs under the clods, so turn them and look. Now, children, you must handle the vines carefully. Look on the body of the vines near the ground first, and turn the leaves gently," and Mrs. Ranson demonstrated her meaning by handling the vines so as not to bruise them.

As mamma rose from the vine they each started toward the next hill, but Ruth saw there were too many little hands working together, so she said, "Why not each take a row? There are five rows and four of us children. Mamma, you could take a row, too."

"Oh, I must cook a good dinner for this co-operative club," she said, "and I can't take a row this forenoon."

"We'll help mamma and Nellie look over their rows," said Robert.

None finished their rows that forenoon, but they made a good beginning.

"What's this little patch of tiny brown things on the under side of this leaf?" asked Glenn.

"Bug eggs, I guess," said Robert. "Better pinch them off and bottle them, too."

An hour passed quickly by, and then the co-operative club marched to the house with their bottles half filled with bugs. Their mother took her hands out of the dough and came to the door to look at the catch.

"What shall we do with them, mamma?" asked Ruth.

"Kill 'em, girl," said confident Robert.

"Well, I don't want the job," said Ruth.

"I think, Ruth, you could pour a little kerosene on them and the job would be done," said their mother.

"But, mamma, I have forgotten how many I put into my bottle," said Robert.

"Well, get a board and shake them out or break the bottle and push them with a stick into little piles of ten, after you have put kerosene on them, and you can count them easily."

Soon each child was busy recounting the catch, and when papa came from the barn he was greeted by the co-operative bug club in a body.

"You owe us lots of pennies," cried little Nellie.

"Just see the bugs we have," said Glenn, and papa was led into the shade of the maple in the corner of the yard, where he whistled his surprise as he saw the ten-bug piles on four boards.

"Ruth's 'operations' certainly make the bugs go," he laughed, as he sat down on a box.

"You owe me eleven pennies, for I have eleven piles of bugs," said Glenn.

"And you owe me thirteen," said Robert, "and Ruth has fifteen, and Nellie has fifty-nine bugs; we gave her our extra ones."

"So this bug club has 449 bugs! Well, Ruth, you keep the count, and I'll get some pennies so I can pay you. Did you get over the patch?"

"No, sir, but we mean to finish this afternoon," said Ruth.

At 3 p. m. the children went out to "bug" the remainder of the vines, and told papa, as they ran to meet him that evening, that he owed them 25 cents more, which he cheerfully handed over to the treasurer, as he called Ruth.

The early supper eaten, Mr. Ranson sat down to read the day's paper, but the co-operative quartet had wonderful tales to tell him of the habits and performances of the bugs. How many fathers would have said, "You kids keep quiet now father's reading." Fortunately, this father saw a future in this children enthusiasm, and, laying the paper aside, he entered into their conversation, giving and receiving pleasure. And mamma laughingly remarked, as the last good-night kiss was given, "Who knows but that we may have a future state entomologist in our family co-operative club?"

When the bug season was over the children had $4.47 in their bank, and the pumpkin vines fully repaid the labor bestowed on them by yielding a large wealth of pumpkins.

Ruth gave special care to a sturdy vine which grew in a lower corner, where the soil was richest, and it grew a pumpkin so large that a neighbor suggested that they take it to the county fair. Papa and the neighbor brought it to the house on a wheelbarrow and the children polished it with cloths and pasted across the side a paper, on which they wrote, "This pumpkin was grown by the Ranson Family Co-operative Club."

To the children's delight, their pumpkin took first premium, and they added this $2 premium money to their $4.47, and, at mamma's suggestion, bought a little calf from a neighbor, and they call it their "co-operative calf," and papa says he thinks they are planning to start one of those co-operative creameries which mamma read about a few weeks ago. JESSIE G. YOUNG.

"Paper Made While You Wait"

A novel test of speed was recently made by the directors of a paper mill at Esenthal, Germany. At 7:35 a. m. three trees were cut down in a grove near the mill. The wood was sawed, barked, ground, screened and washed, mixed in the beater and flowed on to the weir, and at 9:34 paper was being reeled on the winder. A waiting automobile carried this to a newspaper office two and a half miles away. The roll was fed to the press, which had been made ready, and the first newsboy rushed from the office with the printed sheets at 11 o'clock sharp, just three hours and twenty-five minutes after the trees were felled.

According to an Italian scientist, a square mile of the earth in six hours of sunshine receives heat equivalent to the combustion of more than 2,600 tons of coal.

BANISHED
Coffee Finally Had to Go

The way some persons cling to coffee, even after they know it is doing them harm, is a puzzler. But it is an easy matter to give it up for good when Postum is properly made and used instead. A girl writes:

"Mother had been suffering with nervous headaches for seven weary years, but kept on drinking coffee.

"One day I asked her why she did not give up coffee, as a cousin of mine had done who had taken to Postum. But mother was such a slave to coffee she thought it would be terrible to give it up.

"Finally, one day she made the change to Postum, and quickly her headaches disappeared. One morning while she was drinking Postum so freely and with such relish, I asked her for a taste.

"That started me on Postum, and I now drink it more freely than I did coffee, which never comes into our house now."

Name given by Postum Co., Battle Creek, Mich. Write for booklet, "The Road to Wellville."

Postum comes in two forms.

Regular Postum (must be boiled).

Instant Postum doesn't require boiling, but it prepared **instantly** by stirring a level teaspoonful in an ordinary cup of hot water, which makes it right for most persons.

A big cup requires more, and some people who like **strong** things put in a heaping spoonful and temper it with a large supply of cream.

Experiment until you know the amount that pleases your palate and have it served that way in the future.

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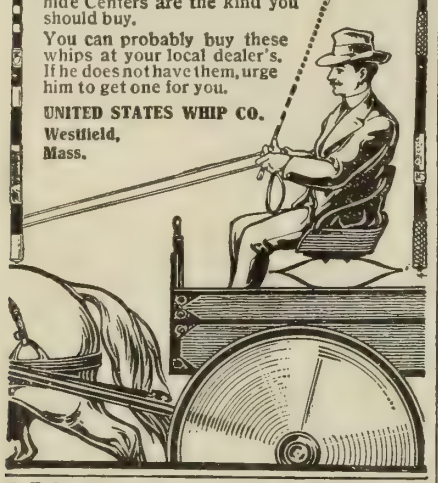

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Of Interest to Our Women Readers

The Baby's Face

Who can fathom the fairy grace
That dwells in a velvety baby face?
Who can fathom the fairy glee
That rings in a baby's melody?
And who can unravel the secret wile
That sleeps in the nest of a baby's smile?
The hungry and lingering joy we know
When our rough face touches a babe's, and, lo,
We feel the touch of the velvet skin
And the warm, sweet lovelight bound therein!

A baby's face—how can one tell
Its mystic charm and its holy spell?
Rough hearts go by, rude, rugged men,
From the dust and grime of mart and fen,
But under the cloak of their outer din
Love's hunger sleeps their souls within,
And when they see a baby's face—
Round and rosy and sweet with grace—
They long, as you and I, to press
The velvet joy of its warm caress.

How much it holds, how deeply lays,
Within its soft and gentle maze,
The charm to soothe, the charm to heal,
The hurt that hearts so often feel!
A baby's face along the way
Is like a little bloom-o'-may;
And, like a little flower, it brings
The sweetness of a thousand springs;
The balsam of the heart-made well
Is in the touchstone of its spell.

Our Home Chat

The "better babies" movement which has been sweeping the country from coast to coast is on in full force in the middle west. At the state fairs this coming autumn the women of the country will not only exhibit their quilts, china painting, cooking and preserves, but their babies also. At almost every state fair, if not quite, there will be a baby-judging, and awards made, as in the different classes of live stock.

This is as it should be. The most important product of the farm is the babies. Sturdy, hardy babies, brimming with health and vitality, are what is necessary for the progress of the world. If each generation does not surpass the former one in mental power, we do not progress. Mental progress depends largely upon physical progress. A strong mind, to accomplish its work, needs a strong body, although there have been a few brilliant exceptions to this rule, where the wonderful mind asserted itself in spite of the weak body, but at the cost of untold suffering.

When you go to the fair this year take the baby along and enter him in the baby show. There you will get a fair and impartial opinion of him and be told what is the matter with him, if anything, and how to remedy the defect. Information as to the baby show may be had by writing to the secretary of the state fair board. It would be well to get this information soon, if you have a baby to exhibit, and even if you have none to enter, be sure to see the baby show when you are there, as it will be the most interesting exhibit at the fair.

Something of Pillows and Sheets

I wonder if anyone has told her way of making sheets and pillow slips, as well as the width of the pillows? Now my way may not be that of others, but I never get much satisfaction out of a sheet that is over two and one-half yards in length, with an inch or more hem taken off the half yard. I was taught to make every-day sheets just two and one-quarter yards long, including the hem, but I find sheets of this length too short for the bed of today. Besides, there is no allowance here for the shrinkage of some muslins. I want both bolster and pillow to not be less than eighteen, or even twenty, inches wide. This width gives you shoulder as well as head rest if you wish it. I have never had pillows or bolsters made narrower than this unless they were cradle pillows.

The width of the bolster and pillow slip must, of course, average up with the article it is to enclose in width. The length of bolster must fit the width of the bed, and pillows the same by half.

The length of these pillow and bolster slips may vary, as here tastes differ. I want the slips to cover completely any sign of the ticking, if they are to be made straight and trimmed with edging at the end. Some women prefer the bolster slip open at both ends. In this case you must allow a greater length of case, as a bolster in this kind of a slip has a tendency to move slightly to one end or the other if the sleeper tosses about much at night.

I am still old-fashioned about my beds. Every bed must have its feather bed and feather bolster, with not less than two pillows to the bed. I began that way, and now all of my family that is left growl if forced for one night to sleep on a hard lounge. Once in a while I find that an occasional visitor has pitched off the feather bed and laid herself on the mattress—for long ago I discarded the straw tick, the reason being that I must fill them myself, and it was such hard work. To this day I like them best. I said, laid herself on the mattress. It is always a her; men, I find, as a rule, like a soft bed.

I do not make spare sheets as my mother and grandmother made them. For every night wear they made them of coarse muslin, bleached white in the sun, and O, so sweet and smelling when freshly washed and dried in a hot summer sun and put on the beds that night unironed—for this must often be done in my mother's home, as there were so many of us, including hired hands, and we were not rich by any means.

But it was the spare sheets upon which the ingenuity of needlework and glossy ironing was exercised. These spare sheets were of fine muslin, and their ends were adorned with openwork, pin tucks and pretty lace or embroidery. Mother simply used hers, except upon two occasions when I was small, to put above and below distinguished visitors who came to spend the night with us. She made these sheets with an eye to that purpose, but grandmother—the one I knew best—made hers for another purpose. She made these pretty sheets for winding sheets, or sheets upon which to lay and cover her dead when, in her time, the winding sheet went out of fashion. And how often these sheets went out among the neighbors who were not so old-fashioned as my grandmother, and had not provided fine sheets against this day of a last sleep of someone in the home. Twice in my own home, when I was little, my mother's were used in this way, and—well, I was always glad that it was not I going to sleep under these neatly folded and lavender-scented sheets.

IDA M. SHEPLER.

The Subject of Quilts

This is not a new subject by any means, but it is one that is agitated in most country homes, even in these days of store blankets and comfortables; for, say what you will, there is nothing like a quilted quilt for summer—one quilt and a white spread are just warm enough for a covering on a cool night in the hot season, when a blanket and spread would be decidedly warm. I am just old-fashioned enough to delight in a few nice quilts, quilted in fancy patterns, after being pieced in a pretty way. But I am afraid I would not have on any of them had I depended on myself to make them. Pieces will accumulate, especially where there are children, and it seems too bad to put them in the stove, when they could be made into quilts.

Our sewing society has sent many a quilt, all finished, to needy ones. Some were cut out of worsted and lightweight pant cloth, brick-shaped, sewed together, lined, with batting in, of course, and tied at each corner of the bricks. Others were made the "Three Sisters" style, three strips torn as long as desired, and wide enough, when sewed together, to form a perfect square; alternating two light strips, with one dark in the center, with light in the center and a dark one on each side. When sewed together, in one block, the strips run lengthwise, the next one crosswise, strips being sewed together, with no other cloth in between. But just now we are making the crazy quilts, sewed on paper, which saves cutting, and uses up the pieces so quickly that we can easily piece a whole quilt in an afternoon.

But I must not forget to tell of a way to piece a silk or worsted quilt, which you line and finish as you piece: Cut pieces into squares either four, six or eight inches; cut squares of sheet wadding, or old cloth slightly smaller than the silk squares; baste lining on the wrong side of the silk square, then turn edges of silk over on the lining and baste the turned-down edge all around; then fold the block corner to corner to make a half square, and baste again to hold it in position. When all of the blocks are so basted into half squares or oblongs, put them together in any form desired and sew together with the over-and-over stitch.

MADGE MILLAR.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6225—Girls' Dress—This dress has a one-piece skirt, which is joined to an underwaist. The blouse of this dress is made with the closing at the front. This dress can be made with embroidered flouncing or of one material, as preferred. The pattern 6225 is cut in sizes 4, 6, 8, 10 and 12 years. Size 8 years requires, if made as represented, 3½ yards of 17-inch flouncing, ⅞ yard of 36-inch lining for the underwaist.

6068—Misses' and Small Women's Dress—Any of the pretty soft materials that drape well can be used to make this dress. The garment closes at the front. The three-gored skirt can be made with either the empire or regulation waistline. The pattern 6068 is cut in sizes 14, 16 and 18 years. Medium size requires 3 yards of 54-inch material, ⅝ yard of lace edging and 1¼ yards of plaiting.

6214—Ladies' Dress—This smart gown would make an excellent going-away dress for a bride or a dressy street dress for any woman. It is made with a shoulder yoke across back and front, extending well down on the shoulder. Here a plain sleeve is attached. The skirt has four gores. It opens in front over a small panel and may have either normal or raised waistline. The pattern 6214 is cut in sizes 34 to 42 inches bust measure. Medium size requires 3⅞ yards of 44-inch material.

6023—Ladies' Five-Gored Skirt—This skirt can be used to complete a coat suit or it can be worn with separate shirt-waists. It can be made with either the empire or regulation waistline and closes at the front. Serge, cheviot or broadcloth can be used to make this skirt. The pattern 6023 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2⅝ yards of 44-inch material.

6227—Draped Three-Gored Skirt—The draped skirt is worn by everybody. This skirt has three gores and closes at the side of the front where it is slightly draped. In the back there is a wide panel in box-plait effect. The pattern 6227 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2¼ yards of 44-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children, give number and age.

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Some Good Recipes

Soups for Hot Days

Jellied Bouillon—To each one-half pound of beef and veal used add one and one-half pints of cold water; crack the bones, if any, and let simmer until meat is in rags; strain off the liquid and add one teaspoonful celery salt, one teaspoonful chopped carrot, onion and tomato and four pepper corns. Let this simmer again twenty minutes, then strain, and when cool set in the refrigerator for twelve hours to jelly. Serve in chilled glasses or fancy cups, with an olive or a slice of lemon for garnish.

Tomato Cream Soup—One quart either canned or fresh tomatoes; cooked some time and strained; add soda the size of a large pea; cool it and add a quart of rich milk, one tablespoon of butter and one of cornstarch; salt and pepper to taste. Boil a few minutes.

Potato Soup—In one quart of milk put one-half an onion and let it simmer fifteen minutes; take your potatoes, mash them and add to the milk; strain through a colander; season with one-half tablespoonful butter, teaspoonful of salt and a pinch of pepper. Serve hot.

MRS. GILBERT.

Corn Breads

When making cornbread, instead of putting in shortening when mixing batter, try and put several spoonsful of lard or butter in dripping pan; let it get hot before puting in your batter and you will have a nice crust on it. Also, for a change, try baking it in large cakes in frying pan on top of stove. Make cakes at least half-inch thick; put plenty of grease in pan, taking care they do not burn. When making egg cornbread, try pouring a cup of sweet milk in center of batter after setting in oven to bake, but before it gets hot, and you will have a custard Johnniecake.

To Can Green Beans

Take nice, tender string beans, prepare just as you do for the table; boil in clear water until tender; heat some good vinegar for a half-gallon jar; take and put one tablespoonful of the hot vinegar in bottom of glass can, then fill up with the hot beans. Put another tablespoonful of the hot vinegar on top of the beans before sealing. Cabbage can be canned same way. When preparing for table pour vinegar and water in can, off from the beans; wash off in warm water, then cook and season like fresh beans or cabbage. When putting green beans down in brine for the winter, put them in a flour sack, then put in jar with brine, then the scum which arises will not touch the beans. Put clean cloth on top of cucumbers in brine, wash out cloths in plenty of fresh water at least once a week to free them from scum, and keep your cucumbers from spoiling.

AUGUSTA TREMPER.

Linden, Tex.

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Brandied Cherries—Make a syrup of sugar and water, take about three pounds of sugar, one pint of water and three pounds of cherries; heat to boiling, stirring to prevent burning; pour over fruit while warm. Let stand one hour. Put in preserving kettle, heat slowly, then remove cherries and boil the juice until thick like a syrup; add a little brandy and pour over cherries, hot, and seal in pint or quart jars.

HELEN A. LYMAN.

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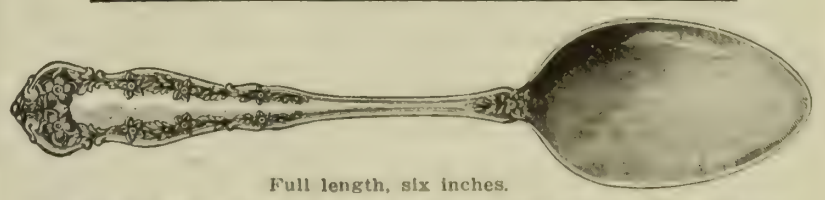

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Mexican Indian Problem of Future Republic

By Frank G. Carpenter

MEXICO CITY—The red man is a more serious problem in Mexico than the black man is in the United States. This country has over 15,000,000 people, and of these less than 3,000,000 are whites. There are about 6,000,000 pure Indians and 6,000,000 more who are red men, more or less crossed with the whites.

The pure Indians are practically uneducated, and this is largely so of the mixed breeds. The greater part of them were for years in little more than debt slavery, and today some millions of them are mere hewers of wood and drawers of water on the estates of the rich haciendados. Some work in the towns and others live in villages, maintaining many of the customs of centuries ago.

Within the last few years Mr. Frederick Starr has been making studies of the Mexican Indians. He has traveled from here across the country down to Guatemala City, visiting the various tribes and taking measurements of their heads, busts and of other parts of their figures. He has photographed thousands of them and has made plaster casts of many. A part of his travels was through the mountains of southern Mexico, where he found many Indian villages, each village being a little republic. He found many new tribes and also many descendants of the ancient peoples who inhabited Mexico during the days of Montezuma. It is through his researches and those of other ethnologists that the authorities here are studying the great political problems whch confront them.

Fifty-One Different Languages

They now know that there are scores of different Indian tribes in Mexico and that each has its peculiarities. In 1864 one of the chief scientists of the republic, Don Manuel Orozco y Barra, found that there were fifty-one different Indian languages, and, in addition, about sixty-nine dialects. He divided these languages into eleven different families, and it was later shown that nearly all of these Indians had used ideographs and employed them in communicating thought.

One of the best known of the Indian races is the Aztecs. It was the ruling race at the time Cortez came, and there are millions of it on the plateau today. The Aztec civilization has been so pictured by Prescott that many think that it is about the only race of Indians in Mexico. The truth is that the Aztecs got the most of their civilization from the Toltecs, whom they conquered when they came here from the north. They got their religion from them, and also their calendar and architecture. The Toltecs built the Pyramids of Mexico, and either they or a branch of this race, known as the Mayans, constructed the wonderful cities of Yucatan and those of Guatemala as well. I have already written of the ruins of Quirigua in the Motagua valley, not far from the Caribbean sea in Guatemala, which our archeologists are now excavating. They are the remains of temples built by the Mayans, who are supposed to have gone there from Mexico centuries ago.

The Aztecs called themselves Mexicans and it is from them that we get the name Mexico. Their descendants are numerous today, but are largely peons who work for the whites. It is from them that the rank and file of the soldiers are recruited.

Miztecas and Zapotecas

Among the other Indians who have to be reckoned with, in the Mexico to come, are the Zapotecas and the Miztecas. Both of these races are noted for their intelligence,

Young Aztecs, a Vital Part of Mexico's Future

and they have already given Mexico some of its ablest men. Benito Juarez, for years the president of the republic, was a full-blooded Zapoteca, and President Porfirio Diaz had Mizteca blood in his veins. These tribes are now found on the southern slopes of the central plateaus. You may see them in Pueblo, Oaxaca, Guerrero and Morelos. It is said that their ancestors date back to the time when Mitla, Xochicalco and Zaachila were built. The Zapotecas were never subdued by the Aztecs, and they are now growing in independence right along. There are a great many of them in Oaxaca, a state whose population is fully nine-tenths Indian. Some are to be found on the isthmus of Tehuantepec, where the women are noted for their picturesqueness and for their independent ways.

Girls of Tehuantepec

Indeed, the girls of Tehuantepec are among the beauties of the North American continent; they are as straight as a royal palm tree and their forms are beautifully rounded; they have olive skins, black hair and eyes and teeth as white as lime freshly slaked; their ordinary costume is a jacket and skirt, the former having short sleeves and cut very low at the neck, so that it exposes their beautiful shoulders and arms. The jacket reaches almost to the waist and a strip of bare skin usually shows between it and the skirt.

The skirt makes one think of that of the Burmans; it consists of a strip of red cloth several yards long; this is wrapped tightly around the hips and tucked in at the waist. In addition to this every woman has a huipil for Sundays and feast days. The huipil is a lace decoration of enormous size, which is worn as a sort of headdress; it incloses the face or it may extend around the neck or hang down from the head at the back like the war plumes of a Comanche chief. On dress occasions the girls wear also full skirts, which are often heavily embroidered with lace.

These women do much of the work; they are fond of gold jewelry and like especially ornaments made of American twenty-dollar gold pieces. Girls may be frequently seen thus wearing a small fortune in gold double eagles, although their feet may be bare.

Ruins of Mitla

The most famous ruins of this tribe lie within twenty-five miles to the southeast of Oaxaca City; they are about 300 miles south of the Mexican capital and one can go there by train in less than a day. There are fairly good hotels at Oaxaca, and from there one can reach the ruins by carriage in five or six hours; or he can go by train to San Pablo in an hour and a half and stop at the hotel there. In the latter case he will be right at the ruins and can easily spend a day or so in moving about through them.

The ruins are those of the ancient city of Mitla; they are of great extent, and the Indians say that under them lie the chambers wherein are stored the treasures of the ancient Zapoteca kings. Some of the ruins are striking. The Hall of the Monoliths, for instance, has walls five feet thick and columns of enormous size. The lintels over the entrances are solid blocks of stone eighteen feet high and five feet thick,and the pillars are porphyry, rising fourteen feet from the floor and extending, it is said, six feet below it; they are big around as a whisky barrel.

Next this is the Salon of the Monoliths, which is 100 feet long and 20 feet wide; its falls are ten feet in height, and it has a floor of cement. The decorations of Mitla make you think of Pompeii. Some of the floors are in mosaics, and many structures are wonderfully carved,

reminding one of the crumbling temples and fort at Delhi, in Inda.

Strange Indians of Northern Mexico

Some of the most interesting of the Mexican tribes live in the northern part of the country. Chihuahua has, for instance, the Casas Grandes, which lie near the railroad on the way from Juarez to Terrazas. These Casas correspond somewhat to the homes of our cave dwellers, save that they were built on the level and were of vast extent; they were, in short, the first apartment houses on record. The chief building is 800 feet long from north to south and 200 feet wide from west to east, covering an area of almost five acres. It seems to have consisted of three separate piles, united to lower buildings. The apartments varied in size, and the walls in places were forty or fifty feet high, indicating that the building had six or seven stories. These buildings were in ruins at the time of the Spanish conquest, and very little is known of the people who built them, although some suppose them to date back to the Moquis.

Some Cave Dwellers of Mexico

In Chihuahua we have the Tarahumares Indians, some of whom still live in caves, and who are sometimes known as the American cave dwellers. Similar homes are to be found in the Sierra Madre mountains, the entrances being protected against the weather and wild beasts by stone or mud walls. Some of the caves are very large, and are reached by ladders, or by stairways cut out inside the house; others of the houses are of stone, and some are of adobe, with roofs of thatch.

The Tarahumares, both women and men, are noted for their long, flowing, jet-black hair. The men pull out all the hairs from their faces. They say that whiskers are a sign of wickedness, and they believe that the devil has always a beard. These people are said to be the greatest runners on record, and instances are known of where men have run 170 miles without stopping. They go on a slow trot and keep it up for hours. The women can run as fast and as well as the men, and both men and women have moonlight races and other athletic sports. They sometimes race by torchlight.

The Pima Indians, who are found in the same locality, are much like the Terahumares and the Tepehuannes. Another tribe nearby let their finger and toe nails grow in Chinese fashion; they say that cutting off the nails will produce blindness, and that if a girl sucks the backbone of a deer her back will grow curved and she will have the backache. These tribes are noted for their chastity, those who fall from grace being publicly switched.

Huicholes of Tepic

Among the least known Indians of Mexico are some in the territory of Tepic, which lies on the west coast, surrounded by Jalisco, Durango and Sinaloa. Here live the Huicholes, whom the Mexicans call the barbarians; they have little to do with the present troubles and do not want anything but to be let alone; they have their homes in the fastnesses of the mountains and are so warlike that it was a hundred years before the Spaniards were able to conquer them; they are nominally converted to Christianity, but they are practically barbarians and are said to be Christians only when favors are to be obtained. Many of them are hunters, and they snare deer in nets stretched between poles.

Some of the Huicholes look much like the Chinese, and this reminds me that I have seen many Japanese and Chinese faces among the Mexican Indians. It may be that a part of the ancient population drifted over from Asia across Bering strait and came down here through our country. The Huicholes have a wicker chair which is just like the Chinese cane chair which is now in use, and they employ it in their religious ceremonies. It may be that the custom of wearing long nails which I have mentioned came also from China.

The Huicholes are about five and one-half feet high, and their women are very good looking; they wear short skirts and tunics of cotton cloth which they weave upon their own looms. The legs are left bare and the skirt is caught in at the waist by a girdle; the girdle, like the obi of Japan, is more costly than any other part of the dress. The women wear necklaces and they have beads in their ears.

The Huichole houses each contain but one room, and the entrance is low and small like that of the Eskimo igloo. The houses are circular and they are made of stone, with thatched roofs. The idols are kept in caves in the hills.

These people make beautiful blankets and they do fine embroidery; they have many queer customs. Marriages are made by the parents. The babies do not creep, but they crawl about on all fours like a monkey until they are able to stand.

Not far from the Huicholes live the Coras, of whom only about 2,500 remain. These Indians claim to have come from the east and they look not unlike Koreans; they have features much like the Anglo-Saxons and they consider themselves better than the other tribes about.

The Coras marry at 15 and the women keep their beauty a long time, although their lives are very insanitary; their houses have no ventilation and they bury their dead in caves.

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DO your threshing this year in record time, with less worry and expense. Secure all your grain in prime condition and thus realize highest market prices for it.

Reliable, steady power is the keynote of quick, thoro, profitable threshing. It's the kind furnished by the "ever-ready"

Hart-Parr Oil Tractor

No other threshing power plant gives such sure, steady power in the belt. This outfit will drive your separator with a steady hum, hour after hour, and enable it to deliver the biggest output of clean grain—grain that grades high and sells high.

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A Hart-Parr Tractor saves you money with every turn of the fly-wheel. Operates on cheapest **kerosene.** Eliminates the licensed engineer, burned out flues and melted crown sheets. Does away with water and fuel teams. Means less help to board, less drudgery for the women. Light in weight, safe on bridges. Easy to move. Goes thru the average gateways.

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Write for Interesting Catalog 36

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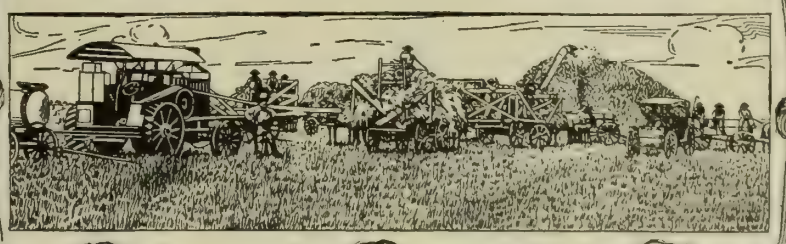

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should have plenty of fresh, cool water these hot days. Let

The Fuller & Johnson Farm Pump Engine

at the New Low Price, supply it for you. The hotter the day the thirstier the cattle get, and it is no fun pumping by hand in a sweltering sun. The Farm Pump Engine, no matter what the weather, is always ready to supply at once.

270 to 2,450 Gallons of Water Per Hour!

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is the real evidence of their success. We want to tell you all about this remarkable engine—how it is made—what it will do for you—and the extremely low cost at which you can buy it, so

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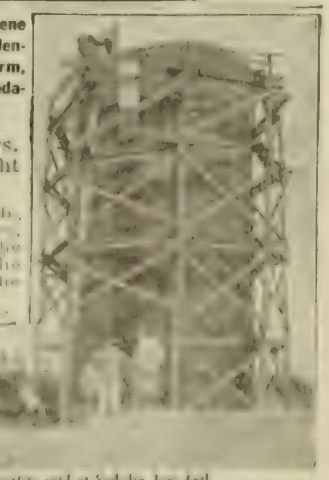
(379)

A New Deal in Silage Cutters

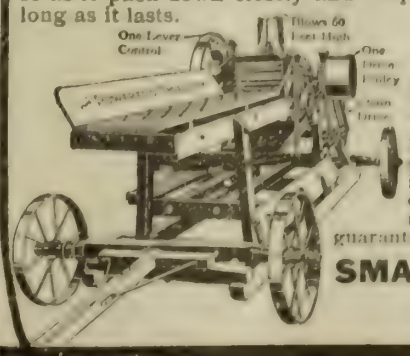
Silo scene on O. D. Jenkins' farm, near Sedalia, Mo.



Yes Sir! **A new deal!** Not the old-fashioned **slat-apron** cutter that keeps a whole crew of men busy feeding it, but a **modern, up-to-date** cutter, a **SELF-FEEDER.** All done by the powerful **Grip Hooks** which cram your fodder into the knives. **Fills** the Silo in a hurry, too, no matter if it's twice as high as your house. No coarse, uneven silage. All cut fine and even, so as to pack down closely and keep fresh as long as it lasts.

Four-fifths of all Silo owners use Smalleys. The other one-fifth would also have bought Smalleys if they had known the **facts.**

Mr. R. M. Freeman of Fremont, Neb., says: "I have run your machine six days, cutting green corn for silo filling. In the six days' run I cut 600 tons. I cut the first 200 tons in seventeen hours. The Blower worked to perfection."



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handles **oats,** peas, alfalfa, as well as green silage. (Alfalfa Grinding Screen for making Alfalfa meal can be attached.) Only one drive pulley on Blower Outfits. No roller to bother with. Ten per cent steel guaranteed in all foundry castings. No coiling by hand—hard oil cups on all important bearings.

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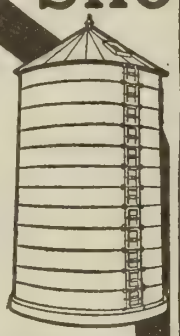
Seattle Silo

Save 40% to 60% on this clear fir Silo



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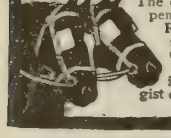

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CHOICE LAND AT A BARGAIN—If interested in choice land at a bargain, either for a home or investment, read the back cover page of this issue. There you will find description of a new tract opened for sale and settlement in the famous Golden Prairie District of Wyoming.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention The Twentieth Century Farmer when writing advertisers.

Timely Items of Interest to Poultry Raisers and Fanciers

HOT weather should be good for poultry, small and large. Now is the time when, it seems to me, the chicks get twice the size in the same length of time they do early in the wet, cold spring. Deep in the shade all should wallow or doze happily in the hottest hours of the hot days. If you will notice, they hide away from shortly after noon until about 3 o'clock. This is the snoozing time of the majority on a hot day. But no flock is a well kept flock that must wander about on bare, hot yards, with foliage overhead sadly missing. Boards or canvas stretched to shade them in spots is better than nothing, but these do not carry the coolness conserved by the deep shades of low-branching leaf bower, where the hens get deep in the soft earth and burrow.

Little chicks left to straggle about a superheated, unshaded yard cannot grow healthy, though they survive cooked brains and roasting feet, and fat hens, panting through the heat of a hot day often succumb to apoplexy that night. See to it that shade is handy about the poultry yard; dig up fresh earth for them to wallow in under covered places. Give them cool water more than once through the day. Scald that green slime often that gathers so quickly in the drinking vessel in hot weather, for therein may grow an epidemic to later lose you dollars.

Molting Time

Molting time for some of the older hens may begin in July, often does. As a rule these hens do not need to any extent the greater care required by the hens that molt during the months when the nights and mornings are cool, and yet you will find that even now these hens will conclude the molt better if fed something in the way of a little oilmeal, a bit of sulphur a couple of times each week, with a taste of some tonic powder now and then. It is a good idea, also, if the fowls are in limited quarters, that these earlier molting fowls do not draw the attention of some one old hen that, noticing the bare spots, proceeds to make them barer by pulling the feathers about them faster than nature intends. Quite often from these earliest molting hens the vice of feather pulling and eating starts. But this is seldom the case on the farm with long range. If it should happen, there is no remedy so good for the trouble as bitter aloes mixed with lard and brushed well into the feathers of head, neck and vent and over the bare places.

The Broody Hen

This is the time of year we get so mad at the broody hen. We wanted her bad enough early in the spring, but now she's a nuisance. As the summer advances she lays about seven eggs at a clutch, then clucks. Every evening we find a lot of them on the nests. Once I let them cluck a few days to satisfy them, then broke them up, thinking they broke more easily if given a few days' rest. I do not do this any more. Instead, the minute I find her hanging to the nest over night, into a cool clucker's coop she goes. Here she has food and water, but no straw. While this house is seldom empty this time of year, except for scrubbing and disinfecting, the hens do not for each require over three or four days in it to make them forget the clucking desire, and quite soon I find them back on the nest laying. No use to do, as some do that I know—let the hens cluck on old door-knobs or a nest egg until they get poor. It is a big loss.

Advertising

A well known poultryman advises this: "July is none too soon to begin advertising breeding stock for sale, which should now be disposed of to make room for the growing youngsters. Neither is it too early to advertise young stock for sale, especially surplus cockerels, as by the time you begin to get inquiries the cockerels will be really large enough to sell, if early hatched. By beginning early you may wait a short time for inquiries, but remember the buyer is studying the advertisements before making his choice where to inquire, and the names he has noticed first and longest are the names that impress upon his memory. The man or woman who advertises early and late is the name that tells him, "Here is one with plenty of the goods to make choice from."

First Culls

Now is the time to begin bunching up the growing pullets and roosters if you keep the pure-bred—and the majority of farm residents are making a strong endeavor to do so these days—and culling out the undesirables for the table, while you set aside the best and earliest to keep over, then next the best and earliest to sell, for the pullets at least, to your neighbors by the dozen. Did you know that in every neighborhood there are farmer wives desirous of getting at least a dozen young pullets every fall from some good flock. If you only let it be known abroad that you will save the pullets from out your flock to sell by the dozen as breeders or builders of blood in the flocks about, I find that there will be no necessity for you to bunch up your surplus young stock and sell to the commission trade at any price that is on the market at the time.

Fumigating

One should not wait for disease to have been present in the poultry house to fumigate. Clean out and purify the house once in a while, though the flock be a healthy flock this many a year; and you have other ways of keeping down lice. Fumigation purifies the atmosphere of the poultry house and reaches into cracks and crannies you cannot otherwise reach, filled with visible or invisible poultry enemies. The easiest method is to burn the sulphur candles. These you get in most drug stores. If not, then your nearest poultry supply house should have them on hand. These you merely place in some kind of a safe holder, light them, then after excluding all fowls from the house, close it tight on the burning candles. Candles are safest, but one may fumigate by burning rags that have been soaked in melted sulphur.

IDA M. SHEPLER.

Four True Stories of Minnesota Pioneers

(CONTINUED FROM PAGE SIX.)

corn and other vegetables to bring back to camp.

"This is all very pleasant in summer, but what do you do in the winter time?" I asked.

"Oh, I do all my sewing, make comforters, knit mittens and leggings, and I get a lot of reading done. We take the Saturday Evening Post and every time I go to town I get a magizine or two; and then there's the library at the school house. Our school receives state aid—$75 a year, and $10 of that must be spent for books. Everyone in the district can take them out."

"How far is it to school?"

"It's two miles from here, but the children don't go in January and February, when the snows are so deep, and the thermometer down to 50 below zero. School begins the first of September and lasts until Christmas; then begins again the first of March, and is out the last of June."

"Have you any near neighbors, or church circles, or literary clubs, or anything of the kind?"

"My nearest neighbor is half a mile from here, and we have to go to town to church—six miles. No, I don't belong to any clubs, but I never was much of a hand to go. I am too busy to ever get lonesome. Mr. Yates is busy enough, too, in winter. He threshes out the beans in the old-fashioned way by beating them with a flail on the barn floor; then he cuts up the wood for fuel—you see how forehanded he is, when you look at that pile left from last winter. He nearly always cuts down some pines and hauls the logs to the mill for lumber; then he builds a new barn, or hen house, or something. When we started here we had just the one-roomed log cabin; then we built an addition of two rooms downstairs and one above; then the front room and the front porch. Some day we hope to build a good modern house on that knoll yonder," pointing to an attractive location among the pines to the left.

"Well, I think this is just splendid!" I commented enthusiastically. "You are certainly making a success of life, and I don't wonder you are happy and contented. Someone has said that the greatest work in life is the rearing and training of children, and here you have four future citizens who will certainly do a good work in the world, but I do think you have been braver and cheerier than most women would have been under the circumstances."

"Oh, I just take things as they come and make the best of them," she modestly answered. Pretty good philosophy, isn't it?

The Yates', of course, had some capital and experience, and, most important of all, the right spirit, and would no doubt have been happy and successful anywhere.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Apple Trees Have Never Borne

A. N. Y., Douglas county, Nebraska: My apple trees have never borne. They are Winesaps, Northwestern Greenings and Whitney crabs. Some have blossomed as many as three years. Also Martha crabs, which are planted twelve feet apart, and one has not even blossomed. These fruit trees have been properly trimmed and taken care of, and have been set out nine years. They were two and three years old when planted. Why do they not bear?

Answer—Such inquiries come to us frequently and are of special interest to fruit growers throughout the country, so we have consulted three of the best authorties, and give their answers as each understood the inquiry.

"There are a variety of reasons why a tree might not bear. For instance, a tree making a very rapid growth often comes into bearing late and because of having made this rapid growth the buds are often immature and soft and will be easily blighted. Location, on low ground, where frost would injure. Neglect, ridging up the earth to the trees in plowing so as to run the water away from the roots, causing them to starve for want of water. Sometimes improper pruning. Have known of a case where severe pruning retarded the bearing of Winesap trees several years. It would be impossible to state what the cause was without seeing the orchard, or to suggest a remedy.

PETER YOUNGERS,
Geneva (Neb.) Nurseries."

"It is impossible to state, without examination, just what the trouble is with the trees you speak of. It might be one of many, or a combination of reasons. Trees are often self-sterile, but the fact that there are several varieties close together would probably eliminate this reason. The blossoms are often injured by frost, more especially if the trees are in a depression or pocket where the air drainage is somewhat retarded. This is often the case while the trees on higher ground, or ground which has good air drainage, do not suffer. Fungus diseases, especially scab, often attack the stems of the blossoms and young fruit, causing them to fall. Too rank a wood growth often prevents fruiting, but this is hardly the case where the trees bloom profusely. In this case summer pruning, in June or July, and the use of cover crops, planted after the first of July, usually prove beneficial.

J. R. COOPER,
Department of Horticulture, University of Nebraska."

"Regarding the non-bearing apple trees, will say that I consider that a rather hard question for me to answer. The Winesap is a tree which blossoms very young, but it seems the blossoms are rather weak in constitution, and very few of them will make fruit. This is the case more or less all through the life of the Winesap, but improves gradually as the tree attains age. Now, there may be different causes for his trees not bearing up to nine years of age, but the most likely one would be that they have been well cared for and have grown continually and have not stopped long enough to set good, healthy fruit buds. They might, however, make an effort to set fruit buds and even blossom and yet the leaf buds would seem to overpower them and get ahead of them and develop, while the fruit would disappear. I would suggest that the trees have only moderate cultivation so as to give them a healthy but not vigorous growth; then, that the trees be sprayed well with arsenate of lead, two pounds to fifty gallons of water. Also use a little Bordeaux mixture later on, as this will stop all fungus growths, also ravages of the worms, and when this is done, if the tree developed a healthy fruit bud, there is no reason why it should not bear. We have discovered that our trees bear much better since we have sprayed them; fruit hangs much better and develops into much better fruit. Very truly yours,

GEORGE A. MARSHALL,
Arlington (Neb.) Nurseries."

Burdock and Canada Thistle

C. L., Kiron, Ia.: Will you please let me know, through your paper, if there is anything that you can spray burdock with so as to kill it; also how to get rid of Canada thistle?

Answer—Modern agriculture has made no improvements of importance on the old-style plan of getting rid of weeds. There are many treatments prescribed by theorists, experimenters and others, but the old-fashioned method of boy and hoe is still the only sure way. On wet mornings, and in odd bits of time, go out with a sharp hoe and with one stroke cut off the plant just below the surface of the ground. If you do not permit these weeds to mature seed, and your neighbors are equally careful, you can eventually eradicate them.

Reply to A. J. C.'s Letter

Twentieth Century Farmer: I wish to make a reply to "A. J. C.'s" letter of June 14 in regard to the heel fly. If "A. J. C." will come to the Panhandle of Texas, almost any boy 10 or 12 years of age can show him plenty of heel flies in the month of April. I for one have seen many heel flies. They are about the size and shape and color of a honey bee. When a bunch of cows gather together on a hot day you can easily, by close observation, find the fly, and with a quick stroke of a western hat put it on the ground. Our cows out in Texas do not kick in the night as your cows do. About 3 or 4 p. m. our cattle leave the shade and go out on the range and graze until about 10 a. m., then the fly will run them in again. The heel fly only works in the heat of day. "A. J. C.," you probably noticed that the cows did not stay in the water in the night. If it was the cactus, as you believe, it seems queer that they do not stay in the water at night. A cow goes in the mud and water to keep the fly from getting at her feet, as the fly only attacks the heel. I would like to have you explain why a horse never gets those terrible cacti in its heels. If you come out here I will show you the real fly, but would advise you to be careful about rubbing the heels of our Texas cattle. D. C. C.

Higgins, Tex.

Let the Good Work Go On

R. A. C., Casper, Wyo.: I think the plan for the government to loan money to the farmers a good one. The sooner we cut out the enormous profits of the middle men the better will be the general conditions, and thereby lower this high cost of living that is such a universal cry. We ought to be glad that the people are waking up and demanding just rights. Let the good work go on.

Sheep Kill Woodtick

That sheep are sure death to the woodtick, cause of the dreaded spotted fever, seems to be borne out by an experiment conducted by Dr. L. D. Frick, a government expert. Dr. Frick placed about 150 woodticks on six sheep, dividing them equally among the animals. Of the ticks placed on the sheep all but six were found dead forty-eight hours later, and the six are believed to have dropped to the ground. The grazing of sheep on infected grounds, it is suggested, would rid them of this plague.

You need a new DELAVAL Separator NOW

1st If you are still using some gravity or setting process of creaming—

Because your waste is greatest and quality of product poorest in mid-summer, when the milk supply is greatest.

Because time is of greatest value on the farm at this season and the time and labor saving of the good separator counts for most.

Because the skim-milk is poorest without a separator in hot weather and often more harmful than helpful to calves and young stock.

Because the work of an improved De Laval Cream Separator is as perfect and its product as superior with one kind of weather as with another.

2nd If you have a very old De Laval or an inferior separator of any kind—

Because the losses of the poor separator from incomplete skimming and the tainted product of the difficult to clean and unsanitary separator mean most when the bulk of milk is greatest.

Because of the great economy of time at this season in having a separator of ample capacity to do the work so much more quickly.

Because an improved De Laval separator is so much simpler and more easily handled and cared for than any other, and you cannot afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

Because the De Laval separator of today is just as superior to other separators as the best of other separators to gravity setting, and every feature of De Laval superiority counts for most during the hot mid-summer months.

These are all facts capable of prompt and easy demonstration, whether you have a poor separator or none at all. The new De Laval catalog, to be had for the asking, helps to make them plain. Every De Laval local agent stands eager to do so with a machine itself, with no obligation on your part to buy unless he does—and that to your own satisfaction.

WHY DELAY? Why put off so important a step as the use of the best cream separator, which you need more RIGHT NOW than at any other time?

The De Laval Separator Co.

NEW YORK CHICAGO SAN FRANCISCO

RHODE ISLAND WHITES

America's "best yet" breed — pure White — every way desirable. In great demand. Bred-to-lay sure to pay. Stock for sale. Eggs for hatching. Send 10c for copy "Good Poultry," our quarterly magazine. 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms Co., Saugatuck, Mich.

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Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

Review of Live Stock Market

By A. C. Davenport

SELLERS of cattle are not any too well pleased with the condition of the trade. There has been a very fair consuming demand and all the cattle coming forward have been disposed of generally on the day of arrival. Still, there has been a great lack of snap and life, which means so much to the seller. This want of activity has been so great on many days of late that sellers have found it slow work disposing of their holdings, and this is never a satisfactory feature of any market.

A dull market is invariably a sagging market, and last week presented no exception to the general rule. Prices at most market points eased off owing to the lack of urgency in the demand, some of them showing as much as 25c decline on fat cattle. Some other markets, owing to moderate supplies, fared somewhat better than that, but the general tendency in cattle values is not at all difficult to discover. In fact, the reason for the dullness and weakness prevailing in the trade of late is very plain to be seen. To begin with, the receipts for this season of the year have been quite liberal, especially so as compared with last year. The five big markets at the present time show a gain for the year to date of around 21,000 head, and it will be remembered that early in the year there was a heavy deficit in receipts, thus showing that as the year has advanced receipts have become more liberal. It would appear that the well known shortage in the supply of cattle in the country induced farmers to place on feed pretty much everything available. There has, in fact, been a scramble all over the country to secure every animal that could possibly be made into beef. These cattle are now coming to market and are helping to swell the receipts.

A feature of the cattle market at the present time that is attracting a great deal of attention from old operators is the overwhelming preponderance of beef steers. Never before in the history of the trade has the proportion of fat cattle been so great. On many days it has seemed as if the receipts were almost entirely made up of corn-fed steers of fair to pretty good quality, there being a large percentage of really good killers. On the other hand no operator on the market ever saw a time when the receipts contained so few cows, heifers or feeding cattle. Thus with the receipts running a little ahead of last year and consisting at the same time largely of corn-fed steers, it is very easy to figure out the cause for the prevailing weakness in the market. It is simply a case of too many cattle of one kind coming to market all in a bunch. As a matter of fact, the season is well advanced and the country is naturally anxious to unload and is hurrying its fat cattle to market as rapidly as possible. Under existing conditions it is not surprising that prices should show some weakness, but on the contrary it is really more of a surprise that values are holding up as well as they are.

Feeders Selling at Fair Profit

A gratifying feature of the market is the fact that the cattle being disposed of are as a rule making the farmers a fair profit on their feed and labor. As a general thing operators on the market are not looking for any great change in the near future. A good many sellers have expressed themselves as preferring that the market should continue about where it is at the present time, that is, with good, well finished cattle selling from $8.00@9.00 on the basis of Chicago. They do not desire any great advance at the close of the season, arguing that fancy prices at the season's end serve no better purpose than to stimulate the feeder market at the opening of the range season. As a matter of course, the range men always like to see a stiff close of the corn-fed market, knowing well that if fat cattle bring fancy prices in July farmers will be more anxious to secure range feeders and will put up prices on themselves. Men of the corn belt on the other hand figure that feeders are already dangerously high and they do not want to see any further advance on that kind of stock.

Demand for Hogs Continues Good

The hog market continues in very satisfactory condition and prices have not shown very much change of late. In fact, hogs have been selling between $8.00 and $9.00 on the basis of Omaha every since February, the total fluctuations being limited to a comparatively narrow range. As often as receipts become sufficiently large to make the market a little top heavy, the packers naturally take advantage of the situation to bear the market, but it almost immediately springs back again under the influence of the splendid demand. The eleven markets of the country show a loss as compared with last year of over 1,000,000 head in the receipts of hogs, which is a bull feature that cannot be overlooked. At the same time stocks of provisions continue moderate and the consuming demand good. No one could ask for a more healthy tone than that existing in the hog trade. Producers of hogs, without exception, are exceedingly well pleased with the condition of the market and they also have a large measure of confidence in the future of the trade, which looks promising, to say the least.

Sheep Market Uneven

No developments of special interest have occurred in the sheep trade during the last week. Receipts at most points, notably at Omaha, have been extremely light, showing that the corn fed season is rapidly drawing to a close. Prices have been influenced by these light runs; making the market somewhat erratic and prices correspondingly uneven. There have been sharp advances and sharp declines, brought on by the temporary oversupply or scarcity in the receipts.

Advices from the big western sheep states continue to indicate heavy runs for the coming range season. Feed is plentiful and there is every reason for believing that the stock will arrive in good condition. Packers are inclined to believe that there will be a much larger percentage of good killers in the receipts of westerns the coming season than ever before. There is, however, no fear of a shortage in the supply of feeders, and operators on the market are looking forward to a heavy business in that class of stock this fall. It is anticipated that many cattle feeders will be forced by the prospective high prices and short supply of feeding cattle to turn their attention to sheep and lambs.

Annual Meeting of Iowa Swine Breeders

(CONTINUED FROM PAGE SEVEN.)

serum, the doctor stated that he considered the manner of vaccination as important as the serum itself.

Swine for Fair Must Be Immune

In connection with the last talk a circular was read announcing that the Iowa Animal Health commission had recently decided that all swine to be exhibited at the Iowa State fair, or any county or district fair in the state, must be accompanied by a certificate showing that they have been immunized with Dorset-McBride-Niles anti-hog cholera serum not more than thirty days prior to date of such fair or exhibition if serum alone is used, and not less than thirty days prior to date of shipment if simultaneous method is used. Hogs which have recovered from cholera must comply with these regulations.

A winter meeting of the association will be held at Ames during the Short Course week and a program of especial interest will be prepared for it.

The National Association of Expert Swine Judges failed to meet in connection with the association. For the benefit, therefore, of a number of breeders wishing to practice the score card a committee consisting of W. Z. Swallow, Waukee, Ia., and Prof. W. H. Pew of Ames acted as examiners. The class scored a Poland-China, a Berkshire, a Chester White and a Duroc-Jersey. But one certificate was recommended, the recipient being F. G. Paul, Marshalltown, Ia., on a Poland-China.

How to Examine a Sick Cow

First, take the temperature of the animal by placing a self registering veterinary fever thermometer in the rectum, allowing it to remain there from three to five minutes. The normal temperature of a cow is from 98 to 100 degrees F., but in some cows may be higher. It is usually so in young animals.

Second take the pulse, which can be found at the angle of the lower jaw bone. The normal beat of a cow's pulse is from fifty to sixty per minute.

Third, count the respiration of the animal or number of times it breathes by watching the sides of the flanks or by pressing your ear to her side. The normal respiration of a cow is from fifteen to twenty per minute.

If the temperature, pulse or respiration is found to vary much from the normal, you will know the animal is ailing. Dull glazy eyes; cold ears; dry, hot nose; harsh, rumpled coat; lack of appetite, rumination ceased and sudden shrinkage of milk are outward indications that something is wrong with the cow.

Milk from sick cows is unwholesome and in some cases postivily dangerous.

Sick animals should be removed from the herd, and especially if there be any suspicion of a contagious disease.

W. M. PHILLIPS.

The Small Breeder

There are a few kinds of business for which the wideawake farmer should always be in the right humor. One of these kinds is the purchase of first class, young, high quality registered breeding stock. Many a most successful breeder and farmer owes much of his success to just this one fact—that he is always in the market to buy something really good

A young registered brood mare, properly cared for, will pay her way right along at the collar, and will turn in a tidy profit every time one can raise a foal from her. A good young breeding cow will do nicely as the foundation of what not many years hence may prove to be a most valuable registered herd. It is the same way with a few pure bred sheep, or some young registered fowl. It is wonderful how rapidly these creatures multiply once a start has been fairly made. Many and many a young farmer would soon be making a name for himself as a high class breeder if he only had the nerve to pick up a pure bred breeding female once in awhile when opportunity offered.

In the whole realm of agriculture there is today no more substantial or promising investment for the young man who likes live stock than in the purchase of a really good breeding female.

W. M. PHILLIPS.

Cheese Eaters

According to the Hamburger Nachrichten, England is the greatest cheese-eating country in the world. Of the 4,800,000 cwts. annually imported into Europe England takes not less than 3,600,000 cwts., or 75 per cent. France comes next, with 600,000 cwts., while Germany is content with 400,000 cwts. As it consumes by far the largest part of its own very considerable production, it is probable that, taking everything together, England consumes 4,000,000 cwts. of cheese a year.

More Criticism

Another federal department, the Board of Horticulture, came in for criticism by speakers at the American nurserymen's convention, which attacked the Forestry department for supplying free trees to land owners.

Dairying in Finland

Finland came to the front as a dairy country about twenty-five years ago, according to the Chicago Dairy Produce. At the present time it is one of the best dairy countries in the world. The girls take care of the cows and keep everything exquisitely clean. American and European separators are used and the creameries are co-operative, all contributors, large and small, voting equally on every question.

Sale Dates

Duroc-Jersey Hogs

September 27—Robert Leisey, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Shattuck, Hastings, Neb.
October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.
October 20—William Ferguson, Sc... ner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 8—J. L. Naiman, Alexandria, Neb.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., OF THE TWENTIETH CENTURY FARMER, published weekly, at Omaha, Nebraska, required by the act of August 24, 1912.

Editor, T. F Sturgess, Omaha, Neb.
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Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: None.

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N. P. FEIL,
Business Manager.

Sworn to and subscribed before me this twenty-sixth day of June, 1913.
(SEAL) ROBERT HUNTER,
Notary Public.
Commission expires December 14, 1916.

TW

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha July 12 1913 | Number 657

Picking a Present for Mother

In the millions of orders we fill every year none give us greater joy than the supplying of gifts for some loved one at home. Grocery orders, furniture orders, clothing orders, implement orders—all, of course, have our greatest care and attention.

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CHICAGO KANSAS CITY FORT WORTH, TEXAS

Bright and Breezy

How to Identify Him

A woman rushed into the police station and eclaimed ecitedly:

"My husband has been threatening for some time to drown himself, and he's been missing now for two days!"

"Anything peculiar about him by which he may be recognized?" asked the officer, preparing to fill out a description blank.

For several minutes the woman seemed to be searching her memory. Suddenly her face brightened.

"Why, yes, sir; he's deaf!"

A Little in Advance

A Washington man and his wife, whose domestic complications are frequent but not serious, had one evening called upon a married couple. On their way home the lady said:

"Now, in the case of the Parkers, I should say it was an ideal marriage. Really, I believe they both think absolutely alike."

"Charming people, charming people!" said hubby. "But about the thinking, Gladys, if you will notice, she generally thinks first."—Lippincott's.

Competing with Dickens

A bookseller once advertised for a porter and man of all work for his book shop. Among the applicants was a big Irishman, gifted with more muscle than wits.

He walked into the shop and glanced about rather uncertainly. Finally his eyes rested on a big notice suspended high above the door over a table covered with books:

"Dickens' Works All This Week for 16 Shillings."

This announcement at once inflamed the applicant's temper.

"Oi came in to git the job," he shouted to the proprietor, "but Oi'll not care fur it! Dickens kin wurruk all week fur sixteen shillin's if he likes; Oi'll not. Ye'd betther kape Dickens."

And out he strode.

Eatable Notes

A gambler of Tin Can borrowed a sum from a money lender, and when the note fell due he said he could not settle. "You must settle!" shouted the money lender. "If you don't settle I'll ——" But the gambler, taking a revolver from his boot, pointed it at the money lender and said, "Eat that note or I'll let daylight through you!" And the money lender, after a moment's silent thought, crumpled the note into a ball, put it in his mouth, chewed vigorously and then with a gulp swallowed the pulpy morsel. "That dose saved your life," said the gambler, in a mollified tone, and the next day he had a streak of luck and paid the money lender in full. The money lender was much pleased with this honesty, and when the gambler, a few weeks later called and asked for a new loan, he was readily accommodated. The gambler, having pocketed the new loan, sat down, dipped a pen in the ink, and selected a sheet of paper whereon to write the usual acknowledgment. But the money lender hastily interposed. "Hold on, my friend," he said, and he ran to a cupboard. "Wait a minute, my friend. Would you mind writing it on this soda cracker?"

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Investigation of Silo Matters

THE TWENTIETH CENTURY FARMER recognizes to the full the economic importance of the silo. It believes that a silo will prove to be a profitable investment on every farm within its territory, if it is economically installed and used.

For a long time there have been rumors, which of late have begun to assume definite form, that some of the manufacturers and sellers of silos are using commercial methods that are not to be recommended, and in some cases are actually disreputable. If such methods are employed, they will undoubtedly hinder as wide an adoption of ensilage feeding as might otherwise be had.

Because this magazine is interested principally in the welfare of the man that produces either milk or cream, it has felt moved to undertake an investigation of this whole silo matter. As soon as this investigation is completed and all available facts are ascertained, it will publish the results of the investigation, undeterred by any influence whatever. Its only object is to serve the producer of dairy products. The investigation will be completed, and the articles will begin to appear in the near future.

Prattle of the Youngsters

The Bitter Truth

Teacher—Which letter is the next one to the letter H?

Boy—Dunno, ma'am.

Teacher—What have I on both sides of my nose?

Boy—Freckles, ma'am.

Promptly Answered

"Now, children," said the Sunday school teacher to the juvenile class, "can any of you tell me what an epistle is?"

"I can," answered a little fellow at the foot of the class. "An epistle is the wife of an apostle."

In a Righteous Cause

Mother entered the room just in time to see 4-year-old Verna knock her older brother down.

"Verna, how could you do such a thing?"

"The Lord gave me strength," Verna proudly replied.

Cause for Vanity

The little Boston boy was so plainly puffed up with juvenile vanity that the visitor noticed it.

"Robert seems unusually proud today," she said.

"Yes," the fond mother answered; "he has on his first pair of spectacles."

Those Good Old Times

Bobby's grandmother often referred to the good old days when such commodities as meat, vegetables, fruit, etc., were grown and prepared at home. One day at dinner the mince pie was praised. "But I'll bet," declared the 5-year-old boy loyally, "it's nothing like the pie that grandma used to make when she raised and picked her own minces; is it, grandma?"

Of Two Evils

Turning a corner at full speed, a small boy collided with the minister.

"Where are you running to, my little man?" asked the minister, when he had regained his breath.

"Home!" panted the boy. "Ma's going to spank me."

"What!" gasped the astonished minister. "Are you so eager to have your mother spank you that you run home so fast?"

"No," shouted the boy over his shoulder as he resumed his homeward flight, "but if I don't get there before pa, he'll do it!"—Youth's Companion.

A Way They Have

Mrs. Flint came for a visit to her sister's home, and her little niece, Charlotte, was delighted to see her.

"What became of the black kitten that you had when I was here before, dear?" asked Mrs. Flint.

"Why, don't you know?" asked Charlotte, much surprised.

"I haven't heard a word," replied the aunt. "Was he poisoned?"

"No, ma'am," said Charlotte.

"Drowned?"

"Oh, no."

"Stolen?"

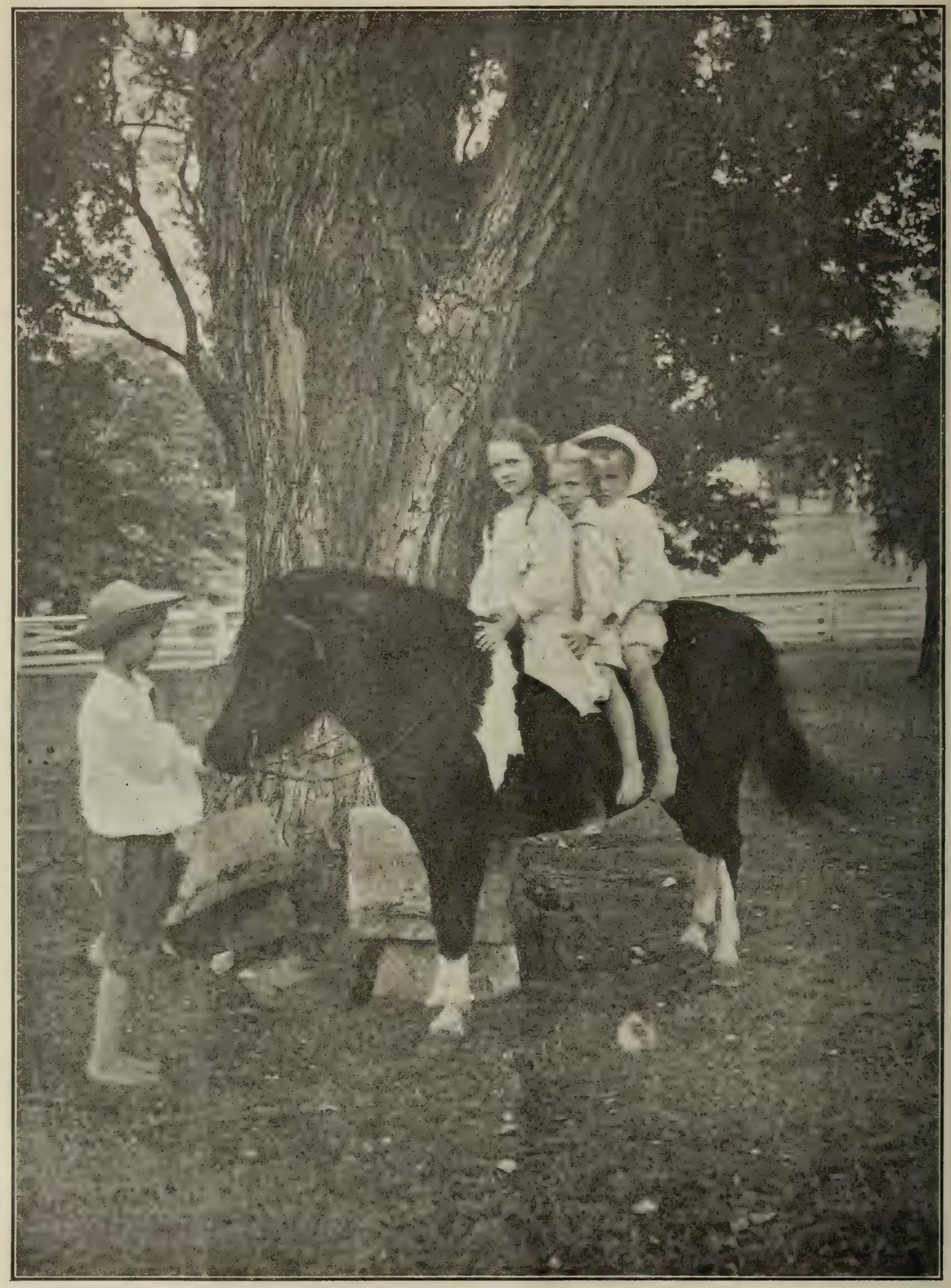
"No indeed."

"Hurt in any way?"

"No, ma'am."

"Well," said Mrs. Flint, "I can't guess, dear. What became of him?"

"He turned into a cat," said Charlotte.—Lippincott's.



The Childrens' Own Horse

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

The Unnecessary Middleman Must Go

Straight-from-the-Shoulder Talk on Some of the Factors Entering Into High Cost of Living

By Christine H. Winters

IN ITS legitimate application, the expression, "The Cost of Living," covers the expenditure of money, or its equivalent, to meet the personal needs of food, clothing and shelter. It has come, however, by a sort of general acceptance, to be more or less restricted to that expenditure which defrays the cost of food alone.

A short, comprehensive study of the more familiar phrase, "The High Cost of Living," is warranted here because in its origin and exploitation are revealed the illegitimate factors that make up a goodly part of the actual cost of living. It was launched upon the public in the fall of 1909, closely following the exposition at Seattle, and, what is more important, following one of the falsest crop reports ever issued by the Bureau of Agriculture. At a time when the corn crop was far below the average, our agricultural bureau, aided by the daily press, was issuing statements of wonderful bumper corn harvests. High food prices were featured and exploited by all newspaperdom, which finally focused attention upon the meat prices and laid all the blame upon the meat packers. That the packers do not operate their plants at a loss, everyone knows. But, excepting the farm papers, not a mention was made by our intelligent (?) press of the diminishing number of range cattle in the west, not a word printed of the sun-burned cornfields and the consequent falling off of pork production, not a paragraph inserted concerning the drouth-ridden pastures of the middle west.

Why? Because the actual cost of production and reimbursement to the producer for interest upon capital invested do not determine the price of foodstuffs to the consumer. On the contrary, these are what, in the United States, set the price of living to the consumer: The unnecessary handling of produce by middlemen, the excessive wages of certain classes of laborers, the tremendous cost of politics, and the dissemination of false crop reports, together with the clever manipulation of the market by grain dealers who are aware of the crop conditions of the world. To these may well be added our outrageous credit system by which the man who pays cash helps pay the bills of the man who is "on the book."

System of Food Distribution

In 1911 the value of food produce in the United States was placed at $9,000,000,000. Allowing one-third of such production as reserved for farm consumption, gives $6,000,000,000 worth as marketed, $1,000,000,000 of which was exported. The cost to the ultimate consumer in the United States for this marketed produce was $13,000,000,000.

This very accurately illustrates our inefficient system of food distribution. Nearly all foodstuffs are produced in retail quantity on the farm, and should, within the limits of practicability, be so delivered to the consumer. Instead they pass from the farmer to the selling agent, who in wholesale quantities passes them to the wholesale market, which proceeds to turn them over in wholesale quantities to the retailer, who hands them out in retail quantities to the ultimate consumer, making him the fourth or fifth purchaser.

Unnecessary Middleman Must Go

As a concrete instance, there is the experience of L. L. Young, the Idaho rancher, who last fall sold his potatoes for 55 cents a sack, and learned, in replies to the notes of request he had put in the bottom of the sacks, that the consumers paid from $1.50 to $2.50 per sack.

The elimination of the unnecessary middlemen, according to B. F. Yoakum, chairman of the St. Louis & San Francisco railroad, would give to the farmer an extra $1,000,000,000 and save to the consumer an equal amount. A conservative estimate, surely.

This idea of elimination is not one, however, that is noteworthily advocated by our political advisers or exploited by our daily press which serves the interests of the speculator They harp, and then harp some more, upon scientific and increased production, which is no remedy at all. It is, in fact, unless Secretary Houston follows a radically new agricultural policy, an excuse for greater governmental outlay of money and the giving of the taxed man's money to a new set of non-producers. Scientific and intensive cultivation is of itself commendable, but under present conditions there is no object in such methods to the farmer. He is already the poorest paid of working men.

For Speculation and Political Play

There is no possible doubt that the agitation heralded by the slogan, "The High Cost of Living," was aroused with two purposes in view—a chance for speculation, and an opening for political play.

Whenever too much money comes to rest in Wall street, there follows a rush in speculation. Following so closely as to be coincident with this press-fed cry of profit in food production came the western land boom, the advertisement of Texas resources, the sinking of good money in the Florida everglades.

Today the very men who encouraged the investiture of men and money from the east and middle west into the west are warning us that money in the east is tight and that the railroads must go slow. Our daily press is at last awake to the fact that there is a scarcity of meat "on the hoof," and farmers are advised to borrow money and stock up. Three years' time must elapse at least before the farmer can expect returns. What will the price be then? The farmer might guess—and he might have another guess coming

It would be insulting to suggest that those shrewd men were ignorant of the condition of things three and four years ago. Many farmers knew, and in the open columns of the papers remonstrated with the trend of sentiment. The practical thing to do was for them to get cattle ready for the high prices of the future. Many did, and are being handsomely paid today. But the farmer whose pasture was bare, whose corn and hay crop was insufficient, who couldn't find a hired man when barley was high, gave more than one new-born calf a knockout blow in the head.

And the railroads were leading each other a merry chase through the shack-dotted west.

Capital for the Politician

To the politician, that happy phrase, "The High Cost of Living," is worth more than the possession of a gold mine would be, for he can make capital out of it without investing a cent. Does anyone for one moment hope that congress now assembled in Washington has any idea of really reducing the cost of living? If so, ponder these inconsistencies. The same men who with a whoop passed the most profligate and inexcusable pension bill ever heard of are in the act of taking off the last vestige of protection upon food products—the output of the farmer. To reduce the cost of living? Well, hardly.

Last December Gallatin valley wheat in Montana was selling in the home market for 58 cents a bushel. Gallatin valley flour was selling to the miners in Montana for $1.75 and $2 for forty-nine pounds. Minneapolis flour sells as cheaply in England as it does to us who raise the wheat in Minnesota. The sheep ranges in the west are nearly a thing of the past. Sheep raising, and of a finer quality, is a new branch of farming; yet the price of wool and mutton must be lowered. The cotton-raising industry on the old plantations of the south is in need of capable men and money to pull it out of a hole; but the price of raw cotton must be reduced. Yet the American manufacturer of cotton goods competes successfully with European manufacturers in neutral markets, as China.

Takes Money and Men

This same body of men that, again with vote-getting intent, passed the infamous "pork barrel" bill, appropriating $50,000,000 of the people's money for the erection of inappropriate federal buildings in towns of a few thousand inhabitants, now economically inclined, mean to take whatever profit they can from the new sugar beet growing industry. It takes work to raise sugar beets. Likewise, it takes work to erect federal buildings. 40 per cent of the government expenditures, it has been figured, is plain robbery When the sugar beet growers try to hire laborers, with the government establishing a standard of wages, they'll find themselves in the same fix the farmers did when they tried to hire men to milk cows and feed calves

But here is the point, and strangely enough, it contains a truth that with all the clamor

CONTINUED ON PAGE EIGHTEEN

Nebraska Stock Growers' Association Meet

Attendance Not so Large as Usual, but Much Business is Transacted and Good Showing Made

THE annual meeting of the Nebraska Stock Growers' Association for 1913 was held at Alliance June 25 to 27, inclusive, and was well attended by the cattle interests of western Nebraska. While the attendance was not quite so large as on most former occasions, there was fully as much business transacted and a better showing made in membership and financial standing of the association in paid-up dues than in many years previous. This association has a membership of 375 active supporters—men who have cattle on the ranch and range of Nebraska.

There are more small cattle raisers and handlers associated with this organization now than formerly—men whose holdings are not represented by the hundreds and thousands of cattle, as in former years under the old-time range system, but beginners practically: men who have in recent times acquired a land ownership in the sand hills, by homestead and purchase, until they are able to run a herd of from fifty to 200 head of cattle.

The meeting this year was limited to a strictly business session. The executive committee was called a day before the annual meeting and all accounts were audited; the active business of the association demanding organized attention was gone over by the committee and officers and put into the form of committee and official reports and presented before the annual meeting held in open session June 26, and were there adopted. The treasurer reported $3,000 cash on hand, independent of this year's dues, which are now payable to the secretary.

Oppose Live Stock Free List

The resolutions committee reported the following resolutions for the consideration of the members, which were unanimously adopted:

Be it Resolved, By the members of the Nebraska Stock Growers' Association, in annual convention assembled, at Alliance, Neb., June 26, 1913, that we favor a general downward revision of the tariff on all imported articles, including live stock, and other articles, including live stock and other food products, and are willing to stand our prorata in reduction, but we vigorously protest against the placing of our products on the free list. We assert that it is unfair and discriminatory to the great agricultural and live stock industries to put their products on the free list while maintaining substantial duties on many other commodities and manufactured articles. We contend that the stock raisers of the west are not now receiving more than a fair return on their labor and investment and we view with alarm any proposition that will tend to reduce the same and curtail production. We therefore urge our Nebraska senators and congressmen to oppose the placing of our products on a free-trade basis. We also respectfully petition congress to provide for thorough inspection of all imported live stock and meats so as to prevent the entry and spread in this country of the contagious diseases now prevalent among the herds of other countries. We further demand that where other nations impose an import duty on our live stock and meats, a similar countervailing duty be levied by the United States.

Resolved further, That a copy of this resolution be sent to each of the senators and congressmen from Nebraska.

Feeders and Breeders Asked to Join

Whereas, We believe it would be of vast benefit to all parties interested in the production and maturing of live stock in the state of Nebraska to unite in one great state live stock association, and,

Whereas, While the Nebraska Stock Growers' Association is composed mostly of range men, nevertheless its work has been of equal value to all the stockmen of the state, whether they be range men or feeders; therefore be it

Resolved, By the Nebraska Stock Growers' Association, That we invite the feeders and breeders of live stock throughout the state to join this organization so that our association may be strengthened and our work may be more effective toward the protection and advancement of the live stock industry of our state.

Resolved further, That our officers and executive committee are instructed to take such action as they see fit to induce the feeders of Nebraska to join with us and assist in the work of this association.

Resolved, By the Nebraska Stock Growers' Association, in annual convention at Alliance, Neb., June 26, 1913, That we believe the recent advance in commission charges for the sale of live stock at the South Omaha and other markets is unreasonable, unwarranted and unjust, and we direct our officers to take such steps as may be necessary to secure the regulation and establishment of fair and reasonable charges by the live stock commission men at South Omaha and other points.

The nominating committee made the following report on officers and executive committee, which was unanimously adopted, and the election announced by the president:

C. L. Talbot, Brand Inspector at South Omaha Stock Yards

Officers—R. A. Hampton, president, Alliance; A. Metzger, vice president, Merriman; Charles C. Jameson, secretary-treasurer, Ellsworth.

Executive Committee—C. H. Tully, E. P. Meyers, Reuben Lisco, J. H. Bachelor, W. M. Fleishman, Robert Graham, E. M. Searles, jr.; Herman Krause, J. H. Monihan, A. R. Modisett, E. M. Eldred, O. T. Davis, Dan E. Hill, Robert A. Cook, John H. Orr.

Why This Organization Exists

The report of Brand Inspector Talbot of the South Omaha Union Stock Yards explains why this organization exists, why it is essentially necessary that the stock growers of western Nebraska band themselves together for cooperative interest and protective security against loss by theft and straying. Cattle rustling is not a successful industry under present range conditions, except in a petty way, where stolen and killed for immediate use by beef-hungry residents of the district where the theft occurs. This, however, is so infrequent that not much attention is paid to it.

Inspector Talbot's report shows that there were a total of 5,639 cattle of all grades and kinds caught up for Nebraska cattle raisers, representing a value of $319,423.48. Does it pay to keep a brand inspector to look after Nebraska's stray and stolen cattle? Does it pay to appropriate $4,000 per year to have this work handled by an expert brand man, who is familiar with more cattle and horse brands than any other single individual, probably, in the United States? These figures showing the value of stray cattle returned by the brand inspector indicate practically the value of the brand inspector to the members of the association, since it is reasonably certain that these cattle, having found their way to the stock yards, would soon pass out of existance so far as the range owner is concerned.

Inspector Must Be an Expert

Under the present system of brand inspection at the yards by an authorized agent of the Stock Growers' Association, there is a feeling of security among stockmen even when they know that a few cattle are missing from the herd. Unless slaughtered outside of the stock yards, they are reasonably certain to be caught up by the association inspector, whose business it is to look out for all brands of association members and investigate their presence when found in the various shipments that come to the yards.

The work of the brand inspector is expert work and is handled under a special system of memory training that the ordinary person knows but little about and could never acquire. The old-time cowboy learned brands on the range as the child learns the alphabet, and became proficient in this knowledge as his observation and changing positions increased his opportunities to become more versatile in the language of the brand.

Man of Action

C. L. Talbot, in 1873, when quite a young man, came from Champaign county, Ohio, into the range cattle country of Cheyenne, Wyo., and at once engaged in the work of trailing Texas cattle from the Texas range north into Wyoming. He was later engaged for several years as a range rider in handling cattle for the large cattle companies of the Cheyenne district, when the cattle drifted south and eastward over the Nebraska range country. This was during the period of large cattle interests, when they became as one herd during the summer grazing period and demanded what was then instituted and called the annual roundup, where the cowboy forces of the various cattle interests joined in an organized effort to replace the cattle on the open range into the possession of their several owners and on their designated pastures.

Mr. Talbot, after his years of service as a cowboy in the employ of various large cattle interests, was selected by the Wyoming Live Stock Association as one of its range inspectors, whose duty it was to look after stolen cattle and cattle thieves, with the legal authority of deputy sheriff. The detection of cattle thieves and their arrest was not the most desirable or safe occupation in those days of the cowboy, the Indian and the open range, yet Mr. Talbot maintained a reputation for successfully performing his duties as a range detective on the trail of the cattle thief. From this line of work he graduated into the position of brand inspector, located at St. Paul, Minn., which position he took in 1885.

It was in 1888 that the demand at South Omaha for a man who could handle the intricacies of brand inspection at this rapidly growing shipping point induced the Wyomng association to call Mr. Talbot from St. Paul and place him in charge at South Omaha, where he has been engaged continuously as the head of the brand inspection department of South Omaha for the Wyoming association, through whose agency the inspection for western Nebraska and southwestern South Dakota associations are handled.

C. L. Talbot is a familiar figure at all the annual conventions of the live stock interests of these three states—Wyoming, Nebraska and

South Dakota. He is the man who presents the figures in detail that show the astounding work that the brand inspection is carrying on at the live stock market centers, where thousands of stray and stolen animals are caught and the proceeds of their sales returned to their owners.

Secretary T. W. Tomlinson of the American National Live Stock Association addressed the stock growers on the work that the parent association has been doing and is continuing to do in the general interests of the live stock industry in the United States. He referred to many features of interest in existing laws and contemplated improvements for the benefit of the stockmen. The Nebraska association is a member of the American National and contributes to its support in aiding in national litigation and general live stock interests.

Next Meeting at Alliance

The holding of the next annual meeting was voted to Alliance, though other competing points were considered. Alliance possesses superior advantages for this convention and makes a special feature of entertainment for the crowds that are naturally attracted during this period. The Alliance Fourth of July festivities are moved forward one week so as to celebrate with the stockmen and not interfere with the celebration interests of other towns in the western part of the state.

Cowboy Horsemanship on the Range

A wild west show and horse fair are features of the exhibition on the fair grounds. Automobile and motorcycle races are held. Alliance's hospitality and never-ceasing disposition to entertain cannot be excelled.

The South Omaha Stock Exchange delegation contained the following representatives:

George Emigh of L. E. Roberts & Co.

W. F. King of Bowles Live Stock Commission company.

W. B. Tagg and W. J. Orchard of Tagg Bros-Smith Bros. company.

Jim Burns and F. S. Crone of Rosenbaum Bros. & Co.

Walter E. Wood and Fred Huber of Wood Bros.

J. M. Cook of Great Western Commission company.

J. L. Bush of Clay, Robinson company.

Theodore Tillotson of National Live Stock Commission company.

Allen H. Dudley of Allen Dudley company.

A. E. Rogers of Omaha Live Stock Commission company.

Larry Melady of Melady Commission company.

Charles F. Fox of Interstate Commission company.

C. L. Talbot, Nebraska brand inspector.

J. S. Walters, superintendent, and W. E. Schellberg, traffic manager, of the Union Stock Yards company of South Omaha.

G. W. Hervey of The Twentieth Century Farmer.

Danger from Shipping Tuberculous Cattle

The Present Serious Menace from This Source to the Dairy Interests of the Missouri Valley

THE dairy interests of the Missouri valley are seriously threatened by the shipments of tuberculous cattle that are being made into this territory. Every dairyman is hereby warned to use exceeding care in purchasing dairy cattle, no matter from what source they may seem to have come.

Most of the tuberculous cattle shipped into the territory come originally from Illinois. The state of Illinois, especially the northern part of it—what is known as the Elgin territory—is rotten with bovine tuberculosis. The reason is not far to seek. A few years ago the legislature of that state, under the influence of some rotten politicians and some rotten dealers in rotten cattle, put the ban on the tuberculin test for tuberculosis. Money and political influence were put upon one side of the scale, and the lives of children—not only in large cities like Chicago, but everywhere throughout the west—were put into the other side of the scale, and the money and the desire for political influence overbalanced human life. The result has been that Illinois has been a hotbed for the development of tubercular cattle. Every other state has its regularly appointed board for the suppression and control of diseased animals. Illinois grants tuberculosis a free field. The result is that everyone should be on his guard against purchasing cattle originating in Illinois.

But it is difficult to tell where cattle shipped into a certain territory really originate. Crooked dealers ship cattle into one state under a crooked health certificate, and then have them reshipped through several different states before they arrive at their final destination. One dealer in northern Illinois shipped originally to Missouri; from thence they were shipped to Kansas, and finally landed in Nebraska, where they were promptly quarantined, and most of them condemned as tubercular.

One dealer in dairy cattle in Illinois is James Dorsey of Gilberts, Ill. The cattle referred to as condemned in Nebraska were shipped originally by Dorsey. The Twentieth Century Farmer has been carrying Dorsey's advertisement. As soon as it became aware of the facts in the case it wrote him, stating that unless he would agree, over his own signature, not to ship cattle into the Missouri valley territory except in strict conformance with the laws of the several states, it would decline to advertise him further. His reply was evasive and did not contain the assurances required. It consisted in the main of an attack on the reliability of the tuberculin test, and he also pleaded the excuse that he was relieved from responsibility in the matter, since the purchasers of cattle in many cases had made their own selections from his herd. He was assured that the question at issue was not the reliability of the tuberculin test, or whether purchasers made their own selections of cattle from his herd, but simply whether he would agree that he would not ship his cattle into this territory except in conformity with the laws of the several states. Satisfactory reply not having been received, his advertising contract was promptly cancelled. Other farm journals have also cancelled his advertising, and the advertisements of others engaged in the same business.

It is not claimed that the tuberculin test is absolutely reliable under all circumstances. It may be administered in such a way and under such conditions as to render it of no value whatever. Once in a while there is an animal of such acute nervous sensitiveness that it will react to an injection of rain water or to a liberal application of the milking stool. No application of the tuberculin should be accepted as final unless the tuberculin test is confirmed by physical examination and rigid application of diagnostic tests. An unscrupulous man may apply the tuberculin in such a way that its result cannot be depended upon. When rightly applied under the right conditions, while not absolutely reliable in all cases, it is absolutely reliable in more than 95 per cent of the cases. Besides, while not absolutely reliable in all cases, it is the best test known—the only test that is known for the detection of the disease.

It is time the public should be thoroughly informed with reference to the danger involved in buying dairy cattle. No one should buy dairy cattle except on the condition that they should be held sixty days and then tested for tuberculosis, and if then tubercular, the sale might be cancelled. These should not be paid for until they have successfully withstood the test.

The reason for demanding the delay of sixty days is that it is possible, by unscrupulous means, to prevent a tubercular animal from reacting to the tuberculin test for a certain length of time. If a tubercular animal receives an injection of tuberculin, it will not react to the tuberculin test for some time thereafter. Unscrupulous dealers in tubercular cattle give them a dose of tuberculin to start with, and then offer to have them submitted to the test for tuberculosis. Of course, under such circumstances the test would show nothing. The only thing for the purchaser to do in order to be sure that his cattle are not diseased is to hold them in strict quarantine for sixty days, and then apply the tuberculin test. When properly applied in this way, the tuberculin test is absolutely reliable in 95 per cent of the cases. Any purchaser of dairy cattle who does not comply with the suggestions here set forth invites diseased stock both for himself and his neighborhood. The time has come when the public must take this matter in hand if the dairy interests of this territory are to be conserved, and a broad mark that can be recognized by everybody must be put upon the dealers in diseased live stock. We must free our herds from tuberculosis or our dairy interests will suffer.

The United States Department of Agriculture has been asked to place upon the cattle of Illinois a quarantine as rigid as was used in the case of scabies and Texas fever, until such time as Illinois shall take proper measures to clean up its cattle and gain control of bovine tuberculosis. This paper hopes that such quarantine will be established at once.

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Paris green is generally used in destroying the bugs that eat the potatoes. One pound of Paris green, one and one-half pounds of stone lime and 150 gallons of water make a desirable mixture.

The swine exhibits at the Nebraska State Fair will break all records, according to present indications. Superintendent E. Z. Russell reports that two-thirds of the swine pens have already been reserved.

A million dollars in gold, the first shipments from Nome, Alaska, this year were received at Seattle last month by the steamships Senator and Victoria, which completed their first round trip of the season to Bering sea.

The lime sulphur wash is quite often used to destroy the insect pests that are prevalent on vines and trees. The wash is prepared by slaking fifteen pounds of stone lime and mixing with it fifteen pounds of sulphur and diluting the mass with fifty gallons of water, after which it is boiled for two hours. It is put on in the form of a fine spray.

About one year ago the Mississippi Agricultural College started a cooperative creamery in that neighborhood, 225 cows contributing. It has grown to a point where cream is now being contributed from 1,200 cows. The original contributors have stayed with the creamery and brought many more into it. One week recently 2,800 pounds of butter was made, besides a large amount of cream that was sold. The patrons of this creamery are very enthusiastic and say that it has proved to be profitable to them.

Fine Crop Prospects

Fine crop prospects indicate prosperity. No other influence exerts a greater power upon the mind of man in moulding business plans and formulating business ventures. Crops—the produce of the soil, in which are stored the necessities of life and the well-being of man and beast—are the essential principles upon which business, trade and traffic is based. Upon the success or failure of these crops seem to hang the destiny of business operation. It is not enough that a meager allowance be provided; large acreages and bounteous yields from the liberal hand of Providence seem to be demanded, and under these influences and these assurances the public pulse responds in a quickened measure with a more liberal business activity.

Never in the history of the Missouri valley country has there been a greater reason for extravagant estimates to be placed upon the prospective crops than that of 1913, measured by its standing of June 26. This prospect has been carried in many lines of production right up to the eve of the harvest almost. The drying winds and scorching heat, however, are circumstances in the June, July and August weather that should always be given a liberal consideration in the forcasting of crop yields. To what extent this brief period of drouth at the close of June will shorten the yield cannot be estimated, but it is reasonable to believe that a very decided influence has been exerted over a large area of country in some of the small grain and vegetable crops.

Western Nebraska has never been in a higher state of crop growth at this season of the year. The corn crop at the close of June was showing up in color, growth and clean condition of cultivation equal to any old corn district.

Grain Storage on the Farm

It is a safe business proposition to have secure grain storage on the farm for all crops grown. Secure storage means more than bins, garners and cribs with sufficient capacity to hold the crops as harvested and threshed. It means good roofs, good floors and good construction throughout, with a view to permanence and freeness from waste. All such buildings should be made rat proof and storm proof. These are the two great sources of loss.

The time for disposing of the wheat crop will soon be here. Those who have not in advance provided good, safe storage at home will be obliged to sell their crop when threshed. This is not always the best market, but if no provision is made to take care of it, there will be no other recourse. The stacking of the small grain is regarded by many, especially by those who aim to hold until a later marketing, to be of great advantage. The customary sweating process in the stack is regarded a great safety to the grain when stored.

The independence of the farmer should extend to the holding of his produce until he is convinced that the time has arrived to sell. The full corn-crib on the farm means independence. It means that the hogs or cattle need not go to market unless the future prospects are such as to argue present conditions most favorable. It is always best for the feeder to have one crop of feed in the crib before he stocks up with a lot of animals to put on feed. Build permanent and substantial storage for everything, as well as good accommodations for housing the live stock. It always pays in the end.

Cattle Shortage in Nebraska

This subject has been worn threadbare, yet it is being emphasized by many persons who are in the cattle business. It is generally used in opposition to the occasional volunteered suggestion that next fall will be found sending in to the cattle markets the usual supply of cattle of all sorts, with the possible exception of calves. There now seems to have been a local market created in every cattle-producing district for the calves at strong market prices, and this will have a tendency to hold back a very large share of the calf crop, especially the heifer division.

Many small cattle owners and farmers over the western districts are making an effort to get heifer calves by purchase or trading steer calves for them—a reverse proposition for the western cattle man, as in years gone by he was invariably wanting the steers, and paid a premium to get them.

In western Nebraska the cattle producers, almost to a man, report a very decided decrease of cattle to be marketed this fall. The estimates are from 25 to 50 per cent less cattle to ship. The feed is abundant, both in pasture and hay. There is a disposition to hold back all breeding stock and immature steers that can be provided winter feed. More hay feeding will be resorted to by western Nebraska cattle raisers. Where cattle have hay to run to in addition to winter pasture, there is a very decided difference in conditions found when they go onto the spring grass, and this advantage is maintained throughout the grazing season.

There is a general tendency to provide more winter feed for all classes of cattle. Calves will be better taken care of than when they cost half what they do now. The better care and faster growth is being appreciated, even by the careless cattle owner. The alfalfa meadow is being introduced wherever there is land sufficient to cultivate a few acres. It will not be long until sufficient alfalfa acreage will be found on every western Nebraska homestead to winter the live stock it is able to carry through the summer.

The successful Kinkaid homestead means the raising of all the alfalfa possible, and the keeping of all the cattle possible. This is a combination that will solve the question of whether or not the homesteader will be able to live on his homestead. Crop growing with the homesteader, if he is located in the hills, will not prove as satisfactory as raising stock that can utilize the pasture grasses.

India has produced about 2,500,000 tons of sugar annually for the last two years.

Start Your Herd Right

There is a general centering of effort now on increased production of live stock. High prices and scarcity of the meat-producing animals have influenced many farmers and land owners to buy breeding stock and exert some effort in this line of industry, realizing that remunerative prices will prevail for some time to come. Not everyone, however, that goes into this work has a proper conception of the importance of starting right or understands that a few more dollars in the investment of well-bred stock means many dollars to the credit of the business at the end of the first year.

This is an age of pure-bred stock, from the standpoint of large, rapid gains and also higher prices. The man who wishes to increase his breeding herds of cattle and hogs cannot afford to buy quantity and hope to profit equally with his neighbor who buys quality. The feed is an important part, but should not be sacrificed on animals that are not able to respond liberally. "The best is the cheapest in the end," is an old saying, and has never been successfully refuted, especially in animal breeding where heredity exerts such a positive influence.

To the buyer who has never tried pure-bred stock in hogs, cattle, sheep and horses, we would suggest that now is a good time to make a start. If you have not the capital to invest in as many head as you desire, by all means make a start with a few pure-bred animals, and use nothing but pure-bred sires. To produce and own the best is the ambition of hundreds of energetic breeders in every variety and breed of animal now being produced. There should be a quiet ambition in the mind of every intelligent breeder to excel—to be above his neighbor in quality of stock produced.

It is this ambition that is responsible for the excellence and quality of animals that are today commanding such seemingly high prices. A good breeder knows when he sees an animal of superior quality that the quickest way to attain, in his own herd, the individual merit that this animal possesses is to buy the animal and introduce his blood and breeding at once. It would be folly for him to set about in some roundabout way to attain this character and individual excellence. He might carry this type in his mind for a lifetime and yet not be able to produce it. It is very often the wise plan to buy your ideal when you find it, even if you have to pay the other fellow a big price for producing it for you.

How many breeders have produced wonders? And, again, how many breeders have become famous by paying a big price for the wonders that other breeders have produced? It is a good plan to get into the pure-bred list as soon as possible, and keep clear of the grade animal, even when breeding for meat production.

Secretary Marshall of the State Horticultural society has estimated the apple yield from sprayed orchards in Nebraska at 1,500 cars.

Misapprehension

In a recent article in The Twentieth Century Farmer entitled "How State Agricultural Colleges Grow," it was stated "a good many professors have left Kansas mainly for the reason that they would not submit to the subordination and co-ordination; that they could not give devoted loyalty to the institution as a whole, could not help but magnify their own importance and the importance of the work entrusted to their charge." It is unfortunate that what the writer intended to say has been partly misapprehended, and that unwarranted and unintended inferences have been drawn from it. The writer is only too glad to correct any misapprehension on the premises. Many professors in Kansas have left the institution there because broader fields and substantially greater emoluments were offered to them, and no such implication should rest against their reputation.

But there are other professors that have left Kansas for the reason stated. Had the article read "all professors," there would have been reason for complaint. It stated, however, that a good many professors have left for the reason stated, and this is true. The reading public should discriminate between a universal affirmation and a limited expression. This paper is only too glad to make its meaning in the premises clear. It would be glad to mention names of worthy professors of high standing that have left Kansas in a highly commendable manner. But personalities are hardly in place in such a discussion.

Township Agricultural Clubs

In some states township organizations are being formed to work in conjunction with the county agricultural bureaus, with a county farm adviser or director in charge. This is getting the work of organization down to a more systematic condition for the adviser and the farmer to work together. The township organization may safely rely on a membership of twenty-five or thirty farmers. In this way it is planned that the township organizations will work with the county association by delegate representation. This system of work will give the county organization a general oversight of the work carried on by the townships, and thus secure better service and a greater interest throughout the entire county. The principal object in township organizations is to interest more farmers in the work.

Price of Nebraska Serum

Beginning with the first of July, the hog cholera serum laboratory at the state farm in Lincoln, Neb., will sell serum and virus at a price of 1 cent per c. c. It has been able to put the price of serum at this figure on account of the liberality of the last legislature in adding not only $15,000 to the working fund, but also in appropriating $15,000 additional as a subsidy.

At this price there is no reason whatever why the farmers of Nebraska should not take the necessary steps to protect their herds against the ravages of cholera. From now on, if hogs die of cholera in Nebraska, it will be solely because owners have not taken proper measures to protect their herds. The fault will be their's alone. Immunization with hog cholera serum is the cheapest hog insurance known.

The Almighty Nebraska Wheat

The Nebraska farmer who wore this shoe mended with baling wire explained that he was a victim of his 1913 "automobile" wheat crop—he was too busy getting the grain into shock to go to town for a new pair of shoes.

He has 160 acres of wheat that promises twenty-five bushels to the acre, or 4,000 bushels. Like hundreds of his fellow citizens, he intends to purchase a motor car after threshing time and send his daughter away to school next winter. He and "mother" are planning a trip to Washington in cold weather to see the government wheels go around, and later he and she will go to Florida or Texas. So what cares he for ragged shoes in warm weather? The almighty wheat pays for it all.

Secretary Coburn's Warning

The report of the Kansas State Board of Agriculture on the condition of this year's wheat crop in Kansas shows that 22 per cent of the acreage sown to wheat last fall has been so damaged as to be plowed up and abandoned. The causes for this are deficiency of rainfall in the western part of the state, and the ravages of chinch bugs in the eastern part of the state. The condition of the crop to be harvested is stated to be 62.87 per cent, based on 100 as the standard. In this connection the secretary issues the following warning:

Notable facts, revealed and confirmed by the detailed reports each year, are that, regardless of locality or season, the best tillage assures the best crops; that extensive farming by shiftless, slipshod methods gives unsatisfactory returns, and that experience is bringing this home to the understanding of Kansas farmers more and more. Dependable good crops are the result of good farming.

Kansas farmers should give careful heed to what the secretary here says. Over much of the territory of western Kansas there has been sufficient rainfall to insure a good crop, had proper methods been employed for conserving it. Improvement in farming methods in the coming years will tend more and more to insure profitable production even in dry seasons.

Last year the secretary warned the farmers of Kansas that continual cropping to wheat or to any other crop would lead to decreased production. Kansas farmers should take this warning also seriously to heart. A proper system of rotation, even though it lessens the acreage devoted to wheat, will in the end produce larger gross results. Nature is long suffering, but finally revolts against misuse. The farmers of Kansas will do well to listen seriously to what the secretary says and co-operate with Nature, rather than drain their natural resources.

Official figures, recently compiled, place the cement production of the United States last year at 83,351,191 barrels, which is a new high record and an increase of more than 3,800,000 barrels in a year.

Farmers as Business Men

A banker writing to this paper says: "We loan to packers and to good commercial firms at a low rate of interest. I would much rather loan it to my farmer customers at the same low rate of interest. They have the most stable security that is offered for the money, and should be entitled to a lower rate of interest than any class of borrowers. But as a matter of fact, they pay a higher rate. They do not realize the necessity of being prompt in their business. They have yet to learn that renewing a note is not liquidating a debt in a way that the bank can use it for paying depositors."

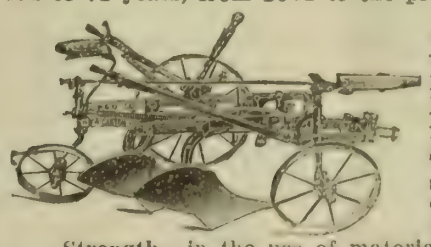
This banker hits the nail squarely on the head. If the farmer would conduct his business on strictly business principles, be prompt in meeting all his obligations, he should be able to command as low a rate of interest as any commercial firm. The interest rate is always commensurate with the hazard involved in making the loan, and this hazard takes into account not only the ultimate payment of the loan, but the promptness in meeting all obligations. If a farmer cannot pay his note when it is due, he can be prompt in paying the interest due, and renew the note, which is only another way of saying that he pays the old loan and secures a new one. Let the farmer take this matter into serious consideration.

According to a report issued by the United States Agricultural department, there are in the world more than 200 different kinds of cheese.

P & O

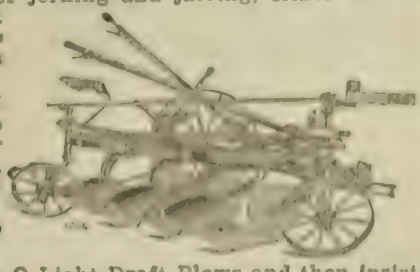
LIGHT DRAFT PLOWS

P & O Light Draft Plows have been used in ever increasing quantities by three generations of American Farmers, spanning a period of 71 years, from 1842 to the present day.



Why? Because we have always insisted on the thorough working out of three cardinal points of merit, upon which rests the foundation of the success of P & O Plows: Strength, Simplicity, and Ease of Operation. These three features with us are something more than a mere choice of words, and they mean just what they say.

Strength—in the use of material, heavy when necessary, but not cumbersome, braced, reinforced and ribbed where the strain is greatest. **Simplicity**—in the studied effort to build plows and other tillage implements that are shorn of all superfluous parts, and still give every needed adjustment. **Ease of Operation**—in the position and counterbalancing of levers, the absence of jerking and jarring, either on the driver or the horses, and that general air of finish so difficult to describe, but which characterizes all P & O implements.



P & O Light Draft Plows, all styles and sizes, from Walking to Engine Gangs, either Molds or Discs, made for all kinds of soil, for work under all conditions and under any circumstances, and

BACKED BY AN UNQUALIFIED GUARANTEE.

Ask your local dealer for P & O Light Draft Plows and then insist on getting them. When you spend your money for plows, get the best—the P & O line.

Parlin & Orendorff Co., Canton, Ill.

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DALLAS
DENVER
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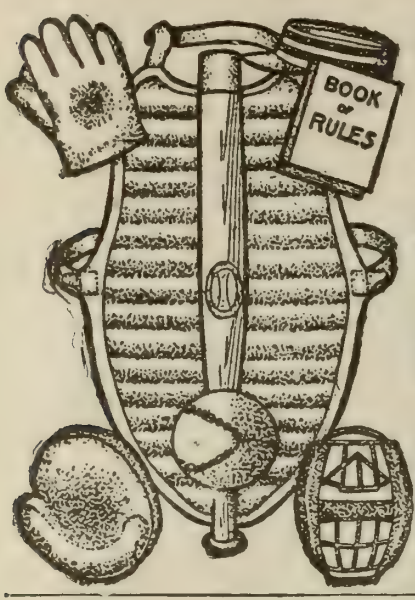
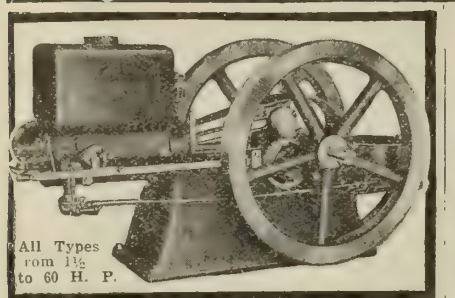


BASE BALL OUTFIT

FREE **BOYS!** Here is your chance to get a fine Base Ball Outfit, consisting of a COMPLETE SUIT, including shirt, pants, cap and belt, good quality, extra well sewed, or combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector.

Will Not Cost One Cent Send your name and we will send you 8 set of our fine pictures to dispose of at 25 cents each. Send us the $2 you collect and for your trouble will send you outfit as described. **Write Today** for pictures. No harm done. I take back what you can't dispose of.

EXTRA PRESENT of BASEBALL CURVER Worn on the hand it aids in giving the ball a rapid, whirling motion—thus causing a wide curve. So small it is not noticed, and they all wonder where those *AWFUL curves come from.* Be a crack pitcher and fan out the batters. Thousands of boys all over the country enthusiastic over this wonderful device. We also send instructions on how to throw all curves—very valuable. Any boy who wants to become a good pitcher can do so with our instructions and the aid of the wonderful little curver. The Curver sent as an extra present to boys who dispose of pictures promptly. Send your name to us at once and see if you can't get both Outfit and Curver for yourself. Address: **M. O. SEITZ, M-81 Chicago**



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An engine that you can bet your last dollar on to work right in all kinds of weather—a fuel saver — an easy starter — a steady worker.

The "INGECO" is just that kind of an engine and besides its reliability it has a record for keeping out of the repair shop—it is a marvel of simplicity—there is nothing to get out of order. Once set it runs constantly without trouble.

KEROSENE ENGINES

Find out about "INGECO" Kerosene, Oil and Distillate Engines before you make another move on the engine question—you'll be ahead in money and satisfaction.

International Gas Engine Co.
158 Holthoff Place, Cudahy, Wis.
(Suburb of Milwaukee)

The Heider Tractor Again Leads Them All.

Runs Successfully on Either Gasoline, Motor Spirits or Kerosene

We have solved the fuel problem successfully. A simple device permits the use of either Gasoline, Motor Spirits or Kerosene at all speeds and puts our tractor in a class all by itself. A gallon of kerosene runs the Heider Tractor longer than a gallon of gasoline, and develops the same power, thereby doing the same work at less cost than any other tractor on the market.

The Heider Tractor Pays for Itself.

Its 4-cylinder motor, light weight, great power, simple operation, economical fuel consumption, make it the best, most practical, all-purpose one-man tractor manufactured. Investigate before buying. Write today for free book on Tractor Farming.

HEIDER MFG. CO., 220 Main St., CARROLL, IOWA.

WHITE PLYMOUTH ROCKS

Prize winning stock, bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices, gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms, Saugatuck, Mich.

Mi ota's Best Lands—Improved and Unimproved

$15-$20 up.

Ideally situated. Some special snaps, 40 partly improved, good buildings, water, $1,500. 280 timber, near town, roads, settled all around. $11.50 acre, cash. Lands on Railway near Duluth. Save money. Write **Floodwood Land Co., Floodwood, Minn.**

Keep Your Good Calves

Keep all the good calves, both heifers and males. You need them in your business. Even though you keep them only till they are milkers or feeders, they will prove as good or better than money in the bank, and you will have done your part toward supplying this cattle shortage. Veal "stuff" returns a tempting profit right at the time of sale, but it depletes the dairy herd, robs the feed lot and removes one of the first essentials to the upbuilding and maintenance of soil fertility.

A heavy draft horse should never be driven faster than a walk, with or without a load.

CUBS' FOOD
They Thrive on Grape-Nuts

Healthy babies don't cry and the well-nourished baby that is fed on Grape-Nuts is never a crying baby. Many babies who cannot take any other food relish the perfect food, Grape-Nuts, and get well.

"My baby was given up by three doctors, who said that the condensed milk on which I had fed her had ruined the child's stomach. One of the doctors told me that the only thing to do would be to try Grape-Nuts, so I got some and prepared it as follows: I soaked one and one-half tablespoonfuls in one pint of cold water for half an hour, then I strained off the liquid and mixed twelve teaspoonfuls of this strained Grape-Nuts juice with six teaspoonfuls of rich milk, put in a pinch of salt and a little sugar, warmed it and gave it to baby every two hours.

"In this simple, easy way I saved baby's life and have built her up to a strong, healthy child, rosy and laughing. The food must certainly be perfect to have such a wonderful effect as this. I can truthfully say I think it is the best food in the world to raise delicate babies on and is also a delicious, healthful food for grown-ups, as we have discovered in our family."

Grape-Nuts is equally valuable to the strong, healthy man or woman. It stands for the true theory of health. "There's a reason," and it is explained in the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Colonel Callahan Passes Away

LIVE stock men of Nebraska and the middle west will no doubt be inexpressibly shocked to learn of the death of Colonel T. C. Callahan at Nicolas Senn hospital at Omaha, Neb., at 11:20 p. m., Saturday, June 28. He had been at Creighton, Neb., where he had conducted a sale on the day previous, and while on his way home was overcome by the extreme heat of Saturday afternoon, becoming unconscious upon reaching the Union depot at Omaha. His son, who had gone to meet him, found him in this condition, and at once had him removed to the hospital, but he never regained consciousness before passing away. To those who knew him best, his death comes as a distinct shock. Possessing an unusually robust constitution, that enabled him at all times to withstand the severest physical discomforts, it seems impossible to believe that he has been taken from our midst without even a word of preliminary warning.

The late Col. T. C. Callahan.

The death of Colonel Callahan is a great loss to the live stock interests, especially those of Nebraska. In his chosen line of work, that of live stock auctioneer, he was recognized by all as being one of the strongest men in the profession. Probably no one man has ever done more to encourage the production of more and better live stock on the farms in Nebraska and surounding states than did Colonel Callahan. He firmly believed that a better class of live stock on the farm meant a better class of citizenship, and also served as a strong incentive to keep the boys on the farm. His heart and soul were in his work, and his well-known honesty of purpose always enabled him to present his argument in a convincing manner. Many a man who has followed his advice has found himself bettered by having done so.

His real worth as a public salesman has been so widely recognized for a number of years that he was far from able to accommodate those who sought his services to conduct their pure-bred sales. The writer has been intimately associated with him in his work during the last ten years, and came to know him as few knew him outside his own immediate family. In all those years, and in all the hundreds of sales with which he has been associated with him, he never knew him even to countenance a dishonorable transaction. In conducting a sale, he was like a general on the field of battle. No matter how gloomy the outlook, no matter how seemingly insurmountable the obstacles, he always met them with a soldier's fortitude. When failure seemed inevitable he has pulled out of many a sale with satisfactory results. He never knew defeat and always seemed to enjoy a fight in the open.

Colonel Callahan was in the strictest sense of the word a self-made man, but unlike many other self-made men, he was not ashamed of his humble beginning, and often took keen delight in reciting incidents of his younger days when life's pathway was not always strewn with roses.

He was born at Kenosha, Wis., fifty-nine years ago, and came to Nebraska at an early age. He landed first in Polk county, and later moved from there to Friend, Neb., where, after a time, he engaged in the hardware and lumber business, and enjoyed a large degree of success. During the time he was in business here, he engaged more or less in conducting farm sales. His success along this line, and his liking for the work, led him to believe that there was a great opportunity open in the pure-bred auctioneering business for a man with ability. With this end in view, he disposed of his business interests at Friend, and devoted his entire time to this work. Twelve years ago he moved to Omaha, and since that time has been closely identified with the live stock interests of the west.

He has passed on, but the work he did here will endure as a fitting monument to his memory. He leaves behind him to mourn his loss a wife, a son and a daughter. His beautiful home life, and the tender love and kindness he bestowed on those he loved, will make his going seem doubly hard for them to bear, but it is hoped that they will find consolation in the fact that he did his work well while here, and that all are better for his having been among us.

G. E. HALL.

Summertime Dairygrams

Milk gently, quickly and thoroughly.

Let the heifer with her first calf rest a while before you breed her again.

Skim-milk loses a part of its nourishing qualities if allowed to cool before being fed.

Clean hands, clean pails, clean teats and udders—without these it is impossible to produce clean dairy products.

Don't fool your time and strength away milking the short-teated cow. Take the calf away from some other member of the dairy herd with good-sized teats, and put two calves with the cow with the short teats, milking the one with the teats of more desirable size.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

A Robin in the Rain

O robin in the evening rain,
Singing thus your heart away
In such merry, mirthful strain,
Know you not 'tis close of day?

Know you not the shadows creep
Softly, oh, so softly near,
That the garden sinks to sleep
'Neath the rain mist's cover drear?

Hearing you, I think you are
Some shy shadow, given song,
Sending mystic music far
The twilight's dusky aisles along.

Why such bubbling, blithsome glee?
Are you singing in your dreams?
Golden visions do you see
Of meadows bright and woodland streams?

Tell me the secret—how you sing
When eve is gray on hill and glen,
So shall I learn how I may bring
Sweet comfort to my fellow men.

Oh, robin in the evening rain,
Perhaps the secret I have guessed:
You're singing o'er this glad refrain
To someone in a sheltered nest.

You think not of the shadowed sky,
Of sound where wind wraiths creep and stir;
Love watches in that nest close by,
And you are singing just for her!

—Arthur Wallace Peach

The Robin

We all know the robin the minute we see it, for there are thousands and thousands of them in every community in the United States. Among the first signs of spring in the northern and central states are his cheerful call on a frosty morning and the sight of his grayish-brown wings and glowing breast on the bare bough of a tree. The robin stays with us all summer and each pair raise at least two families of four or five children each. Their nests are usually built in a tree near the house, for Bobby is a friendly little creature. The nest is made of crooked sticks and strings, lined with leaves and grass stuck together with a plaster of mud. The mother robin brings the mud and sticks it on, using her breast for a trowel to smooth it. Perhaps that is why her breast is a duller red than her husband's.

When the nest is done there are four or five (usually four) bright blue eggs laid in it, and the mother hatches them, while the father brings her food and sings to her. Sometimes he keeps the eggs warm while she goes off for a little exercise. When the eggs hatch out both parents are kept busy bringing food for the nestlings, as they eat two or three times their weight in bugs and worms every day until they leave the nest. The young robins look rougher than the old ones, and their breasts are slightly speckled during their first year.

All through the spring the robins eat only worms and bugs. They have very sharp hearing, and you will often see a robin on the lawn with his little head cocked to one side listening. Suddenly he will hear a worm crawling underground and plunge his sharp bill down, and out comes the worm. Often he lays them aside until he has several, and then carries them home. In fruit time the robin demands payment for his labor in eating up cutworms, grasshoppers, wireworms and other enemies of vegetation, and descends upon the cherries and apples. Sometimes there are so many robins that great damage is done to the fruit, but it is a pity to kill them, after all, for who can estimate the good

they do by eating so many bugs? There is another way well worth trying. Robins prefer mulberries to any other kind of fruit, even cherries. Scarcely anyone else is so foolish as to prefer these tasteless mulberries. If a few mulberry bushes are planted among the orchard trees the robins will take them in preference to the apples and cherries. After the fruit season is over the birds go back to their bug and worm diet again.

THE EDITOR.

(Prize Story)

The Vacation

By Nellie Snyder, Provo, Utah. Aged 15. Blue.

The train puffed into the station at W—— one bright June morning just as a little boy and girl, with their father and mother, came from the station house. They boarded the car, which gave a dash and roar, and soon the children were speeding away from their friends who came to bid them good-bye. The journey to the canyon was a long one, but was made short by the new wonders to be seen at every turn.

Such a lovely place they had for the camp! Large ash and pine trees surrounded a spring of water, and red, white and every color of flowers peeped their heads from the green grass. During their stay the children wandered over the hills so often that they knew where the largest and nicest berries grew and where the fish could best be caught in the streams. They learned the names of the flowers and the birds.

When the day for their going home had come they would have enjoyed staying longer, but were anxious to tell their playmates the delights of their summer vacation.

(Honorable Mention)

Harold's Headache

By Zora Mowrey, Arcadia, Neb. Aged 13. Blue.

Mrs. Thomas had been busy all morning, so did not awaken baby. He had not felt well the day before, so she let him sleep till late. It was about 9 o'clock before he awoke. He got up and partly dressed himself, and then his mother got him some breakfast, and as soon as he had finished it he started out to play.

Mrs. Thomas finished her morning work and looked out of the window just in time to see Harold throw down his hammer and then start toward the house, limping. When he got to the house she picked him up and sat down in a

(CONTINUED ON PAGE SEVENTEEN.)

July-August
BARGAIN SUPPLEMENT
SEARS ROEBUCK AND CO.
CHICAGO, ILL.
THIS SALE CLOSES AUGUST 31, 1913

Six Pairs Men's Socks, 79c. Guaranteed to Wear 6 Months

Genuine Amoskeag Chambray Shirts for Men, 33c

Women's Long Silk Gloves, 53c

Regular $5.00 Quality Wool Filled Blankets, $3.87

Two Dozen Cup Shape Pure White Pearl Buttons for 6c

Two Dozen ½ Pint Heavy Crystal Jelly Tumblers, 35c

One Dozen Silk Hair Nets for 19c

45-Lb. Felted Cotton Mattress, $4.98

Greatest of all Midsummer Sales. For sixty days ending August 31st, we eclipse all previous efforts in bargain price-making.

Don't send for this book

if you are already a customer of Sears, Roebuck and Co. We have mailed a copy to each and every one of the five million customers who have sent us an order since January 1, 1912.

But if you haven't bought of us since then, and if you really want to share in the greatest of this year's bargain sales, then just write "July-August Bargain Supplement" on a postal card, sign your name and address and mail to

Sears, Roebuck and Co.
Chicago

The Year's Greatest Bargains in Women's Dresses

Fall Coats for Women

All Wool Mixed Suits for Men

Ostrich Plumes

Shoes for Women, Men and Boys

Baby Flannels

All Linen Towels

Table Damask

Special Offer on the World's Best Sewing Machine

Look for Our July-August Stove Proposition

"Ben-Hur," the Greatest Novel Ever Written by an American. Never Before Sold Under $1.50; NOW 48c

Victrola VI
Oak $25

Buy this $25 Victrola and start right now to enjoy all the delightful Victor music and fun.

Any Victor dealer will gladly play any music you wish to hear and demonstrate this wonderful instrument.

Other styles $15 to $200.
Write for catalogs.

Victor Talking Machine Co.
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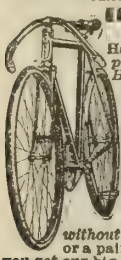

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Have *imported roller chains, sprockets* and *pedals; New Departure Coaster-Brakes* and *Hubs; Puncture Proof Tires; highest grade equipment* and many advanced features possessed by no other wheels. *Guaranteed for 5 years.*

FACTORY PRICES direct to you are less than others ask for cheap wheels. Other rollable models from $12 up. A few good second-hand machines $3 to $8.

10 DAYS' FREE TRIAL We ship on approval, *freight prepaid*, anywhere in U. S. *without a cent in advance.* DO NOT BUY a bicycle or a pair of tires from *anyone* at *any price* until you get our big new catalog and *special prices* and *a marvelous new offer.* A postal brings everything. *Write it now.*

TIRES Coaster-Brake Rear Wheels, lamps, parts and sundries *half usual prices.* Rider Agents everywhere are coining money selling our bicycles, tires and sundries. Write today.

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Save Your Alfalfa Crop from the Rain.

Let Us Tell You How to Do It.

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Running Water
in House and Barn at even temperature Winter or Summer at Small Cost.
Send Postal for New Water Supply Plan. It will bring you 100 pictures of it in actual use. Do it Now.
Aermotor Co., 1144 S. Campbell Av., Chicago
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DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers or 6 sent prepaid for $1.

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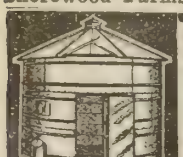
RHODE ISLAND WHITES
America's "best yet" breed — pure White—every way desirable. In great demand. Bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy. "Good Poultry," our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.
Shorewood Farms Co., Saugatuck, Mich.



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Corrugated. Can't Cave In.
Rat-Proof. Fire-Proof.
Can be used for store house. Capacity increased by additional sections. Keeps grain perfectly. Large door and removable shoveling board. Ask for booklet showing letters from satisfied users.
BUTLER MANUFACTURING CO.
1212 W. 10th Street, Kansas City, Mo.

Of Interest to Our Women Readers

Cheer

It's a mighty good world, so it is, dear lass,
Whenever the worst is said.
There's a smile and a tear, a sigh and a cheer.
But better be living than dead;
A joy and a pain, a loss and a gain;
There's honey and maybe some gall;
Yet still I declare, foul weather or fair,
It's a mighty good world after all.

For, look, lass! at night when I break from the light,
My kingdom is waiting for me;
There's comfort and rest, and the warmth of your breast,
And little ones climbing my knee.
There's firelight and song—oh, the world may be wrong!
Its empires may topple and fall;
My home is my care—if gladness be there,
It's a mighty good world after all.

O heart of pure gold! I have made you a fold;
It's sheltered, sun-fondled and warm.
O little ones, rest! I have fashioned a nest;
Sleep on! You are safe from the storm,
For there's no foe like fear, and there's no friend like cheer,
And sunshine will flash at our call;
So crown love as king, and let us all sing,
"It's a mighty good world after all!"

—Robert W. Service.

Our Home Chat

This has been such a fine year for vegetables that no doubt most of our readers have or will have quantities that they hardly know how to dispose of. Mrs. Cannon tells on this page her experience in canning them. Home canned vegetables are not only better than those purchased at stores, but sometimes a fairly large financial saving may be made in this way.

We desire to add to what she has to tell you that in such a year of plenty as this seems to be it is well to prepare for the possibility of a leaner year to come. Canning in glass jars is excellent for small quantities, but if one wishes to put up fruit and vegetables for a large family, it will pay one to secure a regular canning apparatus, which is not very expensive, and put up enough to last for two years. Also, if your vegetables are extremely plentiful and you have a little more time than your neighbors, you may be able to make your machine pay for itself by selling to others. On farms where there is a large family of young people, canning day may be made a very pleasant one by all working together, or in many cases two or more families might go in together and spend a few happy and profitable days. This is worth thinking over at least.

THE EDITOR.

Canning Time

If farm women knew the satisfaction of being able to vary the various menus with delicious summer vegetables, at the same time saving the expense of commercial canned goods, I sincerely believe there would be more home canning factories. True, it does require time and careful effort and a scientific understanding of canning and preserving, but one successful trial is all that is necessary to convince one that it is more than worth while.

For success in canning and preserving, complete sterilization or destruction of germs is necessary. The cause of decay in fruit and vegetables is due to the action of these minute bacteria everywhere present. Boiling temperature kills the adult bacteria, but the spores or eggs develop later and germinate after cooling, so that heating to a boiling point and keeping there for about one hour for three successive days or keeping at boiling point five hours is necessary for complete sterilization.

The former method is preferable, as it saves time and fuel. Boiling on the first day kills the bacteria, and the spores then develop and are killed on the second or third day before they have time to reproduce.

A common tin wash boiler makes a good container for sterilizing, but it should have a false bottom made of wire netting to keep the cans from touching the bottom of the boiler and allow circulation under them.

There is such a list of improved styles of jars now on the market that it is difficult to determine which is best. Experienced canners highly recommend glass jars with glass or tin clamped-on tops, several of which are on the market, while others have had equally good success with screw-top jars. It is, however, not economy to use cheap jars or old lids or rubbers. The directions given below apply to quart jars.

The Process: All vegetables should be prepared and canned as soon as possible after being brought from the garden, as they soon lose their flavor if allowed to stand after being gathered.

Corn: Cut off corn with a sharp knife and pack the cans full. Add a teaspoonful of salt and fill can up with cold water. Place the lid on loosely. Put the boiler on the stove with three or four inches of cold water in it. Set jars on false bottom, leaving space between them. Put the cover on the boiler; the steam does the cooking. Bring the water to a boil and keep it boiling for one hour; then remove the cover and allow the steam to escape. Screw down top of jar or press on lid, according to which kind of jar you have, to keep out the air. Remove from the stove and allow to cool.

On the second day loosen the lids and boil one hour in exactly the same way as the previous day. Proceed as before; the same the third day. It is wise to try a few cans early in the season; and should any spoil, boil the next lot for one and one-half-hour periods instead of one hour.

Always have the vegetables perfectly fresh and in the best possible condition, discarding all imperfect ones.

To can string beans, string and break up tender beans, and proceed as with corn, not forgetting the salt.

Shell peas as soon as possible and can in the same way.

Can asparagus tips and cauliflower the same way.

The writer canned peaches so successfully last year that the method is worth passing on. Freestone peaches in perfect condition were used. They were scalded, pared, cut in halves and the stones removed a quart at a time. By the time a quart was prepared a syrup of half water and half sugar was boiling on the stove and the jars were sterilized.. The peaches were dropped into a jar standing in boiling water until the jar was filled, but not crowded. In a few minutes the jar was lifted from the hot water, wrapped in a wet cloth and filled immediately with boiling syrup, then heated. The peaches retained their delicate flavor and firmness of flesh that would have been lost in cooking, and we had fresh peaches and cream last winter when fruit was scarce.

DAISY CANNON.

Pineapple Crown

The combination of fresh pineapple with berries of any variety is exceptionally delicious. Cut the pineapple into oblong slices, pointed at one end, and stand side by side in an individual dish to form a crown. Fill the center with berries, garnished with leaves, and form a border of single berries around the outside. Sprinkle well with sugar and chill thoroughly before serving.

WINIFRED FALES.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6109—Child's Middy Dress—The blouse of this dress is made to be slipped on over the head. The side seams are left slightly open. The neck is trimmed with a fancy collar and the sleeves may be elbow or full length. The kilt skirt is attached to an underwaist, which is sleeveless. The pattern 6109 is cut in sizes 2, 4, 6, 8 and 10 years. Medium size requires 1⅝ yards of 36-inch light material, with 1¾ yards of 44-inch dark material, ⅝ yard of 36-inch lining for the underwaist.

6062—Children's Dress—This little dress is made with the closing at the front. It can be made with either the high or low neck and with long or short sleeves. Linen or gingham can be used to make this dress. The pattern 6062 is cut in sizes 2, 4, 6 and 8 years. Medium size requires 2 yards of 44-inch material, with ⅝ yard of 27-inch contrasting goods.

6216—Simple and Stylish—This very smart model gives us a simple style that is appropriate for linen, pongee, silk, serge or gingham. The plain blouse fastens in front and has a wide epaulette collar and sleeves plain at the shoulder, and finished with a cuff. The skirt has four gores, a slot seam effect in the back and a side front closing. The pattern 6216 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4 yards of 44-inch material.

6030—Ladies' Petticoat—This petticoat is cut in one piece and is specially desirable for flouncing. It is made with a straight lower edge. The pattern 6030 is cut in sizes 22 to 36 inches waist measure. Medium size requires 2½ yards of 45-inch flouncing.

6067—Ladies' Dress—A delightful frock is here pictured, and one quite easy to make. It has the fashionable and convenient front closing and may be made with the empire or regulation waistline. The skirt is cut in four gores and can be made with an inserted plait or habit back. The pattern 6067 is cut in sizes 34 to 42 inches bust measure. Medium size requires 6 yards of 36-inch material and ¾ yard of 22-inch allover.

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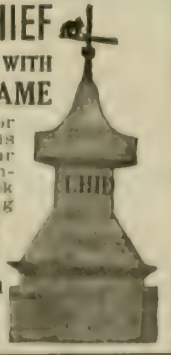

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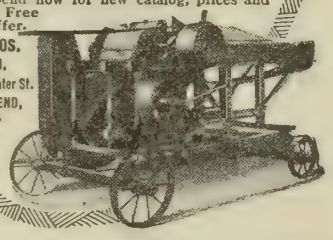

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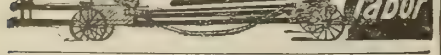

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Mexico No Place for Men of Small Means

By Frank G. Carpenter

SAN LUIS POTOSI, Mexico—This letter is devoted to the small man in Mexico. It is not for the railroad magnate, nor the millionaire capitalist, nor the skilled mining or civil engineer who is sent down over the border with money to burn. It is for the would-be settler who has a few hundred or a few thousand dollars, and for the man who has saved some money and hopes to plant it where it will breed gold dollars more rapidly than the rabbits of Australia bring forth their young. To such Mexico has been painted as an El Dorado, whose treasure vaults may be opened as easily as was the cave of the forty thieves to our old friend Ali Baba, and also as a Garden of Eden, where you may sow coffee, cocoanuts and bananas and then lie in the shade of the trees until the fruit drops into your mouth.

The Corn is Shelled by Hand

Warning to Investors

The truth is far different. Just now, in these days of rebellion, brigandage and political unrest, there is no chance at all for the small man. When the country is quiet and peace has returned, it will be different; and, as I shall show further on, the opportunities for large profits will probably be greater than in the United States. Mexico is ready for a mighty development, and there are millions of American dollars which will roll down over the border as soon as our capitalists can be sure that they will be permanently safe. One of the consuls tells me that during the last years of the Diaz regime new money was coming in by the tens of thousands of dollars a day. This money was dammed back by the revolutionary troubles, and it only awaits stable conditions to break forth in a tidal wave over the republic. If this is so, it will pay the big man and the little man to keep his eyes upon Mexico.

Lost Money in Mexico

But, as I have suggested, it will pay the small man to watch out. I have been looking into the results of the small investments of the past. Americans tell me of thousands of our people who have put their little savings into Mexican stock companies and have gotten nothing back. This is the verdict of our consuls, of mining engineers and of American business men who have traveled over the country. The opportunities are here, but the field has been largely exploited by fake companies and stock-jobbing syndicates. These men, by promising enormous returns, have persuaded the small man to invest what he had and to mortgage his future by additional sums, to be paid on monthly installments. Most of such companies have failed, and many of them have been fakes, pure and simple. The bona fide capitalists here are satisfied with 10 or 15 per cent profit, and if there were many investments which would net them 100 per cent they would grab them. This is so not only of mines, but of tropical agriculture, and it is safe to say that any man who promises 500 per cent profit within five or ten years is a fraud.

One of the most careful observers of the men sent here by the government is Charles M. Pepper, who was long a correspondent of the Chicago Tribune. In a report to congress he stated that no American school teacher, clerk, day laborer, seamstress or college professor, who had only a few hundred dollars of savings, had any right to risk them in a Mexican stock company, especially in those relating to tropical plantations. He advised them to take their little hordes and throw them into the sea and leave a record of the place where the bubbles came up for their grandchildren rather than put them into such companies with the hope that they would ever come back to them or their grandchildren.

One of our consul generals says that no American, and especially no one with small savings, should invest in Mexico without a report from parties whom he knows to be reliable. Better still would it be for him to come here to see before he buys. Big names do not always mean reliability of statement, and the so-called government concessions for the investment of capital lapse if the development stipulated in them fails. When one buys real estate at home he always looks into the title, and the same should be done in any foreign speculation, and especially when the title comes from a foreigner.

Frontier of the United States

On the other hand, Mexico is now to take the part of our great west. It is to be the frontier of the United States, and with settled conditions the big estates will gradually be divided. Many of them will go into the hands of bona fide development companies and will be accessible to American settlers. Such will be the Mexican part of the Imperial valley which is to have its share of the waters of the Colorado river for irrigation. The lands there are as rich as the valley of the Nile and quite equal to those now being worked in the United States.

There are also large tracts of lowlands near the coast, which will be opened to the growing of coffee and bananas and other tropical fruits, and there are already some profitable tropical estates operated by American syndicates. Just before the revolutionary troubles began American planters were coming in by the hundreds and settling the coast lands near the Caribbean sea. Many had holdings near Tampico, others had bought timber lands farther south, some were prospecting for petroleum and some were looking up rubber investments.

I say there were many of these investors. The term is only comparative. The permanent American residents of Mexico at that time were not more than 40,000, which is a small number compared with the total population here, which is about 16,000,000. Today thousands of these Americans have left. Others have stayed and sent their families home, and still others have given up in despair on account of the unsettled conditions. Indeed, I doubt that there are more than 15,000 or 20,000 Americans living in Mexico today.

Chances for Young Men

There is no opportunity for a young man here without capital, and it seems to me there will be but little for a long time to come. The common labor is done by the Indian, who works for one-third or one-fifth what the ordinary day laborer of the United States receives, and the wages of mechanics are not one-third those of the United States. There are no chances for clerks or petty bookkeepers. There are many young Mexicans who can keep books, and they can sell goods as well as we can and will do it at one-third our wages.

It is only skilled labor and special ability that command high prices. I refer to such professions as engineering and those of the electrical and mining experts. Such men are in demand, and if they can speak Spanish they can find plenty to do.

Big Money for Dentists

As to professional men, Mexico has its own doctors and lawyers. It has a smattering of native dentists, but there are many American dentists who are doing well. Said one of these to me the other day:

"I made $5,000 the first year I came here and my receipts now

are about $1,000 a month. I can charge bigger prices than at home, and I have gotten as much as $100 for a full set of teeth upon rubber. Whenever I administer gas I charge $10 for pulling a tooth, although when I yank out half a dozen I reduce that rate to $5 for each tooth after the first. In gold fillings my prices are $5 and upward, according to the size of the cavity and the bank account of the man who has his teeth filled. I get big money for bridgework, and I have made $500 and upward out of a single mouth."

This dentist spoke Spanish and he had picked up the language after coming to Mexico.

Knowledge of Spanish Necessary

As a rule it is almost impossible to get along here with nothing but English, and, contrary to the general belief, the Spanish language is not easy to learn. One can pick up a smattering within a few months, but to get a good working knowledge it requires a year or so of hard study. There are some professions in which one must have Spanish to enter. This is so of the physician, who cannot issue a death certificate without he has a government diploma, and of the attorney, who has to pass a regular government examination. If an American would act as a prescription clerk in a drug store, he must have a diploma from the Mexican authorities, and, as to school teachers, they can do nothing here without understanding and being able to read and write Spanish. There are openings for good American stenographers who can translate and also take down their notes in Spanish and English, but many of the typewriting places are now being filled with native girls who are trained in the female schools of Mexico City. I find such girls acting as private secretaries in most of the government offices, and nearly every professional man has one or more of them.

Money in Lands

With t e coming of peace there is sure to be a rise in Mexican lands. I am told that real estate values during the last five years have risen from 200 to 300 per cent, and that there will be a radical increase as soon as conditions are stable. There is a big movement here for dividing the large estates, and such properties are now sold all the way from 50 cents to $3 per acre, according to their character and improvements. In case one wishes to engage in stock raising he needs a considerable tract. The pasturage on the highlands is thin, and the range must be much more extensive than in our country. At present the cattle are poorly fed, and they are usually small. It is estimated that it costs less than $8 in gold to fatten a steer. I am told that there is money in sheep and goat raising, and that swine do very well and never have cholera.

New Farm Methods Needed

As to grain farming, there is plenty of room for scientific agriculture. Corn grows everywhere, but the average is less than fifteen bushels per acre, whereas it might be as much as in the best parts of the States. There is a big local demand for corn. The present methods are crude and the corn is shelled out by hand. Still, it is the staple food of two-thirds of the people, and the price for a number of years past has been double that of the United States. It is the same with wheat, Mexico not raising near enough of either grain to feed her own people.

The methods of wheat growing are exceedingly crude. On the smaller farms the grain is cut by hand, and in some places threshed out by driving oxen over it. In the state of Sonora every locality has its threshing pits. These are about thirty or forty feet in diameter and one or two feet deep. The bottoms of such pits are pounded smooth and treated so that they are as hard as if covered with concrete. The wheat is thrown into the pit and the grain trodden out by the feet of horses or donkeys. The wheat is then cleaned by throwing it against the wind, which blows away the chaff, the wheat falling on a sheet or blanket. On the larger haciendas modern machinery is used, and there are some which have steam threshers and steam plows.

Tropical Agriculture

The tropics of Mexico seem to be especially attractive to Americans. There are extensive tracts on the eastern and western sides of the country, rising from the seacoast to the mountains, which have every climate known to man. The lowlands will grow all sorts of tropical fruits, and higher up are coffee and cacoa. Experiments have shown that tea can be produced, and also ginger, nutmegs and spices. There are some profitable cocao plantations, this fruit having been raised since the times of the Aztecs. As to coffee, the trees thrive almost anywhere at an elevation of from 2,500 to 4,000 feet, and from 500 to 1,000 trees can be grown on one acre. The production of coffee last year was about 66,000,000 pounds. The coffee costs about 7 cents a pound to raise, pick, clean and sack, whereas the selling price at the plantations for it is about 14 cents a pound. An acre should produce from 250 to 500 pounds.

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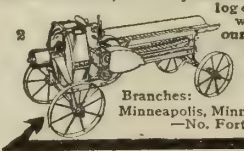

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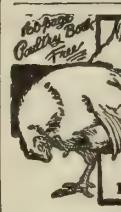

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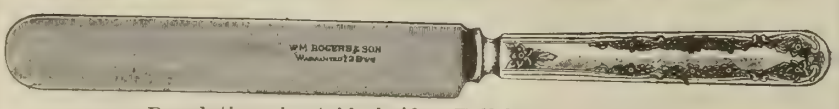

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Please send my knife to

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OMAHA.

Timely Items of Interest to Poultry Raisers and Fanciers

THERE are states and vicinities in which colonies of bees are not found in this day, the cause for which is that European or American foul brood has utterly banished the honey-making profit.

Certain states have passed laws relative to the eradication of these diseases, and now, in the state from which I write, the state entomologist has the right to order any person keeping bees in box hives, or hives of any kind, without frames in which these diseases are known to lurk, to transfer those bees within a certain time to movable frame hives, or, in default, the entomologist will himself destroy boxes and bees. He has the lawful right to enter all bee premises.

Also, any owner of any apiary where the disease exists who shall barter, give away or import into this state any colony or colonies of bees or appliances infected with the foul brood disease, or expose to the danger of other bees any comb, honey or appliance from infected hives, or who shall conceal the fact of his bees having the disease or hinder the entomologist in the discharge of his duties, shall pay a fine ranging from $10 to $25. And if he fails to report to the entomologist the existence of foul brood in his own colonies, or elsewhere among bee keepers that he knows, he shall be charged guilty of misdemeanor and fined $10.

There are other rulings against the failure of the bee owners to comply with the laws governing the extermination of foul brood, but these two lead. There is a difference between American and European foul brood. In the latter the disease is easily seen early in the life of the larvae, while it is still curled at the base of the cell; the yellow spot the disease first shows, and which appears on the head, is soon fast covering the body of the pearl-white larvae. The American foul brood does not attack the larvae till it has left the base of the cell and has placed itself lengthwise of the cell. The larvae gradually turn black, assume a ropy character that smells like rotten glue and shrivel away, leaving a residue holding tight to the cell walls that spread the disease in malignant form through the honey the bees again store in them.

The European foul brood is neither so ropy or bad smelling as the American, and when the bees clean out the cells and get them ready for honey deposit they often get them so clean of every atom of foul brood that the disease may not appear again, at least not for several months, and it may be not at all. However, if it does it spreads more rapidly than the American kind.

These diseases are caused by a bacteria that will resist boiling water for nearly an hour when placed in it. Feeding this boiled bacteria back to the bees is dangerous, for if the bacteria all be dead, boiled honey of itself tends to give bees dysentery.

Pure Italian bees are nearly immune from foul brood, but our wild and black bees take it on easily.

Two Ways of Big Loss

"How shall I feed the chicks," "How cure the chick diarrhea?" are such common poultry questions. For the first, try the hen's method. She neither advocates a wet feed or a dry one; she takes what she finds, picking up dry, small grains here, some green stuff there, a bit of meat on this side, a soft bit of bread on the other, and the chicks do well and thrive.

She runs them about so fast they eat slowly and digest at leisure and their crops are not stuffed full until it is time for them to go to bed, and so, while you might feed largely of dry grains, or mostly of soft food, yet with either favored ration you must add the variety after the first few days, in which time I advocate mostly ground bread and crumbled egg yolk.

Some people adopt a certain system and stuff on it alone. I saw a dead and dying batch of chicks the other day. The woman declared she read where you must start chicks solely on bran and sour milk. Think of that, will you? That some flocks have lived through it is true, but what a sour, coarse diet as the sole diet of delicate chicks! Sour milk, if fresh, is all right, but there must be something of account given alongside, and that not bran by any means.

Cold Storage

Michael Boyer, a veteran eastern poultryman, has this to say about cold storage: "In the dressed poultry trade there is no worse enemy than the cold storage system. Instead of being a benefit it is a damage to honest poultry culture. Chickens are killed in the summer and placed in these large refrigerators to be frozen stiff, then brought to market next winter to compete with the lately killed and superior broiler and spring chicken trade. No farmer should knowingly sell to the refrigerator trade, for it is an imposition on the consumer. Families as well as hotel keepers, etc., want their poultry fresh. Build up your sales in this line and give them your best."

The White Diarrhea

It is useless to ask for a cure for white diarrhea in chicks, for there is no real cure for the small chick. There may be helps that you add to measures you take of yourself to cut it short, and this means quickly killing off the sick and drooping, then disinfecting the drinking water. To leave one of these alive means no use trying to save the rest. Chicks may take it when older and not show the diarrhea, and seemingly get well. For my part I do not want one taken with the disease to get well, for they are always diseased and crooked-headed, and a menace to other fowls as long as they live. Vigorous measures only will stamp it out. IDA M. SHEPLER.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Colt with Swelled Knees

T. M. I., Chelsea, Ia.: I have a little colt which is 4 weeks old. It had nice, straight legs when it was born, but a few days after it started to run around nice I noticed its knees were swelled at the outside. Both knees were puffy right in the center of the outside. This bothers it only when it wants to run, and then it seems rather stiff. Otherwise it is growing nicely and is a pretty colt.

Answer—If these puffs do not disappear at the beginning of the winter, they should be blistered with a reliable blister. At present it is best to leave them alone. In most instances this condition will disappear as the colt grows older. If there should be any puffs in front of the hock, leave them alone, as they usually disappear before the colt is 3 years old. They were likely caused by a slight strain.

Mare Has Little Sores

I. G. D., Keota, Colo.: I have a white mare 3 years old that has had little sores on her since she was a colt. They are more numerous upon her stomach and between her hind legs. They are about the size of a dime, although some of them may be as large as a quarter, and there is yellow pus in them. She is in good flesh and acts well, but lately I have noticed that she coughs some. I have been told that she has button farcy and that I would have to doctor her for her blood. Is that right? And what shall I give her?

Answer—If located where it is possible to get a qualified veterinarian, have him examine this mare carefully. If there is none in your locality, write the state veterinarian at Denver, and if he thinks it necessary he will have some deputy state veterinarian examine her. Without making this examination it would be impossible to say what the trouble is or to outline any treatment.

More Opinions on Farm Credits

J. R. N., Howell, Neb.: Permit me to express my views on the topic of farm credit. The farmer produces the greatest part of the wealth of the world, but as yet a few eastern financiers are controlling the money and credit of this great nation, and also control and fix the price of the products of the farm. We are all aware that these few gentlemen in Wall street are running the government, and the producers have but little to say. Why couldn't laws be enacted whereby the government would loan money to farmers at a cheap rate of interest and give them the same privilege to borrow as do the national banks? The government could establish banks of exchange and loan direct to the people on from one to twenty years' time, and in return get the best security or mortgage. Farmers must have laws made that will help them secure the greater credit to which they are entitled and not allow eastern financiers to take advantage of them and do business at their expense. The farmers must demand the same laws which have existed in foreign lands which have placed the agricultural industry at the head of the procession.

***

A Subscriber, Ord, Neb.: Referring to Mr. Price's article on farm credits, he does not tell us where the money is to come from to buy those 4 per cent state bonds. The banks in this part of the country are paying 5 per cent on time deposits, six months, which can be renewed with interest added. If the state makes a 4 per cent interest for farm loans, you will drive the money out of the state, and if the United States should adopt such a law it would cause the money loaners to invest their money in other lands—say, in Brazil or Argentine or British Columbia, where the single tax law is in force. The farmers in this county can get all the money they can secure at about 6 per cent on ten years' time, and it is my opinion, based on practical experience, that a farmer that cannot pay off a loan at 6 per cent cannot pay it at 4 per cent. Any radical change in farm loans will cause as much or more disturbance as tinkering with the tariff.

But the greatest objection to Mr. Price's plan is this—that a long-time loan would eventually bankrupt the state and cause the taxes to be increased to such an extent that the difference they now pay in interest would be insignificant. A long-time loan, say twenty or twenty-five years, based on the present valuation, would not find very many buyers, for the reason that under the present system of farming the land will not be worth the mortgage. I cite you the state of New York for an example. You can buy all the farms you want for less than the buildings cost.

The one great cause that brought about that condition in New York is being enacted right here in the great state of Nebraska. The farmers are moving to town and allowing the renters to rob the soil as long as it will produce a living for them. When it is finally worn out they move to newer lands and there repeat the same process. The land owner that permits his tenant to depreciate the fertility of the soil is not deserving of a loan. I will put it a little stronger than that. I think the land ought to be confiscated and the proceeds given to an agricultural college, to be used in training farmers for the future.

I trust this question will be thoroughly discussed in time to prevent the state from saddling a burden onto future generations, and I hope that these articles presented from time to time may cause the farmers to wake up to the great necessity of keeping up the fertility of the soil. We have no moral right to leave a worn-out and poverty-stricken country to future posterity.

Our Young People

(CONTINUED FROM PAGE ELEVEN.)

nearby rocker, and said, "What is the matter with my little Harold? Doesn't he feel well?"

He sat up straight and said between sobs, "I'ze dot an awful headache right in my b-big toe, 'cause I hit it wif the hammer."

Additional Stories

Blue—Helen Drapela, Clarkson, Neb.; Olga Larson, Hardin, Mont.

Red—Neva Wetzel, North Loup, Neb.; Edna Anderson, Weston, Ia., Maude Jones, Hooper, Utah.

The state of New York boasts of more than 1,500,000 cows. Wisconsin is a close second, while Iowa is third with 1,400,000.

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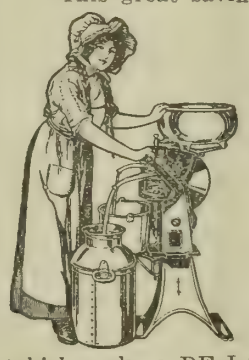
Save Much Time and Labor in Summer

BESIDES greatly increasing the quantity and improving the quality of cream and butter DE LAVAL cream separators save much valuable time and labor.

This great saving of time and labor counts for more in summer than at any other season and often alone saves the cost of a separator, aside from all its other advantages.



As compared with any kind of gravity setting the saving of man's time and labor and usually woman's drudgery with a DE LAVAL is a big item in its favor.

As compared with other separators the DE LAVAL saves much time and labor by its greater capacity, easier running, easier handling, easier cleaning and freedom from need of adjustment or repair.

These are merely some of the advantages which make a DE LAVAL cream separator the best of all summer farm investments, as every DE LAVAL agent will be glad to explain and demonstrate to anyone at all interested.

See the nearest DE LAVAL agent at once or if you do not know him write us direct for any desired information.

THE DE LAVAL SEPARATOR CO.
NEW YORK CHICAGO SAN FRANCISCO SEATTLE

First Aid to the Farmer!

French Dry Batteries represent the most powerful, efficient and convenient aid ever offered farmers. For a few cents a year you can electrify your farm and save hours of time, miles of steps and a pile of dollars. Have the power, convenience and luxury of electricity at your hand ready for instant use all the time.

Saves Time, Work and Money

French Dry Batteries are lightening labor and lighting hundreds of dark places. Their uses are saving time, work and money for thousands of farmers. Just the pressure of a button or a twist of the wrist and presto!—the gasoline and automobile engines are started, both party and exchange lines of the telephone are working, gates and doors are opened; call bells are rung, and scores of other duties are performed by the aid of

French Dry Cells

Best Batteries Built

For telephone and all household uses, French Telephone Dry Cells with the Green label are best. For ignition for autos, gas engines, motor boats, etc., French Auto Special Dry Cells—Blue label—are the batteries to buy. They are special-purpose batteries, built for a special job.

French Dry Batteries deliver a strong current for a long period. They are scientifically constructed packages of electricity. Poor quality batteries give a weak current for a short time and finally "peter out" altogether.

Insist on genuine French Dry Batteries. Your dealer will gladly tell you the particular French Dry Cell you need. If you want to learn of all the ways French Dry Batteries can help you do your farm work, mail in the attached coupon.

FRENCH BATTERY AND CARBON CO.
7 Tenth Street Madison, Wis.

Mail the Coupon Tonight

FRENCH BATTERY AND CARBON CO.
7 Tenth Street, Madison, Wis.

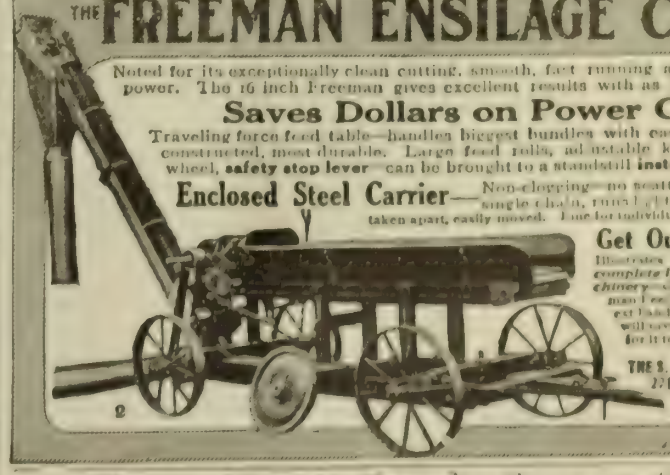
Gentlemen:—I am interested in electrifying my farm and would like to know how to do it at a low cost with French Dry Batteries. (6)

Name _____

Address _____

R. F. D. _____

THE FREEMAN ENSILAGE CUTTER



Noted for its exceptionally clean cutting, smooth, fast running and its saving of power. The 16 inch Freeman gives excellent results with as little as 4 H. P.

Saves Dollars on Power Cost

Traveling force feed table—handles biggest bundles with ease. Most simply constructed, most durable. Large feed rolls, adjustable knives, safety fly wheel, safety stop lever can be brought to a standstill instantly.

Enclosed Steel Carrier—Non-clogging—no scattering, no waste—single chain, runs light and true. Easily taken apart, easily moved. Fine for individual silos or job work.

Get Our Free Book

Illustrates and describes our complete line of ensilage machinery—shows all sizes Freeman Feed Cutters, from hand-power to 12 H. P. This book will save you money. Write for it today.

THE S. FREEMAN & SONS CO.
231 Michigan St.
RACINE, WISCONSIN.

Review of Live Stock Market

By A. C. Davenport

ANOTHER week has gone by without bringing with it any material change in the cattle situation. Northern markets continue to receive liberal receipts of cattle, with the big bulk of them made up of corn-fed steers. As noted a week ago, there never was a time when fat cattle constituted such a large proportion of the daily marketings of stock. In consequence of this, most markets have been, if anything, a little over-supplied with beef, which has rendered the trade dull and of an indifferent character, giving buyers the opportunity to discriminate very closely in their purchases, and at the same time to take the bear side of the deal. As might be expected under such circumstances, the condition of the cattle market the country over has been weak, with a lower tendency. Still, the decline has been very slight, ranging all the way from a shade to only 10 to 30 cents at different points. In fact, the change in prices during the last week has been hardly great enough to be worth discussing.

While the trade in cattle has been unsatisfactory by reason of the dullness and weakness prevailing, prices are still proving to be fairly remunerative, and sellers are able to figure out in most cases good, substantial profits for their time and the feed consumed in making the cattle fat.

Some operators on the market, in view of the liberal receipts, have been a little inclined to "poo-poo" the short cattle supply proposition concerning which so much has been said during the last year or more. It must be borne in mind, however, that the very fact that present receipts are as liberal as they are, instead of being an argument against a shortage in supply, are really helping to make the supply shorter. The country has simply fattened everything that was available and is rushing it to market, most of the cattle coming having been placed on feed after it was thoroughly understood that less than the usual number of cattle had gone into the feed lots last fall. In other words, the cattle now coming to market are cattle that have been placed on feed since the first of the year, and many of them would not have been fattened had it not been for the well known shortage in supplies.

Hog Market in Good Condition

Hogs have been splendid sellers for the last week or more, with prices gradually strengthening up until at present writing they are the highest that they have been for some little time. The demand at all points has been very brisk and the markets everywhere are in a good, healthy condition. It would appear that the consuming demand for the product is good while supplies in the hands of packers are moderate. Thus the market is in a very favorable position as viewed from a seller's standpoint. As to the future, it must be remembered that prices are already very high and it is a question whether the country can afford to pay very much more for the product than it is already paying. For that reason it may not be possible to bring about any very great amount of advance above present figures, and as a matter of fact a little temporary reaction would surprise no one. Still, the general feeling on the part of the selling interests is one of confidence and everyone predicts a satisfactory market for some time to come.

Sheep or Cattle to Feed?

It is the in-between-season period in the sheep trade. Fed sheep and lambs as a matter of course are pretty well disposed of, while the run of range stock is just setting in and will be light for some little time to come. It is hardly possible at this time to venture even a guess as to the future course of values, as so many disturbing influences are at work, any one of which might have considerable effect upon future values. One thing, however, is pretty well agreed upon among sheepmen, and that is that receipts from the range will be very large the latter part of the summer and the coming fall and winter. The season in most all sheep states has been favorable and a large lamb crop is approaching maturity. As there is nothing at present in sight to warrant flock masters in holding over an unusual number of lambs, it is more than likely that they will be free sellers.

With the feeling that the receipts of sheep and lambs will be large the coming season, sheepmen at some market points are already beginning to talk up the relative advantages of sheep and cattle as a feeding proposition. Barring lambs, which are fed largely by big companies, sheepmen are calling attention to the relatively lower prices prevailing for feeder sheep than for feeder cattle. Thus feeder ewes on the basis of Omaha are quoted around $2.75@3.50 per hundredweight, while feeder cows are quoted around $4.75@5.00 or better. Old feeder wethers are quoted at $3.25@3.75 and on up to $4.25@4.75 for yearlings, which prices are very much lower than those quoted on feeder steers. This difference in prices will undoubtedly weigh largely with the country, and it will be in the nature of a surprise if a good many old cattle feeders do not change to sheep this year. The very fact that sheep feeders during recent years have done very well makes the proposition still more alluring. Sheep owners are depending very much upon this expected increase in the demand for feeders to absorb a large percentage of the anticipated heavy receipts at the big market centers, and they are hoping that it will also prove large enough to prevent congested markets and bargain counter prices. How far these expectations will be realized no one can even venture a guess, but the future outlook at present writing is generally regarded as fairly satisfactory in spite of adverse conditions that have thus far arisen.

Middleman Must Go

(CONTINUED FROM PAGE FIVE.)

raised relative to the high cost of living is evaded. The money for all these appropriations has got to come from somewhere. Why does congress recklessly and extravagantly disburse the people's money, in a manner, too, in which there can be no possible percentage of return in yield and production that might reduce the cost of living?

Our government has squandered thousands with its various investigations of trusts, and has arrived nowhere. One bunch of steel men swear they know nothing of any combination work in their business; another group states that, of course, the different plants had settled upon prices. At the same time, in a country where access to raw iron could not possibly be easier, and natural facilities for manufacture better, the farmer is paying for repairs to his farm machinery at the rate of 30 and 40 cents a pound. And our college professors and railroad presidents and congressmen whimper about "soil robbers!"

Tell the Truth

Now, if it is true that there is a lack of production in this country, then drive the oily land agent into Canada instead of sending any more of our best young American farmers, with millions of dollars, into that country. If the cost of foodstuffs to the consumer is too high, find out and publish the tricks and rates of the railroads that the farmer has been vanquished by when he tried to ship independently. If the young men are leaving the farm in alarming numbers, do not let governors and legislatures convince you that they are going to hurry back after a course of scientific training, when they see taxes going higher and speculators making money off their produce. Instead of worrying about the farmer woman who is getting rich because of the high price of turkey meat, tell the truth regarding the shameless way in which the taxed man's money is distributed.

Sale Dates

Duroc-Jersey Hogs

September 27—Robert Leisey, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Shattuck, Hastings, Neb.
October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.
October 20—William Ferguson, Scribner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 8—J. L. Naiman, Alexandria, Neb.

J. I. Case Branch House at Lincoln

OF THE sixty-five large branch houses of the J. I. Case Threshing Machine company, incorporated, Racine, Wis., the one located at 600-620 L street, Lincoln, Neb., is an excellent model. The main structure is of brick, five stories in height and 142 feet deep by seventy feet wide, giving a total floor space of 49,700 square feet. Attached to this building are the office quarters, in a good-sized one-story building. There is also a repair shop for the repairing and rebuilding of machinery. This shop is considered one of the best equipped in the state of Nebraska for such work. The total amount of floor space in all of the buildings is 54,000 square feet.

The loading and unloading facilities are most excellent, a large solid concrete platform and fifteen-ton steel derrick expediting the handling of machinery and supplies. Inclement weather does not interfere with the work, as the entire derrick is well protected.

Up-to-date methods throughout insure minimum handling and rapidity of action, thus making it possible to fill orders with the utmost dispatch.

During the busy season twenty-five salesmen travel from the Lincoln branch, assisting local dealers in the closing of sales and carrying out the company's policy of genuine service to every customer.

At the top of the building stands "Old Abe," the company's familiar eagle trade mark, which is known the world over as a sign of mechanical excellence.

The business of the J. I. Case Threshing Machine company is one of the pioneer industries of the middle west. Founded at Racine, Wis., in 1842 by the late J. I. Case, it has during its seventy-one years of existence grown from a small workshop to the present immense organization, capitalized at $40,000,000, and having justly a claim to the title, "the largest factory in the world building threshing machinery, plowing equipment, road building machinery and automobiles."

Sixty-five large branch houses and 11,000 local dealers in the United States, Canada, South America, Mexico and Europe distribute Case products. This immense selling organization enables the company to deliver into the hands of its customers in the shortest possible time whatever they may order, and insures prompt and careful attention to buyers' needs after the machinery is placed in operation.—Advertisement.

Saves Time!

Only Filler whose power and capacity rating are made on a gasoline engine basis. Don't be deceived by steam ratings and lose many hours by having to operate a steam-rated Filler with Gas Power. The

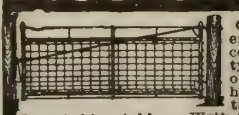
Whirlwind Silo Filler

has strongly braced, under-trussed frame; patent start, stop and reverse mechanism. Fan case independent of working parts. Knife Head and Blower Wheel one solid, single piece. Adjustable throat-plate. Feed table just waist high. No table strain on working parts. A tip-top, high-quality machine throughout, and priced right. Send postal for latest Catalog 62.

THE McCLURE COMPANY
(Formerly Farmers Handy Wagon Company)
Manufacturers of the FAMOUS SAGINAW SILO
Saginaw, Mich. Cairo, Ill. Des Moines, Iowa
Minnesota Transfer, Minn. Fort Worth, Texas

(70)

Do You Want This Steel Gate FREE



One farmer in each community can get one for helping us introduce Tro Jan Gates to his neighbors. Write for particulars.

The Best Steel Gate in the World

High carbon steel frame. All No. 9 galvanized wire mesh. Special hinges. Patented self-locking latch. Steel center brace. Unbreakable. Raises at either end. Sold on 30 days' trial at our special direct-to-you factory price.

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And gives you better engines. Gasoline Gas or Oil
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Engines shipped ready to work, easy to start and run. Never wear out, always pull steady and use less fuel. Get our Free Catalog with latest reduced prices.

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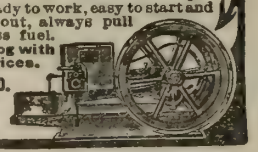


CHOICE LAND AT A BARGAIN—If interested in choice land at a bargain, either for a home or investment, read the back cover page of this issue. There you will find description of a new tract opened for sale and settlement in the famous Golden Prairie District of Wyoming.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha July 19 1913 | Number 658

TEN REASONS WHY

We Want You to Have "Making the Farm Pay" in Your Library

1—Because it tells you how to care for, and enrich your soil; giving the latest ideas in SOIL TREATMENT and DRAINAGE—without good soil you cannot have good crops.

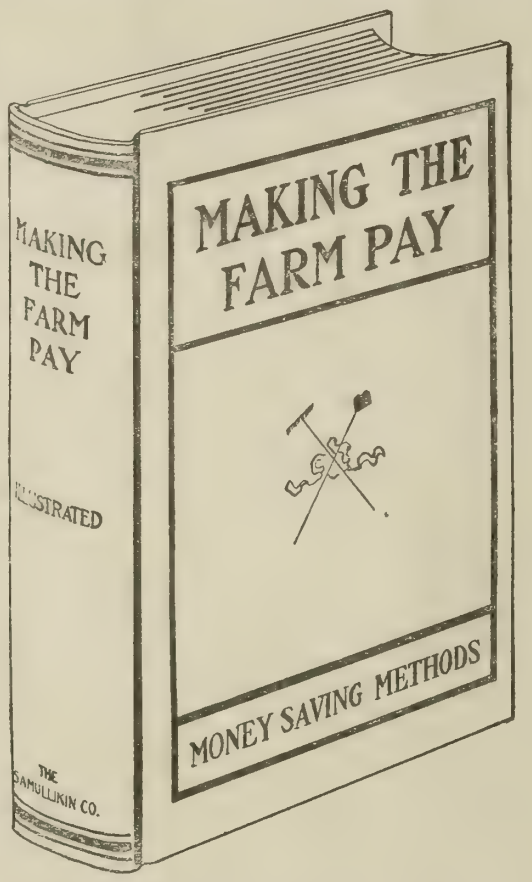
2—Because it takes up the PROPER rotation of Field Crops for different soils. Their adaptation and economic relations and explains the CULTURE DIRECTIONS of crops.

3—Because it explains FRUIT CULTURE and FORESTRY, showing how to Bud, Spray, Graft and Prune. How to KILL INJURIOUS INSECTS that affect fruit and shade trees; also insects that destroy field crops and garden products.

4—Because it tells how to make Vegetable Gardening and Trucking Pay. How HUNDREDS of dollars can be made, by using proper methods, on only a few acres.

5—Because it tells you how to Select and Feed farm animals for greatest net PROFITS; explaining the BALANCED ration and how MUCH feed and MANY dollars can be saved by proper feeding.

6—Because it takes up the Diseases of Farm animals, giving the CAUSES, SYMPTOMS and TREATMENTS of each, which will save you the loss of many dollars' worth of stock; these are explained in Common Terms that any one can read and understand; the treatments are COMMON REMEDIES that you should have in your home.



Size of book 6½x8½ inches. Bound in extra heavy cloth. Contains 500 pages.

7—Because it shows how to MAKE and FILL a silo and explains the VALUE of silage to the average farmer. It gives many rules on measuring feed and grain and many valuable hints and helps for every farmer.

8—Because it tells how to make Poultry PAY and discusses the different breeds — the "Setting" and "Non-setting," the "General Purpose" and "Fancy" breeds. The work tells how to caponize poultry, giving illustrations and cuts; also describes the diseases of poultry and their cures.

9—Because "Making the Farm Pay" is written by the BEST, practical authorities, and takes up improved methods of modern agriculture in all branches of farming; it is written by men who have DONE what they advise others to do.

10—Because "it is the MOST in Agriculture for the money." It is a ready reference library on practical, scientific Farming, giving you Hundreds of Money saving Methods and explaining the successful principles that every wide-awake farmer wishes to know—HOW TO MAKE HIS FARM PAY. A couple of dollars invested in Practical and Scientific Methods will bring HUNDREDS of dollars in Scientific Results.

JUST HALF PRICE

FOR THIRTY DAYS ONLY

	Regular Price	Our Price for Both Only
Making the Farm Pay	*$2.50*	
Twentieth Century Farmer 1 year	*$1.50*	**$2.00**
Total	*$4.00*	

Address TWENTIETH CENTURY FARMER, Omaha, Neb.

Bright and Breezy

Our Candid Friends

"That boy of mine," remarked Smith extravagantly, "is the genuine article. He's all wool, you can bet."- Shouldn't wonder," commented Jones. "I notice that he shrinks from washing."

The Attraction

Advertising is such an art that many people actually buy periodicals as much for the advertisements as for the reading matter.

I sat in an editor's office the other day when a poet entered.

"Glad to see you've accepted that sonnet of mine," the poet said, feverishly pushing back his long hair. "I hope it will be widely read."

"It's sure to be," said the editor. "It's sure to be. I've placed it next to one of our most striking ads."—Washington Star.

Explained

Down in the Red River valley section of Louisiana there is a planter, a veteran of the civil war and who is noted for his profane vocabulary.

Not long since he married, and everything sailed along nicely for a few days. But the captain was called out early one morning by a negro tenant, who wanted to see him on business. As soon as the captain saw the darky, he began to curse him.

His young wife, hearing the violent language, stuck her head out of the window and asked, "Is that you, dear?"

Before the captain could answer the darky said apologetically, "No, ma'am; dat's Cap'n Johnson."—Judge.

Guess Why

Sandy and his lass had been sitting together about half an hour in silence.

"Maggie," he said at length, "wasna I here on the Sawbath nicht?"

"Aye, Sandy, I daur say you were."

"An' wasna I here on Monday nicht?"

"Aye, so you were."

"An' I was here on Tuesday nicht, an' Wednesday nicht, an' Thursday nicht, an' Friday nicht."

"Aye, I'am thinkin' that's so."

"An' this is Saturday nicht, an' I'm here again."

"I'm sure ye're very welcome."

Sandy (desperately): "Maggie, woman, dae ye no begin to smell a rat?"

Just Like a Man

A man suffered from inflammatory rheumatism and his wife nursed him patiently. He had a very faultfinding disposition, but she was very patient and also very fond of him.

After an especially severe attack, a friend called to inquire after him. The patient wore a mournful expression.

"Well," said the friend, cheerfully, "how are you today?"

"Very badly," replied the rheumatic sufferer, "and it's all my wife's fault."

"Why," cried the friend in astonishment. "Is it possible?"

"Yes," moaned the invalid. 'You know, the doctor told me to avoid damp places, and there my wife sits and cries just to make the air moist around me."

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Are Your Eyes Open?

FROM now until winter is a time of year that is invaluable to the man who has his eyes open and can see things. Do you want to get some practical ideas on farming? Then just look about in your own community and see the difference in farms and farmers. Why some men fail, while others succeed, is most convincingly told by the contrasts found in every neighborhood. People are educated largely by contrast and comparison. Are you an observer? If so, we would be glad to have you tell us what you learn this season by contrast with your experience of other years. Our Readers' Exchange department is for the use of our readers. Let us hear from you.

Special Fall Fairs Number

THE date for our special Fall Fairs number will be August 23. On page 10 of this issue we print the dates of western state fairs and expositions. Iowa holds the opening state fair, which is followed by Nebraska and Minnesota. The Twentieth Century Farmer will have representatives at all these fairs and expositions. Plan to attend your state fair. It affords an opportunity for recreation, education and profit.

Prattle of the Youngsters

Perfectly Willing

Father—Son, I want you to save your mother all the work you can.

Son—Yes, sir; whenever I find some work I will save it for mamma.

Neither

"Thomas," queried the neighbor, "is the new baby a boy or girl?"

" 'Taint neither one," replied the little fellow, knowingly. "It's twins."

Fortunate Codfish

"The codfish," said the professor, "lays more than a million eggs."

"It is mighty lucky for the codfish that she doesn't have to cackle over every egg," said a student who came from a farm.—Indianapolis Journal.

Faith

One evening, when Doris was about 2 years old, she wanted her doll, which was in a dark room. She was afraid, but her mother said, "Don't be afraid, because God is in there and will take care of you." So she went to the door and said, "God, please hand me my doll."

A Family Resemblance

"Pray, whom do you resemble most," I asked the little girl—

"Your father or your mother?" And I stroked a wayward curl.

"I look like both," she made reply in accents sadly sweet.

"They say I've mother's features, but I have my father's feet."—Lippincott's.

Little Willie Wants to Know

"Pa," said little Wilie, "what does eskew mean?"

"Askew?" repeated the old gentleman. "Why askew means gone wrong, crooked. Why do you ask?"

"Why, I notice that after your name on all your letters they put E—S—Q, but I didn't know you'd ever gone wrong or was crooked, pa. What did you do?" asked little Willie.—Harper's Weekly.

Barren Soil

Apropos of the ravages that time has made in the faces and forms of the veterans of the civil war, Walter S. Morton, president general of the Union Society, said at a dinner in New York:

"A veteran, talking to his great-grandson, a little lad of 8 or 9 years, remarked:

" 'Nearly a generation and a half ago my head was grazed by a bullet at the battle of Chickamauga.

"The little boy looked at the old man's head thoughtfully and said:

" 'There isn't much grazing there now, is there, sir?' "

One Winning Run

Representative Carter Glass of Virginia, who will be chairman of the banking and currency committee of the house, was a candidate for the senate against Senator Swanson and was badly beaten. Carter Glass, jr., a student at Washington and Lee university, is one of the best all around athletes at the institution. He recently won a gold medal at the intercollegiate meet held in Baltimore, which he has turned over to his father. "Here, dad," he said "I am giving this to you to show you that there is one member of the Glass family who knows how to run."—Chicago Inter Ocean

Our Western Wheat Fields Have Yielded a Golden Harvest

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Outlook at the Iowa Agricultural College

Improvements that Have Been Projected and Are Being Carried Out Under the New Administration

AMES is beginning to respond to the spirit of its new president. Improvements both in work and in spirit are noticeable there. The outworn past is giving way to the new, constructive, progressive spirit of the present.

One of the criticisms that is used by the small college against the larger institutions is that in the large institutions the students are deprived of the culture that comes from actual personal contact with instructors. It must be admitted that the primary purpose of all education is not so much learning as it is laying the foundation for an active and beneficent citizenship. In this process of education, inspiration is had more from personal contact with instructors than from any other source, and this inspiration is one of the several factors in any right conception of university education. The institution that permits its chief professors to remain apart from the student body, occupied with what might be called the exotics of their several departments, while the work of the class room is relegated to instructors of less experience and less development, certainly fails in accomplishing the chief end of all education. The character and the development that comes through personal contact with noble professors of high aims and lofty purposes seems to be wanting in the larger institutions of the present day.

It is a pleasure to note that Ames apparently appreciates the truth of what is here set forth, and is taking steps to supply the deficiency. To each member of the faculty there has been assigned a certain number of freshmen for whom the faculty member will act as adviser, counsellor and friend. These advisers will take a special interest in the freshmen in their charge, and feel a responsibility for the manner in which their college work is carried on. Their function will be advisory and friendly, rather than supervisory and critical. Under this plan every member of the faculty has from five to ten freshman students with whom he is on particularly close and friendly terms, and the results already achieved prove the advantages of the arrangement. It is a good deal the same as when a young man knows that his parents are keeping in close touch with his work, and will know if any part is neglected. The moral effect will be to stimulate the student not to lag in his work and to do his best in mastering the subjects he is studying. The effect in character building and in the development of an American manliness will be among the results to be attained that are most to be desired.

Already this change in the spirit of the institution is indicated by the recent action of the freshman class. These young men, who will be sophomores next year, passed a resolution by an overwhelming vote to the effect that they will do everything in their power, collectively and individually, to discourage the traditional hostile attitude between the sophomores and freshmen. Other classes have passed such resolutions, but the Ames freshmen desired to go still further, and they appointed a large committee to see that the resolution is carried out, both in letter and in spirit. The chief duty of this committee will be to meet the incoming freshmen at the railroad station next fall and assist them in registering and in finding suitable boarding houses.

As a result of recent legislation and increased appropriations by the last legislature, the scope of work at the institution will be greatly enlarged. The four-year courses in agriculture, home economics, veterinary medicine and industrial science will all be strengthened, and two-year courses will be started in trades school work and home economics for the benefit of those students who have not graduated from high schools. Trades school extension work is to be started also. Special investigation of animal diseases is provided for, and this work will begin next fall. At the same time a course of study will be offered to veterinarians now practicing who wish to spend a short time at the college to become familiar with the latest development in their work.

The college has one of the most completely equipped veterinary buildings in the country. The faculty in the veterinary college is second to none. It is expected that the school will grow into a pre-eminent position among the veterinary colleges of the land. The time has come when it is necessary for the state to undertake the education of its specialists. The temptation placed before every commercial veterinary school to graduate students not properly qualified sometimes becomes too great to be withstood. The result is that large numbers of practitioners are turned loose upon their several communities inadequately prepared for the work which lies before them. This state of affairs is making it necessary for each state to equip itself in such a way as to be able to educate its specialists. Ames is in line to begin to do this work. It is to be hoped that the time will come when competent veterinarians, veterinarians that command the respect and confidence of the communities in which they live, will be turned out from this Ames veterinary college in such numbers as to supply the needs of Iowa.

The last legislature made an appropriation of $35,000 for the establishment of a hog cholera serum plant which will be administered in connection with the veterinary division of the college. The legislature also reorganized the state highways commission, and enlarged its work, and provided that the headquarters for this work shall be connected with the state engineer's division of the state college. The dean of engineers is an ex-officio member of the commission.

From this it will be seen that the state college is in a position to serve all people of the state in practically all the lines of work carried on at Ames. Under the wise administration of President Pearson, the college will grow to a more commanding position than it has heretofore occupied.

It is refreshing to note that our institutions of learning, some of them at least, are beginning to catch the spirit of the new dawning educational age. The trouble with many of our educational institutions seems to be that they lack the power of initiative. They seem content with old methods, and exert themselves merely in perfecting and in following these. But there is a change in the air now, as there always has been. Every generation is different from the preceding—different in needs, different in aims, different in conditions to which it must adapt itself. The educational institution that meets the requirements, then, must study these changes as they gradually become apparent, and modify its methods so as fully to meet the requirements of new conditions. This requires talent in an executive of a high order. A conscientious executive, who feels the responsibility of his position, and has the perceptive powers necessary to see these changes as they gradually take form under his eyes, will find ample field for the exercise of the highest talents in devising new ways to meet new needs, inspiration to meet new conditions, and new methods for preparing the students under his charge to meet the new world in which their life work will lie. The educational institution that meets its responsibilities full will prepare itself for the new work that is constantly thrusting itself into recognition. Because Ames is doing this, Ames is to be congratulated.

Across the Fields of Wheat

Across the fields of golden wheat
The clanging reapers go,
And every sound is music sweet
Through sunny hours aglow,
As in the days of scorching heat
They chatter to and fro.

A buoyant song the reapers sing,
A blithesome tale unfold,
Which tells of treasured stores they bring,
And evermore is told
Where reapers go a-harvesting
Across the fields of gold.

A nation's strength, a nation's pride,
Those spreading fields contain;
Secure the Ship of State shall ride
Across the stormy main,
Whose destiny is fortified
By golden stores of grain.

And ever through the days aglow,
Melodious and sweet,
In cadences the echoes flow
All joylessly replete
From every side whence reapers go
Across the fields of wheat.

—Sidney Warren Mase.

An Example of Western Pluck and Energy

Seeming Miracle Wrought in Reclaiming Lands in What Was Once the Bed of Great Salt Lake

Threshing Scene in the "Great American Desert"—Wheat Raised Under Irrigation

Field of Fifty Acres, Off Which 2,200 Bushels of Oats Were Harvested Last Year

A few years ago people thought that the "Great American Desert" had no possibilities as an agricultural country. Now, through the medium of irrigation and dry farming, many tracts of land once considered hopeless have been reclaimed and made to yield great harvests. Even out in Utah, in the neighborhood of the Great Salt Lake, such seeming miracles have been wrought.

Delta, Utah, Situated in What Was Once the Bed of the Great Salt Lake

Five years ago some people from the southern part of that state saw the possibility of reclaiming the lands of the Silver river which runs some thirty or forty miles and disappears into the desert in what are called "sinks." Accordingly, they built a dam of earth and brush, impounded the water and carried it in canals and laterals to their farms. This land, which was once the bed of the Great Salt Lake, which has since receded, is composed of many kinds of sand, clay and various other deposits and was covered with greasewood and other brush. They cleared the land, planted their crops and all seemed to be going well, when the dam burst, leaving them high and dry. Again they built the dam and started to work, and again it burst. At last a large company came to their rescue and built a more substantial dam in a better location, between two hills. This assured water to the settlers, who began coming in from states farther east, until there is now a settlement of people from Missouri, Nebraska, Iowa, California and many other states, and a little town was founded, which is now called Delta, thus commemorating in its name the fact that the land was once a part of the Great Salt Lake.

Crops are growing nicely now on land that was once given over to greasewood and sagebrush and was the home of the prairie dog and coyote. Last year some farms reported a yield of as many as sixty bushels of wheat per acre, and many raised from forty to fifty. One man harvested 2,200 bushels of oats off of fifty acres and 645 bushels of wheat off of eighteen acres. The land is railed, cleared of brush, disk harrowed and planted, and in the majority of cases raises good crops.

Plan to Reduce Bacteria in Market Milk

A Suggestion from the Department of Agriculture with a Counter Suggestion

THE Department of Agriculture, which is conducting an investigation for the betterment of milk shipped in interstate commerce, has just completed the examination of the supply of milk furnished the city of Wheeling, W. Va. The temporary laboratories have been transferred to other points where the city or town supply is furnished by producers making interstate shipments. Such localities afford the government an excellent opportunity to investigate the milk supply.

The government inspector who has been working in this territory has found a simple explanation of why milk that comes from apparently good dairies frequently shows an excessive number of bacteria and is bacteriologically bad. The inspector reports that these dairies take the morning milk and combine it with the afternoon milk of the same day, and ship this combination the next morning. As a result the day's milk is kept through the heat of the day, and by the time it is twenty-four hours old shows a high bacteriological count. The inspector made experiments in taking night milk, keeping it through the cooler hours of the night, combining it with the morning milk, and shipping it. There was radical improvement in the condition of this milk. In this case, the farmer ships the milk by train or electric car an hour or two later than he did under the old practice. The inspector reports that if this new system of combining evening milk with the next morning's milk is followed, it will go far toward solving the problem of preventing the delivery of milk that is bacteriologically bad. This plan is regarded as so important that the government will probably summon a number of milk producers to hearings in order to impress on them the importance of this method of shipping. This method, of course, is not practiced in all milk sections, as it can be carried out only where train schedules permit.

Bacterial Count No Test for Wholesomeness

In the opinion of the Twentieth Century Farmer, nothing could be more absurd than to regard the bacterial count as a test for the wholesomeness of milk. It is unscientific to the last degree. There are virulent bacteria and there are innocuous bacteria; bacteria that are deadly, and bacteria that are harmless. This plan of accepting the bacterial count; that is, the number of bacteria contained in a cubic centimeter of milk, ignores this distinction. It is not the number, but the kind of bacteria that makes milk unwholesome. One of the most healthful drinks known to dietetics is fer-mil-lac, which exceeds in bacterial count many times over the limit prescribed by boards of health. "Certified milk" is the name given to milk that does not contain bacteria in excess of the number which any board of health may place as the limit. To any man that understands the matter, the fact that milk is certified means absolutely nothing as regards its wholesomeness. Of course, the chances are that with milk of low bacterial count there is less likelihood of virulent bacteria being present. But this is a mere chance, not a certainty, and in matters of sanitation no one can afford to take chances. The Department of Agriculture itself should take the lead in putting this matter of the wholesomeness of milk upon a strictly scientific basis. Clarified milk is much safer than certified milk. If experiments and researches now under way are carried to a successful issue, the time is not far distant when the certification of milk will be abandoned by boards of health as useless, unscientific and futile, and clarification of milk demanded instead. It is time that we abandon the practice of cloaking unscientific methods under scientific names, and begin to deal with facts as they actually are.

Why the Cream Receiving Station Must Go

This is the First Step in the Reform of Centralized Creamery Methods

IT IS high time for the centralized creameries in the interest of the permanence of their business to devise some method for gathering cream that will take the place of the cream receiving station. The cream receiving station is uneconomic. It is barbaric in its ignoring of economic conditions, demands of economic law and methods of preventing unnecessary waste. It is unbusinesslike, unscientific. It involves an unnecessary expense, and this expense, under existing conditions, must always be borne by the cream producer. The items of expense connected with the cream receiving station method of gathering cream are the salary paid to the operator of the station, the cost involved in either owning or renting the station itself, the operating expenses and drayage. None of these items are constant, and yet a fair average of such expenses shows that the average patron of a cream receiving station receives for his cream between 3 and 4 cents less per pound of butter-fat than he would receive under other conditions. The centralizers might as well understand at once that the permanency, the reputation and the success of their business will in the future depend upon the fairness that they exhibit in the methods of conducting their business.

Farmer Wide Awake to His Interests

The farmer of today is wide awake, keenly alive to his own interests, and prepared to take whatever steps are necessary to protect those interests. As soon as it becomes generally known that the cream producer receives through the cream receiving station between 3 and 4 cents less for his butter-fat than he would receive through the "direct shipper" method, or through organizing local creameries and manufacturing his cream into a marketable product, he will take the steps necessary to protect his interests. The supreme determining factor in the creamery business of the future will be the price paid by creameries to the producer for butter-fat.

The centralizers at present are not paying for butter-fat what they should pay. In those parts of the territory where the direct shipper method has obtained a foothold the centralizers pay on an average 2 cents a pound more for butter-fat than they pay in other territories. This proves that the price centralizers pay for cream is not determined solely by the exigencies of trade conditions. This is uneconomic, unbusinesslike, and in the end will defeat itself.

The sooner the business of the centralized creameries is put squarely upon an economic basis and is conducted strictly in accordance with the laws of business ethics, the sooner will come an end to the period of unrest and suspicion that at the present time, more than anything, hinders the development of the dairy industry in this territory.

Must Come Sooner or Later

If every centralized creamery should abolish its cream receiving station and should adopt the direct shipper method, paying the highest possible price for cream consistent with a reasonable profit, and should be absolutely fair and just with the producer in the matter of weights and tests, it would prove not only a tremendous influence for the upbuilding of the dairy industry, but would also assist in putting the business on a basis of permanent profit that would command at once the confidence and the respect of the entire dairy world. Sooner or later this must come.

As has been said before, economic laws are sure to fulfill their destiny. One might as well try, with Mrs. Partington, to keep back the Atlantic with a broom as to try to arrest the progress of commercial, economic development. Some of the centralizers realize this fact already, and would be only too glad to begin this economic reform at once. Some measure must be adopted for forcing the rest of them into line, or it will result in prejudice to the whole centralized creamery business. It should be borne in mind that in the last analysis the success of the creamery business depends entirely upon the attitude sustained to that business by the average cream producer. The cream producer is alive to his own interests and will protect them. Let the centralizer make no mistake about this fact. It is as certain as that the sun will rise in the morning. Let them square their business so as to conform to it.

Not Easy to Abolish the System

There are certain reasons why it is not an easy matter at once to abolish the cream receiving station. In the first place, the centralized creameries have vast sums of money invested in these stations. To abolish them would mean the sacrifice of nearly the entire sum so invested. But good business judgment demands this sacrifice, just as good business judgment sometimes demands that a merchant get rid of some of his unsalable stock at considerably less than cost price. The centralized creameries committed an economic wrong in establishing such stations, and now it is up to them to suffer for the wrong then committed.

In the second place, the centralizers distrust one another. Few of them have confidence in the business integrity of the rest. It is a line of business in which the "gentlemen's agreement" does not go. There is keen competition among them, each for its share of cream. Each feels that in order to secure its share it must have the help derived from the acquaintanceship and the personal influence of the man that operates the cream receiving station. Each feels that if the cream receiving station were abolished it could not get its share of cream because it fears that its competitors would use unfair and unethical methods against them. Each seems to fear to trust the fortunes of its business to its general reputation among cream producers for fair, equitable and honorable dealing.

Public Recognizes Honest Methods

In the opinion of this publication, this fear is unfounded. Among the centralizers themselves, certain ones are recognized as fair dealers, as men of their word, as men who conduct their business in strict accordance with the demands of business ethics. Certain others are recognized by the centralizers themselves as "scalpers," men whose word cannot be depended upon, men who will resort to inequitable, unethical and crooked methods in order to secure trade advantage. Let the centralizers not deceive themselves into thinking that they are the only ones who entertain these opinions, and that nobody but themselves thus separates the sheep from the goats. The public in general understands this matter fully as well as the centralizers do. There is certainly reason to fear that if the cream receiving stations were abandoned certain centralizers, by reason of their general business reputation throughout the cream producing territory, would fail to receive a proportionate share of the raw material. There is just as good reason for knowing that certain other centralizers, whose reputation and whose standing is unquestioned, and command the respect and confidence of the cream producing world, would receive their full share. No man or firm that conducts its business in an unbusinesslike, uneconomic, unethical manner has any right to expect the confidence of the business world, and under no circumstances will receive it. Let the cream receiving station be abolished, and through this means let the cream producer receive between 3 and 4 cents more for his product than he now receives, and the issue would prove to the satisfaction of everybody what creameries have earned and are entitled to the confidence of the public.

"He either fears his fate too much,
Or his deserts are small,
Who dares not put it to the touch,
And win or lose it all."

Possible to Insure Fair Cream Tests

In the third place, in the abolishment of the cream receiving station, a general distrust of business methods on the part of the creameries that exists among cream producers must be met and overcome. Of course, this obstacle to abolishing cream receiving stations is based entirely on foolishness. If the centralized creamery intended to rob the cream producer, it could accomplish this just as well through the cream receiving station as through any other method. The operator of the cream receiving station can manipulate his test to suit himself. It is no uncommon thing for him to do this, and this is one of the evils that the centralizer must abolish. All that it is necessary to say here is that it is just as easy to cheat at a cream receiving station as it is at the creamery itself. But the creameries themselves and the cream producing public have the legal machinery adequately to protect themselves in this matter. It lies in the hands of the state pure food and dairy commissioner in each of the several states. It is the habit of the railroads deliberately to set traps for their employes in order to learn whether they uniformly observe the rules formulated to govern railroad operation. A semaphore light may be deliberately extinguished in order to learn whether an engineer will run by such a darkened semaphore. The same method might be attempted by the dairy commissioner wherever cream is gathered. His employes might weigh and test cream before it is shipped. They might do this haphazard here, there and everywhere throughout the territory so that no centralizer could know whether cream received by him had been so weighed and so tested. No centralizer could afford to be caught stealing under such circumstances. They would be forced under these conditions uniformly to give full weight and a fair test, and that is all the cream producer is entitled to.

This distrust is unfounded for another reason. While there are black sheep in every flock, there are among the centralizers men of as high standards of personal and business honor as can be found anywhere in the industrial or commercial world. Unfortunately, this is not true of all the centralizers. But the public has formed its estimate already as to who among them are worthy of confidence. If each one of them is conscious of business rectitude, let him not fear to submit his business to this test of public confidence.

But whatever obstacles interpose, the day of the cream receiving station is nearly passed. It is wasteful, uneconomic, unbusinesslike and unfair. It is not right to employ a method that takes from 3 to 4 cents per pound of butter-fat away from the cream producer without getting any permanent, commercial gain out of it. The business must square itself sooner or later with business law, and this abolition of the cream receiving station is the first step in that direction. Unless the centralized creameries themselves take measures to correct this wrong, they can most certainly depend upon the cream producer to take measures to this end as soon as he becomes fully informed that his interests demand such action.

The development of the creamery business in this territory will depend in a large measure upon the development of the dairy industry. The centralizers cannot initiate a plan of operation that will contribute more largely to the development of the dairy industry than the plan here suggested. Pay the cream producer what is now uselessly expended in cream receiving stations and the dairy industry would advance by leaps and bounds.

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They have been having a little trouble with the Kansas serum over at Ames; just how much or how extensive is impossible to say, as no definite statement has yet been issued by the college. It is expected, however, that within a very short time the college itself will manufacture serum enough to supply its own need without purchasing serum in the market.

During 1912 the production of petroleum in this country increased more than 2,000,000 barrels over the output in 1911. At market prices the value of the product increased 22.41 per cent. The growing demand for gasoline on the Pacific coast has been relieved to a certain extent by importations from the East Indies. It is rumored that oriental oil is about to contest with native oil the supremacy of the Pacific coast in marketing oil and oil products.

Wisconsin has undertaken a novel campaign against tuberculosis. This includes both human and animal tuberculosis. Two instructors are sent through the state, both mounted on a single motorcycle, which also carries a complete camping outfit They distribute posters and visit farmers, and give them instructions in the matter of general sanitation to prevent the spread of all kinds of tuberculosis. The experiment is meeting with remarkable success. It would be well for other states to pattern after Wisconsin in this matter. Something positive and radical must be undertaken if headway is to be made in the fight against tuberculosis.

Improving Alkali Soil

There are two kinds of alkali in this territory—white and black alkali. These are so named from the color of the deposit left after the water which contained them in solution has been evaporated. White alkali is the more common and appears as a sprinkling of white powder on the surface of the soil after the water has all dried up. It is much the more common of the two.

White alkali is not, properly and technically speaking, an alkali. It will not change the color of litmus paper. It is in reality a neutral salt. Too great quantities of it in any soil hinder and sometimes absolutely prevent vegetable growth. Certain plants are less susceptible to it than others. Sugar beets and alfalfa grow on soil that is too strongly impregnated with it for other kinds of vegetable growth. The only remedy consists in under-drainage. If the water which contains this salt in solution can be drawn off from below, it will carry the alkali with it.

Most of the alkali lands of the west are underlaid by hardpan, impervious to water. Then, since the water cannot escape below, it must be evaporated from the surface, and the alkali is left there as a result. If this underlying hardpan is broken by dynamite or by any other means so as to permit the alkali solution to be drained out below and carried off by subterranean streams, it will prevent the alkali upon the surface. A system of liberal tile drainage will accomplish the same result. There is no other means known for accomplishing this.

Black alkali, so named because it eats up the black vegetable matter in the soil and takes it in solution, which it leaves as a deposit on the surface of the land when the solution is evaporated, is a real alkali. The solution may be boiled down so as to make a lye for soap-making. Many settlers in the west have used it for this purpose. It is, however, not very common. Two methods have been advocated for converting black alkali into white alkali. One of them is to apply liberal coats of manure, or grow strong crops of sweet clover, and plow these under. The acid developed in the decay of this vegetable matter neutralizes the alkali and converts it into white alkali. In some localities this method has been tried with abundant success. Another method is to apply a liberal amount of gypsum, being careful to restrict it to the black alkali area. This has the same effect. After the black alkali has been converted into white alkali by either of these means, the methods recommended for getting rid of white alkali should be adopted.

Farm Loans in Oklahoma

The agitation in this country for lower rates in farm loans is already bearing fruit. Oklahoma has "taken the bull by the horns." Under the initiative and referendum, a measure will be submitted to the voters of that state on August 5 for the establishment of a state agricultural bank for the purpose of affording farmers loans at the lowest possible rate of interest. This bank, if instituted, will derive its capital from an issue of $5,000,000 in state bonds, or as much more as will be necessary to take up the entire mortgage indebtedness of the farmers of Oklahoma. The money derived from the sale of these bonds will be loaned to farmers at the lowest possible rate of interest, which in no case shall be more than 1 per cent more than the state pays on the bonds. Payment of these loans, which shall run for twenty years, will be made by amortization; that is, every year the farmer shall pay the agreed rate of interest and a certain agreed-upon proportion of the principal. These terms will be so arranged that the farmer, at the expiration of twenty years, the time for which the mortgage is written, will have paid the same in full.

It is anticipated that the regular banking interests of the country will mass solidly against any such proposition, and they may be successful in defeating it in Oklahoma. One of two things, however, is absolutely certain—either the bankers must lower their rates to the farmers, or the farmers will take measures to get lower rates for themselves. It is the duty and the privilege of intelligent business to forecast the future so as to be prepared for it when it arrives.

Iowa Animal Health Rules

As the season for exhibitions and fairs approaches, the Animal Health Commission of Iowa has published the rules adopted by the commission, which have the force of law in that state, that govern the conditions under which hogs may be exhibited. The design is to prevent the spread of hog cholera by rigid enforcement of the rules. These rules are as follows:

Rule 27—All swine at state, county or other fairs or exhibitions in the state of Iowa must be accompanied by a certificate showing that they have been immunized with the Dorset-McBride-Niles anti-hog cholera serum not more than thirty days prior to the date of such fair or exhibition when serum alone is used, and not less than thirty days prior to date of such fair or exhibition when the simultaneous method is used.

Rule 18, Section 5—All swine imported into the state of Iowa, except for immediate slaughter, must be accompanied by a certificate of health certifying that they have been immunized with Dorset-McBride-Niles anti-hog cholera serum not more than thirty days prior to date of importation when the serum alone is used, and not less than thirty days prior to date of importation when the simultaneous method is used.

Rule 26—All hogs within the state of Iowa immunized by the double or simultaneous method of treatment against hog cholera shall be held in strict quarantine for a period of not less than thirty days.

It would be well if these rules, or rules of similar import, were adopted by every state in the Missouri valley. It would also be well for every state to adopt proper regulations concerning the disinfection and proper sanitation of the cars in which such swine are shipped. The lack of proper sanitation and disinfection on the part of the railroads is one of the principal causes for the spread of the disease.

With 1,100,000 automobiles in use and 2,200,000 miles of road, it is to be noted that now in the United States there is a motor-driven vehicle for every two miles of highway.

President Baileys' Retirement

Dr. L. H. Bailey, president of the Cornell Agricultural College at Ithaca, N. Y., has resigned. It is to be regretted that such a man should retire from the field of specific agricultural education. He retires in the prime of life in order to devote his remaining years to literary work which he has had outlined for some time in his mind. The resignation would have been offered earlier had he not been requested by the authorities at Ithaca to withhold it until such time as certain improvements in connection with the college had been definitely accomplished. He now definitely resigns and will devote himself to literary work.

President Bailey occupies a preeminent position among agricultural educators. He has been at Cornell for a number of years, and has succeeded in placing that institution in a commanding position among similar institutions of the country. His acquaintance with agricultural conditions and agricultural needs is unrivaled. He was made president of the Country Life Commission by former President Roosevelt, and in that position rendered invaluable service to the cause of agriculture. He is the author of numerous text books on agricultural topics and has acted as editor of several series of agricultural publications.

His retirement will prove a distinct loss, one might say an irreparable loss, to agricultural pedagogics. The Twentieth Century Farmer is thankful for the service that he has rendered to his state and to the nation, and bids him God speed in his new field of labor.

Texas Onions

They are overdoing the onion business in Texas, and the result is that the prosperity of the onion growers there is being seriously threatened. Whenever there is an over-supply of any commodity the price drops. Years ago the only early onions used in the United States came from Bermuda, and the total consumption was not more than 500,000 crates a year. But even this small supply did not materially increase prices. Texas this year produced 2,250,000 crates, an increase of 430 per cent. Consumption has not correspondingly increased, and the result has been an overstocked market, with prices falling below the limit at which production is profitable.

Here is a specific illustration of the evils of over-production in any one direction. Farming is getting to be scientific; that is, successful farming must be scientific in order to be successful. It must anticipate as far as possible the world's demands and meet them, but not oversupply them. Over-supply is certain to result in economic disaster. Kansas is at present suffering from too much cropping to wheat. The farmers of our entire territory should be taught by this illustration to devote their attention to general farming operations rather than to the development of any branch of farm industry to the exclusion of the others.

A hundred bushels of wheat to the acre from one Nebraska farm. So say some publications—it may be true.

Range View on Large Ranch in the Kinkaid Country

The Kinkaid homestead filings are being proved up quite rapidly, both the five-year and the three-year filings, and this is making much better times in the western half of Nebraska. Homesteaders are quite generally getting loans on their lands, ranging usually from $800 to $1,000 per section. Some are using this money to buy stock and make improvements; others are paying off their indebtedness.

Unscientific Near-Science

J. F. Corbett, being duly sworn, says: "The factors concerned with this problem, with which I have had actual experience, are as follows: First, that milk with its contained cream in the udder of the cow is sterile * * * I have had considerable experience in the bacteriological department in the city of Minneapolis."—Dairy Record, June 11, 1913.

The Twentieth Century Farmer would like to know how this man knows that the milk with contained cream in the udder of the cow is sterile, knows it well enough to be able to swear to it. Some men will swear to anything, but a bacteriological expert is supposed to swear only to the truth. The public would like to be informed of the method by which he finds out this fact that he so glibly swears to.

The writer has heard stories of streptococci found in the milk of cows suffering from garget or from inflamation of the udder caused by a bruise or a wound. He would like to know if these stories are true. Facts seem to squint that way, when an epidemic of septic sore throat may be traced directly to the udder of cows suffering from lesions as already indicated, and the streptococci that cause the sore throat are found in the freshly drawn milk of such cows.

This matter of milk sanitation is so vitally important that everyone interested in it should be careful that all his statements regarding it are strictly true.

Making Farmers Out of Waifs

New York has taken up a new proposition and is now handling it in its experimental stage. The idea is to find homes and profitable employment for boys in the cities without homes and without parents or guardians to look after them or provide for them by the establishment of schools on farms devoted to the instruction and training of this class of boys. The plan is being worked out in various places in the state.

These schools are charitable institutions, and the boys are taken from the streets of the crowded cities and given practical instruction and training by competent instructors in every detail of farm work suited to their age and strength. They are, in fact, taught the business of farming under the most modern and up-to-date methods in order that they may be placed upon farms where help is needed and where their services will be the means of earning them a comfortable and honest living. This work at once becomes a means of saving the boy and supplying the farm with the much needed labor, which is growing scarcer and scarcer each year.

It is argued that this class of boys usually make the best kind of help on the farm. Their starved and impoverished experience in the city has given them a picture of the dark side of life so impressive that they appreciate the farm, the home and the comforts they find in rural life. The work of the school is to fit the boy to go onto the farm with some assurance that he knows how to do the work that he will find there. He is familiar with every little detail, as much so as the farm-raised lad, and he also knows something of the hard side of city life.

This is a plan of work that all states having a waif population about their cities should inaugurate at once and save their boys from a life of crime and dissipation by getting them out on the farms. The well-to-do farmer boy inclines to drift to the city, and therefore farm labor is scarce, and this condition has no prospect in view for improvement, and will not have until the city boy is diverted to the farm and some means of supply employed to replace the shifting tide from the farm to the city.

There is expected merry "round-table talk" at the next national dairy show in Chicago, the talk to cover all matters relating to the dairy business. All men interested will be invited. Probably no two will have the same opinion, and the result will be some intellectual and temperamental pyrotechnics.

Don't throw out any refuse; take care of it. It attracts flies, and they're what we've got to get rid of.

Cattle Growers and Feeders

The Nebraska Stock Growers' Association, which is quite frequently referred to as the Western Nebraska Cattle Growers' Association, at its recent annual meeting, passed some resolutions of special significance to the live stock interests of the state. The officers and executive committee were instructed to negotiate an affiliation with the Nebraska State Feeders' Association.

The invitation to the State Feeders' Association to join the Stock Growers' Association is presented upon the basis of argument that it would be of vast benefit to all parties interested in the production and maturing of live stock in the state of Nebraska to unite in one great live stock association. That there are two very distinct lines of live stock industry in the state of Nebraska as related to the common cattle stock of the state, should not be overlooked. The one is the growing of cattle for beef production and the other is the feeding of cattle for beef production. These two features are to a very positive degree separate in Nebraska because of the widely diversified natural conditions or feed conditions that exist in the state.

Nebraska is unlike any other state in its physical arrangement. It has in its eastern half one of the surest and best grain and crop producing districts of country on the continent, and in its western half it has the best cattle-growing district to be found anywhere. These very remarkable qualifications being so distinctly outlined, has suggested to the operators of the live stock interests, especially in cattle, that the one is dependent upon the other, to a large degree, in the matter of producing cattle for the feed yard and the matter of finishing these cattle for the packer.

The feeders' association, when fully organized, will be composed of the feeders of stock. This association will know every feeder in the state and have information as to how much and what he is feeding. This information will no doubt be available to every producer of feeder cattle who is associated with the cattle growers' association on the western side of the state. Thus there will be a co-operative business relationship at their command, if the members of these associations desire to use it.

The producer or grower of feeder cattle finds his market with the cattle feeder, directly or indirectly. The end of the line with this class of cattle is the feed lot. The feeder buyer is found on the open market, asking for information for just such cattle as the steer grower is producing. It is estimated by both cattle grower and cattle feeder that if through organization they can become better acquainted and deal directly with each other, there will, in this transaction, be a practical illustration of the principle of co-operation among producers, and thereby a considerable saving should result to both.

There was also a resolution passed at the Nebraska Stock Growers' meeting strongly condemning the recent advance in commission charges for the sale of live stock at the markets as unreasonable, unwarranted and unjust, and asking that steps be taken to secure more reasonable charges. The activity of the stock growers' association in seeking co-operative relationship with the feeders' association was a come-back at the advanced commission charges.

It is possible, under a well organized system of communication between cattle grower and cattle feeder, to divert a large number of cattle from the usual centers of distribution, on the basis of saving in cost, commission, yardage, and in many instances something on freight.

The Oregon commission men's effort to discredit the new commission law of Oregon is arousing the farmers of that state to the determination to take some action which will protect their interests in the matter.

Japan is buying a steadily increasing amount of foreign machinery and engines, the total purchases for 1912 aggregating $14,175,689.

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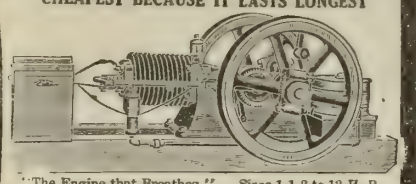

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Croppy's Fight with a Skunk

THE old settler settled into the arm-chair, with the remark:

"I forgot my pipe. Now, there is nothing small about me except my feet and my opinion of the tariff. So I'll tell you what I'll do. If you will furnish a pipe and tobacco and a match, I'll furnish a mouth and we'll have a smoke. There; that tastes like it.

"But I was going to tell you another skunk story. You know skunks and cats just naturally hate one another. It seems as if they're born so. Whenever they meet there's a fight going to take place at once, without any ring preliminaries to it either. There is nothing that will draw a skunk away from a nice meal on a chicken head like knowing where there is a nest full of little kittens so that he can kill them. He don't want to eat them; he just wants to kill them, he hates them so. He bites them through the back of the head and kills them, and leaves them there in the nest without disturbing anything. Sometimes a tomcat will do the same thing.

"Uncle Ed had an old cat that he called "Croppy," because she had had her ears frozen off. Croppy had nothing of the old maid about her. She believed in observing the Bible command about being fruitful and populating the earth, or words to that effect. She would have kittens as often as the law allowed, and then once in a while she would try and sneak in a litter between times.

"Once in the middle of the night, at a time when Croppy had a nest full of kittens under the front porch, Uncle Ed heard an awful racket out there. He thought from the noise that Croppy had something to do with it, and he judged from the smell that there was a skunk mixed up in it, too. But the wind had been blowing hard all day, and Uncle Ed was tired, so he went to sleep and thought no more about it.

"The next morning Croppy wasn't to be seen anywhere. But nobody thought anything about it until along in the afternoon the kittens began to call for her. Then Uncle Ed started to hunt her up. She didn't come to any call, and he couldn't find her about the place. But finally, led by the smell of the skunk, he went way up in the vineyard, and there in the path lay Croppy. She wasn't quite dead, but she couldn't move, and there beside her in the path lay a dead skunk.

"That must have been a great fight. I wish I could have seen it. Talk about heroism! There was more hero blood in that old cat than in all the politicians put together. She had given almost her very life in defense of her babies.

"The big fight she had made appealed to Uncle Ed. At this time Croppy was not exactly heliotropic. Anyone would know for several reasons that she had had something to do with a skunk. But that didn't make any difference to Uncle Ed. He took her up as tenderly as an angel would and carried her down to the house, and, in spite of Aunt Frank's tears and gasps, took her into the sitting room and put her on the sofa.

"It was one of those old-fashioned sofas, covered with Brussels carpet, made just to look at; you couldn't rest on it, couldn't even do comfortable sparkng on it. Uncle Ed's girls tried it for that and had to give it up. So in summer they took to the front porch, and in winter to the rocking chair.

"After Uncle Ed had made Croppy as comfortable as he could, he told Aunt Frank the story of the big fight she had made, and that brought Aunt Frank around to his side. Then they went out and brought in the kittens from under the front porch and put them with their mother, and there in the sitting room, on that sofa, they nursed Croppy back to health and strength.

"Uncle Ed and Croppy are both gone now. But I cannot help feeling that the story of the way he cared for Croppy after her big fight was charged up to his credit in the big book.

"And Croppy? I do not know that there's any such thing as a cat heaven, but there ought to be, at least for such cats as Croppy was. Such maternity deserves a reward. And there ought to be a cat hell, too, especially for such cats as I throw my boots at nights.

"Well, I had better turn off my windmill now. It has been running long enough. Say, that's pretty good tobacco you've got. I hope you'll not forget me along about Christmas time. Come, Jimmie, we'd better get busy now."

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
California	Sacramento	Sept. 13-20	J. L. McCarthy
Colorado	Pueblo	Sept. 15-20	A. L. Price
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Iowa	Des Moines	Aug. 20-28	A. R. Corey
Kansas	Topeka	Sept. 8-13	H. L. Cook
Kansas	Hutchinson	Sept. 13-20	A. L. Sponsler
Minnesota	Hamline	Sept. 1-6	J. C. Simpson
Missouri	Sedalia	Sept. 26-Oct. 3	John T. Stinson
Nebraska	Lincoln	Sept. 1-5	W. R. Mellor
Oklahoma	Oklahoma City	Sept. 23-Oct. 4	I. S. Mahan
South Dakota	Huron	Oct. 6-12	C. N. McIlvaine
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin

Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
Colorado Interstate	Denver	Sept. 2-16	Irving W. Eaton
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Interstate	Sioux City	Sept. 15-20	Joe Morton
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

Seeding the Pasture

What is the best seeding for a permanent pasture?

It is desirable to have a succession of grasses occupying the ground the entire season and thus afford both early and late feed. If the soil is heavy the following will be found excellent: Kentucky blue grass, twenty-five pounds; white clover, ten pounds; perennial rye grass, thirty pounds; red fescue, ten pounds; redtop, twenty-five pounds. This assumes that all these except the white clover are in the chaff. Sow thirty-five pounds an acre. If one can get the recleaned seed, usually less than half the number of pounds an acre will be required. For light, sandy soils, Canadian blue grass, five pounds; orchard grass, five pounds; tall rye grass, five pounds; redtop, thirty-five pounds, using forty to fifty pounds an acre. It will be better in most cases to add to either of these mixtures five pounds each of red clover and timothy. Mow the field the first year, which will give the grass opportunity to become firmly rooted, and it will not be injured by pasturing, as is likely to be the case if stock is put on the first season.—New York Farmers' Institutes' Bulletin No. 44.

Insurance bulletins assert that the cost of fires in the United States each year is one-half the cost of all the new buildings erected in a year.

California growers who saved their fruit by frost fighting are receiving as high as 3½ cents per pound for their oranges.

A Sweet, Crisp, Delicious "Bite-to-Eat"

Post Toasties

Dainty bits of pearly white corn, perfectly cooked and toasted to delicate "brown.

Usually eaten direct from package with cream and sugar.

Or, sprinkle Toasties over a saucer of fresh berries—then add the cream and sugar—a dish to remember.

Post Toasties are sold by Grocers everywhere.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

The Calf Path

One day through the primeval wood
A calf walked home, as good calves should;
But made a trail, all bent askew,
A crooked trail, as all calves do.
Since then two hundred years have fled,
And, I infer, the calf is dead;
But still he left behind his trail,
And thereby hangs my moral tale.
The trail was taken up next day
By a lone dog that passed that way;
And then a wise bell-wether sheep
Pursued the trail o'er vale and steep
And drew the flock behind it, too,
As good bell-wethers always do.
And from that day, o'er hill and glade,
Through those old woods a path was made.
And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath,
Because 'twas such a crooked path;
But still they followed—do not laugh—
The first migrations of that calf,
And through this winding woodway stalked
Because he wabbled when he walked.
This forest path became a lane,
That bent and turned and turned again;
This crooked lane became a road,
Where many a poor horse, with his load,
Toiled on beneath the burning sun,
And traveled some three miles in one;
And thus a century and a half
They trod the footsteps of that calf.
The years passed on in swiftness fleet;
The road became a village street,
And this, before men were aware,
A city's crowded thoroughfare;
And soon the central street was this
Of a renowned metropolis.
And men two centuries and a half
Trod in the footsteps of that calf.
Each day a hundred thousand rout
Followed the zig-zag calf about;
And o'er his crooked journey went
The traffic of a continent.
A hundred thousand men were led
By one calf near three centuries dead.
They followed still his crooked way,
And lost one hundred years a day;
For thus such reverence is lent
To well established precedent.
A moral lesson this might teach,
Were I ordained and called to preach;
For men are prone to go it blind
Along the calf paths of the mind.
And work away from sun to sun
To do what other men have done.
They follow in the beaten track,
And out and in, and forth and back,
And still their devious course pursue,
To keep the path that others do.

—Samuel Foss.

The Editor's Corner

Uncle Sam's army boys have been receiving some good advice. After a hard day's drill, before eating, they are advised to take cold baths in the following manner: Brush the teeth and drink a half pint of fresh, cool water, thus cleansing the system internally. Then the body from head to waist is to be rapidly swabbed with a sponge repeatedly wrung out of cold water, after which it is to be rubbed vigorously with a Turkish towel. This completed, the upper part of the body is to be dressed and the lower part given the same treatment.

This advice is good not only for the army boys, but for any other boy, or girl either, who has been doing hard work in a hot place. A good bath rests the body almost as much as a good sleep, and puts the whole system into the proper shape for digesting a hearty meal. A meal eaten directly after a hard, hot day's work finds the system tired and the stomach insufficiently supplied with blood for digestion, and often disagrees with one. The cold bath, properly taken, gives the needed rest.

THE EDITOR.

Story Announcement

Most of the children are too busy to send in any stories, although the verses are about to break the record, according to present indications. This is why there are no stories in this number. Whenever you have time and can think of something interesting to tell about, write it down and send it in to us. When we get a nice little bunch of stories we will print some of them and send a book to the one who writes the best one, but until we get enough to make it worth while we will just hold the stories. In writing be sure to observe the following rules:

Stories must be original and not o er 200 words.

Write plainly at top of story your name, age, address and the title of the story.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

Picture Contest No. 4

This is the picture about which you are to write a verse of four lines. Each of the two children writing the best verses will receive a book as a prize. Write plainly, giving your name, age and address. Neatness, spelling, punctuation and the age of the writer will be taken into consideration in awarding the prizes, as well as the quality of the verse. All verses must be addressed to Picture Contest Editor, Twentieth Century Farmer, and must reach this office not later than August 16. The prizes will be announced in our issue of August 23. Announcement of awards on picture contest No. 3 will appear in the next issue.

Why Mathewson Can Pitch

Christy Mathewson, the greatest pitcher of the modern school, started in at a tender age. Christy lacked control. He figured out that the best way to get it was by practice. He rigged up a board with a hole a trifle larger than a base ball in the center. This he set up in front of the barn back of his home in Pennsylvania. Winter and summer Mathewson practiced throwing a ball the required distance and trying to throw it through that hole. He kept pitching at that hole until he finally succeeded in sending the ball through it more times than he missed it.

Today Mathewson is the dean of major league pitchers. It is due not so much to the deceptiveness of that "fade-away," which breaks away from the batter and curves out, and it was never due to any terrific speed that his fast ball carried, but to deep and quick thinking. He pitches for a team that invariably is in the pennant race. Being the chief of the New York pitching staff, most of the hard work has fallen to the lot of Mathewson all these years. He worked harder than any teammate or opponent in his league, season after season, outlasted the others. He studies every batter that comes before him, finds out his weaknesses and succeeds in outguessing him. Determination, doggedness and studying have made Mathewson the master of his art.—H. H. Salsinger, in Leslie's.

Future for Young Men

"It is almost impossible to secure competent men to manage farms. Right now I know of at least thirty or forty farmers who are willing to pay a substantial salary to a man who will take charge of a farm business. It is not difficult to secure capable men to manage stores and factories, but it seems that the young men of today have not equipped themselves for the positions on the farms," remarked a noted editor the other day. Is not this a good suggestion for boys and young men in the schools and on the farms at the present time. Could they not profitably prepare themselves for positions of this kind. There is a demand for men now, and there will be a demand for some years to come.

H. F. PATTERSON.

The Loyalty of an Elephant

The elephant is said to be the most intelligent of all animals; certainly few four-footed creatures have served man so ably and faithfully. How courageous and loyal they can be is strikingly shown by an incident related by Mr. H. Perry Robinson, in his book, "Of Distinguished Animals."

A native Mahratta prince was engaged in a fierce battle with his enemies, and the struggle raged furiously about the standard bearing elephant. At the moment when it was ordered to halt its mahout was killed. The Mahratta forces were borne back, but still the elephant stood firm, and the standard continued to fly. Accordingly, the soldiers of the prince, unwilling to be outdone in courage by an elephant, rallied and, in turn, drove the enemy back till the tide of battle swept past the rooted elephant and left it, towering colossal among the slain.

The fight was won, and then they would have had the elephant move from the battlefield, but it waited for the dead man's voice. For three days and nights it remained where it had been told to remain, and neither bribe nor threat would move it. Finally, they sent to the home village on the Nerbudda, a hundred miles away, and fetched the mahout's little son, a round-eyed, lisping child. Then, at last, the hero of that victorious day, remembering that its master had sometimes, in a brief absence, delegated his authority to the child, confessed its allegiance and, with the shattered battle-harness clanging at each stately stride, swung slowly along the road behind the boy.

No filth, no flies. The tidy housewife will resent the reflection that the presence of flies casts upon her tidyness. She'll not only swat 'em, she'll abolish 'em.

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To Be Clear of Coffee Troubles

"Husband and myself both had the coffee habit, and finally his stomach and kidneys got in such a bad condition that he was compelled to give up a good position that he had held for years. He was too sick to work. His skin was yellow, and there didn't seem to be an organ in his body that was not affected.

"I told him I felt sure his sickness was due to coffee, and after some discussion he decided to give it up.

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"Although I was never as bad off as my husband, I was always very nervous and never at any time very strong, only weighing ninety-five pounds before I began to use Postum. Now I weigh 115 pounds and can do as much work as anyone my size, I think."

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Of Interest to Our Women Readers

Mother's Hour

No matter how long and weary the day,
No matter how rough and hard the way,
When come the shadows, soft and gray,
Mother lays her cares away.
There comes one hour of purest joys.
Though in the midst of clamoring noise.
O, 'tis the hour of sweetest charms!
With baby cuddled in her arms,
Her voice rises sweet and clear:
"The shadows creep, night comes, my dear,
But fear not thou, mother is near."

(Written for The Twentieth Century Farmer by Bertha E. Hayes, Fayetteville, Ark.)

Our Home Chat

"What are you doing, Helen?" The mother's voice, shrill and penetrating, reached Helen in the kitchen just as she was getting out the big yellow bowl and long wooden spoon. A second later the mother appeared on the threshold.

"I thought I would try that new recipe for yellow sponge cake that Mrs. Holman gave me," Helen answered. "You said we needed a cake for supper tonight."

"Well, make one of the old kinds, then," said her mother, turning back to her sweeping. "There is no use spoiling good material experimenting with a kind you don't know anything about."

"It's no fun making the same old things day after day," Helen objected, the happy look of anticipation fading from her face and leaving it cross and dejected. "And everyone gets tired of eating them, too."

"You do as I tell you, now," called her mother over her shoulder. "I won't have good eggs and sugar wasted with your always messing around trying new things and spoiling half of them."

So Helen, indignant and rebellious, mixed up one of the old cakes, which she had made so many times before that there was no danger of failure, and which the family ate more from force of habit than from keen enjoyment. All the pleasure of cooking was taken away and Helen felt that housework was plain, uninteresting drudgery.

Helen was originally fond of cooking and housework. She loved to try new things and took pleasure in preparing tempting meals and serving them daintily, but after years of constant interference from her mother whenever she tried to leave the beaten track and do anything original, she lost interest. She is now teaching school. She is not a particularly good school teacher, for she does not love the work, but there is nothing else she can do, for she says she "hates housework." Her mother is doing all the housework alone, with hired help for the busy season. Neither of them realize that a splendid housewife was lost when Helen became disgusted with domestic drudgery, just because she was never allowed to have her own way even in small matters. The sugar and eggs were saved, but was it worth the price?

Who is to Blame?

Poor puss has been credited with nine lives, and many people act as if none of the nine were endangered by cold or hunger, and therefore no compunction is felt by them when they drop a sack full of cats and kittens in the most lonely and out-of-the-way place they can find.

The youngest and most helpless must eventually perish, while the older ones subsist as best they can. The wild instinct which has lain dormant asserts itself for self-preservation and they become beasts of prey, feeding on what is weaker than themselves. Such cats become renegades, which visit chicken coops, with destruction, and little chickens are never safe if in reach. They have learned to eat birds, and cannot draw any fine distinction between "the birds of the air" and the fowls of the barnyard. Poor things! They have learned through hunger to become criminals, and they are visited with vengeance by man, who is responsible for their wrong-doing.

Who is to blame if the cat learns bad habits? Feed it from kittenhood, and it will not often harm your chickens, nor kill the birds. The writer, in more than thirty years' experience, has never had any trouble with cats killing chickens, though in that time from five to fifteen cats have been on the premises, the latter number, kind friends, being mostly made up of strays that had been dropped by tender-hearted people (?) who "could not bear to kill a cat," or who believed it ill-luck to do so. They were not too tender-hearted to inflict possible starvation on the poor creatures, nor did they stop to think whether other people would regard a visitation of cats as especially good luck.

Death must come inevitably to every creature, but let us make it as painless as possible by making it as nearly instantaneous as possible. Why not drown the poor little creatures not wanted. It is as nearly a painless death as any, as has been testified to by people who have been taken from the water and after long effort resuscitated. These near-victims have asserted that the only sensations they remembered were pleasurable ones; that is, there was no positive pain, but a sort of slipping into forgetfulness or insensibility. It will be well to consider this and dispose of the year's crop of undesirable kittens and not let them grow up to be the foes of the poultryman, and the destroyers of wild birds, and this advice comes from one who has a liking for cats, the same as for all living creatures, but believes that death is far preferable to the long-drawn-out suffering from starvation.

There is no quality which is more desirable in people than kindness. Alice Carey says, "There is nothing so kingly as kindness," and certainly the most truly royal people, those coming nearest in character to our conception of the Divine King, are the kindest and gentlest, not only to people, but to animals, and their every-day lives are a blessing to all. They are the true Christians, "the salt of the earth," for we cannot doubt that Coleridge was right when he said: "He prayeth best who loveth best all things, both great and small."

CENA S. CORNMAN.

The Tired Woman

Nearly every magazine, great or small, devoted to the interests and welfare of women, gives some method of physical development; exercises for acquiring grace and harmony of movement—everything that appeals to the artistic sense. This is as it should be. There can be no such thing as too much encouragement of the perfect physical life. Hundreds of earnest, overburdened housekeepers snatch just time enough to glance at some of the methods of acquiring these desirable qualities, but are too tired and weary, from crown to sole, to do the specified stunts to accomplish the desired results. As I have had some experience with that "tired feeling," I can sympathize with each aching back and throbbing head, and I want to tell you of a "short cut" to rest and relief—a kind of "first aid to the tired."

These exercises are not to be compared with the "show stunts" which attract our men friends to the finishing night of a physical culture term or calisthenic season, but are the practical, homespun sort, done on the quiet; the kind that makes tired backs and joints feel like new; that gives us courage to get up and go about our duties with renewed energy. There comes a time on our "busy day" when we feel there is hardly enough strength of body or mind left to do the next thing on our list. At just this point I leave the "next thing" to "whistle and wait," while I take a little rest for myself.

Loosening my clothes comfortably, I lie down on the floor, flat on my back (out of range of draught), with my arms straight and limp at my sides. The object is to relax every overstrained muscle and nerve. For that reason the floor is preferable to a couch, as it is unyielding, making it necessay for the body to lose its tenseness and rigidity. Now, I take a full, deep breath, exhaling slowly, repeating this eight or ten times, continually thinking of complete rest, shutting out all thoughts of work—past, present and future—courting calmness and comfort. If your back has been aching, place a medium-sized couch pillow directly under your hips when you lie down; this slight elevation of the lower portion of the spinal column seems to relieve the overstrained feeling in that region. The longer you lie in this position the stronger and fresher you feel in mind and body. Five minutes of relaxation, if no more time can be spared from the busy hour, is worth more than a half hour's jolting in a rocking chair. It is very important for housekeepers to hold themselves erect, thereby avoiding severe attacks of headache. A beneficial exercise for this purpose is the following: Stand with feet together, arms hanging naturally at sides; inhale slowly, at the same time raising your arms until the fingers point directly to the ceiling; hold your breath, and while doing so rise to the tips of your toes, stretching your arms as much farther as possible, then slowly exhale while arms and feet are returning to first position.

If you are faithful with this exercise, repeating it about ten times each morning, or night just before retiring, you will soon find your general health improving as your body

regains nature's poise. I do not need to tell you what you know so well, that fresh air and sane food go hand in hand with exercise of any kind that benefits. The busiest of women can surely make a trial of this simple method of "rest" and development, and will be more than repaid for the effort it will cost her.

There is so much I want to say to you tired women about why you are so tired, but you would not have time to listen, busy as you keep yourselves relieving others of the duties intended by nature to keep their blood circulating freely, so I will content myself by imploring you to reserve time to devote to your own necessities and comforts once in a while. Try it and see what a delicious sense of freedom and power comes to you. You will then be in better condition to radiate cheerfulness and assist the truly deserving, forgetting, meanwhile, that you were ever a victim of that "dreadful tired feeling." Of course, I will admit that there are very few, even in the intimate family circle, who feel called upon to encourage an overworked woman to omit any of the nerve-racking details that go to make up what is called comfort (?) in the present stage of civilization. This fact places the responsibility of your well being on your own shoulders—just where it belongs. In justice to yourselves, take time to study your own personality. Discover, if possible, your place in the plan of the supreme intelligence. Renew your youth by recalling the play spirit, laid away with your short skirts and "pig tails" years ago. If you have children teach them to be self-reliant. Instill into their minds a sense of justice and fair play; regardless of sex, insist on their caring for their own rooms and keeping themselves tidy. In this way you will make them understand their responsibilities as well as their privileges as an individual, at the same time ridding yourselves of one of the proverbial straws, the last one of which is supposed to "break the camel's back."

When women learn to save their strength for the purpose of developing habits of physical and mental health in themselves and their families, choosing simplicity instead of display for their watchword, we may safely call it a forerunner of the happy, co-operative family of which we dream, where there will be no reason or excuse for the product of the present system—"the tired woman."

MRS. M. E. UNDERWOOD.

A Girl Gets Dinner

The following is taken from the Woman's Home Companion: "A young girl of 14, whom I knew, plans and cooks the dinner at home one evening of each week, and her mother stays away from the kitchen entirely on this afternoon. The girl's father gives her a small amount of money in the morning before he leaves home, and she does the marketing with this sum. The event is anticipated with great pleasure by all the members of the family as well as by the little cook, and the nourishing and appetizing dinner she serves is certainly surprisingly good."

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6228—Novel Yoke Waist—This stylish design has a short yoke at the shoulders in both front and back. It opens quite low in front and the edges of the opening are trimmed with a handsome notched collar. The sleeves have no fullness at the shoulder and may be of elbow length or finished, shirt fashion, at the wrist. The pattern 6228 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2 yards of 36-inch material.

6213—Ladies' Coat. This coat can be made in either the long or short length and with either the notched or sailor collar. Light weight cheviot or linen can be used. The pattern 6213 is cut in sizes 34 to 42 inches bust measure. Medium size requires for the full-length coat 4½ yards of 44-inch material.

6222—Misses' and Small Women's Dress—This stylish dress is made with a three-gored skirt, which can be made with either the empire or regulation waistline. The closing is made at the front and the long or short sleeves can be used. The pattern 6222 is cut in sizes 14, 16 and 18 years. Medium size requires 3⅞ yards of 44-inch material.

6182—Simple House Dress. The house dress has entirely supplanted the wrapper as an indoor garment for most women. The waist is of blouse outline, plain at the upper part and gathered at the waistline. The closing laps a little to one side and this may be turned back and faced in the style of a rever, if desired. The skirt has three gores and is attached to waist at the beltline. The pattern 6182 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5¼ yards of 36-inch material, with ¼-yard of 27-inch contrasting goods.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children, give number and age.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

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An olive oil bath is an excellent thing for a palm or fern.

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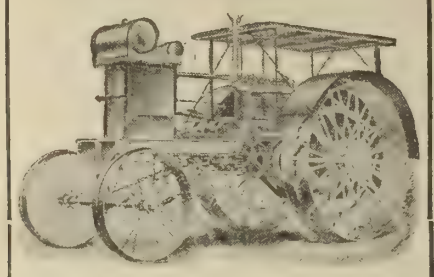

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Mighty Questions Agitating People of Mexico

By Frank G. Carpenter

MEXICO CITY—In this, my last letter from Mexico, I want to give you some of the undercurrents of public opinion which are rapidly changing the possibilities of this republic. The man who thinks the troubles here are only the struggle of the ins and the outs is mistaken. The people have become aroused to the possibilities of liberty, and there is a strong hope that the whole social and economic system will be reorganized. So far the republic is still in the melting pot. It is difficult to discuss parties, for parties are only in their formation.

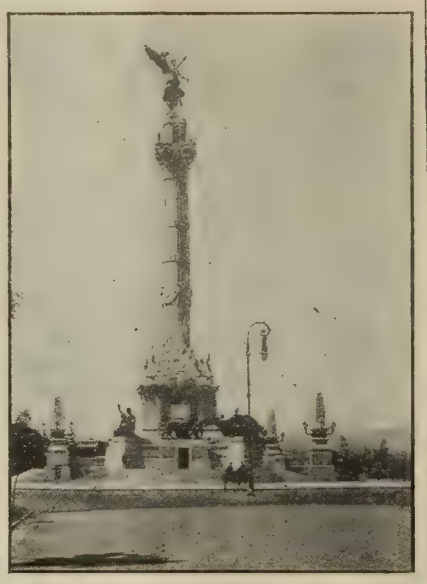
One reason for this is the long autocratic reign of Diaz. For more than a generation he controlled the country with an iron hand, in which was held a two-edged sword. Every head which rose above the average level was cut off, and his enemies were wiped out without regard to anything but the success of the administration. Diaz often said that he believed in much government and but little politics. The result was that political parties were practically extinguished by his long reign.

When Madero became president it was with a promise of reorganization. He preached reform and equal rights to all, and he succeeded in planting the germs of discontent among the common people. He preached, but he did not accomplish, and his non-accomplishment was one of the elements that brought his overthrow. The new administration of Huerta is now preaching and promising, and parties are again forming. There may be another revolution or so before order is brought out of chaos, but there is little doubt but that the old Mexico has passed away forever, and that a new one will eventually take its place.

Dividing the Big Estates

Among the great questions which are agitating the country are those which relate to the landed estates and their owners. The people are beginning to realize that it is not right that 1,000 families should practically own this mighty territory. Mexico is divided into enormous ranches, some of which contain millions of acres and are worth many millions of dollars. These estates have been listed for taxation at many times less than their value. Property worth a milion dollars in gold will be assessed at $100,000, and one worth $100,000 may be assessed at $10,000. For a long time there were no taxes on unemployed lands, and the great estates are still returned at such a low valuation that their owners pay practically nothing to the government. On the other hand, the small holders are taxed to the full.

The man who has a 200-acre farm, which may be worth $1,000, dares not list it for $100, as the discrepancy is too evident. As a result he pays taxes on very nearly the full value. This has long been the grievance of the small land owners, and they are now among the discontents, who are in the saddle. They want a reorganization of the tax system, and they have made themselves so



Great Monument of Independence in the Paseo de la Reforma

felt that this question is discussed all over Mexico.

The Communal Lands

Another movement, which agitated the Chamber of Deputies and which forms the text of many stump speeches, is the restoration of the communal lands to whom they formerly belonged. About fifty or sixty years ago every town in Mexico had certain lands surrounding it which were divided among the citizens, and each householder had his own little plot, upon which he could raise enough corn for his family and where he could pasture his cows.

These blocks of land, with the town in the center, were often in the heart of or adjoining a big estate, which had come from grants given by the kings of Spain centuries ago. The owners of the estates wanted the lands to add to their already large tracts, and so during the administration of President Juarez they succeeded in abolishing the communal system and passing a law to divide up the lands among the people of the villages. These people were mostly peons or Indians, so simple that they sold out for practically nothing. The owners of the large estates were ready to buy from them, and the result was that the communal lands came into the hands of these rich owners living nearby.

There are now hundreds of such settlements in Mexico, where the surrounding lands have been acquired by the rich estate owners. Many of them are not used, and their owners will neither sell nor rent. In this way the residents of the town are compelled to work for these men in orde to live, and the great estate owners can fix their own rate of wages. There is no chance for the peon to get ahead, for he cannot buy the land back, and the system is such that it has meant the enslavement of the people.

Among the schemes now proposed in the Chamber of Deputies is to purchase or condemn these tracts and to restore them to their owners. If this is done the peons will be largely free of their old masters, and they will gradually become more civilized. It is found that this has been the case with the Indians of the few towns which did not give up their communal lands. They are more independent and better in every way.

The Mexican Congress

During my stay here I have spent some time in the Mexican congress. There are two houses, the Senate and the Chamber of Deputies. The Senate holds its session in the national palace and the Chamber of Deputies has its own hall in the business heart of the city.

The building of the chamber is of stone, with doors of wrought iron. It is of the shape of the Pantheon, the hall being a great circular room upheld by many columns and roofed by a dome. An enormous chandelier of cut glass as big as a stack of hay hangs from the center of the dome, and its many frosted light bulbs make the hall as bright as day.

At the back, under the coat-of-arms of Mexico, is the chair of the speaker, and the seats run in concentric rows, rising from the floor below the speaker's desk, gradually to the back. Around the hall, and looking down into it, are galleries, which during my visit were filled with spectators, who listened to every word of the speeches, and who, it seemed to me, were much concerned in the proceedings.

Each member has his own desk and chair, and the order in which the desks are kept is far better than that of our lower house of congress. It seemed to me also that the Mexican statesmen act better than our congressmen do. They are more polite and there is less talking, whispering and smoking while the debating goes on.

The house is much smaller than ours. It has only 233 members, the representatives being elected for two years, at the rate of one member for each 40,000 inhabitants.

Both senators and deputies receive salaries of $3,000 Mexican a year. This is equal to $1,500 gold. It is just one-fifth what our higher paid congressmen get. The Mexican Congress meets annually in two sessions. The first is from April 1 to May 31, and the second is from September 16 to December 15. A permanent committee of both houses sits during the recess.

Patriotism in Mexico

It seems to me that the Mexicans are growing more patriotic. They are great stump speakers, and the recent campaigns of the several presidents have started the heads of the masses to working. You can now hear much talk about "Mexico for the Mexicans" and the demand for "a government of the people, for the people and by the people." On the Paseo de la Forma now stands the great monument of independence, which was completed two years ago. It is the finest of its kind, and it has cost about twice as much as our monument to George Washington.

The Mexican capital is fast becoming a city of statutes, and some of the new public buildings are fine. I doubt whether there is a more beautiful postoffice anywhere than that of Mexico City, and the federal capitol, which has been designed for the Paseo de la Republica, will when completed be one of the finest struc-

tures in Latin America. So far only the iron skeleton has been erected. The building is to cost $10,000,000. The castle at Chapultepec is also very beautiful.

Financial Mexico

As far as much-needed funds are concerned, the new loan which Mexico has recently gotten will put the administration on easy street for some time to come. When Huerta came into power the treasury was practically empty, owing to the extraordinary expenses of Madero and the necessities of war. I am told that the country is in a much better condition financially than is generally supposed. Mexico has been producing a large quantity of silver and copper, and her exports for 1912 exceeded those for 1910 and 1911 by 11,000,000 pesos. During every one years we will double our exports. This is especially so as to our trade with your country. We sold you $224,000,000 worth of goods in 1912, and our total exports that year were $298,000,000. So, you see, you now take the most of what we sell. You will take even more in the future.

"What are the chances for American capital?" I asked.

"As soon as matters become settled—and they are bound to become settled within a short time—the opportunities for successful investment will be very great. It is now twenty-five years since your people began to send large sums to Mexico, and you now have investments amounting to many, many millions of dollars. You have large interests in all of our industrial undertakings.

The Castle of Chapultepec is Also Very Beautiful

of the last five turbulent years there has been a surplus of ordinary revenues over the ordinary disbursements. In 1907 and 1908 this amounted to more than $18,000,000. In 1909 it was more than $5,000,000, and in 1911 it exceeded $10,000,000. In 1912 the revenues were more than $105,000,000.

As to her national debt, Mexico has not only been paying the interest every year, but she has been cutting down the principal. In 1911 and 1912 this cut amounted to almost $6,000,000, and that notwithstanding the abnormal conditions which then prevailed. The resources of the country are such that there is no doubt but that it can redeem all its obligations if a stable government can be secured, and as soon as the country is quiet the bonds and stocks now on the market will rise. The total amount of the foreign debt is something like $315,000,000, and this will probably be added to by the damages demanded on account of the outrages of the recent revolutions.

Mexican Trade

I had a talk last night with one of the leading financiers as to Mexican trade with the United States and its possible increase through our tariff reduction. This man says that the new tariff will send many Mexican articles which are now going to Europe to the United States. Said he:

"Our foreign commerce has been steadily increasing, and within ten You own the most of our mines and enormous quantities of land. The right to acquire land is unlimited, and there are extensive tracts awaiting the capitalist. I believe that the large estates will soon have to be divided. They will be laid out in small holdings and will be sold on advantageous terms.

"There are many opportunities here along manufacturing lines," this man continued. "Mexico needs many articles which she does not produce and which could be protected by the tariff. Our cotton mills are making great strides and at no distant date we shall be exporting cotton cloth. We are now producing all the sugar we need and we have a surplus for exportation. There is no reason why we should not make our own iron and steel, and I expect that the steel industry will be one of our big businesses of the future."

"How about your mines?"

"Mining is one of our largest businesses, and it is only at its beginning. We have vast tracts of undeveloped territory and our mines are steadily increasing in number and output. Our production of silver last year was the largest to date. It was worth $89,000,000.

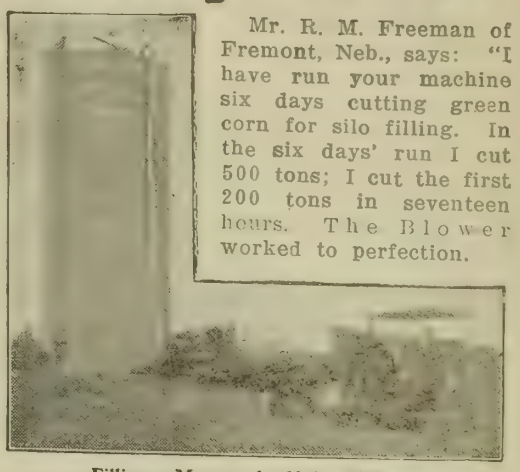
"The gold production was over $48,000,000 and during that same year we produced 180,000 tons of copper ore and 116,000 tons of lead. Everyone knows how the petroleum product is growing."

(Copyright, 1913, by Frank G. Carpenter)

See the Smalley Cutter In Action!

If you want to see a real *show*, just watch this Powerful Smalley "cut up." See it take fodder by the ton and cut it into small, fine pieces, shoot it into a giant silo 60 feet high. Some *improvement* over the old slat-apron Cutter that requires an army of workmen to feed it, and balks when it comes to filling a *tall* silo.

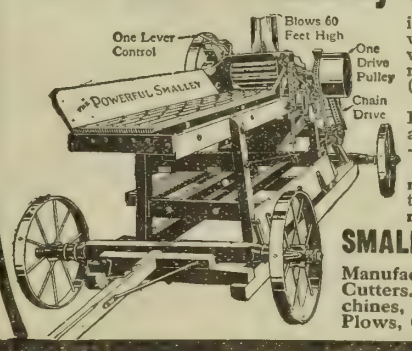
Four-fifths of all Silos are now filled by Smalley machines.



Mr. R. M. Freeman of Fremont, Neb., says: "I have run your machine six days cutting green corn for silo filling. In the six days' run I cut 500 tons; I cut the first 200 tons in seventeen hours. The Blower worked to perfection.

Filling a Mammoth, 60-foot Silo on George Crow's Farm, near Hutchinson, Kas.

The Powerful Smalley Force-Feed Silage Cutter



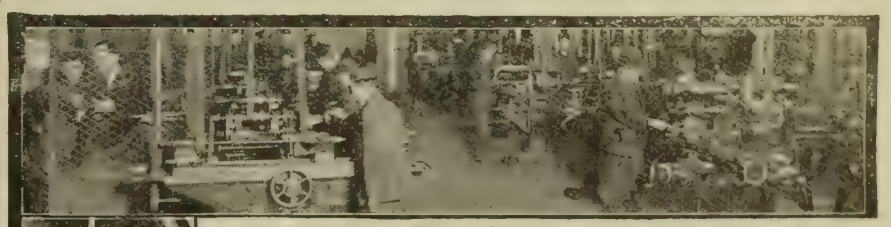
is a regular "hawg" for work. Makes no difference whether you have **green** or **dry** ensilage—or whether it's **corn, oats, peas or alfalfa.** Now furnished with Alfalfa Grinding Screen if wanted (for making alfalfa meal).

Only one drive pulley on Blower outfits. No Idler to bother with. Ten per cent steel guaranteed in all foundry casting. No oiling by hand—hard oil cup on all important bearings.

Get a post card quick and send for Smalley's new big illustrated Catalog, Finest Silage Cutter Book ever printed, yet absolutely free. Write now for it.

SMALLEY MFG. CO., Box 157 Manitowoc, Wis.

Manufacturers of Ensilage, Alfalfa and Hand Feed Cutters, Combination Ensilage and Snapping Machines, Drag and Circular Saw Machines, Champion Plows, Cob Grinders and Feed Mills. (71)



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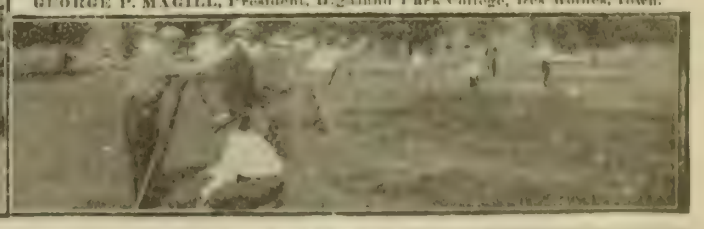
GEORGE P. MAGILL, President, Highland Park College, Des Moines, Iowa.



FREE LAND INFORMATION

You can learn the facts about any section of the country through THE TWENTIETH CENTURY FARMER'S FREE LAND INFORMATION BUREAU, which is maintained for the benefit of our readers. Climate conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will send postage for reply, and write the

Land Department of This Paper

DR. HESS DIP
And Disinfectant

is a preparation entirely harmless to man and beast.

Its sole office is to kill disease germs, correct impure conditions and destroy noxious insect life. It does these things whenever and wherever it is used according to directions. It meets the rigid requirement of the United States Government as an official dip for sheep scab. Its use on farm stock insures animal health and thus increases live-stock values. It is an unfailing purifier for foul sinks, drains, sewers and outbuildings. There is no certainty of profit in stock farming without its use.

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Prize winning stock, bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices, gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms, Saugatuck, Mich.

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Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.

HODGSON & RINK, Fergus Falls, Minn.

THE TWENTIETH CENTURY FARMER will not **knowingly** publish an advertisement of an **unreliable firm,** nor one which does not do **exactly as it advertises.** Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

A Word of Appreciation

Editor of the Twentieth Century Farmer: As a veterinarian permit me to congratulate you on your excellent and most favorable endorsement of the resolutions that were presented and passed by the recent convention of Missouri Valley veterinarians held in this city. It is very gratifying, indeed, to find that our efforts to improve the general health conditions in the live stock industry of the country are approved by laymen and are published through so valuable a medium as the Twentieth Century Farmer. I am sure that I voice the sentiments of all who were in attendance and heard the splendid efforts of those who advocated immediate legislation for improvement of conditions said to exist (as undoubtedly do) in the state of Illinois in saying that they heartily thank you for your earnest sympathy. Long live the Twentieth Century Farmer and its progressive editor. Let all veterinarians unite in hoping that the secretary of agriculture will heed our request. G. R. YOUNG, D. V. S.,
Ex-President M. V. V. A.
Omaha, July 14, 1913.

Editor's Note—Such letters as this are valued by the Twentieth Century Farmer, because they show that the public appreciates the efforts it is putting forth for the improvement of general farm conditions.

More About Barren Fruit Trees

J. W. B., Cokato, Minn.: I noticed a piece in your paper in the Readers' Exchange about apple trees that never bear fruit. The Northwestern Greening here in Minnesota is a shy bearer, and usually does not bear until the trees are 9 or 10 years old. They then bear a crop or two and then die. The Martha has always been a shy bearer, or has borne none at all. The Whitney is an early and good bearer nearly every year. The fruit is one of the finest canning apples grown. We do not grow the Winesap in Minnesota very much.

Answer—There used to be a good deal said a few years ago that severe root pruning would make barren fruit trees bear. This method in some instances has proved successful. There have been a number of instances where the same result has been achieved by boring in a circle about a barren tree about four holes twelve feet distant from the tree and six or eight feet deep, and exploding in the bottom of these holes a 20 per cent dynamite cartridge. No instance comes to mind where this method has failed. It might be well for owners of barren apple trees to try the experiment and see how it will work. The holes may be bored with a two-inch auger to which a lengthened shank has been attached.

Cow Apparently Tubercular

Mrs. H. P., Randolph, Neb.: Receive your farm paper and find many useful hints. I am going to ask you what ails my 5-year-old cow. Last winter I noticed that her nose ran and that she breathed heavily through her nose and mouth. A few days ago she had a fine, big, healthy steer calf and has more milk than the calf can use, so we milk her twice a day clean. Since then the cow's breath is heavier, especially when driven a short way, and she acts as if it were her lungs or throat, and is not as fat as the other cows. She runs loose in pasture with the others. Please tell me what ails her and if her milk is good.

Answer—We suspect this cow is tubercular, and would suggest that she be given the tuberculin test.

Fungus Growth on Cedar Trees

Mrs. C. C. J., Bloomfield, Neb.: What is the cause of the brown fungus growth on cedar trees? Will it kill the trees, and how can one do away with it?

Answer—The brown fungus referred to is known by the scientific men as the cedar apple. Some farmers confound it with the seed of the tree, which is, of course, all wrong. It is spread by spores that are carried by the wind. It is a danger to trees even if it does not kill them. The greatest danger, however, that it does is in infecting certain kinds of fruit trees, principally apple trees. It puts its mark on both trees and fruit. The only method of control known at present is to kill the trees, and thus prevent the development of the fungus.

How to Sow Alfalfa

J. E. T., Fertile, Minn.: I am interested in farming and would like to sow some alfalfa. Would like to know what kind of land is best adapted to it. I have land that is a little sandy and some that is not sandy. How much should be sown to the acre, and when is the best time to sow?

Answer—In the latitude of Minnesota it is best to sow alfalfa the last week in July, provided the ground has been thoroughly cultivated and the weeds destroyed. It should be sown broadcast, twenty pounds to the acre, putting on ten pounds going one way and then crossing the field, putting on the other ten pounds. This will prevent balks or vacant spaces and give an even stand. Either kind of land you mention is good for alfalfa, providing it is well drained.

Tool for Cultivating Alfalfa

L. E. L., Julesburg, Colo.: I read in your paper that there was on the market some tool adapted to the cultivation of alfalfa. We are raising it in rows, and would like to know what you think is the best tool with which one can get over the ground rapidly?

Answer—The best tool for your purpose depends on how far apart the rows are. If they are three feet apart, the common corn cultivator, with four two-inch shovels on each side, will answer the purpose. If the rows are closer together than this, some other tool will answer the purpose better.

The Heel Fly Again

G. M., Melba, Kan.: I have caught heel-flies. They are like the nit-fly that gets on our horses, only a little smaller and a little darker in color. If our friend, A. J. C., will tie a gentle milch cow and watch her in heel-fly time, he can see the fly, and catch it, too. I have had thirty years' experience in raising cattle on range and feed, and I know there is a heel-fly as above described. I caught one and kept it in alcohol for a number of years to show, and I think my brother in Oklahoma has it now.

Alfalfa Cultivators

W. F., Riverside, Cal.: In your issue for June 28 you have a very interesting article on cultivating alfalfa, and wind up by saying you are glad to answer questions in regard to tools for cultivating. Please tell me what kind of a tool to get, where to get it and how to use it. I have 300 acres of alfalfa near Brawley, in Imperial Valley, which need cultivation. I am using the disk and the curved spike-toothed disk, neither of which is satisfactory. Kindly come through with the information as soon as possible.

C. L. Co., Kansas City, Mo.: We notice an article in your issue of June 28 entitled "Cultivating Alfalfa." In this article you refer to some tools for the cultivation of alfalfa. We should like to have a list of such implements as you have in mind and be informed where we can buy them, as we have heretofore been using the disk and the spike-toothed disk. If there is anything better, we should like to find it.

W. R. B., Bliss, Idaho: I am greatly interested in your article entitled "Cultivating Alfalfa" in your issue of June 28, and would like to ask what tools are best adapted to such work. I know of nothing except the spring-tooth harrow. I intend purchasing some tool for that purpose solely. I naturally want the best. We have volcanic ash soil, and irrigate in furrows. Our weed pests are chiefly downy broom grass, foxtail and Chinese lettuce. I think anything that will destroy foxtail or blue grass will answer the purpose, as it seems next to impossible to injure the stem by any kind of cultivation. Conditions here are ideal for the growth of alfalfa, and it seems that the rougher the cultivation the thicker and more vigorous the growth.

Editor's Note—Taken with a preceding letter appearing in the Readers' Exchange, these inquiries make four that have been received during a single week with reference to the same subject matter. It is gratifying to note that what the Twentieth Century Farmer has to say on such a subject as this excites such widespread attention. Each of these letters has been privately answered by return mail. Our readers will readily see that it would be unwise for us to mention in these columns any specific tool or any manufacturer by name, as that would bring a storm of hornets about our ears from other manufacturers. The fact that such inquiries are being received at this office should prove to manufacturers the necessity of furnishing in our advertising columns a sufficient answer to such inquiries.

The annual report of the Iowa State Drainage Association has just been issued by its secretary, Prof. W. H. Stevenson of Ames, Ia. It covers the whole field of the drainage of farm land. Farmers that have land to drain can do no better than to send 25 cents to the secretary and secure a copy of the report.

Missouri's wool crop last year sold for $1,856,250.

Timely Items of Interest to Poultry Raisers and Fanciers

Her Chicken Pie

"Jack, dear," she thoughtfully began,
"It was a tender-hearted man
Who killed this bird that you and I
Are eating in my chicken pie.
Yes," she went on, "it must be so,
Dreading to deal the fatal blow;
I think from all that now appears,
He hesitated years and years.
—Exchange.

Keeping Off Blackhead

PROF. HADLEY, biologist for Rhode Island Experiment Station, has this to say of blackhead in turkeys: "Long experience has shown me that turkeys can be raised in yards and pens just as successfully as on free range, if"—and here he lays stress—"they can be kept from the disease called blackhead."

With this remark he gives us to understand that the parasites that cause blackhead are always present, and waiting a chance to develop, if given proper conditions for developing in the lower intestines. One of these conditions is, and a prime one, the clogging of the intestines by not only too much food, but certain kinds of food. Penning the birds, or giving limited range, tends to a stuffing of the intestines, as they cannot get the exercise necessary for quick digestion, and the result is drooping turkeys and many deaths, and all caused by the blackhead parasite. We all know that confinement is disastrous to turkeys, even the young and growing, but many do not guess of what they die.

We all know how the range turkeys die off that stuff and stuff on green corn. Acute indigestion, we call it, but the biologist would more than likely call it acute blackhead, the fermenting condition of the packed intestinal contents favoring the speedy growth of the blackhead bacillus.

Certain foods, and even certain kinds of tablets containing certain acids, he contends, will shorten up this loss of turkeys. Turkeys, especially the young and growing, naturally consume too much food. It is their nature to, if given the chance, and if mash is fed them they will always eat about three times more than the body can take care of unless given time. No wonder at the big death rate beginning in the flock at from three to more weeks of age. He advises the feeding of sour milk from the first, but orders it increased largely by the time the poult approaches its third week, supplying the clabbered milk until each poult uses from three to more quarts a week. Other foods, especially grains, must be given in connection, but his experiments show that a turkey can stuff on green stuff and clabber milk and never be hurt by the stuffing. After the sixteenth week both curd and whey can be given in large quantities. He does not believe in stuffing the curd in them the first weeks of age, as it does not assimilate, but the stuffing with clabber he advises not only a help to the food problem, but as medicine. IDA M. SHEPLER.

Summer Fertility

A Subscriber, Nebraska: I am puzzled to know the reason why the eggs laid by my flock of hens were so highly infertile in the spring, when there was need of fertility, and are so highly fertile now, when I need so few for hatching purpose and have no calls for eggs to set. In fact, people refused to buy from me a second time on account of the non-fertility of the eggs I sold them. I kept plenty of male stock and these were of good age. Now every egg tested shows to be fertile, and the ickns hatched from them grow like weeds.

Answer—Without knowing anything of how you fed and cared otherwise for your flock, I can only make a guess that it may be due altogether to the season of the year. I find that fowls on range and allowed access to the freshest of grass will always show greater fertility in the eggs laid by them than they showed earlier in the season, when cold, wind and bare grounds kept them huddled and flocked together under shelter. The reasons are more than one, but green grass and exercise is largest of the reasons.

Scabies

Mrs. C. J., Nebraska: My Black Langshan chickens have scabby legs, though none of the rest of my fowls have, and they were all hatched and raised together. Please tell cause and cure.

Answer—If they are young chickens, I judge they were incubator hatched and brooder raised. If not, then, unless the Langshan eggs were brought on your place from other flocks, and the parasites causing the leg scabies—which I judge it to be—were on the eggs, I cannot see why the Langshans should have this trouble and the other chickens not have it. It might be that the parasites—which the chickens must get from somewhere—first started on the legs of the Langshans because the feathers first made a good hiding place for the scabie mite. Unless it is stopped, it will eventually reach all of the chickens. If the chickens are young, with tender legs, then wash well with warm, lathery water and apply a carbolized salve well under the scales. This you may be compelled to do three or four times. If the chickens are old, wash the legs well with soap, but don't rub to the point of bleeding, after which soak the leg well in pure coaloil. Once may do the work if you get it well under the scales. Kill all the parasites on the roosts with coaloil or carbolic acid spray.

Summertime Dairygrams

Considering that plenty of good oil for the cream separator is a saving of time and labor in operating the machine, and that it prevents wear and tear of the high-geared parts, the moderate cost of high-grade oil is an investment which returns a many-fold profit to the operator.

Salt is important at this particular season because it not only keeps the dairy cows' digestive organs in prime condition, but it has a cooling effect on the entire body.

To keep well, butter must be perfectly clean and cool when churned. then, these conditions being maintained, it will keep fresh and sweet almost indefinitely.

HOT WEATHER
the Ideal Time to Use a
DE LAVAL
CREAM SEPARATOR

THERE is no time when the use of the DE LAVAL Cream Separator is so indispensable to the profitable production of cream or butter as during the hot weather of midsummer.

The use of the separator at this season usually means the difference between a profit and a loss in dairying. It accomplishes a great saving of butter-fat that goes to waste with any other method of separation and enables the production of a higher quality of cream and butter-fat than is otherwise possible.

Moreover with a DE LAVAL the advantages over other cream separators are greatest at this season because the separation is more complete and the cream heavier and more even in texture. The machines turn more easily and the capacity is greater, getting the work through more quickly.

If you haven't a separator you can scarcely afford to defer the purchase of a DE LAVAL, or if you have a separator which is not doing satisfactory work there is no better time to discard it in favor of a DE LAVAL, first trying the machines side by side for your own satisfaction, which every DE LAVAL agent will be glad to give you the opportunity to do.

See the nearest DE LAVAL agent at once or if you do not know him write us direct for any desired information.

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NEW YORK CHICAGO SAN FRANCISCO SEATTLE

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CENTER-SHEAR ENSILAGE CUTTERS
Only cutters made that effect a positive shear-cut entire width of bundle, from sides to center of throat. This keeps bundles in middle of throat, greatly decreases friction, and increases cutting power and capacity. Fully *guaranteed*. Catalog explains this wonderful feature and our full line. Send for it now. Address Department 68
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If interested in choice land at a bargain, either for a home or investment, read the back cover page of this issue. There you will find description of a new tract opened for sale and settlement in the famous Golden Prairie District of Wyoming.

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To Farmers—it is a wise hand book. To Students, a valuable reference book. To the General Reader, a fascinating review of the farmer's fight to place his vocation on a par with other lines of endeavor.

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Review of Live Stock Market

By A. C. Davenport

SELLERS of cattle had things pretty much their own way last week. For the first time in some weeks back the demand for beef outstripped the supply of live cattle, with the result that prices for the latter steadily advanced. There was everywhere an upward tendency in the market and by the close of the week it was possible to observe advances of 15 to 25 cents at the different selling points. That advance, taken in connection with the improvement near the close of the previous week, was sufficient to wipe out recent declines, so that at present writing the market may be considered as back where it was at the high time some four weeks ago.

After such a sharp advance it might be well to be prepared for a little reaction in the market, especially should receipts prove to be somewhat more liberal. However, the future of the cattle market has cleared up very much within the last two weeks. For a variety of reasons, such as the fly pest, feeders in many sections of the corn belt were becoming very anxious to unload their surplus beef steers. The cleaning-up process which overloaded the markets of the country two and three weeks ago has now been carried on to such an extent that there is very much less likelihood of their being over-supplied in the future. As a matter of course, sharp advances in the market are always liable to be followed by increased receipts, and such increase in arrivals might lead to a reduction in values. No one, however, anticipates any such reduction to be more than of a temporary character, as there is a general feeling that breaks in the future are likely to be followed by a sudden reduction in shipments.

No Change in Cattle Prices Expected

Operators on the market as a rule, barring temporary breaks, are expecting to see cattle continue selling about where they are at present for some little time to come. To put it in the form of figures, they are looking for an $8 to $9 market for the bulk of the good corn-fed steers at western points.

All indications point to a rather late beginning of the western cattle run. Range men have good reasons for feeling secure, and unless unexpected causes change their plans most of them will be inclined to hold their cattle until they have had time to put on considerable flesh. Between now and the time when the range season will be on the country is liable to become pretty hungry for beef, and it is within the range of possibility that prices may show a very distinct advance over those prevailing at the present time. However, there is a feeling that present prices are about as high as the country can afford to pay.

Falling Off in Hog Receipts

Hogs have recently shown considerable price improvement, and the bulls in the hog trade have been greatly encouraged thereby. Receipts are quite liberal, but the quality at many points is very poor, and supplies of marketable stock are proving to be somewhat disappointing. The fact is, the hog market is, according to the bulls, occupying a strong position. Since the beginning of the year the receipts at the eleven principal selling points foot up 11,250,000 head, which is a falling off of almost 1,250,000 as compared with the corresponding six months of last year. No longer ago than 1908 receipts at these same points ran considerably above the 15,000,000 mark.

Cholera has undoubtedly made serious inroads upon the supply of hogs. One begins to hear hog shortage talk at the big market centers. The statisticians have figured out that only seven states in the union have a surplus of pork, namely, Nebraska, Kansas, Iowa, Missouri, Indiana and Illinois. In many sections of the corn belt hogs have almost disappeared and at the present time many of the hogs coming to market are immature and are being sent to the packing houses really in advance of what would be their normal time. As a matter of course, the current high prices are a big inducement to farmers to let go of their hogs, while the fear of cholera is undoubtedly working toward the same end.

After the whole situation has been carefully reviewed, there is no question but what the bulls have good reason for feeling confidence in the future of the hog market. As a matter of fact, prices are already high and the market is already very satisfactory to the selling interests, so that no further advance is really necessary to make it a bull market.

Sheep and Lambs Coming in Well

Sheep and lambs from the northern ranges are beginning to move marketward and may be expected to continue coming in greatly increasing numbers until the height of the shipping season is reached. Prices thus far have been very satisfactory. With good Idaho lambs selling last week at $8 and above on the basis of Omaha, shippers had every reason for being well pleased. The immediate future of the market, as usual at this season of the year, is dependent very largely upon the number of southern and southwestern grassers still to come. Should receipts of these southerners prove to be very large during the coming week or two, it would be no more than reasonable to expect a somewhat lower range of prices on northern lambs.

Generally speaking, future prospects are for the most part flattering. This is especially true of the feeder end of the trade. Almost everyone who tried feeding sheep last winter made money, and a money-making proposition is always an attractive one. The farmers who made money last season out of sheep will undoubtedly be in the market again this fall, and it will be passing strange if they do not bring many of their neighbors with them as buyers. The excessively high prices at which feeding cattle are selling must have a tendency to cause many old cattle feeders to change over to sheep.

From all sections of the corn belt come reports of a very abundant supply of all kinds of feed and pasture, with a great shortage of stock. Many of these farmers must buy feeders of some kind or other or see their surplus rough feed go to waste. That they will buy sheep and lambs freely is the belief of practically everyone interested in the sheep trade.

As to the supply, reports all agree that there will be a great many feeders from the range available. Some market points, notably Omaha, are looking for record-breaking runs the coming fall. Whether these expectations will be realized remains to be seen, but even if no records are broken it is safe to predict that both supply and demand will be very large. It would be merest folly at the present time to make any definite prediction as to prices, but there is a general feeling that feeder sheep and lambs will sell relatively lower than cattle, but still high enough to give the range men good returns.

Care of Brood Mare and Colt

The care we give the mare is the foundation on which we are to rear the future horse. After having made a selection of the kind of horse we wish to produce, and having mated the mare, she may continue doing her work as usual. She will be much better than if she remains idle. As a coming mother she should have the best of care and careful grooming. There can be no rule for feeding that will fit every case. There is no better ration for a brood mare than oats and bran, mixed clover and timothy hay.

During the winter, if the mare is idle, she should be turned out for exercise in the lot every day, unless it is stormy. When spring work begins she may take her place in team if worked carefully. If very stumpy or stony ground is to be broken, better not work the mare heavy with foal, as the jerking might cause abortion. Do not hurry the mare, even if very busy, as in such condition she cannot stand as hard work as usual. When the mare drops her foal, it is the safest plan to have an attendant if possible.

In case the cord is too strong, it must be tied with a strong string. After all pulsations have stopped, cut it with a sharp knife. Watch the foal for a few days and see that it nurses properly. Don't allow the mare or colt too much exercise for the first two or three days. After this the mare and foal may have the run of the lot during the night, but keep them in the stable away from the flies during the day.

W. M PHILLIPS.

Aged Brood Sows

The keeping of old sows as breeders is a debatable question. Many farmers claim that it does not pay to keep sows over, that gilts are just as good, and that the feeding of old sows from June until December merely to raise a litter is not profitable. It does cost something to feed the old sows, but by allowing them the run of good pasture very little grain is required. They are far superior to gilts.

An aged sow's litter is worth as much as those of two gilts when raised. The gilts have more or less trouble in farrowing. They will bring forth a dead pig and a couple of weak ones that may probably survive, but never amount to anything. An aged sow rarely has any trouble and produces more pigs and stronger ones.

With aged sows an aged boar may be used, which is not possible with gilts unless a breeding crate is provided. By using more mature breeding animals stronger offspring will be the result. Stronger pigs mean that a larger per cent will be raised, fewer runts and larger profits. W. M. PHILLIPS.

Summertime Dairygrams

Many farmers who experience difficulty in getting the butter to come at churning time should go out and see if the salt supply for the dairy cows isn't exhausted.

Where the cow's tail is filthy with thin manure, as it often is during the grazing period, carefully wrap an old gunnysack around it and tie it there until you are through milking.

If more of our farms were equipped with a running-water system for handling dairy products (which is easily accomplished on almost every farm), they would be more cleanly and wholesome, require less time and labor in handling, and command a much higher price, especially if sold to private customers in the city.

If one has no respect for the feelings, nor the health of his dairy cows, the fact that the milk, cream and butter he produces is consumed by human beings, makes it imperative that the water supply for the dairy herd be fresh, pure and clean, and more especially so during the excessive heat of the summer months.

M. A. COVERDELL.

Sale Dates

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September 27—Robert Leisey, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Shattuck, Hastings, Neb.
October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.
October 20—William Ferguson, Scribner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 8—J. L. Naiman, Alexandria, Neb.

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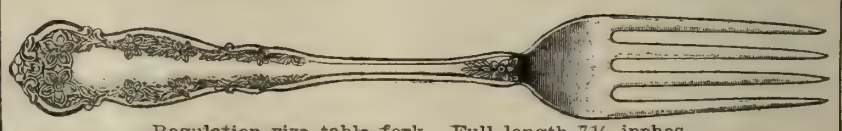

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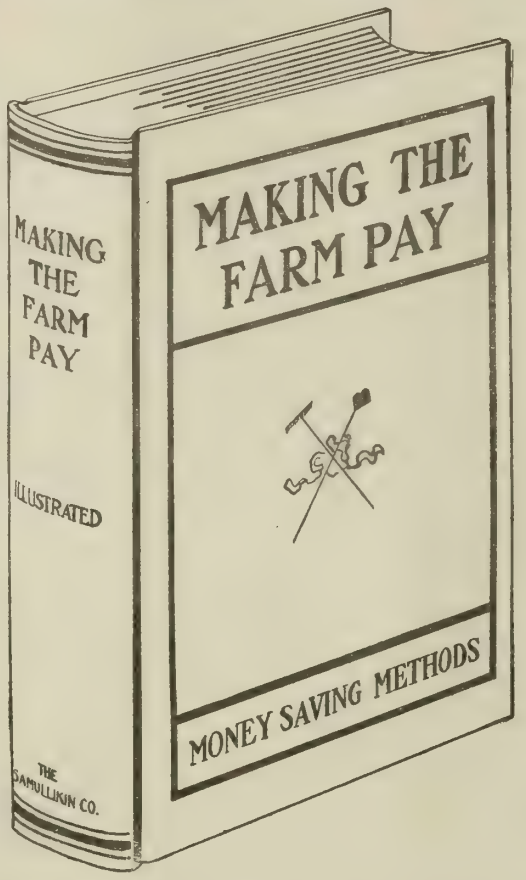

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Bright and Breezy

Scared

"What is the matter?" roared the manager of the sideshow. "Why don't you go into the cage?"

"I can't," replied Mme. Rinaldo, the fearless lion tamer; "there's a mouse in the cage.

Circumstances Alter Opinions

George Washington Primrose, thinking of matrimony and trembling on the edge, wrote to his married brother, Rufus, for advice.

"Dear Jawje," wrote Rufus in reply, "every man shud marry. A wif is a man's greatest gift. She suithes his trubbles, dubbles his jys and helps him in every wich way. The marid lif is the only lif spechully when you is forchunate enuff for to git a jool of a wif like mine. P. S.—Mandy has jess stept out. You blame fule you, stay single."

Something in It

There is a state senator whose burly appearance might possibly lead one to mistake him for a laboring man, but who is as sensitive as a woman to all unpleasant circumstances. He happened one night to be standing on the sidewalk of an undertaking establishment, conversing with a friend on some important political matter. One of the employes of the shop approached them and said: "Say, will you give me a lift with a casket?" The senator shuddered and said hesitatingly, "Is there—is there—anything—in it?" "Sure," came the hearty reply; there's a couple of good drinks in it."

Quite Unique

Ray T. Baker, warden of the Nevada penitentiary, is abolishing, with success, all the brutalizing rules of the old-time prison system. Mr. Baker's prisoners lead healthy, industrious lives. They study and they work, and on leaving prison they engage in honest labor.

"Our institution," Mr. Baker said to a reporter, "isn't much like a reformatory I once visited in my youth.

" 'A very strange thing happened in this reformatory back in '89,' a warden said to me.

" 'Yes? And what was that?' I asked.

" 'One of our prisoners,' he replied, 'reformed.' ".

Revenge of a Vegetarian

A party of vegetarians paid a visit to the country, and after a few hours' ramble in the woods and fields proposed to finish up their hitherto pleasant outing by a picnic tea party.

After getting comfortably seated to the spread on the grass, a bull made his appearance in a rather hasty manner, spreading confusion among the party, each trying to get over the stile first.

An old lady ran, panting, reaching the stile only just in time to save herself by scrambling through it and falling in a heap on the other side. On regaining her feet she turned to the bull and breathlessly exclaimed:

"That's your gratitude, is it? I haven't eaten a bit of beef for the last two years; but I'll make up for it now, you ungrateful creature!"—Tit-Bits.

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The Silo and Its Construction

THE TWENTIETH CENTURY FARMER on August 2 will begin the publication of a promised series of articles on the silo. There are some interesting facts with reference to the organization of silo companies with which the public should become acquainted, and these articles will furnish reliable information on this topic.

There is also considerable interest among prospective users of silos as to what kind of construction in a silo will be best adapted to individual needs and still come within the limit of their means to buy. Certain kinds of constructions are sold at what seems to be an exorbitant price, and the public will be advised with reference to this matter. The man that builds a silo builds it for a permanent structure, and these articles will endeavor to show every reader in what direction the best interest of the silo really lies. This paper will do everything in its power to encourage the use of silos, but it is not in favor of taking a new, rising and necessary industry with exorbitant profits.

Prattle of the Youngsters

Skittish Mother

The old lady from the country and her small son were driving to town when a huge motor car bore down upon them. The horse began to prance, whereupon the old lady jumped out, screaming at the top of her voice. The chauffeur stopped and offered to help. "That's all right," said the boy, composedly. "I can manage the horse. You just lead mother past."

Unwelcome Additions

Johnnie and his mother were dining with a friend. The first course was chicken soup with macaroni in it. The hostess watched Johnnie as he sat quietly gazing into his plate. Finally she asked: "Why don't you eat your soup, Johnnie?"

"I don't care for it, please, ma'am."

"But your mamma said you liked chicken soup."

"I do like mamma's chicken soup, but she don't put the windpipes in."

Young, but Discreet

A certain man, who lives in a suburban town in North Jersey is no beauty. He is not only long and angular, but has a face and complexion that neither pale blue, sky yellow nor any other color in dress effect will attune to.

One day the aforesaid party called to see an acquaintance, and while waiting for him to appear in the parlor was entertained by the little 8-year-old son.

"Well, what do you think of me?" asked the caller, after conversing several minutes.

Instead of replying the boy turned aside and thoughtfully hung his head.

"You haven't answered me," smilingly persisted the caller. "Aren't you going to tell me what you think of me?"

"Do you suppose I want to get a licking?"—Philadelphia Telegraph.

A Noisy Comet

Up on the heights of one of the Pacific coast cities there was great excitement over the coming of Halley's comet. For weeks 5-year-old Bobby had heard about it. One night his father roused him from sleep, and took him in his arms to see it.

"Wake up, Bobby! wake up!" said his father. "Look, Bobby! Do you see the comet?"

Bobby lifted his head and looked sleepily up into the sky. The night was clear and beautiful; there was no sound except the slight rustle of the leaves and the mournful howl of a coyote in the park half way down the slope. Nearer and louder came the long drawn bray of a donkey.

Bobby's head sank down on his father's shoulder. "Oh, Bobby," said his mother, "wake up and see the comet!"

"I seed it," murmured Bobby, and refused to look any more.

The next morning Bobby was playing in the sunshine, when he heard a sound that made him lift his head. He listened attentively; it was the bray of a donkey. Bobby rushed for the house.

"Mother! mother!" he shouted. "There goes that comet again!"—Youth's Companion.

Shady Pastures Encourage the Milk Production

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Quality Should Determine Price of Cream

Method of Paying Flat Price for All Grades of Cream Must Be Abandoned

A FEW years ago the elevators operating throughout the Missouri valley paid a flat price for grain regardless of the quality of the grain. Farmers who wished to grade their own grain, and keep out the screenings and poor grain for feed, were informed by the elevators that doing so would not affect the price paid; that they paid a flat price for wheat, corn, oats or any other cereal without regard to its quality. The exigencies of trade conditions forced them to abandon this policy. It was protested by the farmers themselves that the method was unfair and uneconomic, and in the end the elevators came to the same conclusion and definitely abandoned the policy. Now the price paid for grain by them is determined by the quality of the grain.

The exigencies of trade conditions will, sooner or later, convince the centralizer that that is the only profitable principle to adopt. It is not good business to pay for any commercial product more than it is worth, and it will in the end result disastrously to any business to pay for any product less than it is worth when a fair margin of profit is taken into consideration.

The pictures that accompany this article are photographs of cream cans full of cream at a railway station in the state of Nebraska. The cream is "rotten" cream. It is disgusting in appearance, and apparently worthless. No user of creamery butter will like to think that the butter he places upon his table is made from any such stuff as that.

Cream on Platform at Railway Station in Nebraska

Cream on Truck at Railway Station in Nebraska

These pictures emphasize and make apparent this truth—that rotten cream is not worth as much as good cream. The centralizer that pays the same price for rotten cream that he pays for good cream is paying either too much for the rotten cream or not enough for the good cream. In either case the practice is an exemplification of bad economics, as bad and vicious in principle as it is easy to conceive. No business can thrive permanently that perpetually and continuously not only ignores but flagrantly violates the principles of economics. The sooner the centralizers as a class realize this fact, the sooner will they put their business upon a sound, economic basis. The day of lawless business has gone, never to return. At foundation, only such business can endure as pays due observance to economic law.

The practice of paying the same price for rotten cream that is paid for good cream is not only uneconomic, it is foolishly and recklessly unfair. The cream producer that takes the trouble to take proper care of his cream, and deliver it either at the receiving station or at the railway station in good condition, is, in all fairness, entitled to an extra price as compared with the shiftless farmer that takes no care of his cream and delivers it in rotten, filthy, unsanitary condition.

This practice of paying a flat price will sooner or later seriously affect trade conditions. The public is constantly demanding a better quality in the butter offered in fancy packages at fancy prices. This demand will grow more and more insistent. In the end, it will have to be met. Let the average householder become aware that the butter that he places upon his table, advertised highly for quality, done up in an exclusive, sanitary package, is made from "rotten" cream which has been highly pasteurzed and neutralized in order to conceal its original quality, and he will begin to be less anxious for creamery butter, and will be inclined to turn his attention to substitutes for butter that are already forcing themselves upon public attention, and have the merit at least of not being made from rotten materials. For this reason, it is urged that the exigencies of the trade conditions of the future will demand an improvement in the quality of the cream from which the butter of ordinary, every-day use is made. The centralizers must square themselves with this fact or the oleo men will have them at a disadvantage.

All creameries are anxious for the development of the dairy industry. As has already been stated in a preceding article, the use of the cream receiving station will have a tendency to hinder the development of the dairy industry. This practice of purchasing and manufacturing rotten cream into butter will have a similar tendency. It will lessen the demand for real butter. It will stimulate the demand for artificial butter, and this will certainly hinder the development of the dairy industry. Every man interested in the development of the dairy industry must see to it that he accepts only the best quality in cream in order to deliver the best quality in butter.

There is another side to this question that needs consideration. It is bad civic practice. It encourages shiftlessness, carelessness and indifference in these matters. The laws of economy and laws of enlightened patriotism alike demand the same thing. We want the best produce because we want the best methods and because these are a stimulus to the best citizenship. It is the public duty of the centralizers to take this matter seriously in mind. This regulation here advocated is sure to come. The legislature of California has already enacted a law making the grading of cream compulsory. Minnesota is alive to this matter and will not lag with legislation. As soon as the public understands the matter, serious regulation is sure to follow. If the centralizers really understand what is for their best interest, they will change their methods in this partcular.

There is only one possible objection that they can urge to what is here suggested. Each is afraid that if he begins to grade cream he will not get his share of the cream production, and that unprincipled centralizers will get more than their share. To this objection there is but one answer. Let the best centralizers begin at once to pay the highest possible price for good cream consistent with a reasonable profit. Then if any "scalping" centralizer is willing to pay the same price for rotten cream, let him have it, because it will be impossible for him to handle it at a profit when he pays the same price for it that is paid for good cream, the price for good cream being as high as possible for profitable production.

The welfare of the dairy industry will depend in a large degree upon the profit that the cream producer is enabled to derive from cream. This must be made as great as possible in order to encourage cream production. It will not do to hold down the price of good cream in order to be able to buy rotten cream at the same price.

The continued development of the dairy industry demands the continued production of the very best quality of butter. If poor butter is placed upon the market it will open the gate to a demand for and a sale of artificial butter, which has in its favor the fact that it is entirely sanitary, and the additional fact that it has a good, agreeable flavor. In order to produce the best quality of butter the creameries must have the best quality of cream. They cannot secure this under the present system. As soon as the price paid for cream is determined by the quality of the cream, and the cream producer learns that the price received for his product will be determined by the care that he gives his cream, he will be sure to produce the best quality of cream in order to command the highest price. Under no other circumstances can this be accomplished. The next step, then, in securing good cream at the creamery will be for the railroads to take proper action to conserve the quality of the cream delivered to them, and pre-

(CONTINUED ON PAGE EIGHTEEN)

Construction of Corrugated Iron Culverts

Good Culverts Possess Two Characteristics : They Must Be Safe and Must Also Be Economical

By John N. Edy

THE economical administration of highway affairs has to do not only with road improvement, but must be assumed to include the proper construction and maintenance of culverts and bridges; and, although this proposition has been understood for many years, there seems to have been an unfortunate indifference as to the economy of the structure used for any particular stream crossing.

It is a fact, of course, that bad roads cost us money; they really cost us more than do good roads. On the other hand, bad bridges and culverts cost us not only money, but lives as well. I have no means of ascertaining the exact number of lives thus sacrificed each year, but I am sure that the god of indifference claims more victims through the medium of dangerous stream crossings than he should.

Highway Conditions Improving

Now, I want to say in the beginning that highway conditions, using the term in a general sense, are improving. The good roads movement has reached its present magntude through persistent publicity and an active educational campaign. The desire for economical road and bridge improvement has led to certain betterment, and the benefits derived from that betterment have led to publicity. Conditions at this time, however, by no means approach the ideal. There is yet to be enjoyed federal aid in road building, and there are still a few states that refuse to acknowledge the necessity for constant and competent supervision of highway affairs. In the absence of other means, we must continue our campaign of education. The history of this good roads movement leads one to the conclusion that wise and progressive communities build well and permanently, whether the structure be road or bridge.

What is a Good Culvert?

Confining our attention to the matter of stream crossings, I purpose to discuss small culverts generally, and those of corrugated iron in particular. It is remarkable what little attention has been given the proper construction of small culverts. Apparently, the great importance of these structures has not been recognized. As a matter of fact, the amount of money invested in such stream crossings is almost unbelievable, and the volume of traffic they bear is sufficiently large to make their proper design of great moment.

Now then, what is a good culvert? To my mind a good culvert must possess but two characteristics—it must be safe and it must be economical. To be safe the culvert must be able to sustain any load that may reasonably be expected to come upon it; it must afford a safe crossing for traffic without danger of accident due to unprotected embankment; it must handle the water without the possibility of becoming choked or undermined or otherwise damaged, and it must be built of such material that the improvement is of a permanent nature, thereby insuring permanent safety as well as economy. We see, then, that the value of a culvert must depend largely upon the character of the material used, as well as upon the general design and execution thereof.

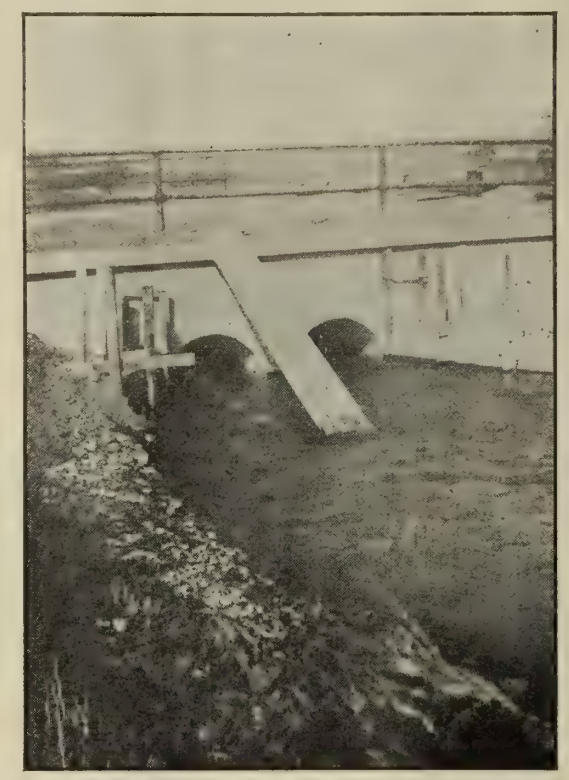

Fig. 1—Forty-Two-Inch Corrugated Iron Pipes Forming Culvert. Note Concrete Wall

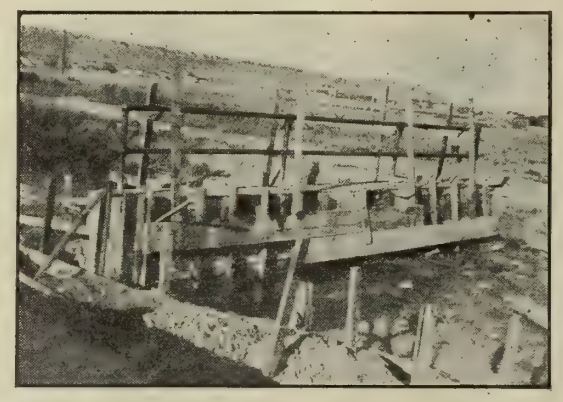

Fig. 2—Forms for Concrete Wall of Culvert Shown in Fig 1

I must advise against the indiscriminate purchase and use of corrugated culverts. I believe there are metal culverts on the market that possess no degree of durability, and cannot therefore be considered safe and economical. On the other hand, I believe that pure iron culverts possess those characteristics that we have found desirable, and may be conscientiously used. In Bulletin No. 45 of the United States office of public roads I find the following:

Corrugated Iron Pipe

"Many culverts are now being constructed of corrugated pipe made of pure iron. The corrugations make the use of relatively very thin metal possible without danger of collapse, and it is claimed that the pure iron of which the pipe is made offers superior resistance to corrosion. As far as is known, these culverts are proving generally satisfactory, but since they have been in use only a comparatively short time, their claim to durability under service conditions has not yet been fully established. It may be stated, however, that tests made on iron by the office of public roads have uniformly indicated that segregated impurities present in iron affect its power to resist corrosion in a marked degree. The tests of the office of public roads, in fact, formed the basis for the development of the pure iron industry."

From the foregoing we may judge that the less the percentage of impurities present in the iron, the greater will be its rust resisting qualities. The following extract from the 1910 report of the Los Angeles County Highways Commission suggests a practical method of testing the iron, at the same time specifying as to the general characteristics of the product:

Metal Must Be Subject to Test

"Galvanized corrugated iron culvert pipe and half pipe shall be furnished by the contractor and laid where shown on the plans and profiles. All pipe shall be of first quality, straight and thoroughly galvanized with zinc spelter before being corrugated. It shall be free from imperfections of any kind and shall show no signs of cracking or blistering. The metal must be subject to the following test, which will be made by the engineer:

"A section of the metal one (1) inch by two (2) inches in area, with all galvanizing removed, shall be polished and immersed for two (2) hours in two hundred and fifty (250) cubic centimeters of twenty-five (25) per cent (by volume) sulphuric acid, at a temperature of one hundred fifty (150) degrees Fahrenheit.

"Metal cut from sheets of fourteen (14) gauge U. S. standard shall not lose in excess of three (3) per cent by weight, and metal cut from sheets of sixteen (16) gauge U. S. standard shall not lose in excess of three and one-half (3½) per cent by weight during the above described test. Metal losing more than the percentages specified will not be accepted.

"For pipes eighteen (18) inches or less in diameter the metal shall be sixteen (16) gauge U. S. standard; for pipes over eighteen (18)

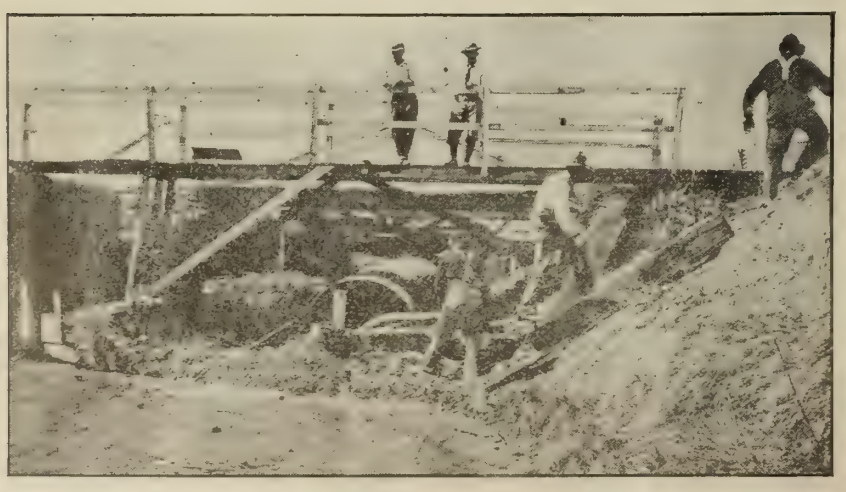

Fig 3—Building Sixty-Inch Corrugated Iron Culvert. This Culvert Replaced Thirty-Foot-Span Wagon Bridge and Two Foot Bridges

Fig 4—Building Forms for End Walls for Corrugated Iron Culverts. Note Flume at Right for Carrying Water During Construction

inches in diameter the metal shall be fourteen (14) gauge U. S. standard.

"The corrugations shall not be less than two and one-half (2½) inches, nor more than two and three-fourths (2¾) inches in width and not less than seven-sixteenths (7-16) of an inch in depth.

"All longitudinal joints shall be lapped at least one and one-fourth (1¼) inches, and transverse joints shall be lapped at least two and one-fourth (2¼) inches; all joints shall be securely riveted or bolted, and the pipe when in place shall be continuous for the entire length.

"When it is impossible to deliver on the work in one section the entire length of pipe called for, all field joints shall be securely riveted or bolted as above provided for. However, for pipes of small diameter such field joints may, at the discretion of the engineer, be formed in concrete, or by other means satisfactory to said engineer."

Fig 5—A Good View of the Sixty-Foot Corrugated Culverts After Completion, but Before "Cleaning Up"

Illustrations Showing Culverts

We may admit, then, that corrugated pipe made from iron of the greatest purity is a satisfactory material for highway culverts. As has been said, this pure metal has been used for the purpose but a comparatively short time, and its life has not been practically demonstrated. However, the series of tests noted, as well as the fact that iron of the same composition, has been subjected to severe treatment in other structures, leads us to the foregoing conclusion.

As to the culverts illustrated herein, all are of corrugated iron, either wholly or in combination with concrete. Figure 1 shows a highway culvert, consisting of two forty-two-inch pipes laid parallel. The cut also shows the nature of the end walls and substantial pipe rail. This particular culvert carries a highway and an electric railway track over a stream that was formerly spanned by a thirty-foot timber bridge.

Figure 2 shows the same culvert before completion, and indicates the method of form building for the concrete walls.

Figures 3, 4 and 5 represent a sixty-inch corrugated iron culvert, eighty feet long, that replaced a wagon bridge and two foot bridges. This improvement not only cost less than was estimated for a permanent bridge for the same place, but its length permitted the continuous roadway and greatly bettered the general appearance of the site. The method of installation was substantially as follows:

The first thing done was the construction of a wood box flume along the side of the stream bed, into which the water flowed during construction. This enabled the workmen to connect the pipe in place without difficulty. The pipe was shipped in semi-circular sections two feet long. These were bolted together on the bank into ten-foot lengths of half pipe, and set in place on heavy timber sills. In this manner the lower half for the entire length was laid, after which the upper half was bolted on, packing the horizontal joints with oakum. The pipe was laid carefully to a fixed grade.

Construction Work

Figure 3 shows the work just prior to the building of head-wall forms. Figure 4 shows the wall forms during construction. These forms were of one-inch lumber on 2x4 studding, thoroughly wired and braced. The concrete was mixed one to five, using good quality Portland cement and natural bank gravel. As soon as the wall forms were removed—about thirty-six hours—the surface of the concrete was floated and brushed; no other treatment was attempted. A good idea of the completed structure may be had by referring to figure 5. Let me call attention also to the substantial wing walls used. These wings were nearly ten feet high at the end wall, the exact dimensions being as shown in figure 6. It is essential that end and wing walls be sufficiently massive to withstand the earth pressure behind them. Another good feature is the cut-off, or baffle, wall that extends below the footing to prevent seepage.

Obviously, the construction of any corrugated pipe culvert would be similar to that described. But the builder must make sure that his grade is good, alignment correct, and his foundation, both for pipe and walls, sufficiently firm. In the case cited the wall foundation was good, being a hard gravel. The pipe, however, was somewhat higher and the subsoil was poor. It was for that reason that the pipe was placed on sills, which in turn rested on square posts, extending well into the gravel.

Possibilities of Combination Culvert

In figure 7 is shown a section of a combination culvert that offers great possibilities. The plan provides for floor and side walls of concrete and an arch of a half section of corrugated pipe. It may readily be seen how the waterway area may thus be increased, and by adopting reasonable variations of shape and wall heights almost any desired opening can be secured.

Figure 8 shows this particular structure in process of construction, and illustrates very clearly the methods adopted. Note:

First—The small sections of pipe piled on the ground.

Second—That but two men and a foreman are needed to place the arch in position.

Third—The dam at the far end of the culvert. This dam raised the water level and forced it to flow through the shallow channel at the left.

Fourth—That the culvert proper was built

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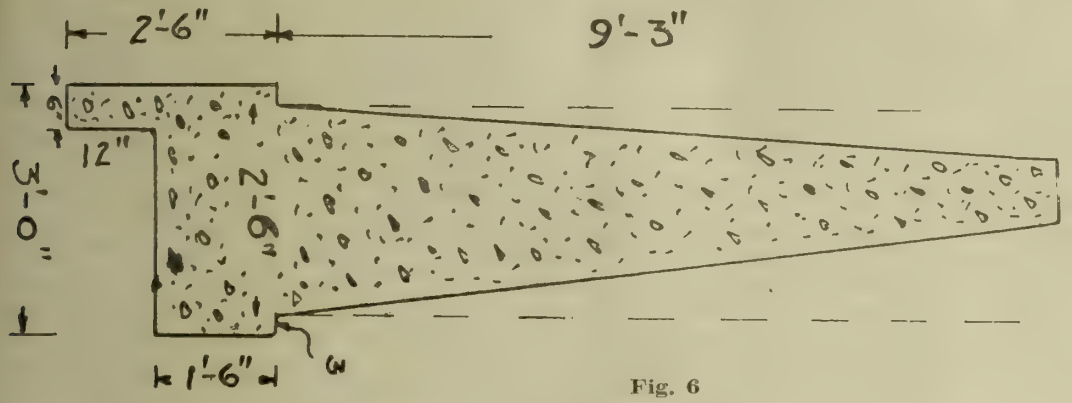

Fig. 6

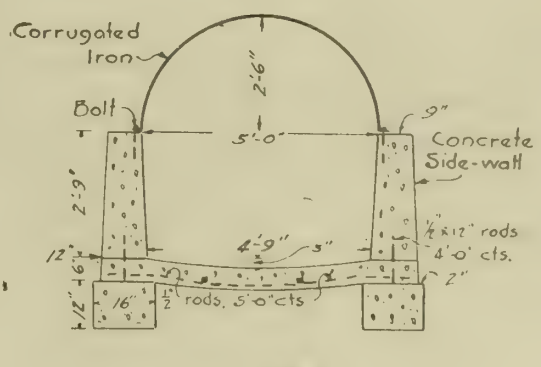

Fig. 7

Fig 8—Placing Corrugated Iron Arch of Combination Culvert. Note Artificial Channel Used While Construction Was in Progress

Fig 9—Combination Culvert Completed, but Not Covered

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A cablegram, dated July 3, 1913, from the International Institute of Agriculture, Rome, Italy, which has been received by the United States Department of Agriculture, states that in European Russia this year's winter wheat crop is estimated at 277,683,000 bushels, or 13.8 per cent more than last year's production, and the winter rye crop 917,-168,000 bushels, or 8.9 per cent less than last year's production.

If all the birds were to be destroyed, within a short space of time there would not be a green blade of vegetation on the face of the earth. There are myriads of insects and worms threatening our crops every year. Hosts of these become food for the birds, and but for these feathered guards would breed more insect life, which would in a short time sweep the face of the earth clean.

Michigan has just celebrated a "bee day;" that is, a day when they had bees for building good roads. When the day was ended they had completed an almost unbroken line of graveled highway nearly 300 miles long, from Bay City, on Saginaw bay, to the northern tip of the southern peninsula. During the day they laid hundreds of culverts and covered them with the new gravel. Alpena county women cooked for the workers. It was a great day, with great results, in which eight counties and forty-six townships were engaged at once. What an immense amount of good might be done if the counties of other states would have similar good road bee days!

Good Roads in New York

The state of New York has already expended $50,000,000 in good roads, and has appropriated $50,-000,000 more for the same purpose. This money is raised by a state-wide tax, and is expended by a state good roads organization.

On returning to the state after an absence of years, the effect seems marvelous, too good to be true, as though the visitor were dreaming. In the place of the old clay roads that were nearly impassable at certain seasons of the year are roads as smooth and as permanent as it is possible to build them. Between Buffalo and Batavia, a distance of about sixty miles, along the main traveled road, there is a brick pavement as good as any to be found in cities. The main traveled roads that branch off from this main road are asphalted macadam, and the main roads that branch from these main branches are plain macadam. One can go almost anywhere in western New York without leaving these perfected roads. Traveling either for pleasure or for transportation of heavy loads is easy, no matter at what season of the year.

The New York plan involves not only the installation of good roads, but the patrol system in maintaining them and keeping them in repair. To each patrolman is assigned a certain section of the road, and it is his business to keep it in perfect repair. Of course, the expense of upkeep is no small item, but a part of the appropriation is expended for this purpose.

The New York farmers are enthusiastic in the support that all this good roads movement calls for. One might as well attempt to abolish the rural free delivery of mail there as to abandon this good roads movement. It has added many times its cost to the value of the lands served by it. Nothing will do so much toward the regeneration of abandoned farms in that state as this movement. It is there to stay.

The Missouri valley states may with profit study the experience of New York in this matter. Here there has been too much niggardliness among the several legislatures in making provision for public improvements. When such a movement as this gets fairly under way here, and has progressed far enough to demonstrate its own value, it will spread like wildfire over the entire Missouri valley. Good transportation by country roads is next in indispensability to good transportation by rail, and as soon as the people become alive to its advantages, nothing can stop the movement.

Dynamite for Trees

It is a little late in the season to advise tree planters as to the best preparation for planting. Perhaps, however, a suggestion now may bear fruit next year. The writer, the fall before he plants his trees, bores down eight feet with a soil auger where the tree is to be planted the following spring and explodes a 20 per cent dynamite cartridge. This thoroughly loosens up the soil, makes it exceedingly permeable to the roots of the growing tree; but, what is more important, loosens up the soil in such a way that it can take and hold the necessary moisture for the future growth of the tree. This practice is exceedingly valuable and will show its effects both in growth and in production throughout the life of the tree. After the cartridge is exploded an excavation is made a couple of feet deep in order to catch all the moisture possible.

A similar practice has been found to rejuvenate trees that have already come into bearing. This practice, however, is a little different. With such trees it is best to put down four holes at different distances around the trees to a depth of eight feet and at a distance of about ten feet from the trunk of the tree. In each of these a 20 per cent dynamite cartridge should be exploded. It will not injure the tree. Such a cartridge will lift the soil simply a few inches and it will fall immediately back so that it will require sharp eyes to tell where the charge was located. But it will loosen the subsoil, provide for a much more extended root growth and for the absorption of many times the amount of moisture that the tree ordinarily gets. Where this is done, it would also be well to dig a hole two feet each way and two feet deep at the place where the charge is located, in order to catch as much water as possible.

This is not theory; it is practice. This method has been used time and time again to advantage by practical fruit men. The expense is slight as compared with the benefit received.

A Wise Serum Regulation

The animal pathology department of the University of Nebraska gives notice that beginning August 1 it will discontinue the practice of refunding the price paid for serum not used and returned to the station. This step is taken for the protection of the users of serum, because it is possible for serum to undergo deterioration if it is not properly cared for, and in such general distribution they cannot possibly give any guarantee that the excess serum ordered received the proper care.

There is another side to the question. Some farmers, and especially some veterinarians who are doing quite an extensive business with serum, do not go to the trouble of figuring the exact amount needed, and order more than is necessary in order to "have some on hand." With a limited output, it is quite necessary that the department at Lincoln have on hand, ready for distribution all serum that is not actually needed. There may be some farmers that will need the excess amount of serum that is being held out by some farmer or veterinarian on an order larger than his needs.

The regulaton is one that is needed under the circumstances.

It may also be stated that it is possible that in the future the price of serum may be still further reduced. The department seems to have adopted the policy of giving the farmers the very best and the very cheapest service permitted under the appropriations made by the legislature. This is what they should do, and this action will command the support, the respect and the confidence of the swine growers of the state.

Ranges Recovering

This is the announcement now made by the head of the forestry service of the Department of Agriculture, where some of the national forest reserves were claimed to have been so severely damaged by overstocking, by sheep and cattle, as to render them almost worthless for grazing. The report says:

When the government took charge of the live stock ranges within the national forests some of them were so badly overgrazed and otherwise injured from reckless handling of the stock that their grazing value appeared to have been almost entirely destroyed. Many of these ranges, however, have been restored and made as valuable as ever. On several of the forests results have more than justified the expectations and the range is in better condition than it ever was.

There is nothing astonishing about these reports. The overstocking of grazing lands, under any system of management or regulation, results in injury to the producing ability of pasturage and injury also to the stock pastured. The taking of stock entirely off of pasture lands results in the grasses getting a new start, and by keeping the lands free from cropping by grazing animals it thickens up and increases in grazing ability, as each year the soil is receiving the shade and fertilizing value of the dead and decaying vegetation of the former season's growth. This has been abundantly demonstrated and verified by stockmen all over the range country before the forest reserve system was inaugurated.

The fenced range system of pasturing now in use in western Nebraska, and formerly, before the government fence law became operative, prior to the Kinkaid opening for settlement under the 640-acre homestead act, fully demonstrated this. It proved how readily the wildgrass range could be made to recuperate by keeping stock and fire off for a few seasons, letting the old grass accumulate on the ground, and the encouragement this gave for new plants to start.

The increased carrying capacity of lands thus treated was in some cases three or four times that of the open, unrestricted range. The safeguarding against fires, and the restricting of the range to a less number of stock than it will graze, is the key to the range as a grazing proposition. If all public and private grazing lands were managed upon an economic basis of their ability to produce, there should be an increase of pasture each year in place of a decrease. If all decimating influences to grass growth on the range were removed for five years — live stock, homesteaders, fires, etc.—there would result an improvement in carrying ability of these lands that would be convincing to any committee of inspection, a statement that anyone can readily endorse who has spent a dozen years on the range in the live stock grazing industry. Overstocking is damaging and should be avoided, in the interest of the owner and stock production.

Pennsylvania is preparing to reforest wide areas of the 13,000,000 acres in the state unsuited to agriculture.

Missouri Valley Crops

The very flattering condition of crops that has prevailed in the Missouri valley up to the present time, July 15, promises to continue for the completion of the corn crop, which is just entering the tasseling and formation of the ear. Very large districts of this division of the corn country have never presented so strong evidence of successful yield at this period of development. The deep, rich, green foliage and strong, sturdy stalks presage a growth of ear that means an old-time average for this highly successful corn area.

The corn crop brought up to the earing period of development without the withering influences of drouth in any of its blighting tendencies is unusual. A few more seasonable showers through July and August, spread out so as to cover the corn-growing country, will better satisfy the demands, and in the ultimate roundup serve the same purpose of the "million-dollar rains" that are lavishly estimated by crop experts following long periods of drouth. It is the seasonable rain or shower, such as the central agricultural area has been receiving so far in the crop-growing period of 1913, that counts most in the yield of farm crops.

The small grains have developed successfully in quality, and in yield are generally coming up to the best producing years recorded, estimated as a whole throughout the agricultural states. The harvesting and threshing is being conducted at the same time, as much as possible, in order to save labor, and thus minimize on the cost of crop work. There has so far been no weather loss of crops reported. A very large portion of these grains will be threshed from the shock, and through this means a very large portion will be sold direct to the elevator trade, a feature of crop disposal that soon is felt in its money distributing influences, and in the end serves a good purpose in stimulating business activities throughout the country.

Demand for Beef Bulls

High prices for beef cattle have stimulated activity in breeding interests, just as it was predicted would be the result. The cattle breeding districts of Texas, New Mexico, Arizona and the southwest generally recognize that the present prices for cattle of all sorts mean big money in the producing of calves. There is no special need of discussing whether these calves to be produced are to go into the veal market, baby beef or fill the packer demand with the big 3-year-old steer carcass. "Let the conditions solve themselves," is the motto with the southwest cattle man. He has decided to produce calves and lots of them, and this course followed out will solve the cattle shortage difficulty which has been staring the public in the face.

The buying of bulls all over the Kansas City supply district in recent months, to fill orders for the demand of the southwest, is telling the story in a most emphatic and argumentive way. Bulls of good quality, and at good prices, are, and have been, going into these cattle-raising states by the carloads for months. The demand is for bulls of serviceable age and good beef quality. There is also a strong demand for cows and heifers suitable for breeding purposes.

Let the cattle grower alone and he will solve the question of cattle shortage. It will require several years to do it fully, so as to make the supply equal to the demand, but it can be done legitimately, and will be done through the incentive of money compensation. A man gets in line for any work just as soon as there is evidence that there is money in the proposition.

Indians as Farm Laborers

The accompanying illustration shows the potato field on a large South Dakota ranch at potato gathering time. Indians from a nearby reservation are hired to do the work of gathering the crop.

The Dual Purpose Cow

There are a few fundamental facts that should be definitely apprehended and thoroughly comprehended by farmers who are thinking of raising dual-purpose animals.

No animal can make something out of nothing. Whatever it makes, whether it be milk or beef, is derived from the food given to it. What it makes from this food depends upon the nature and vigor of its assimilative powers. Two animals may be fed exactly the same ration, and each from this same ration may deliver altogether different products.

The beef animal is one that uses its food to make beef. Such an animal will make a maximum of beef and a minimum of milk. It assimilates such elements of its food as will go principally to the making of beef, and it places this product on those parts of the body where they will most contribute to human food. The dairy animal is one that assimilates its food for the purpose of making a maximum of milk and a minimum of beef. Whatever fat it takes on as the result of heavy feed it places, not along the loin and between the bundles of muscles, as in the beef animal, but over the kidneys, in the form of suet, and over the bowels, in the form of intestinal fat. It is almost impossible to prepare a high-grade dairy cow for slaughter as beef, because her energies are devoted to the production of milk. She assimilates in the main only such parts of the food as will contribute to this result. The balance is rejected in the excreta.

In the dual-purpose cow the assimilative function is divided, part of it going to the making of milk and the rest of it going to the making of beef. Naturally, such a cow would not produce as much beef from its food as a beef cow, nor as much milk from its ration as a dairy cow.

The beef animal produces a maximum of beef and a minimum of milk, the dairy cow a minimum of beef and a maximum of milk, and the dual-purpose animal will produce a medium amount of both. But it will be only medium as a rule.

The question for the farmer, then, is: "Do I want in a cow a machine to convert feed principally into beef, or d I want one that will convert it in the main into milk, or do I want one that will give a medium amount of both?"

If the first, the beef cow should be chosen; if the second, the dairy breed should be chosen; if the third, the dual-purpose animal.

Recognition of Dr. Connaway

Dr. J. W. Connaway of the Missouri Agricultural College has been selected as one of three scientific experts in veterinary science in the matter of inspection and public sanitation to inspect and report upon the methods of packing establishments operating under federal supervision. This inspection will in no wise interfere with or take the place of the inspection at present carried on by the department, but is undertaken simply with a view of maintaining the highest degree of efficiency in it. Dr. Connaway will inspect the western plants of the packers. The other members selected are Dr. W. T. Sedgwick, professor of bacteriology and sanitary engineering in the Massachusetts Institute of Technology, Boston, and Dr. V. A. Moore, professor of pathology, New York State Veterinary College, Cornell University. This appointment is a merited recognition of the scientific standing of Dr. Connaway.

The American Road Congress will hold its third annual meeting at Detroit during the week of September 27. It is expected to be a most enthusiastic and efficient meeting. All good roads enthusiasts, and every intelligent man should be so regarded, would do well to attend.

Forest Tree Cultivation

The cultivation of forest trees on the open prairie or sand hills land of western Nebraska and the other western states, is a subject that should be given more attention by land owners, ranchers, homesteaders and those wishing to add improvements to their homes. There is no feature of improvement that will equal the shade or ornamental tree. While it is quite difficult to get trees to grow in dry soil, it may be attained by the use of water liberally for two or three years, or until the tree gets a good start.

The department of forestry of the Nebraska University has recently issued a bulletin—No. 137—of tree planting experiments conducted at the North Platte Experiment Station. It is clearly demonstrated that anyone interested in the growth of trees may be able to secure reasonably good results by observing care in protecting the roots of the trees to be planted, by keeping them moist and free from drying influences before planting, and after planting to supply with water frequently, not allowing them to dry out or become impoverished by lack of moisture.

Special emphasis is placed upon the kind or variety of tree to be grown. There are some kinds of trees that do better than others under dry land influences. These are cottonwood, Carolina poplar, Norway poplar and boxelder. Honey locust, American elm and hackberry are also in the recommended list for western Nebraska. It is useless to attempt to grow trees where tests under various conditions have proven them failures. Take the advice of scientific experimenters and save time.

Grow trees, however, wherever you locate. If they fail after persistent effort, try again, remembering that a tree naturally adapted to the soil and climate will grow if you give it plenty of moisture and it is healthy and all right to start with. The Carolina poplar is growing all over the western part of Nebraska, where it has been given a reasonable trial. As a symmetrical, fine-shaped tree, there are few that will equal it.

Ask a careful autoist what he regards as his chief menace, and as a rule he will answer "the reckless driver." No one can tell what he is liable to do. He cannot tell himself. Therefore, he becomes not only a menace to pedestrians and occupants of horse-driven vehicles, but to the other autoists who try to run their machines with a thought for the common safety.

The Bombay (India) Agricultural Department is making experiments on feeding milch cows for a long period with prickly pear. After singeing off the thorns it is put through a chaff cutter and sixty pounds of cotton-seed oil added to 1,000 pounds of the cactus to counteract any irritating effect.

Remember that the horse is the most nervous of all animals, and that little things annoy and irritate him. He will be contented or miserable, according to the manner in which you treat him.

More Milk from Beef Cows

Editor of Twentieth Century Farmer—I note in your valuable paper of July 5 an editorial entitled "More Milk the Demand," under which you say, among other things:

If all the beef cattle breeders would wake up to a realization of the need of more milk with the beef, it would be a great benefit to humanity, as well as help many half-nursed calves to get a start in the world.

I had thought that in this twentieth century all the editors of farm papers at least, and most of the farmers in the middle west, were aware of the fact that the Creator had made the beef cow and the dairy cow very different in bodily build and general construction; that you cannot get beef and milk out of the same hide to the highest or most economical profit; that by breeding, just as you increase the dairy proclivities and characteristics in the animal, to the same degree do you decrease the beef proclivities and characteristics, and as you increase the beef proclivities and characteristics, to the same degree do you reduce the dairy proclivities and characteristics. I believe that these principles are recognized by all students of breeding as elemental, and that they lie at the very foundation of the true principles of breeding. Now, if I am right in this assumption, the things suggested by your editorial are practically impossible. I concede that by a system of breeding and selection you can increase the dairy qualities of any of the beef breeds, but I think it is also true that just in proportion as you increase the dairy qualities by such breeding and selection, you will in like proportion reduce the beef-producing qualities. I think it will also be conceded that these changes are not accomplished in one or two generations, but that it takes many of such selections and breedings throughout generations to accomplish the desired results, and that the system of breeding must be entrusted to some person of great ability, foresight and care, and then the same can only be accomplished after many years of painstaking, careful and thoughtful work. That it is impractical for the average farmer to try such experiments, and that nine out of ten of them would fail if they did try it, and in the end have a breed of cattle that was not economical in the production of either beef or milk, is well known to all observers and breeders of cattle.

We need only to go to Danish history for absolute proof of these facts. Some thirty years ago the Danish farmers found themselves confronted with a heavy increase in the English and German tariffs on their beef. Theretofore Denmark had been a beef-producing country, and thereupon the Danish people set to work to change their beef cattle into dairy cattle. Every student of animal husbandry knows the results. It has taken Denmark almost thirty years to accomplish it—to change their cattle from a beef to a dairy breed—and that, too, by the most careful and intelligent breeding and selection, aided by the government, and in most localities under absolute government control. When a Danish farmer belonged to one of the breeding associations he was not at liberty to breed his cows to any bull he might choose, but was under the supervision of a trained and skilled government agent, who dictated as to what bull he should breed his cows. Careful yearly records were kept of all the cows in all the herds; they were carefully tested for butter-fat, and only bulls from the highest producing cows were used as sires. All the people who are acquainted with the operations in Denmark also know that the Danish cow of today is not a practical beef animal; that she is no better for beef than any of the pure dairy breeds, and that her offspring, either male or female, is no better for beef purposes. It is today much doubted by the best Danish experts whether it would not have been better, easier and cheaper for the Danish people to have chosen one of the dairy breeds, sold all their beef cattle for what they could get and began anew with the chosen breed of dairy cattle, and that they would have been much money ahead and have accomplished their purpose in much less time and with much less labor, and at the same time have as good a beef animal as they now have. I hardly think that if a man acquainted with the various breeds of cattle should wish to select a milch cow he would select one of the square, blocky, low-down Herefords, Angus or Shorthorns, or if he was hunting for a bull to breed beef that he would select one of the Holstein, Guernsey or Jerseys, with their thin necks, cat hams and the vertibrae showing at every point along the back. And to cross these breeds would be of little practical use for either milk or beef, unless such crossing was kept up for many generations along the same breed lines, and that a line of beef bulls was used if beef was desired and dairy bull used if milk was desired.

You have no need for anxiety but that all the beef breeders have awakened to a realization of the need of more milk. Statistics show that the consumption of dairy products per capita have almost doubled in the United States in the last ten years; that our population is increasing at the rate of almost a million a year; that the market for dairy products is most stable and least fluctuating, and that the breeders of beef cattle are having trouble in disposing of their surplus pure-bred bulls at the handsome prices they did in former years, and this because the dairymen of the country have long since discovered that the beef-bred bulls do not as a rule produce milk-producing heifers and cows, while the dairy-bred bulls do.

The seeming regret to me is that some confiding young farmer will read your article and assume that it is possible to get a high production of beef and milk out of the same hide. He will try it and fail, as all others have done; thus he will have lost many years of progress and perhaps much money, and perhaps his farm and home. When land was worth from $10 to $30 per acre the farmer could afford to keep a cow to raise a calf, but the rapid and enormous increase in land values is making it necessary for the farmer of the middle west to readjust himself and his operations on the farm to these changed conditions. If the farmer on land that is worth $100 per acre and over would succeed in cattle raising, he must either raise milk or beef, and that, too, at the highest efficiency. In order to do this he must get the highest type of pure-bred beef cattle or the highest type of pure-bred dairy cattle. Of course, it is possible and profitable to select the best cows you may have for either purpose and then use the highest type of bulls for the purpose sought and eventually produce a fine herd of either dairy or beef cattle; but it takes some years of constant and careful selection and much culling out. The only reason that the English and Canadian farmer can afford to feed the beef steers that they raise, with the high price of feed in their country, is because they have the highest type of beef animal—one that will take on beef at the highest profit and most economically.

Speaking of Herefords as milkers, I am reminded of one year when I took my little herd of Guernseys to the Iowa State Fair. Each morning and evening I looked out of the window of the barn where I kept my cattle and saw a ten-month-old Hereford bull calf suck three cows, none of which was his mother. One morning I asked the caretaker where the mother of that calf was. He said she was up in the show barn; that they had entered her in the aged cow class. I went up to see her. She was one of the finest specimens of beef-producing animals I ever saw. She had an udder about the size of a pint cup, and they told me she had been dry for five months.

I tried milking beef cattle—the Shorthorn grade—and I am free to say that I could not make a success of it. The calves I produced were neither the highest type of beef animals, nor the highest type of dairy animals. Since I have had the special dairy cow I have succeeded very nicely and have been able to make the farm pay a reasonable per cent on a valuation of $125 per acre, and I gave both kinds of cattle the same feed and care.

It would be a very nice animal, indeed, that would produce milk at the highest efficiency and beef at the highest efficiency, but I have never seen that animal yet, and it is my opinion that the Creator never made it, and that He never will. The reason lies in the fact that to produce milk takes an animal built on one plan, and to produce beef takes an animal built on another plan.

If I were producing beef cattle as a business, I should seek for the highest type of beef-producing animal, and the few cows I milked for home consumption would be of some pronounced dairy type and breed, because I believe we must seek the highest efficiency in all the animals we raise on the farm. As a dairyman, when I want an animal for beef, I seek out a good Hereford or Angus steer and feed him for that purpose.

W. B. QUARTON.

The foregoing article is written evidently under a misapprehension of the application intended by the use of the text referred to in the editorial, "More Milk the Demand." This expression had reference especially to the deficiency in milk production among the beef breeds of cattle and the present inclination among breeders of beef cattle to give increased attention to the cultivation of this property in the breeding cow rather than decrease it, as was observed a few years ago, and generally commented upon by breeder critics. The editorial referred to is a strictly beef cattle article, and refers to the present tendency of the producers of these cattle awakening to the realization that it does not pay to run to an extreme in beef quality or tendency at the sacrifice of the motherly nursing qualities of the cow, such as the cow not being able to raise her own calf from lack of milk production, even under the most favorable pasture and feed conditions.

We have had on the range both Hereford and Shorthorn grade cows of good beef type that were so deficient and lacking in their milking proclivities that they starved their calves during the nursing period to a condition of unthriftiness and loss. We have had other cows of both these breeds that were just as good beef types, better balanced in both milk and beef and raised big, lusty, beefy calves. It is the experience of breeders of the beef breeds, either pure-breds or grades, that to raise calves it is a necessity to have a cow with the motherly proclivities well developed. There must be a milk flow equal to the demands of the calf.

The dairy proposition is an entirely different subject, and should be treated upon a different basis and from a different viewpoint. Glad to receive the communication and give it space. It is interesting to have such subjects so earnestly discussed, no matter what may have prompted the argument or whether there was a misinterpretation or not. We hope our readers will feel free to criticise such sentiments as they think are not founded on the doctrine of safe practice.

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
California	Sacramento	Sept. 13-20	J. L. McCarthy
Colorado	Pueblo	Sept. 15-20	A .L. Price
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Iowa	Des Moines	Aug. 20-28	A. R. Corey
Kansas	Topeka	Sept. 8-13	H. L. Cook
Kansas	Hutchinson	Sept. 13-20	A. L. Sponsler
Minnesota	Hamline	Sept. 1-6	J. C. Simpson
Missouri	Sedalia	Sept. 26-Oct. 3	John T. Stinson
Nebraska	Lincoln	Sept. 1-5	W. R. Mellor
Oklahoma	Oklahoma City	Sept. 23-Oct. 4	I. S. Mahan
South Dakota	Huron	Oct. 6-12	C. N. McIlvaine
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin

Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
Colorado Interstate	Denver	Sept. 2-16	Irving W. Eaton
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Interstate	Sioux City	Sept. 15-20	Joe Morton
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

Close to Nature's Heart

George Ade's highest ambition is to be a successful practical farmer. He has had dreams of being chosen to award the prizes on squashes and string beans at the county fair. He has a large and majestic farm at Brook, Ind., and has made desperate efforts to raise something on it, aside from thunder and hail Columbia and other unmarketable products, but with poor success. He has sown everything from rolled oats to nutmegs, and nothing seems to thrive. In order to discover what and where the trouble is, he has been attending an agricultural college for some time.

Before adopting this course he tried to learn farming from the farmers. He hired out to a prosperous yeoman, determined to learn the business from the bottom up.

"Treat me as you would any other hired hand," said Mr. Ade, with Spartan firmness.

So he was sent to bed early, and before daylight next morning the honest yeoman was shaking him and telling him to get up and get ready for work.

"What are you going to do today?" inquired George, sitting up in bed and rubbing his eyes.

"We're going to begin the oats harvest."

"Are they wild oats?"

"No, tame oats?"

'Well, if they're tame, what's the use of sneaking up on them in the dark?"

And the humorist fell back upon his pillow and did some lofty snoring.—Walt Mason in Collier's.

Several farmers residing near Tacoma tried to carry on dairying with cows which were equally as good for beef as for milk production. These experiments began about twelve years ago and were completed more than four years ago to their entire satisfaction. They all quit.—Northwest Horticulturist and Dairy.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

The Bluebird

Listen a moment, I pray you;
What was that sound I heard?
Wind in the budding branches,
The ripple of brooks, or a bird?
Hear it again above us!
And see a flutter of wings!
The bluebird knows it is April,
And soars toward the sun and sings.

Never the song of the robin
Could make my heart so glad;
When I hear the bluebird singing
In the spring, I forget to be sad.
Hear it! A ripple of music!
Sunshine changed into song!
It sets me thinking of summer,
When the days and their dreams are long.

Winged lute that we call a bluebird,
You blend in a silver strain
The sound of the laughing water,
The patter of spring's sweet rain,
The voice of the winds, the sunshine
And fragrance of blossoming things.
Ah, you are an April poem
That God has endowed with wings.
—Eben Eugene Rexford.

The bluebird is much smaller than the robin, but a little larger than the wren. It is a bright blue all over except its under side, which is dull red at the throat, shading to white underneath. One western bluebird has also a bit of the dull red on his shoulders. The female bluebird is marked like the male, but much less brilliantly. The young are speckled.

Bluebirds love to stay where people are, and will gladly build in boxes or bird houses, though they prefer holes in trees or stumps. In these the mother bird places a few leaves or grasses for a mattress and then lays three or four or even more eggs. These the birds take turns in hatching, and as soon as the young birds have been taught to fly the

parents start to raise another family, and they oftentimes raise three families in a single summer. The young birds of the first family have been noticed bringing food for the little brothers and sisters, thus setting a good example for human children, who ought to be glad to help their mothers and fathers care for their little ones, too.

One of the bluebird's worst enemies is the English sparrow, which is about its size, and delights in stealing its nest. Since bluebirds eat almost entirely worms, grasshoppers and beetles and very little fruit, and sparrows are little pilferers and thieves, not only from other birds, but from the vegetable garden, it is well to protect the bluebird from this enemy whenever it can be done.

Bluebirds are very gentle little things and will become quite tame if they are not frightened or annoyed. A bluebird's nest in an orchard means money in the orchard owner's pocket, as it eats almost no fruit, and when it does it prefers elderberries, mulberries and such wild fruit to the farmer's raspberries and cherries.

There is another bright blue bird that is often called a bluebird, but is not. It is the indigo bunting. It is larger than the bluebird and wholly blue, except that it has partiallly brown tail and wings. The female is grayish brown, and looks something like a sparrow, but she does not act like one. This is one of our most beautiful birds and a fine singer. His value lies in the fact that he eats the seeds of harmful weeds, although he also eats many insects. THE EDITOR.

Awards in Picture Contest No. 3

(First Prize)

By Lenie Robinson, Aged 11, North Platte, Neb.

A-fishing I went one fine summer day,
With Eddie and Robbie and wee sister May.
We trudged the green brookside, 'neath blossoms of white,
But we were so noisy the fish wouldn't bite.

(Second Prize)

By Verna Current, Aged 8, Hildreth, Neb.

Four little children went fishing one day,
But never a fish they caught;
The fish they enjoyed for supper that night
Was the one their father bought.

By Everett Van Horn, Aged 9, North Loup, Neb.

Here we are, all ready for fun;
School is out and the day just begun.
Hush! Keep quiet! I've got a bite.
Down goes the bobber, clear out of sight.

By Jessie E. Rooks, Aged 7, Mystic, Iowa.

Dolly, Billy, Ned and Jack
All went fishing, up the track.
Bill caught a trout, which made him shout,
"It will take us all to pull it out!"

By Latelle DeFord, Aged 10, Buckingham, Colo.

Big brother, little brothers, sister Nell,
Where are they going? Who can tell?
Papa will guess when he comes home
And gets a whiff from the dining room.

Ever so many of the verses this time had nice letters accompanying them, which your editor wishes she had room to print. Even if your letters are not printed or answered, don't think they are not appreciated. We have not time to answer them all, but we are always glad to get them just the same. There is one letter, though, from a little boy's mother that we must let you read. It accompanied a verse written by Lloyd Johnson, aged 5, of Thurman, Colo., and was as follows:

"This contestant has not yet learned to write, but, hearing his older brother and sister trying to make verses about the picture, he wanted to try, and I told him if he made a verse about the picture I would write it for him, and this is his attempt at a verse:

"Four children came over the hill to play;
The little girl brought her doll,
And the boys had some fish lines,
And a basket of bait; that's all."

We think this is a very good verse for such a little boy to compose. The verses sent in by his brother and sister were good, too.

Next will come picture contest No. 4—the little girls and the pony. Be sure you all write about it.

THE EDITOR.

A Bit About Ages

The following questions, which may form part of a very pleasant entertainment, are answered by words ending in "age":

1. To what age will people arrive if they live long enough?
2. To what age do most women look forward?
3. What does the soldier sometimes wish for?
4. What age is required on the high seas?
5. What age are we forbidden to worship?
6. What age is nothing more nor less?
7. What is the age people get "stuck on"?
8. What is the age of profanity?
9. At what age do vessels ride safely?
10. What age is necessary for a clergyman?
11. What is the age of communication?
12. What age is the most important to travelers?
13. What age is the most popular for charity?
14. What age is shared by the doctor and the thief?
15. What age do we all wish for?
16. What is the age of slavery?
17. What age is most enjoyed at the morning meal?
18. What is the most indigestible age?
19. What age belongs to most travelers?
20. What age signifies the farmer?
21. What age indicates the rich farmer?
22. What age do milliners delight in?
24. What age do a number of people enjoy in common?

ANSWERS.

1. Dotage.	13. Coinage.
2. Marriage.	14. Pillage.
3. Courage.	15. Homage.
4. Tonnage.	16. Bondage.
5. Image.	17. Sausage.
6. Average.	18. Cabbage.
7. Mucilage.	19. Luggage.
8. Damage.	20. Tillage.
9. Anchorage.	21. Acreage.
10. Parsonage.	22. Selvage.
11. Postage.	23. Plumage.
12. Mileage.	24. Village.

He who helps a child helps humanity with a distinctness, with an immediateness, which no other help given to human creatures in any other stage of their human life can ever give again.—Phillips Brooks.

CLOUDED BRAIN
Clears Up on Change to Proper Food

The brain cannot work with clearness and accuracy if the food taken is not fully digested, but is retained in the stomach to ferment and form poisonous gases, etc. A dull, clouded brain is likely to be the result.

A Michigan lady relates her experience in changing her food habits and results are very interesting:

"A steady diet of rich, greasy foods, such as sausage, buckwheat cakes and so on, finally broke down a stomach and nerves that by inheritance were sound and strong, and medicine did no apparent good in the way of relief.

"My brain was clouded and dull and I was suffering from a case of constipation that defied all remedies used.

"The 'Road to Wellville,' in some providential way, fell into my hands, and may heaven's richest blessings fall on the man who was inspired to write it.

"I followed directions carefully, the physical culture and all, using Grape-Nuts with sugar and cream, leaving meat, pastry and hot biscuit entirely out of my bill of fare. The result—I am in perfect health once more.

"I never realize I have nerves, and my stomach and bowels are in fine condition. My brain is perfectly clear and I am enjoying that state of health which God intended his creatures should enjoy, and which all might have by giving proper attention to their food." Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs. "There's a reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

This Whip

has a Red Rawhide Center from Snap through Cap

Red Rawhide gives spring and wear to a buggy whip. It is the perfection of whip centers. Do not confuse it with ordinary domestic rawhide. Red Rawhide comes from the East Indian Water Buffalo, and is treated by a process which makes it practically moisture-proof. This process, which is our trade secret, is only one detail that makes

Red Rawhide Center Whips

give longest and most satisfactory service. In workmanship, style and appearance they are unapproachable. Yet, notwithstanding their high quality, they are moderately priced.

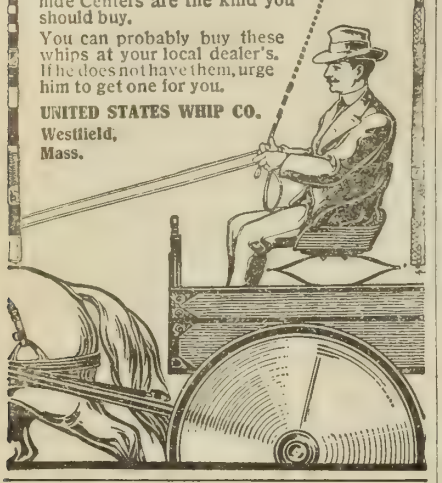
Red Rawhide Center Whips are made in the largest whip factory in the United States by workmen who have a lifetime of experience as whip makers.

Let Us Send You Proof of Their Quality

If you want to know more about whips write us to-day for the famous "Westfield Test." It is conclusive proof that Red Rawhide Centers are the kind you should buy.

You can probably buy these whips at your local dealer's. If he does not have them, urge him to get one for you.

UNITED STATES WHIP CO.
Westfield,
Mass.



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Shorewood Farms Co., Saugatuck, Mich.

Ertel's Cyclone—3-Stroke Self-Feed Hay Press Bales with least labor

WILL BALE 20 TONS OR MORE A DAY AT COST OF ONLY 40c A TON.
Make big money baling for your neighbors after yours is done.

The Cyclone is powerful, durable, repair-proof—**made almost entirely of** finest steel. Unbreakable steel baling chamber, adjustable tension, makes smooth, clean, tight bales, 75 to 125 lbs. as desired. **Three strokes** each circle. Self-feed. Works at stack, barn or windrow.

Here's the biggest money maker you can buy. Low price. Free trial and absolute guarantee on every press. Write today—full information free.

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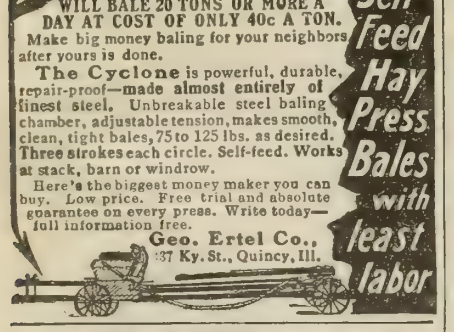
37 Ky. St., Quincy, Ill.



DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. **Lasts all season.** Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers or 6 sent prepaid for $1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention The Twentieth Century Farmer when writing advertisers.

Of Interest to Our Women Readers

The Cherished

Her home was quaint and quiet,
Some distance from the street,
And o'er it vines ran riot,
Around were flowers sweet

The older people called her
"A spinster" in a way
That made it seem a sad thing
To be alone and gray.

But one wee lad who loved her
(Her sugar cookies, too)
Thought God had made his spinsters
In number all to few.
—Arthur Wallace Peach in Lippincott's.

Our Home Chat

If someone were to ask you, "From what class of people do fraudulent advertisers reap the greatest profit?" what would you say? We all get caught now and then, but probably the chronic invalid is the victim for whom more human spiders lie in wait than any other. There are in existence a horde of publications whose main profit lies in the carrying of advertisements of "doctors" (?) and "sure cures" for cancer, catarrh and kindred ailments. The latest thing seems to be an apparently home-made remedy, which you are told how to make yourself, in what appears to be an "Answers to Correspondents" column, but when you go to the drug store to buy the materials at least one of them is in itself a high-priced patent concoction.

Tuberculous patients in particular are hunted by these human beasts of prey. The papers have been full of Dr. Friedman and his turtle serum with which he stirred up the hopes of the consumption victims of this country, and which was finally found to be a fake pure and simple, as the German physicians had already told us it was. Every year or two some physician comes to the front with a "cure," and the poor victims of this once terrible scourge come from all over the country with the money which should go for pure air, sunshine and plenty of rich food and spend it for the stuff these fakirs are selling, thus robbing themselves of the last chance of life and health.

In a bulletin recently issued, the National Association for the Study and Prevention of Tuberculosis estimates that within the last five years no less than 500 fraudulent "cures" for consumption have been tried upon thousands of victims in the United States, and the exploiters of these nostrums have reaped a clear profit of not less than $50,000,000.

The association divides these remedies into three classes, the first being the "institute" fraud, where a pseudo hospital or dispensary is established and the wily "doctor" or "professor" administers "treatments" at so much per head. These concerns also carry on a mail-order business with great profit. The second group of cures contains over a hundred different kinds of drugs and "patent" devices, any of which may be purchased at a drug store for a few cents. Usually the consumptive is charged from $1 to $5 for these. The third group of "cures" includes home-made remedies which certain self-deluded individuals believe will cure tuberculosis. Among them are such things as onions, lemons, coal smoke, pig's blood, alcohol, dog oil, teas of various kinds, and a variety of diets, including goat's meat, clabbered milk and a score of other articles. These are not usually advertised for profit, but are given publicity in various ways. These are generally at least harmless.

The men who make these great profits out of human misery and ignorance are to blame, but they are not the only ones to be condemned. The magazines that carry their advertisements into our homes are also to blame and should be kept out of the hands of the people.

THE EDITOR.

Care of Summer Clothes

How many women know how to preserve, sweet and clean, their summer dresses, shoes, hose, etc.? In the manner in which these are cared for and put away lies the secret of their continuing to look new.

The tops of high shoes should be turned back when taken off and the shoes placed on the window-sill or in some other breezy place to get the sun and air. Nice hose should be be filled with crumpled tissue paper and hung where the air can blow through them. Lace woven and fine silk stockings can be cleaned a few times by washing in naptha. It should never be used in a room where there is a fire or light, nor in the sunshine. The white or yellow chamois or castor gloves worn in summer should be cleaned by washing in warm suds made with white castile soap. Then rinse in clean but slightly soapy water, so that a little soap is left to keep them soft.

Summer silks can be washed in warm suds, to which a small cup of gasoline has been added. No stiffening is required with the present clinging styles. To prevent mildew, do not put anything away damp, but if any spots of mildew are found, mash up some green tomatoes, wet the stained portions with this and let stand for two or three hours before washing. For iron rust, use ripe tomatoes the same way. Use coal oil for fruit stains and alcohol for grass stains.

To wash delicate ginghams and lawns without fading, add a teaspoonful of turpentine to a gallon of warm water and soak the garment in this an hour before washing; then wash in warm suds made with a good white soap, using a little turpentine in the washing and rinsing water. Rinse and dry as quicky as possible, but do not dry in the sun.

Fine white waists and dresses are made beautifully white with very little rubbing by putting them to soak in warm suds, into which a little borax is dissolved, and allowing them to soak for an hour before rubbing them out. Fine waists made of sheer materials are given just the right degree of stiffness by drying them without starching and then dipping in borax water, using one tablespoonful of the powder to one quart of warm water. Wring out of this water, fold in a towel for a few hours and then iron dry. When a white waist or a thin muslin dress becomes wrinkled, but not soiled, it can be freshened considerably by sponging with borax water and pressing as fast as dampened. Borax in the starch for all kinds of goods will make them iron easier and prevent the starch from sticking to the iron, and it also helps keep the color in all kinds of colored fabrics. MARTHA.

Patronizing Home Industry

Farmers are urged not to resort to mail-order houses, nor yet to bulk their purchases to swell the city retailer's trade, but rather to patronize home industry. To a great extent they do this.

Should the merchants patronize

Velvet Pudding

Cook four ounces of rice in a quart of milk, with two tablespoonfuls of sugar and the rind of a lemon, until the milk is absorbed. When cool add six eggs, the yolks and whites having been beaten separately. Fill a buttered mold with successive layers of rice, covering each layer sparingly with blackberries that have been first rolled in sugar, and steam for an hour. Turn out on a plate, surround with a border of lady-fingers or thin slices of sponge cake and garnish with berries. Serve hot, with cream.

WINIFRED FALES.

the farmers? It has been my observation that our merchants offer no encouragement to home industry beyond buying the poultry and dairy products. Last year we offered to furnish grapes to the only dealer who handled the fresh fruit in our town. He refused, preferring commission house grapes. The same was true of lard, in the case of our butchers, who sell the packing house lard. Our neighbor had fine cabbage to sell, but was forced to give it away, as the dealers stocked up from the city commission house. The same was true regarding the sale of red and green peppers, except that they were not handled at all by any merchant. And I could continue. The farm boys or girls, with ground, tools, time and seed, can sell nothing they raise.

Some reform encouraging to the producer should be inaugurated. Perhaps some merchant reader will explain the merchant's view.

MRS. WILBUR KRISTENSON.

Iowa.

Editor's Note—It occurs to us that the merchant's excuse for this might be that the fruit and vegetables offered by the home farmers were not sorted and put up in as good shape as the commission man's goods. If any of our other readers have had the same experience, or a different experience, we should be glad to hear from them. The question of marketing the garden products is one of great interest and we will be glad to publish anything you have to say upon it.

A Sweet Disposition

A sweet disposition is about the best heritage a woman can possess. Just to meet a sweet-faced woman on the street causes one to feel better. Such a woman never lacks friends. Such a one children love and cling to, for she always has a kind word and a pleasant smile for them. She is the one to whose visit the invalid looks forward, for she never talks about ailments, although she is very sympathetic. Such a woman fairly radiates happiness. It is impossible to be grumpy where she is.

Here's to the woman with the sweet face an kind disposition' May we pattern after her.

MRS. T. A. M'CULLO.

The Tomato Season

Stuffed Tomatoes—Select large tomatoes; do not peel them. Cut off the stem ends and scoop out most of the inside. Season fine bread crumbs with butter, salt and pepper, a little onion and chopped parsley and moisten with a beaten egg. Fill the tomatoes and bake until the skins wrinkle and the pulp is cooked; baste occasionally with the juice in the dish.

Fried Tomatoes—Use the tomatoes that are just turning red. Cut the unpeeled tomatoes in slices; dip each slice in flour, season with salt and pepper; fry in good drippings or other very hot fat. Let them get a good brown before turning, then turn and brown the other side. Do not turn but once. Pour a little in fat after cooking the tomatoes and serve hot.

MRS. GILBERT.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6039—Boys' Blouse—This blouse is a very nice design for the young boy. It is simple to make and very good looking. The pattern provides for choice of two styles of collar, the sailor or turn-down style. The sleeves are nicely plaited at the bottom. Linen, pique or percale can be used to make this blouse. The pattern 6039 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 2½ yards of 36-inch material and ⅞ yard of 27-inch contrasting goods.

6156—Misses' Dress—This dress can be used for the small woman as well as for the miss. The closing is made at the left side of the front. The two-piece skirt is draped on each side. The waist is also draped. Long or short sleeves can be used. For this gown only soft goods, such as cotton voile, pongee, wash silk, etc., should be used. The pattern 6156 is cut in sizes 14, 16 and 18 years. Medium size requires 3¼ yards of 44-inch material.

6065—Children's Dress—This dress has the fastening at the side of the front and has a dainty two-piece skirt. The neck is collarless and the sleeves may be long or short. The cuffs and belt are fashioned of contrasting material, which gives the frock a pleasing trimming touch. The pattern 6065 is cut in sizes 4 to 10 years. Medium size requires 2⅝ yards of 36-inch material and ⅜ yard of 27-inch contrasting material.

6192—Ladies' Dress—This dress is one which is specially appropriate for bordered materials, which can trim the bottom of the two-piece skirt and the line of closing of the waist and skirt, which is in the center of the front. There is also a wide collar and an ornamental cuff. The pattern 6192 is cut in sizes 34 to 42 inches bust measure. Medium size requires 11¼ yards of 36-inch bordered materials or 11¼ yards of 44-inch plain goods.

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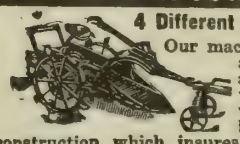

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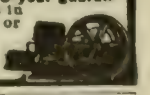

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Thomas Nelson Page in His Workshop

By Frank G. Carpenter

WASHINGTON—The selection of Thomas Nelson Page as our ambassador to Rome is a worthy addition to the long list of eminent literary men who have been chosen to represent us at the great courts of Europe. The fashion of such appointments began in the days of George Washington, when Joel Barlow, the author of "The Columbiad," was made our consul to Algiers, and it was continued during the Jefferson administration when Barlow was appointed minister to France. Even before that we had Benjamin Franklin, the newspaper man and the author of "Poor Richard's Almanac," to represent us in Paris and a little later on John Quincy Adams, the author of the longest diary known to literature, began his diplomatic work as secretary of our legation at the court of St. Petersburg.

Farther on down the list came Washington Irving, who got the materials for his "Life of Columbus" and other volumes while serving in a diplomatic capacity at Madrid, and Bayard Taylor, the traveler, who, with his many other volumes, wrote studies in German literature and a translation of "Faust" during the time he was minister to Germany. While John Hay was in Spain he penned his delightful "Castilian Days" and W. D. Howells wrote his beautiful Italian sketches while he was consul at Venice.

Have Filled Their Places Well

As to Germany, another diplomat who was also a literary light was George Bancroft, the historian, and at the court of St. James we have had such men as John Bigelow, James Russell Lowell and Whitelaw Reid. Every one of these men has filled well the place to which he was appointed, and I predict same for Thomas Nelson Page. Like the most of his predecessors of literary note, he is almost as well known in Europe as in the United States. His stories have been translated into many languages and they have delighted the English-speaking world.

I wish I could make you acquainted with our new ambassador to Rome. No, I do not mean that. It is not the ambassador that I wish you to know. It is the author of "Marse Chan." "Meh Lady," the stories of the Old Dominion, "Tommy Trot's Visit to Santa Claus," "John Marvel, Assistant," and that wonderful "Life of Robert E. Lee, Southerner." It is Thomas Nelson Page, the friend of the north and the beloved of the south, the man whose thorough Americanism and broad sympathy with the people and the country stand strikingly out among those who know him best. It is Mr. Page, your friend and my friend, as well as the friend and servant of the public in the highest sense of the word, and that notwithstanding the arduous literary work he has always in hand.

Mr. Page has always been a hard worker, and now, when he is approaching the age that Dr. Osler has fixed for the chloroforming process, he is doing more of actual literary composition and has more work on hand than when he left the

(Copyrighted by Harris & Ewing.)

Thomas Nelson Page in His Library at Washington

practice of the law to devote himself to literature, almost a generation ago. If you will look on the book counters you will see a volume of delightful stories entitled "The Land of the Spirit," which has just been published by Scribner's. He has also a book of essays which is almost completed, a long novel which is well under way, and a history of Washington city, upon which he has been working for several years, and one-third of which is yet to be done.

At the time of Mr. Page's marriage to Mrs. Florence Lathrop Field, now over twenty years ago, it was predicted that his labors as an author were ended, and that he would join the ranks of our gentlemen loafers. The truth is that his literary product has been twice as large since then as during the ten years preceding. His wife is a woman of broad culture and fine literary taste, and she has been an aid rather than a hindrance to his work. Since his marriage he has written fifteen different books and some of his best work has been the product of that period.

Began Life as a Worker

Thomas Nelson Page began his life as a worker. He comes of one of the oldest families of Virginia. His boyhood home, Oakland, in Hanover county, was granted to one of his ancestors, the colonial magnate, Thomas Nelson, and his father, Major Page, owned a plantation and slaves and was well to do. The war came, however, when Thomas Nelson Page was a boy of 8, and at its end came poverty, with which the boy had to make a hand-to-hand fight, working in the fields, milking the cows and tending the cattle. The atmosphere in which he worked, however, was that of books. He was surrounded by the old Nelson and Page libraries, and some of his reading was done by the light of pine knots. Among the first of his book loves was Walter Scott, whom he read and reread in that way, and the same is true of Dickens and Thackeray. Even as a boy he liked to imagine stories, and his little head was filled with battles and sieges, and with plumed knights and tournaments in which love and fair ladies played their parts.

As the times grew better the boy was prepared for college and at 16 he entered the Washington and Lee university, where he stood high in the literary societies and was the editor of the college paper. After leaving school he became the tutor of a private school in Kentucky, and with the money he made there started to study law at the University of Virginia. He began the practice of law in Richmond when he was 22 and kept at it for years, writing some of his best stories in the midst of the preparation of dry legal documents. He was made a doctor of laws by Yale college in 1901 and he has received several degrees as doctor of literature.

I have known Mr. Page for years and have had many chats with him about his literary methods and literary work. He does not like to discuss such things for publication, and it has been only by asking many questions that I am able to give you the information contained in this letter. There is nothing of the literary egotist about him, and as to his own writings he is as backward and bashful as any girl in his stories.

Home Ideal Southern Mansion

My last call upon him was just after he had been chosen as our ambassador to Rome. He lives, you know, here at the capital. His home is a reproduction of the ideal southern mansion of the old-time plantation. It is built of the same rough brick as was imported for the Virginia homes in the days of the cavaliers. It has the roof balustrade and quaint dormer windows of colonial days, and its broad entrance porch and old-fashioned doorway are among the artistic features of the capital city.

Entering the house, you come into a wide hall hung with paintings, etchings and engravings, each of which has its story. An easy flight of stairs leads to the second floor, where is the library, a room as big as the hall of a colonial church. This is walled with rare editions of the classics and of history and fiction in beautiful bindings. The cases are of cedar and they extend from the floor almost to the ceiling. The furniture is old mahogany, beautifully inlaid. There are soft divans and easy chairs, and all the surroundings of the dilettante book lover and cultured, easy-going soul. As you look about you, you see no signs of work, and the average caller or visitor leaves without imagining that such a thing as work is connected with Mr. Page's life.

The Real Workshop

It is different in the real workshop. This is two stories higher, a little room which is almost under the roof. Here the books are of many kinds and most of them are in ordinary bindings. There are scores of old biographies and stories relating to the old south. There are reference books, religious works, a well-thumbed Bible or so and a full equipment for literary labor.

The easy chairs and luxurious furniture of the library below are

absent. At one side is a typewriter, at which Mr. Page's secretary sits, and in the center of the room is a flat-topped desk, such as you can buy anywhere for $30 or $40, and a plain office chair.

The desk is covered with proofs, manuscripts and papers. A half dozen pencils lie within easy reach of the chair, and beside them are several quill pens, made from eagles' feathers. The only easy chair in the room is one with an old-fashioned wooden frame, covered with a wide sheet of leather, so arranged that a screw at the top makes it tight or loose, enabling one to rest his back as he sits. The framework of the chair is of black walnut and it is wonderfully comfortable. It was made for Henry Clay and was used by him while he was in Washington. After Clay died it came into the hands of Ainsworth R. Spofford, the librarian, and then to Mr. Page.

As I looked at this chair I asked Mr. Page something as to the other furniture, and found that much of it had historic memories.

"This camp," said he, as he pointed to a box covered with books, "was carried by my father throughout the whole civil war, and here," picking up a great steel bit, which hung at its side, "is the bridle bit with which he rode through all his campaigns. He got the bit at the first battle of Bull Run, taking it from the horse of a Yankee and making it serve for the south."

Turning to the other end of the room, I asked Mr. Page as to the tiling which surrounded the fireplace. "It looks like the electroplates of some manuscript," said I.

"And that is just what it is," was the reply. "Those plates meant a great deal to me when the books from which they were printed appeared. They are the electros of my first stories. The pages on this side are from "Marse Chan," and those on top are "Meh Lady," while here at the left are some from "In Ole Virginia" and the "Two Little Confederates."

Begining Somewhat Discouraging

I asked Mr. Page when he began to write, and whether it had been easy to get his "stuff" published.

"As to my first writing, I cannot remember when I did not want to write. I made up stories in my head when I was a boy and wrote them out upon slates when we were too poor to afford the paper and pencils. I kept on writing at school and at college, where my short essays in the paper gave me the nickname of the "short-article editor." I sent some things to the Courier-Journal while I was a tutor near Louisville, Ky., but they were not accepted, and the same is true of many of the first things I sent to the magazines."

"What was your first real story?"

"I don't know what you mean by real," said Mr. Page, "but the first thing of any merit which I can remember was a sketch entitled "A Soldier of the Empire." This was written before "Mars Chan" or "Meh Lady," although it was not published until after they had appeared."

"What is the story of "Meh Lady?"

"I don't know that it was worth publishing," was the reply. "It was written during my first practice of law at Richmond. I was always writing at something or other, and while studying law, I remember, I would read about two pages of Blackstone or Coke, and then try my hand at fiction. I kept this up after I began to practice, and, although the greater part of my income for years came from the law, the greater part of my work went to fiction. It was at the beginning of that time that I conceived the plot of "Meh Lady." It seemed to me good and I decided to bank my literary future upon it. I wrote and rewrote it. I cut it and pruned it, and at last when it seemed I could not in any way better it I sent it off to Scribner's Magazine, saying to myself, 'This is the very best I can do. If the story is accepted I shall choose a literary career, and if not I shall keep to the practice of the law."

"Meh Lady" Pigeonholed

At this point Mr. Page stopped for a moment, and I said:

"I suppose the story was accepted at once?"

"No, it was not. It was more than a year before I could find out what had been done with it. I wrote again and again, but my letters were evasively answered or not answered at all, and in the meantime 'Meh Lady' was neither printed nor returned. I concluded that I had been mistaken in my ability to write, and I put all my force on the law. In the meantime the old Scribner Magazine changed hands and became the Century, and one of the new editors in clearing up the papers found among them a bulky roll of manuscript which had been jammed into a pigeonhole so tightly that it would hardly come out. He opened it and began to glance through. It interested him, and 'Meh Lady' was printed. It attracted favorable attention, and I have been writing more or less from that time to this."

"What was the origin of 'Marse Chan,' Mr. Page?" asked I.

"It was written before 'Meh Lady,' but was not published until afterward. It may have been held back on account of the feeling which still existed between the north and the south at the close of the civil war. The story dealt largely with the southern side. As to its origin, it came from an old letter which a friend of mine showed me. This letter was written to a confederate soldier by his illiterate sweetheart in Georgia.

"It was poorly penned and poorly spelled, but the sentiment in it attracted me. The girl had, it seemed, trifled with the man, and it was only after he had left for the war that she realized how she loved him. In her letter she wrote:

"'I know I have treated you mean. I ain't never done right with you all my life, and I loved you all the time. When you asked me to marry you I laughed and said I wouldn't have you. It makes me cry now to think you are gone away to the war. But I want you to know I love you. I want you to git a furlough and come home and I'll marry you.'

"The letter closed with this postscript:

"'Don't come home without a furlough, for unless you come home honorable I won't marry you.'

"This letter was found in the breast pocket of the soldier when he lay dying on the battlefield of Seven Pines. The ball which killed him had gone through it as it lay there in his breast pocket, just over his heart. The pathos of the incident was such that it made me write 'Marse Chan.'"

World's Greatest Novelists

Du-ing the conversation the names of some of the world's greatest novelists came up, and I asked whether if Thackeray and Dickens were now writing their books would be among the "best sellers."

"Most assuredly they would," was the emphatic reply. "Those men would set the pace in fiction now just as they did when they wrote their greatest novels. I do not mean that their writings would be the same, but their natural ability would be as prominent in their pictures of the present as they are in those of the past. The settings would be different, but the stories would be as fully appreciated."

The conversation here turned to purity of thought in literature, and I asked Dr. Page his opinion of the novels of today, which verge so closely upon forbidden ground in dealing with the character popularly known as "the white slave." He replied:

"I suppose you refer to stories dealing with the sex problem and marriage. That problem has always been a feature of fiction, and it is one of the live elements of human life. I do not see how you can present life without dealing more or less with it. We find it in the literature of the past. Dickens touched upon it in the person of Steerforth in 'David Copperfield'; Thackeray gives us the temptations of Pendennis in his novel of that name, and Oliver Goldsmith presents such situations in the 'Vicar of Wakefield.' I have dealt somewhat with the social outcast question in 'John Marvel, Assistant,' and also in one of my stories, 'The Land of the Spirit,' just published. Such things depend entirely upon how they are treated. They may be handled with perfect purity. I hardly know how to describe it. It is the difference between nakedness and suggestive sensuality. Nakedness has nothing vicious or revolting about it. It is a part of nature and should be treated as such. On the other hand I do not approve at all of catering to the vicious instincts along such lines."

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Eight officials in the Alberta government land titles office at Calgary were arrested recently, following the disappearance of large sums of money during a period from 1906 to the present.

"In early childhood you may lay the foundation of poverty or riches, industry or idleness, good or evil, by the habits to which you train your children."—Mrs. Sigourney.

"Farm Hands Wanted" is a familiar sign in this part of the country, and yet the blatant professional agitator continues to agitate, which is easier than working.

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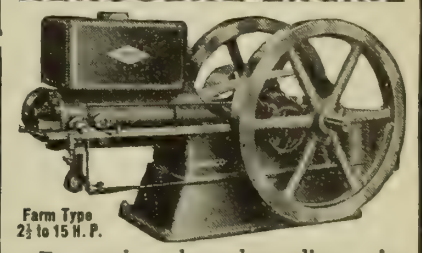

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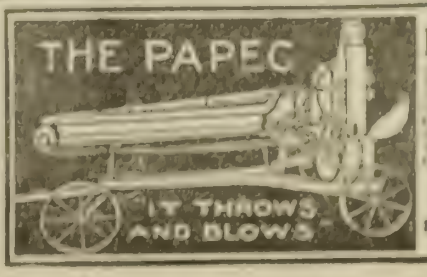

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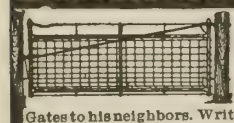
Will surely interest you if you are really seeking a change of locality.
We don't tell you it will grow peaches and the tender fruits and vegetables. We do say that Blackburn Farms will grow more **grain, grass and vegetables** than lands in Iowa or Nebraska and that ton for ton or measure for measure, it has far more nutrients—add to this the remarkable vigor of growing animals on account of the fine climate and water and you are forced to the conclusion that stock raising is a most profitable business besides being a very safe one, for they are practically immune, for microbes can't live in that pure air.
You can cultivate 80 acres thereabout as easy as 40 in Iowa or Illinois.
It's an easy place to get a start, for the lands are cheap and good, and sale terms very liberal.
Building material and fuel costs nearly nothing but the hauling.
There are already there and farming a number of families, and every one is satisfied.
Just think of what five cows will do there for any one that will care for them. The creamery at Laramie paid, last winter as high as 38c per pound for cream. At anywhere near this rate they would pay near $15 per head per month. Poultry will do as well. Hogs never have the cholera, so that a fortune could easily be made in a few years raising Duroc-Jerseys by feeding them on field peas, etc. Schools of all kinds handy and the roads to the station are fine—most of the way over the TRANSCONTINENTAL route. There are really so many points of superior merit we cannot enumerate them here. Our fine illustrated circular will interest you. Send your address and you will get it promptly—it's free.
LARAMIE DEVELOPMENT CO.,
Thomas Campbell Asst. Secy.
Douglas 4823. 444 Board of Trade, Omaha, Neb.

WHITE PLYMOUTH ROCKS
Prize winning stock, bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices, gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.
Shorewood Farms, Saugatuck, Mich.

COME TO MINNESOTA
Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.
HODGSON & RINK, Fergus Falls, Minn.

Do You Want This Steel Gate FREE

One farmer in each community can get one for helping us introduce Tro Jan Gates to his neighbors. Write for particulars.
The Best Steel Gate in the World
High carbon steel frame. All No. 9 galvanized wire mesh. Special hinges. Patented self-locking latch. Steel center brace. Unbreakable. Raises at either end. Sold on 30 days' trial at our special direct-to-you factory price.
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WYOMING CAREY ACT LANDS
IN THE VALLEY OF EDEN
Fertile Soil. Perpetual water rights $3.50 per acre, long time, easy payments—easier than paying rent. No Cyclones. No Drouths. No Floods. No spot in the U. S. more healthy. No better stock country on earth. Health and Fortune awaits you. Homes that pay for themselves. Rich virgin soil. Big crops of Alfalfa. Grains, Vegetables and small fruits now growing in the Valley. Do not let this opportunity pass, but write at once to
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Gold Dollar Alfalfa Seed
If you are interested in high grade dry land alfalfa seed that is absolutely guaranteed to be as represented as to purity and vitality, send for our prices and samples.
None genuine without our trade mark.
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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Kind of Men We Want to Hear From

F. E. M., Center Point, Ia.: I like your paper so well that last fall I subscribed for it for twenty-four months. I read everything in it. It is all good, wholesome reading. I especially like Carpenter's writing, and Thomas Jefferson Putnam's, which is, of course, a ficticious name. A few innocent stories are relished by the best of people. Your frontispieces are all good; so are the articles on co-operative finance, state mortgage loans and banking at a lower rate of interest than at present. We pay 5 to 6 per cent on real estate loans and 7 to 8 per cent on bank loans on personal notes. This is too high a rate, and the banks are getting rich.

How would you organize a co-operative farmers' buying and selling organization, to put a stop to the high profit of the middle men and at the same time not buy it of the mail-order houses?

Let me asy you this: Is it right to boycott a farmer because he sees fit to sell a share of bank or elevator stock to a man who is a competitor in elevator or bank?

Would you accept and publish articles written by we farmers on experimental farming?

Answer—Thanks for the complimentary words. A co-operative society of any kind may be formed by getting the members to subscribe to a constitution and bylaws that set forth how the business shall be conducted strictly along co-operative lines, and then all of them going upon a note to secure the necessary money for beginning operation. The organization is only the beginning, and the smallest part of the proposition. The principal thing is to secure for manager a man of thorough business training and wide business experience. The success of the enterprise will depend upon the efficiency of the management.

Boycotting rarely helps matters; generally makes them worse. Loyalty should lead a man who has stock to sell it to his associates rather than to an outsider.

We will be glad to receive and publish the right kind of articles on experimental farming written by farmers. Such articles as these are just what we most desire. It may be that we may have to edit them, perhaps condense them, perhaps merely to publish the main points in them. Perhaps we may publish them entire. It will all depend on the articles themselves. Send them along.

Grade Dairy Cattle Club

W. R. D., Springdale, Ark.: I wish to secure the co-operation of owners and breeders of grade dairy cattle in the formation of a dairy cattle club to uplift the average dairyman and breeder. We need it. A cow-testing association, the publication of a herd book, the distribution of prices for care, feeding and results, will go far toward effecting a general increase in the utility of the average herd. How many farmers know whether their cows are paying? Why not find out at once? If you have an exceptionally good grade cow, keep her. She is worth $200, if she gives daily forty-five pounds of milk testing 4 per cent. By actual income from her production (if she is a persistent milker), she is worth more. If she had a pedigree she would sell for $500. So why not sell your worthless cattle now and take care of the others? I have already received letters from hundreds of breeders wishing to co-operate, and expect to form this grade dairy cattle club, with headquarters in Kansas City, my home. We will co-operate on special sales during the winter, and publish a herd book, etc. I should like to have every reader of the Twentieth Century Farmer who wants to build up his dairy herd (not paying fancy prices for pedigreed stock) write me here.

Editor's Note—Here is a proposition that is well worth looking into. There is at present an unprecedented demand for dairy grade cattle. The demand will grow greater instead of less. It will no longer pay any man to raise beef cattle when the average price paid for a 2-year-old dairy grade is $100. The breeders of such grade cattle should get together for the purpose of developing and protecting their business. This department would be glad to hear from its readers what they think about the proposition submitted in the letter.

An Alfalfa Inquiry

J. T. W., Grand Island, Neb.: I have a new field of alfalfa, which was planted last fall and furnished a good crop the first cutting this year. It seems to have been too dry for the second cutting. I should be pleased to have you advise, if possible, how to handle it. It is only about eight inches high and blooming, and it is also quite dry.

Answer—This inquirer does not state on what kind of soil and over what kind of subsoil he is trying to grow alfalfa. A much more definite answer might be given if these details of information were supplied. Cut the alfalfa at once, as when it blooms it should be cut in order to force the third growth. It should have been gone over with an alfalfa cultivator immediately after removing the first cutting. It would be well to use a cultivator on it after removing this short second cutting. That will stop the evaporation from the surface and give it more moisture. Just before it goes into the winter it should have applied to it a liberal dressing of barn-lot manure as a surface mulch. It will probably come out all right in the spring.

Cause for Hogs Eating Dirt

J. L., Bladen, Neb.: What is the cause for pigs eating dirt? Please let me know what will stop them. I have over 170 spring and fall pigs, and they are looking pretty good.

Answer—The pigs are eating dirt in order to get certain mineral elements in their food which the owner has not supplied. Mix together one bushel of ashes, four quarts of salt, four quarts of air-slaked lime, one quart of copperas and one quart of hyposulphite of soda. Mix thoroughly and keep in a trough where the hogs can have constant access to it and eat it whenever they desire. This will stop their eating dirt in time, as it supplies the mineral elements necessary. No hogs should ever be without this or a similar mixture.

Where to Secure Alfalfa Seed

J. C. P., Mason, Ill.: I note in your paper that you will advise farmers where to secure alfalfa seed which will be good, and adapted to the climate in which they are located. Now, as I want to sow some ground to alfalfa this year, I am taking the liberty to write you regarding the seed. I am located in the south central part of Illinois, and the ground I contemplate putting in alfalfa is bottom ground in the Little Wabash bottoms, but is exceptionally high, is somewhat sandy, has been for the last three years in corn, but previous to that it was in red clover and timothy. Would you kindly advise about how much seed should be sown to the acre, and where would be the best place to secure the seed best adapted to this climate?

Thanking you in advance for this information, and assuring you that I have read your articles on alfalfa with great interest, I remain, etc.

Answer—This letter is published simply for the purpose of showing the growing interest that farmers are taking in alfalfa, and also to show that they are beginning to see that the quality of the seed they sow is of prime importance. This letter has received an answer by mail, in which the advice sought was given. Let other would-be alfalfa growers send in their inquiries.

Co-operative Era

We are evidently just at the beginning of a co-operative era. All sorts of so-called co-operative schemes will be organized. Some of them will be organized by well-meaning men who will endeavor honestly to conduct the business, but who will fail because they do not understand it. Others will be organized by unprincipled rascals who will take advantage of the talk of co-operation to rope in a lot of people and get their money. We advise our readers to keep away from all such schemes. Co-operation, like charity, should begin at home. There are in the central west a large number of quite successful co-operative creameries and co-operative elevator companies. These were organized by people in comparatively small communities, none of them taking in more than a county, and most of them considerably less. These people know each other and are close enough to the business to take an active interest in it, and to know all that is going on. Under these conditions, co-operation can be entirely successful, but when the effort is made to extend the principle into a general business, located in some distant city, keep away from it. We need laws which will forbid the use of the word "co-operative" in connection with any but real co-operative efforts.—Denver Weekly Post.

Apple Packing

Demonstrators will explain the mysteries of apple packing at the Nebraska State Fair. There will be an immense crop this year, and apple growers in eastern Nebraska will need 1,000 helpers. An expert apple packer can make $3 a day.

Timely Items of Interest to Poultry Raisers and Fanciers

DON'T leave the coop doors open on hot nights—too many prowling rats and other marauders. These keep the chicks hiding out in the weeds the night long, and they manage to get one or two down their maws while scaring them out. Put a screen door on in place of the heavier door for hot nights. Screen is cheap.

***

Many poultry keepers let the floors of the coops get more than filthy before cleaning them out. To allow the floor of a coop, in which are housed no more than a dozen growing chicks, to remain uncleaned for one week means a good chance for an unhealthy batch of chicks, for no difference how open the coop, the foul odors arising are breathed first by the chicks. This is more often than not the cause of young poultry getting sniffy, with a discharge from nose and eyes.

***

Capons really should be on the market at all times of the year. In fact, there is no time of the year when they might not be, if poultry keepers thought so. The reason for certain well defined periods for caponizing is because the demand exceeds the supply, and of the few people in the business of supplying capons.

***

The wing and tail feathers of some of the small breeds grow too fast for the yet small body. This weakens the chick, it seems, and more so if the mornings are chilly or days damp and cloudy. These feathers should never be pulled out, but simply clipped, and this last done to a droopy chick, dragging about its load, seems to revive and get chirpy and happy in an hour or so.

***

London Purple is cheap, and the name is easily kept in one's mind. There is nothing better as a vermin duster for poultry than this powder, and certain well known poultry keepers recommend it highly, not only for ridding the fowls of vermin, but the chicks of gape-worms. It is best when dusting for the gape-worms to place a newspaper under the chicks, if the dusting is to be done in their coops, then remove it.

***

The poultryman who sells off his hens at 1 or 2 years of age is making a bad move. At any time before a hen is 2 years old, if she comes of good laying stock, she is furnishing in eggs her best record. After 2 years of age she may begin to slightly decline in this output, and she may not. Often she lays more the third year, especially if she be a Leghorn. If you have some older hens that molt late and lay late this fall, mark these and keep over to fill out your number of special hens from which to secure setting eggs next spring.

***

Some of the causes given for eggs dying in the shell are: First, and by far the greatest, white diarrhea bacillus that kills the chick before hatching, or weakens it until it has no power to break the shell; next greatest as a physical cause, eggs laid by over-fat hens or hens weak and sick at the time of laying; another cause in this line is lack of exercise for the hens, or using a male bird lacking in vitality. Of the accidents that may happen to cause many dead chicks in the shell are: Allowing the eggs to cool too long over time, too much moisture in the air for the sitting hen or in the incubator. This fills the egg too full of water. The chick cannot turn. Other things are: Too little heat, too much heat and too little air.

***

If you find some of the fowls showing soiled fluffs—as they often do this time of year, showing there is a slight dysentery attacking the flock—then try controlling it with doses of baking soda, of which you can safely use two or three tablespoonfuls in a gallon of water, or even less this amount of water. If any of these take to drooping and acting sick, isolate this case and give it one good liver pill. If by next day it is still droopy, give it another. This will usually be sufficient for any slight liver trouble in a fowl.

***

A certain person once told me he had no use for my knowledge of fowl life if I knew no more than to declare that the Brahma and Cochin breeds were merely our old Shanghai breed made over again. Despite the denial, it yet remains true that I was right about it, for couldn't I well remember my mother's old Red Shanghai rooster and his brown mates, and wasn't there the old gray rooster she said was the Gray Shanghai? From the old gray stock has come the Light Brahmas; from the red stock the Buff Cochins. Other breeds were mixed in to make the varieties of each. The Cochin, or old Red Shanghai is the oldest of all the Asiatic breeds, and lays the smallest egg.

IDA M. SHEPLER.

The Next Meeting of the A. P. A.

Atlantic City, the Queen City by the sea, is the city chosen by the American Poultry Association for its next meeting, which is to be held August 11 to 16. Here is the place to expect a large attendance, for it is a noted health resort, and the association is expecting a banner crowd. As the world flocks to Atla City for varied reasons, mainly recreation and amusement, you may know that everything that amuses and pleases will be right at hand. It is a city of hotels, and prices for rooms range from 50 cents a day up. An airy, cool room, clean and equipped with modern conveniences and running water, can be secured for $1 a day.

Experiments with a tree-planting machine at the Utah Agricultural Experiment Station indicate that it may be used to advantage in reforesting old burned areas on the national forests.

Coral Builders and the Bell System

In the depths of tropical seas the coral polyps are at work. They are nourished by the ocean, and they grow and multiply because they cannot help it.

Finally a coral island emerges from the ocean. It collects sand and seeds, until it becomes a fit home for birds, beasts and men.

In the same way the telephone system has grown, gradually at first, but steadily and irresistibly. It could not stop growing. To stop would mean disaster.

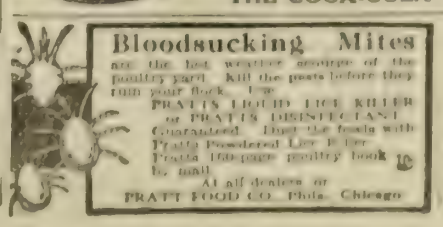
The Bell System, starting with a few scattered exchanges, was carried forward by an increasing public demand.

Each new connection disclosed a need for other new connections, and millions of dollars had to be poured into the business to provide the 7,500,000 telephones now connected.

And the end is not yet, for the growth of the Bell System is still irresistible, because the needs of the people will not be satisfied except by universal communication. The system is large because the country is large.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*



LICE KILLER Lincoln, strongest ... Simply ... Agents wanted W. H. Metzger Co., No. 92 Quincy, Ill.

The Insecticide Law

requires the plain printing, on each package, of the amount of inert material used, or the material which the Government considers of no value for insecticidal use. Every purchaser of an insecticide should consider this point and should see that the insecticide guaranty is given by the manufacturer on every package.

LEE'S LICE KILLER contains only 3 per cent inert matter (water). Others contain from 10% to 80% inert matter. Used for poultry and hogs. $1.00 per gallon. No dusting, dipping or greasing.

LEE'S DIP contains less than 10 per cent inert matter (water). Others, from 10% to 30%. Used for killing lice, etc., on horses, cattle, hogs, sheep, dogs, etc., also as a disinfectant. $1.00 per gallon.

LEE'S INSECT DESTROYER (powder) contains less than 10 per cent inert matter (Fullers Earth, used to prevent caking). Others, from 25% to 90%. Used for chickens, pet stock, vegetables, etc. 1¼ lb. package for 25c. 3 lb. package 50c.

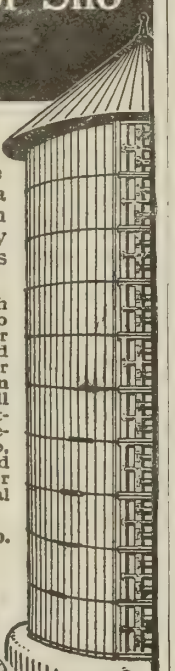
LEE'S FLYO-CURO contains NO INERT MATTER. Others, 10% to 75%. Used to keep flies and mosquitoes from horses and cows. $1.00 per gallon. A little goes a long way.

This is one reason why the **Lee Line** is outselling all others and especially accounts for the great increase in sales since the Insecticide Act went into effect. We give greater value to the consumer, better formulae, always strictly maintained; less inert matter; in most cases a bigger package for the money.

The **Lee Line** of Foods, Insecticides and Remedies is sold by more than 10,000 dealers in the United States and in many foreign countries. If not at your town, send for latest poultry book and name of nearest agent.

GEO. H. LEE CO., Omaha, Nebraska

Hinge-Door Silo
and the
Silberzahn Cutter



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Get the famous Silo with doors on hinges—easier to open and close than your barn doors—keep Silo closed air tight winter and summer—saves Silage and work in feeding. The cutter cuts all forage crops—easily adjusted—has all latest improvements, control lever, grip, perfectly housed gears. Sold on approval. Get Silo or Cutter or both. Mail postal today. Address

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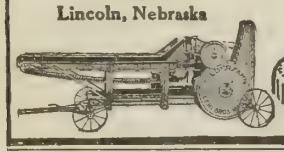

GRAIN BELT BRAND
Vegetable Hog Potash

A perfect worm expeller and preventive. A conditioner and mineral balancer. Guaranteed Analysis:

Potassium Chloride	16%
Calcium Phosphate	13%
Calcium Oxide (lime)	20%
Iron and Aluminum	9%
Sulphur	1%
Carbon Dioxide	3%
Magnesia	2%

Do not confuse this valuable product with the various patent remedies on the market which sell at medicine prices. This is a high reduction of purely vegetable matter and does not contain an ounce of salt or filler of any description. Send today for circular fully descriptive of this product. Agents wanted in unoccupied territory.

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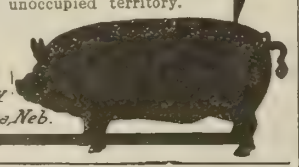

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Dr. Holland's Specific Heave Remedy will cure heaves, broken wind, and chronic cough. It has never failed. A guarantee with every bottle. Price $2.00. Write today for our free advice on horse and cattle trouble.

Agents wanted.

DR. HOLLAND COMPANY, Dept. H,
120 Tremont St. Boston, Mass.

Review of Live Stock Market

By A. C. Davenport

LAST week attention was called in these columns to the rapid advance that had recently taken place in the cattle market and to the possibility that a little reaction might set in. As expected, the reaction came, prices at some points being quoted a little lower at the beginning of last week. The weakness, however, was of short duration and values on desirable kinds generally recovered lost ground. Thus the market last week at most of the big markets was in a good, healthy condition, so far as the better grades of beef cattle were concerned. Common and inferior kinds, such as would come into competition with southern cattle, showed a little weakness and inferior butchers' stock on the grassy order, which is killing out poorer as the season advances, also showed weakness at some points. All in all, however, the market was as good as anyone could reasonably ask for. Receipts at most points were fair for this season of the year and the total at the five leading markets actually shows an increase of 56,000 head for the six and a half months of 1913, as compared with the same period a year ago.

Weather Conditions Affect Feeders

While conditions in the fat cattle market have been so favorable to the selling interests, the feeder market during the last half of the week was decidedly in the dumps. The season of the year is at hand when weather conditions have a large influence on this branch of the trade. Every time that the weather becomes hot and the soil dry, or even at the faintest suspicion of a hot wind, buyers of feeders may be expected to take alarm. An indication of dry pastures may have the same result. Under such conditions an easing off in the demand and a corresponding shrinkage in values is always to be anticipated, and this year possibly more than ever, for the good reason that buyers are already more or less nervous and unsettled in their own minds regarding the actual value of feeding cattle.

In view of the above, it is not in the least surprising that the dry weather last week prevailing over the western part of the corn belt had no little influence on the feeder trade. However, the total volume of business doing at this season of the year in that class of cattle is so small that the results were really of minor importance, taking the cattle trade as a whole. Later on in the season when range cattle, running largely to feeders, constitute the bulk of the receipts, weather conditions have a very much greater influence than at present. At such times weather of the kind to threaten the corn and fodder crops frequently has a strong influence even on the market for fat cattle, for the reason that many cattle that otherwise would go for feeders are left for the fat cattle buyers.

Aside from weather influences, which, as a matter of course cannot be anticipated even in the slightest degree, the outlook for the cattle market continues very favorable to the selling interests. The consuming demand, though not as broad as might be expected were cattle selling a dollar or two under present prices, is nevertheless quite satisfactory and suficient to keep the receipts fairly well cleaned up. It must, however, be borne in mind that current prices are very high and any little increase in the matter of receipts would be very likely to bring about at least a temporary reaction in values.

Hog Market in Good Condition

Hogs have been strong sellers all this month with prices slowly working up to a higher basis. Advances have not been very great, as the market has not shown any disposition to take wild flights, but has simply been gradually working its way upward. Packers have been very free buyers at all points, thus keeping the trade in a good, healthy condition.

Attention was called a week ago to the existence of a strong bull feeling among many operators on the market. That feeling still continues, although market men are by no means unanimous on the subject. It is possible to find quite a few who do not appear to have very much confidence in the future of the market, such individuals taking the stand that prices are already very high, or as they put it, as high as the country can afford to pay. There is, however, a large contingent of the trade that is anticipating a very strong market during the remainder of this month and next, although they do not necessarily predict any very great advance, but admit that a higher range of prices would not be in the least surprising. As a matter of course, everyone expects to see the packers take the bear side of the deal later in the fall, it being a time-honored custom to break the market down before the opening of the winter packing season at the beginning of November. Statistically, the market is in a strong position, as the receipts for the year to date show a decrease of over a million head, as compared with the same time last year and a decrease of almost a half million head as compared with the same months of 1911.

Sheep and Lambs Slightly Lower

Sheep and lambs have been doing exceedingly well, according to the growers' interpretation of the market. Receipts, though liberal, have met with pretty ready sale and during the early part of last week prices showed more or less improvement at the different points. Later in the week values underwent a sharp reduction, wiping out the improvement and in some cases leaving the market a little lower than it was at the close of the previous week.

There is a general feeling that with western lambs selling on the basis of Omaha at better than $8.00 the market is high enough to be regarded as top heavy. It is certainly very high as compared with other commodities, and there is a feeling of doubt in the minds of most operators whether such prices can be maintained. In fact, it is safe to say that most sellers are looking for a considerable reduction in prices as soon as receipts shall become a little more liberal. Thus far the run of westerns has been most too small to give the market a serious tryout, but the season is rapidly approaching when larger runs are to be anticipated. As a matter of fact, in the fall of the year the feeder trade is the dominating influence in the market, and that brings up the old question of weather conditions. As explained before in these columns, there are the very best of reasons for believing that with a good corn crop and plenty of feed of all kinds in sight the demand for feeder sheep and lambs this fall will be the best that it ever has been in the history of the trade, and the demand will go a long way toward fixing the price.

Quality Should Determine Price of Cream

(CONTINUED FROM PAGE FIVE.)

vent its deterioriation while in their charge. This will require provision at each railroad station that receives cream for holding the cream in good condition until it is actually loaded on the cars, and will also require shipment exclusively in refrigerator cars. The creameries themselves, while they maintain cream receiving stations, should provide for the care of the cream if they receive it before it is delivered to the railroad. Quality in cream is to be the main consideration, and everything that will contribute to delivering at the creamery cream of the highest quality must be insisted upon in order that the creamery may be able to manufacture butter of the highest quality. This highest quality in butter is indispensable to the proper development of the creamery business. The creamery men already know this. It is up to them to take such measures as will insure the delivery to them of cream of such quality as commercial conditions require.

Construction of Corrugated Iron Culverts

(CONTINUED FROM PAGE SEVEN.)

before the walls were constructed.

Figure 9 shows the same job just before making the fill and turning the water through the culvert. Observe the perfect grade and line, and the smooth appearance of the concrete. These end and wing walls are similar to those shown in figure 5, but are not quite so high.

I have endeavored briefly to suggest the possibilities of using first-class corrugated iron pipe for highway culverts. I believe the illustrations and descriptions presented are of value, in that they indicate what has been accomplished with this material.

Plank Walls Only Makeshifts

In all probability the supervisor, while using no pipe of less diameter than twelve inches, will be more interested in culverts of a smaller size than those shown. The principle, however, remains the same. The idea is to secure good foundation and grade for a first-class product, then build the proper end and wing walls as substantially as may be required. While concrete is most excellent for these end structures, it is not the only satisfactory material. Walls may be built of stone or brick, laid carefully in cement mortar, or even of loose stone laid dry. Remember, however, that plank walls are merely temporary makeshifts and should be used only when there is no alternative.

In conclusion, let me call attention to the necessity for paving the bed of the stream at the outlet end to prevent scour. This paving may be also necessary above the inlet. Further, remember that when banks begin to cave or slide and there is danger of the culvert being undermined, a protection of rip-rap should be placed at once. And, finally, consider always the possibility of changing the course of the stream, thus avoiding the expense of permanent culvert construction.

The Fremont (Neb.) Power Farming Demonstration will be held on 450 acres of land just outside the city limits, 130 acres of which is prairie sod.

Proved It

Mrs. Brown arrived late at the regular meeting of her card club, and appeared quite flustered, unlike her usual calm, well-poised self. Upon being asked the cause of her apparent perturbation, she explained that, while waiting for the street car, she had been greatly annoyed by a strange man, who insisted upon talking to her.

"What did you do?" inquired her sympathizing friends.

"Well, to show him I was a lady, I slapped his face!"—Judge.

Breeders' Notes

Holstein Calves for Sale

Edgewater Farms of Whitewater, Wis., are offering Holstein calves for sale at very reasonable prices. This affords the opportunity to get something in this line at a very nominal figure. These calves are ⅞ and 31-32 pure and are nicely marked. Write for further particulars, mentioning this paper.

O. I. C. Hogs for Sale

G. S. Benjamin of Portland, Mich., one of the largest O. I. C. breeders in the country, can supply you with anything you want in the line of a spring boar or gilt. Mr. Benjamin breeds them with size and bone and sends them out under a guarantee. Write him your wants and also ask him to send you his booklet on "How to Make Money from Hogs." Kindly mention this paper when writing.

Schwab Offers Red Polls

George W. Schwab of Clay Center, Neb., has a choice lot of Red Polled females that he is offering for sale at this time. Also a few corking young bulls of serviceable age. These cattle are strong in milking qualities and have plenty of scale. They are representatives of the very best families of the breed and have every reason to be good. The time was never more opportune to acquire some good cattle. Here is an opportunity that should not be overlooked. Write Mr. Schwab, mentioning this paper.

Harry Dodds' Polands

We called on Harry Dodds, breeder of Poland-Chinas, at Florence, Neb., a few days ago and spent some time in looking over his herd. Mr. Dodds is a young

man who has made rapid strides in the breeding business. He has exercised the most discriminating care in the selection and mating of his breeding stock, and as a result he has at this time a lineup of stuff that would do credit to one who has been in the business much longer than he has. He is breeding a good, smooth type with quality and bone. He has about 85 head of spring pigs this year, farrowed mostly in March and the early part of April. They are sired by I Am Big Too, by Dorr's Expansion, Big Columbus, Expander, Fargo, Big Tom and others. I Am Big Too won second, his litter brother won first and his two litter sisters won first and second in the under 6-months class in 1912. He is big enough, with plenty of quality and bone and is proving himself a strong breeder. Some of the best spring pigs are sired by him. He also has some very promising pigs sired by the yearling boar, Fargo. He is by Big Tom and out of a Big Victor dam. This young boar will be seen at the state fair this year and bids fair to make a good showing.

Mr. Dodds has two good litters, one of six and one of eight, sired by the many times grand champion, Big Columbus. He has a good Big Tom litter out of Lady Hadley, she by Cavett's Big Hadley. Mr. Dodds will be at the fair with a nice lineup and will no doubt be inside the money. He will hold a fall sale and also a bred sow sale. Keep his herd in mind and watch these columns for further announcements.

Sale Dates

Duroc-Jersey Hogs

September 27—Robert Leisey, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Shattuck, Hastings, Neb.
October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.
October 20—William Ferguson, Scribner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 8—J. L. Naiman, Alexandria, Neb.

AN $1,800 AUTOMOBILE FOR $995

We have purchased from one of the leading manufacturers the remainder of their 1913 output of foredoor 5-passenger automobiles. These cars are fully equipped; CONTINENTAL MOTOR, BOSCH HIGH TENSION MAGNETO, TIMKEN AXLES, CENTER CONTROL, 118-IN. WHEEL BASE.

The Biggest Bargain

ever offered in the history of the automobile industry. The car complete F. O. B. Kansas City, $995. Write for detailed specifications and descriptions. Dealers write for special proposition.

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America's "best yet" breed — pure White—every way desirable. In great demand. Bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms Co., Saugatuck, Mich.

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Cedar Bluffs, Neb.
LIVE STOCK AUCTIONEER.

Thoroughly posted in pedigrees and values. Can furnish best of references from breeders for whom I have conducted sales. Write me for open dates.

RED POLLED CATTLE

RED POLLS FOR SALE.

25 head of extra choice Red Polled females for sale. All ages. A number of show yard character. Also a few bulls of serviceable age. Duroc Jersey hogs for sale at all times. Prices reasonable. George Schwab, Clay Center, Neb.

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Soil, climate and facilities for farming are excellent. Land is developing and increasing in value rapidly, often 100% annually under proper conditions. Let us send you our illustrated Land Register with full details of special Home or Investment opportunities whether you live here or not. VIRGINIA LAND IMMIGRATION BUREAU 9 Gale Block, Dr. Walter J. Quick, Genl Mgr. Roanoke, Va.

LANDS

California

SACRAMENTO VALLEY — WILL land at $70 per acre that is producing forty bushels of wheat per acre interest you? If so, write for particulars. W. T. Smith Co., 815 City National Bank Bldg., Omaha, Neb.

Farms Wanted

FARMS WANTED—WE HAVE DIrect buyers. Don't pay commission. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 69 Palace Bldg., Minneapolis, Minn.

Idaho

IDAHO—BARGAIN IN TWIN FALLS land; 200 acres improved; 100 acres alfalfa; perpetual water right; shortage of water and crop failures unknown on this tract. Terms to suit purchaser. E. R. Hobbs, Buhl, Idaho.

WANTED—CORRESPONDENCE WITH prospective buyers of improved Idaho lands. Box 711, Blackfoot, Idaho.

Mississippi

WOULD YOU ENJOY A CONSTANT, everlasting income of from $1,000 to $5,000 and more per year? Then buy the 10-year-old bearing paper-shell pecan grove of eleven acres—part of the late Senator Money's great Rose Farm estate, near Ocean Springs, Miss., where ocean breezes, artesian water and fine pecan and orange groves abound. A most enjoyable place to live both winter and summer for old or young. Price, $5,500—just half its value. Terms, $2,000 cash, balance long time, 6 per cent. For full particulars, address M. R. Hicks & Co., Ocean Springs, Miss.

Minnesota

FOR SALE — RICH, PRODUCTIVE 160-acre Red River Valley farm; good neighbors; healthy country; fine markets and a bargain at $5,000. Terms $1,500 cash, balance easy. Frank P. Cleveland, owner, 1315 Adams Express Bldg., Chicago, Ill.

Minnesota

100 CHOICE FARMS IN THE GARden spot of southern Minnesota, where corn is king. Price, $60 per acre and up. Prices rapidly advancing. Come now. Free list. The Paffrath-Schmid company, Springfield, Minn.

400-ACRE FARM, ALL CULTIVATED, well improved, Red River Valley. Price, $40; easy terms. William F. Gilbert, Crookston, Minn.

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FOR SALE — A TRACT OF 8,0000 acres of farming and grazing land in the corn belt, 6 miles from Oconto, Custer county, Nebraska; 12 miles from Broken Bow. Over 1,500 acres in cultivation; 3 sets of improvements; water supply never fails. South Loup river and nine wells. Prefer to sell in a body, and priced accordingly at $25 per acre. Will sell in quarters, halves or sections at $25 to $50. All black soil; no sand. Will produce all crops raised in Illinois or Iowa. Sold to settle the estate of D. Heenan. Address M. P. Breen, Streator, Ill.

640-ACRE FREE HOMESTEADS IN Nebraska. Send $2 for complete map of land opened to entry October 1, 1913. A. J. Van Antwerp, County Surveyor, Broken Bow, Neb.

FOR SALE — CAREFULLY MADE, tax-free first mortgages on Nebraska farms, earning 6 per cent, payable twice a year. Write for descriptions. First Trust Company, Loup City, Sherman county, Nebraska.

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I HAVE ONE OF THE BEST SOLID section farms in the west, 10 miles from Belfield, on main road; 540 acres crop, 625 acres tillable; fair buildings; good water; near coal mine, church and school. Best opportunity in Dakota for store and road house; 50 to 120 teams pass daily. New land, free from stone and gravel. Will sell traction engine and machinery if desired. Price, for land, including crop, for immediate sale, only $35 per acre. E. H. Farin, Belfield, N. D.

Washington

FOR SALE—100-ACRE FARM, 40 CULtivated, 30 of timber, balance partly cleared, house, barn, telephone, orchard etc. $10,000. Terms. Write owner, Albert Ellwanger, Oak Harbor, Wash.

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TENANT WANTED FOR AN 80-acre irrigated farm, central Wyoming. Unlimited, inexhaustible supply of water. Best soil. Big local market for all crops. A most liberal proposition to the man who means business. For particulars write Russell Thorp, Lusk, Wyoming.

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CHOICE HOLSTEIN CALVES — WE have beautiful marked calves, 15-16th pure blood, from large-producing, high-grade dams and a very fine sire; either sex; males, $15; females, $17; from 3 to 6 weeks old; crated and put aboard express car for any point. Send order to Whitewater Stock Farms, Whitewater, Wis.; Hanson & Hawes, Props.

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FOR SALE OR EXCHANGE FOR land, a plowing and threshing outfit. Engine, a 22-45 Hart-Parr, burns kerosene or gasoline. Plows, John Deere, 8 stubble bottoms, 8 breaker bottoms. Separator, 36 Advance. All will do good work. Now near Oconto, Neb. Land rented in small tracts reason for selling. Address M. P. Breen, Streator, Ill.

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A BOOK OF BUNGALOWS AND houses for cold climates, modern practical and artistic, sent postpaid for 25c. Special plans for all kinds of buildings also prepared. L. Harry Wardner, Architect, Scotland Blk., Gary, Ind.

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ONE IDEAL GAS PLANT, AS GOOD as new, only in service a short while, reason for selling, connecting with city gas. A bargain. E. J. McArdle, Box 312, Decatur, Neb.

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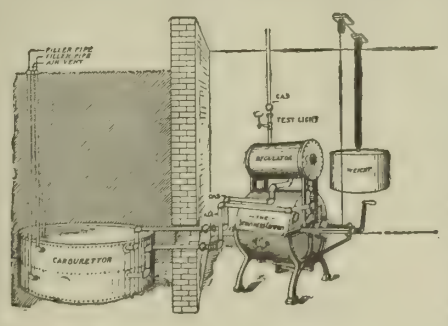
Between thirty and forty varieties of different types will be at the Fremont Potato Farmers Demonstration.



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We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

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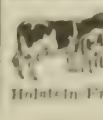
Ten heifers and three bulls 7 mos. to 11 mos. pure, 3 to 4 weeks old, beautifully marked and from heavy milkers. Price each, crated and delivered to express office for shipment anywhere. Write Edgewood Farm, Whitewater, Wis. Route 1.



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TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, August 2, 1913 | Number 660

The First of a Series of Silo Articles on Page 6

TEN REASONS WHY

We Want You to Have "Making the Farm Pay" in Your Library

1—Because it tells you how to care for, and enrich your soil; giving the latest ideas in SOIL TREATMENT and DRAINAGE—without good soil you cannot have good crops.

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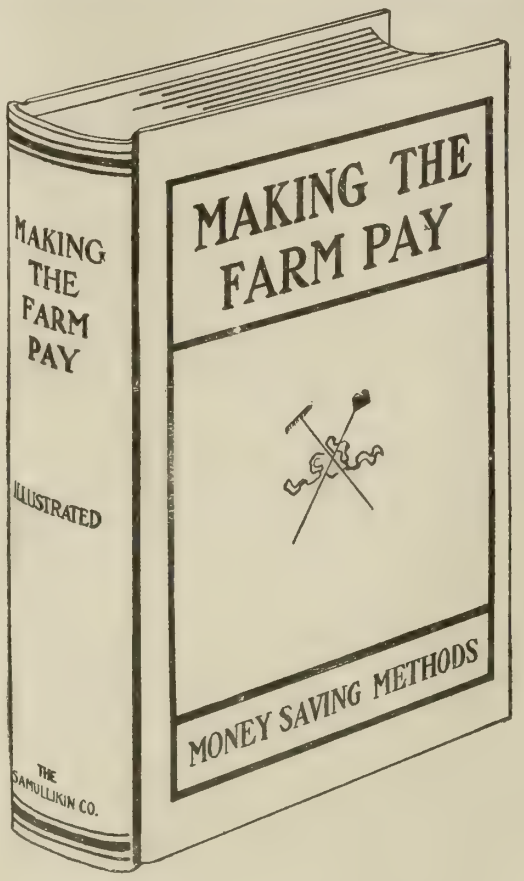
6—Because it takes up the Diseases of Farm animals, giving the CAUSES, SYMPTOMS and TREATMENTS of each, which will save you the loss of many dollars' worth of stock; these are explained in Common Terms that any one can read and understand; the treatments are COMMON REMEDIES that you should have in your home.



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Total	*$4.00*	**$2.00**

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Bright and Breezy

Different

Jones—James, I heard you using profanity to the horses this forenoon.

Coachman—No suh; no, suh! I'se very careful of de horses, suh. I was talking to my wife, suh."

Sensitive Pig

"Patrick, you were on a bad spree yesterday."

"Yis, sorr, I wuz. Bless me, if I weren't a-layin' in the gutter wid a pig. Father Dunn came along, looked at me an' says, says he: One is known by the company he kapes.' "

"And did you get up, Patrick?"

"No, but the pig did."

Careful Marketing

"Yes, I sell about 3,000 gallons of maple syrup every spring. Ship it all over the United States."

"Why don't you market some here at home, and save all that packing?"

"Oh, everybody around here knows I've only got four or five maple trees on my farm."

She Went

"Bang!" went the rifles at the maneuvers. "Oo-oo!" screamed the pretty girl—a nice, decorous, surprised little scream. She stepped backward into the arms of a young man.

"Oh!" said she, blushing, "I was frightened by the rifles. I beg your pardon."

"Not at all," said the young man. "Let's go over and watch the artillery."

Wholesale Slaughter

"I'll tell you a funny one that's absolutely true," said Bunny Brewer, who has heeded the back-to-the-soil movement and recently taken up a homestead on an abandoned looking farm. "Last fall, along about hog killin' time, we had some folks from the city out here, and a likely lookin' girl—now quitcher kiddin'—came out to see how I started the day's chores.

" 'We'll be awful busy today lady,' says I.

"What are you going to do?" says she.

" 'We're going to kill a cow.'

" 'What—a whole cow at once?'

"What do you think o' that? Mebbe she thought we were going to butcher a tenderloin steak!'"—St. Paul Dispatch.

Leading the Thirsty

After North Carolina voted to be a dry state its citizens became very suspicious of strangers.

One day a commercial traveler went up to an old negro in a little town in the eastern part of the state and said to him:

"Say, uncle, if you will lead me to some place where I can get a drink I'll give you $2."

The old darkey looked him carefully over accepted the two plunks and said: "All right, boss, jest foller me."

He led the thirsty one through the town on through the suburbs, into the country, and then started due west. After they had traversed about five miles in silence and still nothing in sight, the man asked:

"Look here, Mose! Where are we going after this drink?"

"We's gwine over into Kentucky, boss; we can't git nuthin' in dis state."—Judge.

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Selling as Necessary as Producing

THE particular attention of readers is called to an article that appears on page 5 of this issue. It takes up and discusses a matter that heretofore has received altogether too little consideration at the hands of producers. It is not enough to grow grains, or fruits, or any form of farm produce for the market; it is equally necessary for the grower to find for himself the most advantageous market. Until commission houses are regulated by law and governed by strict supervision, the producer will generally fail to get through their agency an adequate return for what he sells. Under these circumstances, it will become necessary for him to find his own market. The article referred to gives several illustrations of the way in which such a market has been found, and furnishes hints to growers as to the possible methods by which they may all find an independent market for their products.

This paper will do everything in its power to further such a movement, as it is directly in line with the policy that has been adopted. Readers are invited to give their marketing experiences, whether favorable to them or unfavorable.

Prattle of the Youngsters

Nothing to Ache

Little Boy (with swollen face)—Oh, dear! I wish I was grandpa, or else the baby.

Mother—Why?

Little Boy—Grandpa's teeth are all gone and baby's haven't come yet.

Fearful Sight

Small Sadie was walking along the street with her mother when a ferocious looking but friendly bulldog approached. With a little scream she clung to her mother, crying: "Oh, mamma, look at the dog with the tangled face!"

Charity Begins at Home

Village Grocer—What are you running for, sonny?

Boy—I'm trying to keep two fellers from fightin'.

Village Grocer—Who are the fellows?

Boy—Bill Perkins and me!—Puck.

Cut to Measure

"Well, my boy," said the visitor to Bobby, "I suppose some day you expect to step into your father's shoes?"

"Oh, I suppose so," said Bobby, gloomily, "I been wearin' out everytin' else he wears since mother learned how to cut 'em down for me."—Harper's Weekly.

Without "Padding"

The teacher of the class in English, says the Detroit Free Press, demanded that the pupils all write for their daily exercise a brief account of a baseball game.

One boy sat through the period seemingly wrapped in thought, while the others worked hard, and turned in their narratives. After school, the teacher approached the desk of the laggard.

"I'll give you five minutes to write that description," he sternly said; "if it is not done by that time, I shall punish you."

The boy promptly concentrated all his attention upon the theme as the teacher slowly counted the moments. At last, with joyful eagerness, he scratched a line on his tablet, and handed it to his master. It read:

"Rain—no game."—Detroit Free Press.

Leaflet and Cards

Little Miss Five-Year-Old has parents who play cards every time they are not caught in the swirl of other social affairs. The result has been that the young lady has absorbed much of the talk of the card table. She goes to Sunday school and has gathered some information there. It is natural, therefore, that she sometimes gets her lesson leaflet and cards a bit confused.

A Sunday or two ago, while the lesson of the morning was being reviewed by the superintendent, the latter asked the infant class this question:

"Who was the King of the Jews?"

Silence struck the infant class amidships. Suddenly Miss Five-Year-Old took on a look of something suddenly remembered and her hand shot up.

"Ah, there's a little lad who knows," said the superintendent. "She will tell us who was King of the Jews."

"Do see."—Indianapolis News.

Friends

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

The Selling End of Farming Operations

Some Out-of-the-Ordinary Methods that Have Brought Success in Disposing of the Products of the Farm

By Maurice Floyd

WHAT would be thought of a manufacturer who rushed his factory to full capacity day and night without paying any attention whatever to the marketing of his product? Foolish? Yet that is exactly what most farmers, individually and collectively, have been doing for the past hundred years.

To see that his goods are properly distributed, without overstocking one market and unstocking another, the manufacturer maintains an expensive sales force; but the farmer turns the distribution of his best products over to other hands. Hands, too, that often find their sole profit in juggling with the distribution of farm products.

The returns which an east Texas truck growers' association had been receiving for many of its shipments was a source of constant pain to the hustling manager, to say nothing of the members, and he was pondering over this situation one day when he received the returns, or lack of returns, from an especialy well selected carlot shipment which the associates had recently sent out that jolted him into adopting a better plan. The commission firm regretted to report that the car had arrived at a most inauspicious time—an almost invariable habit with cars of truck, by the way—and owing to the glutted condition of the market scarcely enough had been realized from the sale to pay the freight. But did the association have any sweet potatoes ready for shipment? If so, now would be a good time to send them in, as the market was practically bare and the demand strong.

Manager Catches an Idea

Muttering imprecations of a highly uncomplimentary nature on all bare markets, which had such regular habits of turning into overstocked ones before his truck reached them, the manager jerked from the wall a much belined map of this glorious country and spread it on the cheap pine table which served him for a desk. Yes, there were his old acquaintances, the overstocked markets, staring up at him in bold-faced type—Kansas City, St. Louis, Chicago, Omaha, Pueblo and a number of others. But how about these thousands of smaller towns which dotted the map like flies on a sticky paper? Were they overstocked, too? No one, so far as he knew, ever shipped truck to these little known places. Were they not potential markets? Why not ship to them as well as to the better known centers? The answer to that last one was obvious—there were no commission houses in these small towns to which one could conveniently ship.

This very thing of always shipping to the most convenient point, with little regard for the market's demands, is the weakest link in the successful distribution of farm crops today.

New Plan Given a Trial

After considerable deliberation, the manager decided to pitch his future marketing campaigns along the lines fowad so successful in the manufacturing world. He would go out in this vast unknown territory and solicit trade, just as a salesman for dry goods or automobiles would.

The commission house had made a good guess when inquiring for sweet potatoes, for the association had a most promising crop in process of being harvested. Here, thought the manager, was an ideal product on which to try out his new plan, for the potatoes possessed many advantages for this purpose over the more perishable crops.

Arriving at the point chosen for his first venture under the new plan, a town of some 3,000 inhabitants, in a strictly "cot on district," where no potatoes were grown locally, the manager made a preliminary tour of inspection before embarking on his actual sales work. What he saw confirmed his suspicions. The town was inadequately supplied with potatoes, and what few he saw on sale were of poor quality.

After a thorough inspection of the grocery stores, he stopped in at what seemed to be the largest and most progressive one and inquired the price of some very ordinary potatoes which were on display.

"Five cents a pound," replied the salesman.

The truck growers' representative nearly fainted.

"Where do you get these potatoes?" he managed to gasp.

"From Kansas City."

Potatoes from Kansas City on sale in a Texas town scarcely 100 miles from the field in which they were grown!

Sells Whole Crop of Potatoes

From the proprietor he learned why this state of things existed. The store bought its potatoes from a wholesale house which allowed the account to run until cotton was harvested: if he bought direct from the truck growers they would want spot cash. But a good salesman does not allow one small objection to block a sale, especially when he has the two weighty advantages of better quality and lower prices on his side, and after considerable negotiations, in which the local banker played an important part, the deal was put through at a price which netted the growers twice what they had been receiving, and yet enabled the dealer to offer his customers a better quality of potatoes at exactly one-half the former price.

The association sold its whole crop of potatoes in this way, and thus opened up an outlet for the more perishable products also.

When the knowing manufacturer or merchant finds his business developing kinks which he does not understand, he calls in an efficiency expert to locate the trouble for him; but it is seldom that the farmer can make use of such outside assistance. However, it is often possible for him to be his own efficiency expert and get good results, as the young association manager did. The greatest obstacle in the way of this being the difficulty of placing oneself in a position to get an outside viewpoint of his own affairs; but necessity is the mother of many ingenious expedients, and it can be done. When the truck growers' manager ceased to consider the time-worn channels of trade as the only possible way of getting his produce to market he had won more than half the battle for an outside viewpoint and the other half was won when he focused his mind on the concrete problem of finding his own market. Get the views of an intelligent outsider on the rough curves of your business if you can, but if you can't, then use the intelligent outside views of an insider—yourself.

Texas Woman's Experience

A Texas farm woman who was troubled with a number of "boarders" proved herself no sorry stick as a business expert in getting rid of them at a profit. No, they were not of the money bringing city kind; they were of the revenue-destroying country variety, a flock of choice fat hens that insisted on "eating their heads off" without laying any eggs in return. She instructed her husband to find out what they were worth on the local market, but he brought back bad news.

"Town's full of chickens," he reported. "But Johnson says he'll give 75 cents apiece, in trade, for 'em, if they're fat."

"Twenty-five cents!" exclaimed the indig-

(CONTINUED ON PAGE 1[illegible])

Fable of the Steer

A certain steer first saw the light of day on the ranges of Colorado. But while he was still young his owner rounded him up, loaded him in a car and shipped him off to Omaha.

There he was sold to a rancher, and by him shipped off to Oklahoma to feed in the pastures during the summer.

In the fall the steer was shipped to Chicago. In Chicago a farmer bought him and shipped him to Iowa to top him off, as the saying is, with corn.

The following spring, being by that time in prime condition, the steer was shipped back to Chicago and found his way to the packing house.

"'Tis fine to be traveled," reflected he, as he alighted from the cars for the last time, "but O you high cost of living!" —Life.

Why We Decline Certain Silo Advertising

Advertisements for Silos Erected Under the Harder Patent Will No Longer Be Accepted

FOR a number of months there has been in circulation throughout this territory a pamphlet of photographs intended to show the unreliability and undesirability of masonry silos. This pamphlet is anonymously published and anonymously circulated. It has no title page and nothing about it shows where it originated or in whose interest it was compiled. A mere glance, however, at the pictures it contains shows that it is deceptive, and in all probability was intended to deceive.

In the first place, with a single exception, none of these photographs show any reinforcing whatever. The impression attempted to be created by the pictures is that all masonry silos of this general description are as unreliable as those shown in the pictures. The fact is that anyone in this day who should erect a masonry silo without reinforcing it, is a fit candidate for the institute for the feeble minded. With proper reinforcing, the probability is that everyone of these silos would have stood the test.

Use Skill of Artist to Deceive

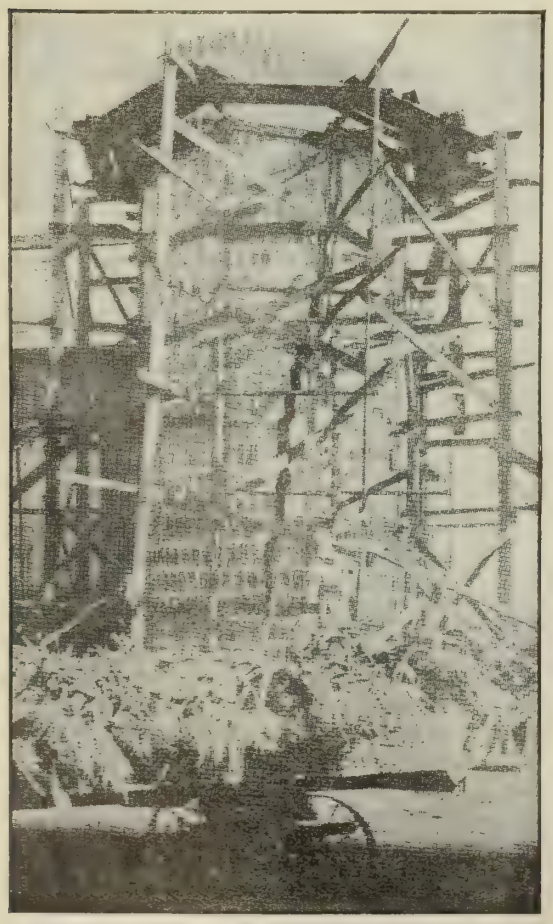
In the next place it would be natural to suppose that the publishers of such a pamphlet would not be driven to extremity in order to find sufficient material for their purpose, and yet in one case the same silo appears three different times in the pamphlet with a foot note indicating that each of these is a different silo. Another silo appears twice with foot notes of similar import. That there was intention in this matter to deceive is made evident by the fact that the foreground in each instance has been juggled and changed in order that the similarity would not be apparent. In one case, in the second photograph of the same silo, a building that appears in the first picture, is whited over so as not to appear in the second picture, and the whiting shows.

This attempt at deception is too crude, too coarse to deceive anything except a casual glance. The questions naturally arise, in what interest is this pamphlet published, and why is there attempted deception in it? Does an honest business require deceptive, dishonest promotion? The Twentieth Century Farmer thinks that an honest business may be honestly promoted, and that investigation is needed where a business in which farmers are interested is promoted by deceptive methods. Accordingly, it undertook an investigation of all the facts connected with this matter.

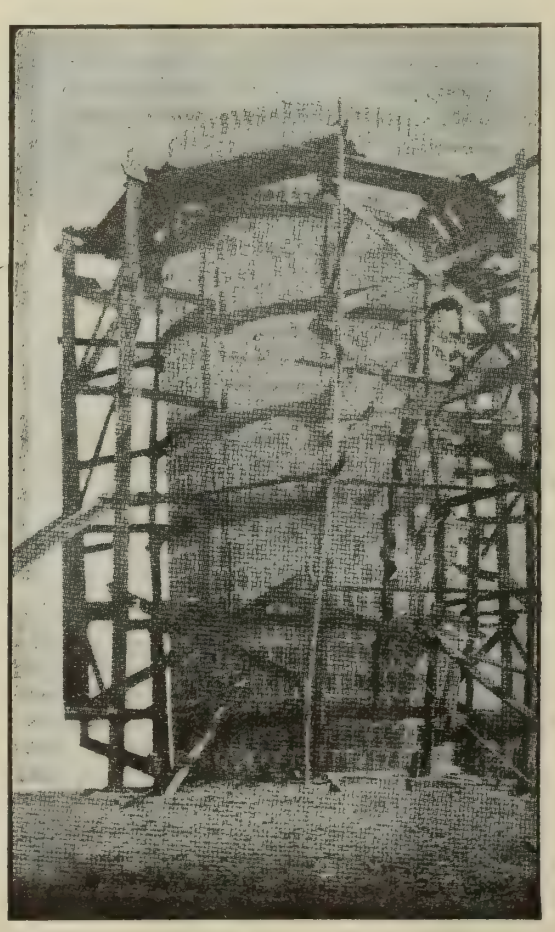
"The Tile Silo of Dr. Trench, Muncie, Indiana"

"Another Tile Silo in Indiana"

Examples of deception in photographic advertising. The footnotes given above are quoted exactly as they appear in the pamphlet. They are both photographs of the same silo.



"Grand Ledge Farmer's Loss is About $475"



"A Tile Silo in Michigan"

Further photographic deception. These are both pictures of the same silo. The building appearing at the left of the first has been whited out in the second to assist in deception, but the whiting shows.

Practices of United States Silo Company

The pamphlet in question came to the editor from persons closely connected with and deeply interested in the United States Silo Company. It became necessary then to ascertain what facts were available with reference to the inception and practices of the United States Silo Company.

This company builds no silos. It is simply a holding company which owns, whatever it may be worth, the right to operate under the Harder Patent in all the territory west of the west line of Pennsylvania in this country. A few years ago three different business interests combined and bought all rights under the Harder Patent for the designated territory.

It would seem at first glance that if these rights had really been worth what was claimed for them the original purchasers having such a good thing, would have kept it to themselves, and would have refused to let anybody else in on the ground floor. This would be what would be expected from persons with a keen, shrewd, commercial sense. Instead of doing this, the opposite course was taken, which necessarily leads to the suspicion that the original purchasers themselves did not regard the Harder Patent as worth as much as was claimed for it, but secured it merely as a means to accomplish ulterior ends.

To Establish Stave Silo Monopoly

The United States Silo Company was organized for the purpose of holding all the rights under the Harder Patent, and all companies engaged in building silos were invited to come into the company. Evidently, the purpose was to gain absolute control of the stave silo business throughout this territory, and establish, if possible, a cast iron stave silo monopoly with all the evils to the silo users that would naturally result from such a monopoly. This paper has a copy of the contract under which such silo manufacturers were requested to become members of the United States Silo Company. Among the conditions imposed upon every company that came into the combination was the payment of $1,500 as a bonus, nominally set forth as consideration for damage and profits

for silos erected prior to 1912, and a further payment of $10 royalty on every silo erected. The condition of the $1,500 bonus was always demanded. In some cases, after urgent solicitation, independent silo companies were requested to become members on the payment of only $1,000 bonus. This fact will be unpleasant reading for the small companies that were compelled to pay $1,500. But the exigencies for creating a monopoly demanded in some cases extra concessions.

To Protect Interests of Silo User.

Of course, everyone will understand that this bonus of $1,500 from each silo manufacturer and this payment of $10 royalty on every silo sold would ultimately, all of it, have to come out of the farmers that purchased the silos. Here was an unnecessary burden imposed upon the silo business, an unnecessary hardship imposed upon each user of the silo. It is the particular business of the Twentieth Century Farmer to promote and to protect the interests of the silo user, and this silo investigation is undertaken with no other end in view.

An Illegal Requirement

Another clause in the contract seems to bind the persons signing it to a violation of law. The clause reads as follows:

The party of the first part (namely, the United States Silo Company) expressly reserves the right to furnish at the expense of the party of the second part, from time to time, schedules (which may include a reasonable minimum selling price applicable to all licensees), license tags, patent markings, and advertisements, for the guidance of the party of the second part (the independent party signing the contract), in its manufacture and sale of silos, which the party of the second part agrees to strictly adhere to, follow and use in its manufacture of silos under this license.

The demand of such a clause as this in a contract is sufficient to condemn the commercial methods of the party that demands it, when considered by fair-minded people.

Another Significant Clause

Another clause in the contract reads as follows:

The party of the second part further agrees that it will not at any time dispute the validity of claim 4 of the Harder Patent, under which it is licensed, nor allege its invalidity as a cause for refusing to make any payments under this contract, and that it will, during the existence of this license co-operate with the party of the first part in establishing so far as possible, the integrity of said Letters Patent, including the fourth claim hereof, particularly in the way of furnishing information from time to time, and in supplying data to enable suppressing the same as far as practicable to do so.

The reading of the wording of this clause seems to indicate that the party of the first part, namely the United States Silo Company, did not itself have full faith in the validity of the patent, and by this clause sought help in keeping up a brave front on this matter before the public.

Had the United States Silo Company been successful in doing what they tried to do, namely, in bringing all silo manufacturers into their organization, they would have had extreme control of the stave silo business in this country, and could have established whatever prices they saw fit. It is fortunate for the users of silos that certain independent manufacturers refused to be coerced in this matter, and so an absolute control of the silo business was not secured. It was necessary then in order to accompish its real purpose, to resort to other means to accomplish the same. What further means were attempted will be set forth in a subsequent issue of this paper.

Additional Reasons to Be Printed Later

The Twentieth Century Farmer does not believe in monopolies of any kind. It is most emphatically opposed to any monopolistic methods operated at the expense of the farmers of this territory. For this, and other reasons which will be made public, this paper is henceforth compelled to decline all advertisements for silos erected on this territory under the Harder Patent. It will not sustain by its advertisement, business that is conducted by deceptive or by strong-arm methods. It is its particular business to promote the welfare of the farmer and to develop as far as possible the silo business as indispensable to the best interests of the farming community. Because in its opinion, the methods employed by this company are inimical to both, it will not assist in putting those methods into practice.

Plano Independent Harvester Company

The Manager and His Board of Directors Forced to Resign and a Reorganization Accomplished

AT LAST the bubble has burst. A career of unparalleled audacity in misrepresentation has closed. A conscienceless scheme for fleecing farmers has been brought to naught. The gravest menace to co-operation in this country has been abolished.

The Plano Independent Harvester company has for a number of years been soliciting stock from farmers on the ground that it was a "farmers' company," conducted in accordance with the principles of co-operation, and was fighting the battles of the farmer against the gigantic harvester trust. Agents have circulated throughout the Missouri valley, selling stock in the company to farmers, and promising dividends. The stock in this company is said to be worth between 50 and 65 cents on the dollar, and these agents have been selling it as high as $125 for $100 worth of stock. A more vicious confidence scheme has rarely been attempted. These purchasers were given "preferred machinery discount" stock, which conveyed to them the privilege simply of buying farm machinery at a slight discount, and gave no other rights whatever. Very few farmers would in a lifetime buy farm machinery enough so that this discount would amount to as much as they paid for the stock. It gave them absolutely no voice in the management of the company.

President Thompson Forced to Resign

A committee representing 16,000 stockholders who had invested about $6,000,000 in stock through deception and misrepresentation forced the president, W. C. Thompson, and the board of directors to resign. Disclosures at Chicago during June, brought about by a government investigation, and through a suit in the federal court brought by 27,000 stockholders, proved that the Independent Harvester company up to that time never was a farmers' company as far as its management is concerned.

The report of the committee asserts that the whole management "organized a stock-selling campaign, and for four years or more have devoted all the time and energy of the officers and a large number of employes of the corporation to selling stock, have expended large sums in advertisements, employed sales agents for stock, and paid commissions as high as 30 per cent for the sales; that stock sales were conducted for the sole purpose of paying salaries, expense accounts, and profits to the individuals in the management; that $3,000,000 worth of stock has been sold during the past two years; that the management diverted the corporation purposes from manufacturing machinery to the sale of stock; that it conspired to continue stock sales, and neglect manufactures; that the mismanagement and fraudulent misrepresentation of dividends so injured the reputation of the company and its products that advertisements were refused by farm and other journals." This was in no sense a farmers' company, except in the sense that the farmers furnished the money that was spent in this way, and that there was no prospect whatever of the farmers who bought the stock ever receiving adequate returns for their investment.

Simply a Scheme for Fleecing Farmers

Thompson, the deposed ex-president, admits, over his own signature, that the company as managed by him was not co-operative. It was simply a great scheme for shearing farmer lambs, and a good many of them were sheared. In one county in Nebraska last year more than $30,000 was taken from the farmers by this scheme. Some of them went in debt in order to purchase the stock which was represented to them as very vauable, and sure to return large dividends on the investment. Some of these stock subscribers were in no condition to lose the money so subscribed, and its loss will seriously embarrass them. It is too bad that the men who thus defrauded farmers of their money cannot be made to refund it.

A new management has been effected: a new president has been elected, and a new board of directors. At this writing it is impossible to say whether the company can be reorganized on a basis to do profitable business. It is exceedingly doubtful whether a large majority of purchasers of the company's stock wil ever receive any adequate return for their money. It is gratifying to know, however, that an end has been put to this method of robbery, and from now on the farmers will be protected against this specific form of fraudulent misrepresentation.

This experience should furnish ample warning to all farmers to make full investigation of every project to which they are asked to subscribe. A smooth salesman's conscienceless statements should never be taken at their face value. The farmers must protect themselves, and the only way in which they can do this is to investigate the claim of all organizations seeking their money. Some good, sensible business farmers say that they do not want to put their money where it will be managed by other people. It is a good plan for people who are not familiar with the methods of the commercial world to control and handle their own money.

Many Honest Men Deceived

Many people in the Missouri valley have been firm believers in the rectitude and honesty of the business methods of the old management. They meant well. They endorsed the scheme because it claimed to be a farmers' company and co-operative in its methods. They had no means of learning otherwise. They acted according to the best motives, but were cruelly and bitterly deceived. The public will gladly acquit such of any wrong-doing in the premises. There are, however, others who had ample time and opportunity also to know the real condition of affairs at Plano. They have been on the ground at Plano over and over again. It will be necessary for them to clear their skirts of complicity or they cannot hope to command the confidence and respect of the middle west.

That such methods should succeed in this territory is almost beyond belief. It is a reflection upon the intelligence of the great body of our farmers. It should prove a lesson which, when learned, will prevent farmers from permitting themselves to be used as easy marks. No punishment is too severe for men engaged in this work, or for those who knowingly have contributed to such despicable ends.

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

Don't forget the big, good roads meeting in Detroit the last week in September.

The Ohio State University has added 132 acres to its possessions, and these will be used in connection with their farm operations.

They are using parasites to combat destructive insects. Does anybody know an effective parasite that will rid us of conversational bores?

How much butter do you suppose was produced in this country during 1909? Only 1,619,415,263 pounds. That would make a good many buckwheat cakes ready for the syrup.

They are going to be short of straw this fall and winter up in South Dakota. Eastern Nebraska might help to supply the demand did she not need all her roughage not merely for feed but for converting it into fertilizer.

It would be well to combine the pleasures of a Chautauqua outing with the practical benefits to be derived from the study of farm machinery by a full week's attendance at the Farm Power Demonstration in Fremont the second week in September

Now that the hot, dry weather has cut pasturage short, the milch cows should receive every night and morning a ration of alfalfa hay. The alfalfa crop has been a big one so that there is plenty of hay for this mid-summer use. It will pay for itself many times over when used in this way. See that they have plenty of clean, cold water as well.

Every Farmer Needs a Barometer

The one thing that the farmer needs in order to help him make his work efficient is to be able to plan the work several days in advance. Nothing so interrupts progress on the farm, or scatters and dissipates energy so much as to be interrupted by a storm in the midst of the work that shoud be accomplished without intermission. The farmer that with reasonable certainty can foretell what the weather is going to be for a day or two in advance is in a position to take advantage of it in planning his work. This foreknowledge of weather conditions is especially desirable in such matters as harvesting alfalfa hay, caring for the general harvest and at threshing time. The barometer enables him with reasonable certainty to make a reasonably accurate forecast of weather conditions for a day or two in advance. The falling barometer indicates an approaching storm area. This storm area may be accompanied by wind alone, as is sometimes the case, or it may be accompanied by precipitation, as is generally the case, especially when the storm center develops in the extreme southwest. By watching the barometer carefully a farmer may notice as soon as it begins to fall, may infer from the falling barometer an approaching storm, and may make all his calculations in such a way as not to be disarranged when the storm finally arrives.

Of course, a murcurial barometer is the most accurate. It is also the most expensive. A good one costs from $40 to $60; but an aneroid barometer, accurate enough for all practical purposes, may be had for from $5 to $7. The farmer that plans his work carefully in advance cannot afford to be without one at this price.

Nebraska Co-operation

There is a real co-operative elevator company in Nebraska, and it has of late put itself squarely upon co-operative principles which will be applied to all its activities. The Farmers' Grain company of Miller, Neb., was organized in 1905. Within eight years it has started and operates five other elevators, one each at Pleasanton and Poole, in Buffalo county; at Elyria, in Valley county, and at Rosalie and Thurston, in Thurston county. They have adopted principles of dividing, after a certain sum has been set aside to pay interest on the investment, the entire net proceeds among the patrons of these elevators, according to the amount of business done by each patron. Non-members, however, receive only one-half the dividends paid to members. This one-half of the dividends is not paid in cash, but is carried to the credit of the non-member patrons until it amounts to enough to purchase a share of stock. This stock is then issued and from that time on the owner of it becomes a member and receives his full share in the division of the profits. This yearly half dividend amounted in an individual case to as much as $18.75. At this rate, it will not be long before such an individual becomes a member. This is strict co-operation, and it is a pleasure to this paper to note that such a successful co-operative company is able to make such a showing in Nebraska. The grain of this company is marketed through C. Vincent of Omaha of the grain firm of Beal & Vincent.

"Will Farm the Deserts"

This is the announcement that comes from the arid lands of the southwest, with no other basis of argument or assurance of success than the pumping system of irrigation from the well supply of water on these desert plains. Dry land farming is not now extensively advocated for this class of lands as an inducement to attract the settler, but the fact that there is claimed to be an under supply of water which can be had by boring, and the establishing of wells, where the water may be lifted by gasoline engine power to the surface, and then distributed by means of irrigation ditches to the lands in crop, is pointed out as an inducement to locate. This proposition is not a new one to the homeseeker in the dry land districts of some of the western states. It is one, however, that must be carefully figured out as to the matter of supply, and measured with some consideration of the needs of water for crop growth.

It is reasonably certain that this means of water supply for crop growing will prove a disappointment, because of its inefficiency to supply water in quantity to satisfy the demand. Pumping plants have successfully furnished water for small tracts, a few acres of garden, truck patch or orchard, but for the farm crop demand the homeseeker should be convinced by actual demonstration before he locates on an arid claim. Such improvements are expensive and seldom exceed in capacity of water supply that demanded for stock watering purposes.

The acquiring of a homestead on the dry, desert lands of the west and southwest is no longer an agricultural proposition, unless it is accompanied by irrigation privileges and accommodations, or the homesteader is fixed financially so as to provide these necessities. The dry land country demands moisture; moisture is a necessity in order to employ its acres successfully in cultivated crops.

Five or ten acres of land in most any good farming district, when properly cultivated, may be made to provide a comfortable living for a family, and to furnish the surroundings of social and educational life also. These are serious matters for consideration with all persons who have in view the locating of a home, the acquiring of a tract of land, large or small, in view of making it the source of livelihood for a family.

Test your cows for tuberculosis. This disease is the greatest menace not only to the dairy industry but to human and animal health as well. Humans may not contract bovine tuberculosis, but it is beyond dispute that in some cases they have actually so contracted it. No one can afford to take any chances with the great white plague.

What is worse than to find a worm in one of these early apples while you are eating it? The answer is too easy: Half a worm is worse than a whole one.

Cause of High Prices

There are many theories advanced to explain the cause of high prices in the various lines of commercial industry. The cost of living, around which centers the interest of all humanity, is the one great feature that particularly enlists the attention of the common people. Why there should exist a great scarcity of any one or more articles of human food classed among the necessities of life should be easily and satisfactorily explained when all the circumstances bringing about such a condition are understood.

There is at present a shortage of meat-producing animals; therefore the steady demand by the consumer has encouraged speculation among the dealers and traders in this line of products, all along down the line from the breeder and grower of the animals to the retail merchant who turns it into the hands of the consumer.

There also exists at this time a very remarkable condition of feed supply that is helping to influence prices of cattle and sheep beyond the usual normal condition that would prevail under seasons of short crops or average crops. From Texas, Arizona, New Mexico and large areas of grazing country in other states west of the Missouri, come reports of the demand for cattle for breeding and grazing purposes, and with these reports comes the story of great grass and feed supply far beyond the consumption of the live stock of these districts of country.

Reports say it has been raining all season in large areas of the southwestern range cattle territory. Imagine the condition in a large area where for several years the drouth-stricken conditions had the effect of taking most of the cattle out of the country. Now, with feed in abundance, everybody wants cattle—a peculiar situation. Cows and calves are commanding prices away above the market. This situation is, of course, more acute in some districts than in others, but the same feeling prevails all over the country, and is the strongest direct factor influencing in the high prices of meats.

It cannot be remedied at once, as there are no reasonable means of getting cattle into the country to supply this demand. There will no doubt be large numbers of Mexican cattle brought in from the south, but these will be used more for grazing and beef purposes, and will soon be hurried on to the slaughter. The real solution of the cattle shortage will be brought about by the united efforts of the cattle breeders on our own farms and ranges.

Our resources are abundantly ample to take care of this proposition, and as soon as the efforts of cattle producers become properly lined up in the work of supply, there will be found no occasion for compulsory legislation in defense of the legitimate breeding industry that has guided our American farmers and stockmen in the cattle development and improvement of this particular branch of our live stock industry.

Almond production in California this year according to the California Almond Growers' exchange, will be about 1,750 tons, or something over half a normal crop.

Government on Wholesome Milk

The Twentieth Century Farmer has insisted over and over again that the bacterial count is in no sense a proper test for the wholesomeness of milk; that it is not the number of bacteria, but the kind of bacteria that makes milk unwholesome. It is pleasing to note that the dairy division of the United States Department of Agriculture looks at the matter in the same way. It is to be hoped that the time is not far distant when the boards of health of the various cities will have a lucid interval sufficiently prolonged to permit them to make milk regulations in accordance with the scientific truth concerning milk. In a bulletin just published, the Department of Agriculture says:

It is erroneously suppossed that the Department of Agriculture has established absolute standards and bacterial counts to which all milk coming under its jurisdiction in interstate commerce must comply. The department has established no absolute standards. It certainly has not and will not establish any rule declaring that milk containing less than a certain number of bacteria per cubic centimeter is good milk. Under such a standard, milk containing less than a certain number of typhoid or tubercle bacilli would automatically be passed as coming up to standard. A simple count of the bacteria is not in itself sufficient to determine absolutely its safety. The nature of the bacteria, as well as their number, also must, if possible, be considered. The presence of only a few disease-producing bacteria might make the milk dangerous, while several thousand harmless bacteria could be present without necessarily indicating that the milk was unsafe. The presence of even a few colon bacilli is presumptive evidence that cow manure has been allowed to get into the milk between the cow and the consumer. Similarly, a high count of the kinds of bacteria that normally are present in milk indicates that the milk is dirty, or that it has not been held at low temperature, or that it is old.

Inviting Hog Cholera

The best way in which a farmer can invite hog cholera to his farm, aside from actually transporting the infection to it, is to make his hogs especially susceptible to it. The probability is that every living animal is daily exposed to infection of some kind or another which it has vitality and vigor enough to resist and throw off.

Anything that reduces the vitality and vigor of an animal lessens its resisting power and renders it susceptible to disease.

The farmers, by the way in which they feed their hogs, especially the young shoats, lower their vitality and increase their susceptibility to infection. This result comes especially from feeding the young shoats too much corn.

Corn is hard to digest, and when fed in large quantities requires the ripened powers of a matured digestive tract. No one would think of feeding beefsteak to a baby. It should be fed milk and other materials easily digested until such time as it matures its digestive powers. The same law holds good with reference to pigs. Until their digestive powers have become matured, they should be fed food that will be easily digested. Corn in large quantities is not an easily digested food for immature powers of digestion When too much corn is fed to young hogs, more or less indigestion is the result. The digestive tract is thrown into an acid, fermented condition, which lowers the vitality of the animal. Such an acid, fermented condition of the digestive tract affords the only condition under which intestinal parasites can multiply in such numbers as to impair vitality. Intestinal parasites reduce resisting power.

Here, then, are two causes for the loss of vitality and resisting power in shoats that are fed too much corn—indigestion and intestinal parasites. When a hog exhibits both of these causes at once, it will not be able to resist infection, but is in the finest condition posssible to invite it. The farmer can avoid this condition by proper feeding.

Even if hogs that have been properly fed should take the infection, their greater vitality and resisting power would insure a greater chance for them to survive the disease.

Fine Pair of Shire 3-Year-Olds Belonging to Harley Meese of Ericson, Neb.

Approving Words

This paper took a positive stand not long since, in an article entitled "How State Agricultural Colleges Grow," with reference to the possibilities of development in Nebraska. It is glad to note that what it had to say has met with approval from leading men both in Nebraska and in other states. One of the most prominent men in Wisconsin, a man deeply interested in agricultural education, writes:

I have read with much interest the leading article in your issue of June 7, "How State Agricultural Colleges Grow." I understand the purpose of the article perfectly, and wish you success. The purpose for which your article was written will, I hope, bear fruit. I sincerely hope that Nebraska will very soon measure up to her opportunities.

This is the way a great many prominent and infuential men regard the situation in Nebraska.

It is not improbable that if the Fremont exhibition of farm power meets with popular approval, another similar exhibition will be put on in some other part of the state, in the near future, where soil conditions and topography will be entirely different, so that engines may be given an opportunity to demonstrate their adaptability to widely different conditions.

South African creameries produce 8,000,000 pounds of butter yearly.

Scientific Poultry Schools

That Missouri is recognized as one of the greatest farm poultry states commercially, as shown by its shipping reports published by its agricultural college and experiment station, where the poultry business is being handled scientifically and practically, is undoubtedly due to a state-wide system of poultry instructions.

Missouri is organized most effectively to carry on its poultry interests through its state poultry board and its state poultry association. These organized forces co-operate with town, township and county organizations in the holding of poultry institutes, poultry picnics and poultry displays in various parts of the state. The spirit of the whole proposition is to increase the poultry interest in town and on the farm.

It is a well known fact that the great bulk of the poultry business is carried on in the country. Here ideal conditions are found for raising poultry and producing eggs at a minimum cost. It is practically as easy to keep a flock of fowls on the farm as to be without them. Of course, someone about the home must, or should, assume the oversight and management of the poultry in order to make them highly profitable.

It is a fact that there is not the proper consideration paid to poultry on most farms. It is an easy matter to control poultry if you have an acre or two of ground set aside for their use, where they may be provided with the needed fixtures and appliances to keep them healthy and also from being a nuisance about crops or other departments of the farm. The free run of the farm may be given the poultry, with the exception of a very limited period of the entire year. Thus they serve their best purpose in gathering up waste grain and destroying insects, all of which proves a source of revenue to the f[illegible].

Every state should adopt some system of development for its farm poultry industry. It is ignorance of what to do and how to do it that is holding the farmers of many states back in the matter of poultry profits. Each school district should arouse an interest for more and better poultry among its property owners. Poultry shows, egg-laying contests, etc., should be introduced.

Advantages of a Good Market

The advantage of a good market in the sale of the produce of the farm or ranch is a matter of great money importance, and merits the careful consideration of all land investors and real estate dealers. There are certain qualifications of location and relative position to trade centers that influence values of lands and farm properties. These are fixed principles in the common transactions of purchase and sale, and must be recognized. It is not possible that all neighborhoods, localities or districts should enjoy the same market advantages for the produce they grow. It is possible, however, for the land buyer or homeseeker to carefully weigh this feature in making his purchase, and give a just consideration of the advantage or disadvantage of market privileges.

It is true that the railroad and other means of transportation, where these advantages are accessible, have shortened the distance to market, and deserve a credit commensurate with the advantage they have extended. The local market for the ordinary produce of the farm, grains, fruits, vegetables, etc., is a feature that grows into existence as the demands require in all thickly populated agricultural districts.

The marketing of live stock is a feature of commercial trade that deserves special consideration, since it is controlled mainly through the influence and operation of large market centers that attract buyers and sellers.

We have in the South Omaha live stock market an illustration of the influence and the value that such a market has to the live stock interests, not only of a state but a community of states, comprising a vast area of country engaged in the breeding, raising and feeding of meat-producing animals. South Omaha exerts a well merited influence in the market destination of hundreds of thousands of cattle, sheep and hogs each year, and by the energy of its work and its central location as a tributary point to the cattle-feeding districts has become one of the greatest feeder and general live stock markets on the continent.

There is soon to commence a season of great shifting and change of ownership of hundreds of thousands of cattle now feeding on the pastures of farm and range. These cattle must come forward to the market centers for distribution; some will go to the yards of the slaughterer, while others will go to the feed yards of the corn belt farmer, to be finished into a higher grade of beef. Thus it is observed that the value of the market in its relation to farms, communities and districts has much to do with the producer in his marketing of the surplus grown or produced on the land.

There will be some racing at the Panama Pacific International Exposition. Four stakes worth $20,000 each are hung up for trotters and pacers. Such stakes will bring out the best horses and their performances will be worth witnessing.

California reports an unusually large walnut crop this year.

The Selling End of Farming Operations

(CONTINUED FROM PAGE FIVE.)

nant woman. "Why, I wouldn't take 50 for 'em."

For several days she pondered on the injustice of a system which deprived a farmer of the privilege of pricing his own produce; then she evolved a scheme to beat the system. She lived in the second zone—parcel post measure—from a city of 100,000 inhabitants. So she prepared the following advertisement, to be run twice a week, at a cost of 1 cent per word each insertion, in a leading daily of that city:

Fine fat hens, carefully dressed, and delivered to you by parcel post, 75 cents each. Satisfaction guaranteed. References furnished.

Properly Prepared for Market

Inquiries and orders began to come in at once, and she was kept pretty busy preparing the fowls for market. Each bird was dry picked, drawn, the head and feet removed to reduce the weight to a minimum, and hung away to drip and cool thoroughly before being prepared for shipment. Just before the carrier was due each carcass was carefully wrapped in waxed paper and placed in a stout canvas bag of her own design and manufacture, which she found more satisfactory and lighter in weight than the more expensive cardboard cartons manufactured expressly for the purpose.

By watching closely all the details, she managed to give satisfaction to every customer and hold their good will and trade. But perhaps even more important than her success from a monetary standpoint was the mental stimulus and broadened outlook which she received from her experiment. The writing of numerous letters and the mental alertness required to blaze out a new trail and place her wares before the consumer in the most attractive manner she could devise, was the best possible antidote for farm stagnation.

Selling as Important as Growing

A west Texas farmer, growing tired of the interminable western pastime of watching a brassy sky for signs of rain, traded his broad acres for a small Elberta orchard in the eastern part of the state. Coming from a fruitless region, the long rows of big, thrifty trees filled his heart with delight and the future with bright promises. But pretty soon a cloud which he had not looked for and did not want to see appeared on the horizon. It seemed that the trees were fully prepared to fulfill their rich promise of an abundant harvest. "But," asked the wise natives, "how are you going to sell 'em?"

Then they told him stories of trainload shipments that had brought the growers nothing—not even enough to pay for the baskets and crates in which the fruit was packed, much less the enormous expense of growing and harvesting. They told him of thousands of carloads which had sold for 30 cents a bushel—just enough to pay harvesting expenses and a small profit over, counting the fruit itself as worth nothing. They told him of other thousands of carloads which had rotted in the orchard, of hundreds of acres of thrifty trees that were being grubbed up to make way for cotton.

He had entered the new country filled with the idea that his big problem was one of production; he now realized that it was one of marketing.

Hits on a Selling Plan

When he had studied the case from this new angle for several months he made a trip to his former home and called on the real estate man who had engineered his land trade for him.

"See here, Jim," he said to the agent, whom he knew was a hustler that never allowed a possible dollar to escape, "I am going to have several cars of fine peaches to market this season. Why can't I ship them to you and let you sell them out by the bushel box at a reasonable price and astonish this old town, which doesn't know what a real peach is like?"

"What's your proposition?" asked the cautious Jim.

"I will let you have the peaches for a dollar a bushel crate, f. o. b. my station,'" he replied. "The freight will cost you 25 cents, which will allow you to sell them at $1.50 and make a good profit. More than that, I will wait for the money until the fruit is sold. You won't have to put in a cent of capital."

"How many bushels in a car?" asked the interested Jim.

"About 500."

"H'm. That's $125 for me—not enough to bother with a carload of peaches for."

"Why, man alive!" exclaimed the astonished orchardist, who was getting his first glimpse of the profit a middleman expects for merely handling the farmers' produce; "that's one-fourth as much as I get out of it, and I put in a whole year's work, my initial investment and considerable cash outlay for picking, packing, crates and hauling."

"Can't help that," replied Jim, good-naturedly. "You farmers are used to getting the short end of the pole, anyway. Why, my dear sir; I make $500 and $1,000 on single deals, and my income runs up pretty close to $10,000 a year. My time is worth money. Do you think I could afford to spend the better part of a week peddling a car of peaches for $125?"

"Well, then, I'll come over and sell 'em myself," gasped the grower, as he made for the door.

"Come back, man!" called Jim, who had only meant to drive a close bargain and had no idea of letting some easy money get away from him. "Maybe I can handle your peaches, but, of course, I would have to charge more than $1.50 for them."

"No siree!" exclaimed the grower.

"Why not?"

"That would cut down consumption. See here Jim, I've got it all figured out, and if we keep the price to the consumer down low enough, this fruit will sell like hot cakes, but if we don't, somebody is going to get stuck with a lot of perishable peaches on their hands; and, since I am going to wait until the fruit is sold to get my money, that somebody would be me."

"All right, then," said Jim, 'I'll handle 'em at your price."

When harvesting time rolled around the scheme worked out without a hitch. Just before the arrival of the first car the wily Jim, who knew something about the value of advertising, plastered the town with a batch of attractive handbills that brought the people flocking when the car arrived. The car, chuck full of luscious fruit, was a magnet hard to resist, and one citizen in describing the delicious aroma which floated from the icy interior of the car when the door was opened said: "It's the sweetest thing I've smelled since last watermelon time!" After that the arrival of a car needed no advertisng, and the town feasted on peaches, raw, pied, preserved and canned, for many weeks.

Express Rates Cut Profits

But it is not aways necessary to investigate some far-away market in order to display money-getting originality in the disposal of farm crops. A South Carolina "back-to-the-lander" who was trying to work his way to prosperity by raising truck on his little "farm," and shipping it by express to the northern markets, found that the excessively high express rates were consuming all his profits. He was not in a position to raise truck enough to justify carlot shipments, and his neighbors were so wedded to cotton that there was little hope of ever working up enough trucking enthusiasm to organize a local association. The cotton-raising proclivities of his neighbors finally led to his own success, however, for it left the local market bare of choice truck, and he commenced to investigate the possibility of marketing his produce nearer home.

Before definitely deciding to turn his energies toward supplying the home market, however, he carefully reviewed his former experiences as a buyer of truck in order to get a leader on the weak points to be eliminated in his own selling campaign.

In relating the story of this experience, he said: "The three things which impressed me as constituting the chief weaknesses of a farmer's selling methods were lack of regularity, lack of convenience and lack of quality. To illustrate: A farmer would come to our house with some choice butter, but when asked if we could depend on getting the same butter regularly once or twice a week, he would be uncertain; didn't come to town every week, or didn't always bring butter when he came. After several such experiences, we bought our butter from a grocery, which handled a creamery product of uniform quality that could be had whenever we wanted it.

"Then as for lack of convenience, I would buy a peck of potatoes from a farmer and he would ask if I had anything to put them in. Very naturally I didn't, and this necessitated a trip to the house for a receptacle. Then I would hand him a half dollar and he wouldn't have the change. Such experiences are annoying and people just naturally get in the habit of buying from the stores, where the price is higher, but the service perfect.

"Then, too, you would be surprised at the poor quality of produce offered to the public by some farmers," he continued. "I have had farmers offer me produce of originally poor quality, absolutely ungraded and carelessly handled, and yet they expected a fair price for it.

"But I resolved that none of these things should stand between me and the working up of a successful retail route for my produce. To tell the truth, I was simply bound to succeed, for my financial affairs were getting right down to rock bottom, so you may well believe I put some gray matter into my selling operations. After carefully grading my produce, it was thoroughly washed and tied into uniform bundles; or, in case it was to be sold by measure, I arranged everything in a manner that would permit of quick service when waiting on a customer. I carried a full supply of well assorted bags and plenty of change. Then, in order that customers might feel sure of getting a regular supply, I took pains to see that my plantings were so arranged as to insure the longest possible run of everything I produced, and I al-

(CONTINUED ON PAGE EIGHTEEN.)

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
California	Sacramento	Sept. 13-20	J. L. McCarthy
Colorado	Pueblo	Sept. 15-20	A. L. Price
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Iowa	Des Moines	Aug. 20-28	A. R. Corey
Kansas	Topeka	Sept. 8-13	H. L. Cook
Kansas	Hutchinson	Sept. 13-20	A. L. Sponsler
Minnesota	Hamline	Sept. 1-6	J. C. Simpson
Missouri	Sedalia	Sept. 26-Oct. 3	John T. Stinson
Nebraska	Lincoln	Sept. 1-5	W. R. Mellor
Oklahoma	Oklahoma City	Sept. 23-Oct. 4	I. S. Mahan
South Dakota	Huron	Oct. 6-12	C. N. McIlvaine
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin

Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
Colorado Interstate	Denver	Sept. 2-16	Irving W. Eaton
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Interstate	Sioux City	Sept. 15-20	Joe Morton
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Suppose

Suppose the little cowslip
  Should hang its golden cup,
And say, "I'm such a tiny flower,
  I'd better not grow up;"
How many a weary traveler
  Would miss its fragrant smell,
And many a little child would grieve
  To lose it from the dell.

Suppose the little breezes,
  Upon a summer's day,
Should think themselves too small
  To cool the traveler on his way;
Who would not miss the smallest
  And softest ones that blow,
And think they made a great mistake
  If they were talking so?

Suppose the little dewdrop
  Upon the grass should say,
"What can a little dewdrop do?
  I'd better roll away."
The blade on which it rested,
  Before the day was done,
Without a drop to moisten it,
  Would wither in the sun.

How many deeds of kindness
  A little child can do,
Although it has but little strength
  And little wisdom, too!
It wants a loving spirit,
  Much more than strength, to prove
How many things a child may do
  For others by its love.

The Editor's Corner

Last year at the Oregon state fair $3,500 in prizes was given to the school children of the state. This is not unusual, as many of the other states give prizes to the children, but the way in which the prizes were won was very unusual. A little 7-year-old girl won $30 on vegetables and a trained colt, while the prize for the best cake went to a 12-year-old boy. This is turning things around a good deal, when the girls do the gardening and training of animals and the boys do the cooking. But many mothers would tell you that it is not such a bad idea after all. It does not hurt a boy to learn to cook and do other kinds of housework, and he can learn just as quickly and well as his sister. We once knew a family in which there were four boys and a girl, and the boys all helped with the housework until they got large enough to be more useful outside. It did not interfere with their growing up into good, manly men, either, and it made it possible for the mother to have some good times. It is pretty hard on a mother to have a large family of boys and no daughters, unless the boys are willing to help a little with the work. We should certainly like to meet the boy who won the cake.

THE EDITOR.

(Prize Story)

The Tenement Children

By Ytole Norris, Aged 15, Belleville, Kan.

"Mother," said Mr. Gordon, tapping the paper he had been reading, "I read in most all the papers of the terrible heat in the cities during the months of July and August. The children of the lower class die in filth and poverty. The Humane Aid society is sending some of the children out in the country to stay for four or six weeks. Couldn't we take two or three? We have no small children and we can afford to do this much for humanity."

Mrs. Gordon smiled. "I have been thinking of it myself dear," she said, 'but fearing you would not approve, I have kept silent. Now, since you have nothing to do, why not go to the city tomorrow? I love children and would like to have two, or even three would be welcome."

So Mr. Gordon, in his Sunday clothes and carrying a carpet bag, was seen on the station platform the next morning in time to catch the 8:30 train.

All day long Mrs. Gordon in the kitchen heaped the overflowing pantry with goodies. The house was in perfect order. She had brought down all the old playthings from the attic, and everything was now ready. She watched from the window for the return of her husband and the children.

At last the sound of wheels was heard, and Mr. Gordon was at the door. His wife was there before him, with a cheery smile as a welcome.

"I have brought you two little city bugs," said Mr. Gordon, laughing, as he handed a little golden-haired girl out of the buggy. The boy, who looked around him with eyes full of wonder, was perhaps 12 years old. The little girl, his sister, was 5. They were stunted in mind and body, but everyone knows the life of a tenement child.

The girl answered to the name of Ruthie. When the boy was asked his name he said, simply, "Roy."

"Roy what?" asked Mrs Gordon.

He shook his curls. "Never had any odder name," he said.

The children were duly instructed in all the wonders of the farm. Each day they twined their puny little lives around the hearts of the old couple.

At the end of the last sultry day in August Roy tramped to the house after Mr. Gordon to put the milk away.

"Mr. Gordon," he said, "when do we have to go home?"

Mr. Gordon's eyes were looking toward the house, where his old wife was nestling a golden-haired baby to her heart. He patted the boy's curls lovingly and said huskily, "Never, my little lad; never."

Picture Contest No. 4

This is the picture about which you are to write a verse of four lines. Each of the two children writing the best verses will receive a book as a prize. Write plainly, giving your name, age and address. Neatness, spelling, punctuation and the age of the writer will be taken into consideration in awarding the prizes, as well as the quality of the verse. All verses must be addressed to Picture Contest Editor, Twentieth Century Farmer, and must reach this office not later than August 16. The prizes will be announced in our issue of August 23.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the title of the story.

Write with ink, on one side of paper ony.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

(Honorable Mention)

A Day at Long Beach

By Kathryn Haughn, Aged 14, Scribner, Neb.

A woman and her daughter from Nebraska were spending the winter among friends and relatives in California, the land of orange blossoms. It was Thanksgiving, and their friends had planned a picnic to Long Beach. The older folks went in separate cars, while the young folks went in one big auto truck.

When they came in sight of Long Beach everyone was on the lookout for the ocean. It was the first time the easterners had ever seen the ocean and the westerners wanted to see what they would do. The daughter could hardly wait until afternoon, when she could go bathing in the big mass of blue. And when she did get in, what joy! When the first chill caused by contact with the cold water had passed, everyone had a good time.

They started for home at about 4 o'clock, as it was twenty-five miles from Long Beach to Anaheim, where they were staying. They sang and told stories all the way home, and parted at the corner, tired but happy.

A Prairie Dog Colony

A prairie dog settlement in Colorado is estimated to contain 500,000,000 inhabitants. Were the snakes, owls, rabbits, lizards and horned toads which live with the dogs to be counted in, the population of the place would reach the billion mark.

The figures are not strictly accurate, for the government has never counted these dogs in the census; but anyone who has seen such a city knows there are over 100 dogs to the acre, and this city is 140 miles long by fifty wide, containing 4,480,000 acres.

They dig deep burrows with so many chambers that the railroad which is being put through their city will have to destroy a large number of dogs and their homes in order to avoid accidents from caving in of tracks.

This city was founded centuries ago. It has been known to be about its present size for fifty years. Families grow rapidly and the young ones stay at home till there is not room enough for all, and some are pushed out to dig homes for themselves.

They live on four kinds of food—cactus, roots of wire-grass, tender green shoots of sagebrush and greasewood. These are the only specimens of plant life found in the western deserts where prairie dogs are native. In spite of the sameness of their fare, they manage to keep sleek and fat on food, which a ground squirrel would consider starvation diet.

Alphabet of Short Rules

Attend to your business.
Be punctual.
Consider well before you promise.
Dare to do right.
Envy no one.
Faithfully perform every duty.
Go always in the right path.
Have respect for yourself.
I shall do right.
Justice is a virtue; possess it.
Know yourself.
Lie not.
Make new acquaintances carefully.
Never preach what you will not practice.
Occupy your time usefully.
Postpone nothing that can be done now.
Quarrel never.
Recompense everyone for labor.
Save your pennies and your dollars will accumulate.
Treat others as you would be treated.
Use moderation in all things.
Venerate honesty and despise crooked ways.
Watchfully guard against selfishness.
Examine your conduct and improve it.
Yield not to temptation.
Zealously pursue the right path.
& never be discouraged, but try again, and success will be yours.

A. L. BOAT

Additional Stories

Ella Woods, Alliance, Neb.; Elinor Browning, Woodbine, Ia.; Ruth M. Bates, Palmer, Neb.; Opsie Davenport, Carlsbad, N. M.; Ruth Gladys Brown, Wymore, Neb.; Barry Cannon Hamilton, Box Orange St. Guernsey, Cannon City, Colo.; Hazel Eggerton, Fairfield, Neb.; Curtis Manley, Lyons, Neb.; Imogene Cooley, Beaver X Ms. Edda May Snyder, Provo, Utah; Bertha M. Roth, Ord, Neb.; Ida Rose Nichols, Cotton, Ga.; Lorene Mitchell, Wood Lake, Neb.

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Always ready for use. Placed inside the crib in the dry. Easy running, durable and strong. Elevates oats, wheat, or ear-corn, 50 bushels in three minutes.

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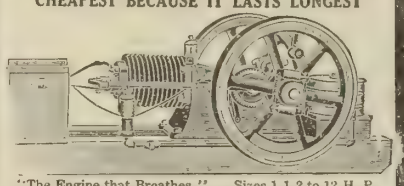

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None genuine without our trade mark.

Dawes County Alfalfa Seed Growers Ass'n
CHADRON, NEB.

Kalamazoo
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Different and superior. Operate with less power, do more work at less cost. Only silo filler carrying the famous center-shear cut, and many other exclusive features. Catalog explains completely this wonderful feature and our extra-capacity, power-saving line. Send for it. Address Dept. 68

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GOOD POULTRY, A quarterly magazine, published and edited by us. Tells how to mate, breed, feed and care for poultry the best way. Most complete record system. Provides for three months' work with poultry in each issue, along practical, sensible business lines. Quotes prices on eggs from five leading white breeds also incubators and brooders of the best kind. Make big money on poultry by doing it our way. If new in the business, be sure that you start right. We can help you. Deals with special crops and intensive farming, fruit growing, gardening, all supporting poultry—10c a copy; 25c a year. Write tonight.

Shorewood Farms Co., Saugatuck, Mich.

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers or 6 sent prepaid for $1.

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Running Water
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Send Postal for New Water Supply Plan ... Do it Now

Aermotor Co., 1144 S. Campbell Av., Chicago
Aermotor Co., 2d and Madison Streets, Oakland, Cal.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention The Twentieth Century Farmer when writing advertisers.

Of Interest to Our Women Readers

How One Got In

St. Peter settin' at de gate;
Nigger passin' by—
St. Peter up an' sez ter him:
"How did you come ter die?"

"Go ax de man whut helt de gun
A-pintin' at dat roos';
Go ax de dog whut helt my foot
An' wouldn't turn hit loose!"

"An' so," St. Peter sez to him,
"You wuz katch in de ac'?"
Dat nigger turnt an' looked at him
An' 'spon's: "Hit is a fac'!"

"Down in de pit, den, you mus' go
Fer stealin' uv dat hen!"
Dat nigger scratch his haid right hard—
St. Peter had him den!

But 'dreckly liftin' up his arms,
He flop 'em on his side,
An' 'sactly like a rooster crow
Three times out loud he cried!

St. Peter hung his haid in shame—
He 'membered uv his sin—
An' grabbin' up a great big key,
He let dat nigger in!

—New Orleans Picayune.

Our Home Chat

This is the month in which the state fairs begin, and no doubt a great many of us are expecting to attend. Those who have gone before have learned from experience about what to wear, but we have noticed so many people in attendance in past years who were unsuitably dressed that we want to say a word to those who do not realize just what the conditions are. In the first place, the weather is more than likely to be hot. It is well to have a cool dress, but one which will not muss up and show soil too plainly, because there are more ways to get a dress soiled at a crowded fair than in almost any other place.

A white muslin dress while cool and fresh to begin with, usually looks draggled and untidy before the day has half gone. A linen is likely to get creased and mussed from sitting in hot places. A thin wool skirt of a soft tan or gray, or a dress in an indefinite shade of ratine or some other loosely woven cotton goods in vogue this summer, are about the best things one can wear. A separate waist and skirt are good because one can then take two or three waists, depending on the length of the stay, but for a day or two a ratine dress is about the best thing, as it does not muss nor soil badly.

Don't wear your best hat either. A simple tailored hat or a wide panama, trimmed simply with a velvet ribbon, look best and will suffer least from an unexpected rain. These rains are what one must always be prepared for and thought of. Also it is well to take a light wrap, in case of a sudden change in the weather. Don't wear your white shoes, as they will look disreputable after a few hours on the grounds. Don't take too many clothes, as the trains are crowded, and the more burdens you have the more uncomfortable you will be.

If you expect to stay over night, engage your room well in advance if possible. At any rate, be sure you have it engaged before you go out to the fair grounds. If the hotels are full, one can usually get a good room in a private house by applying to the Commercial Club, and in this way you can be sure of having only a reasonable price to pay.

The Twentieth Century Farmer will have headquarters at the Iowa and Nebraska state fairs, and the household editor will be there for a few days and will be glad to meet the readers of this department. Hunt up our headquarters and stop in for a rest and a visit.

THE EDITOR.

Recollections

Dear Editor and Sisters: I have always felt so glad that I was fortunate enough to have been born and brought up on a farm, where the hum of bees, the bleating of the lambs, the bawling of the calves, the crowing of the cock and the cackling of the hens furnished music in the early dawn, and in the evening the singing of the crickets and katydids furnished an orchestra of sweet music. I remember when the old dinner bell rang how the horses would stop in their tracks and answer the call, for they well knew they would have a good feed and rest.

Visions from out the past come to me. Among the most vivid is mother's cookie crock full of sweet cookies, where we children could help ourselves and eat, only I hear her voice in mild reproof saying, "Now, don't take more than two, children." Another is the barrel of little soda crackers that stood where we might help ourselves in the pantry, and again the voice, "Cover the crackers when you leave the barrel."

Mother's eight children are all living today, and all are ready when meal time comes for a good, old-fashioned dinner like mother used to make. And mother, at 88 years, is sitting in her easy chair awaiting the call of the Master. A broken hip ten years ago has made her inactive.

I enclose her recipe for the cookies we loved so well. They are good:

One and one-half cups of sugar, two eggs, one cup of shortening (part lard and part butter), one-half cup of rich milk (sweet), one teaspoonful of soda in milk, two teaspoonfuls of cream of tartar in a little flour. Put some sifted flour in a pan, make a little hole in center, put in sugar, eggs and shortening, stirring smooth with finger tips; then add the milk with soda, then the cream of tartar in a little sifted flour. Lastly, stir in flour quickly until soft dough. Roll out and bake quickly. You can double this recipe and have plenty on hand, as they keep well. A raisin in the center makes them more attractive.

SARAH WOOD CASHNER.

Keeping Cool

The ability to keep comfortable during the hot months depends quite as much upon the requirements of the family as upon the location. There are those who are continually fussing and stewing over a hot stove, while others fare equally well and yet are taking things quite comfortably.

The large kitchen porch, still better if enclosed with wire screens, is a boon to the housewife, and, if shaded with vines, it may be a veritable paradise, where she may wash, iron, prepare her vegetables or fruit—live, in fact, when at work. But if this is not available, there is the apple tree in the yard, where she may have a comfortable seat and do much of her sitting-down work.

She will prefer to rise early and get the morning work done and the dinner in preparation before the heat of the day. If she has no oil stove, it may be cheaper to buy cookies and crackers by the box than to depend upon baking. Bread sponge started the night before is ready to bake early in the morning. There are a host of desserts, such as cornstarch pudding, rice pudding and combinations with the various fruits which are better cold during these hot days.

If a pan of clabbered milk is set over a kettle of water on the back part of the range while breakfast is prepared, it will be ready to pour into a cloth strainer when the meal is over and drained dry. Do not think that because you separate your milk that cottage cheese is out of the question. The separated milk will yield a product not quite so rich. Be careful not to over-cook it, and add sweet cream when ready to serve. It will then be found delicious.

Close the blinds or shades during the middle of the day and open the windows wide mornings and evenings. On oppressive days try hanging a sheet wrung out of cold water before the open window, and as the

Oklahoma Farmer's Four Daughters

These four girls are sisters. Three of them are school teachers and the other one lives at home. This picture was taken while the teacher sisters were spending their vacations at home on the farm. Don't they look comfortable among the clover blossoms?

breezes play through it and evaporation goes on the temperature of the room will be materially lowered. In the same way, one of the newer porch screens is made from a sea weed, which is uninjured by water, and if the hose is turned on occasionally one will have little trouble in keeping cool.

If city company threaten to keep you roasting and broiling; just resolve to keep cool, mentally as well as physically. If they are sensible, they will not feel affronted when given the pleasure of shelling the peas or looking over the berries for dinner. As they seek the country pleasures, let them take them as they come. They will enjoy a walk to the orchard after the early apples, or a trip along the old fence row at sunset if a dish of luscious wild berries for breakfast is to be the reward. If they invite themselves into your home during your busiest season, they should not feel offended if given a few of the lighter tasks to perform.

Then, if you cannot yourself take a regular vacation, you can at least have many an afternoon treat. The light supper eaten by the brook or in the orchard is restful. There are pleasure resorts within easy driving distance, and some afternoon the entire family can afford to indulge in a little picnic. Rest does not always mean inactivity. It does mean change. Anything which will divert the mind into new channels may bring it. And rest is especially needed during the hot weather.

Cool—but not ice cold—drinks are refreshing. A bit of lemon or fruit juice will render a smaller amount of water necessary. Meats should be used sparingly. Vegetables and fruits will fully compensate for their absence. Sheets and everyday underwear may be worn without ironing. If the sleeping rooms are hot, fix up a porch bedroom, or sleep in a tent, or even in a hammock. Live out of doors as much as possible; eat and dress simply, and don't worry.

BESSIE L. PUTNAM.

Pickled Poems

Ella Wheeler Wilcox is pre-eminently the poet of the home. Her poems touch us at every point in our every-day life. They are our own best thoughts clothed in the most beautiful language, and come to us with a compelling force. They treat of the things of which we think in our moments of rest and quiet. They are written in simple, every-day English and are so clearly expressed that anyone can understand them. The W. B. Conkey company of Chicago has recently issued a little leather-bound volume called "Picked Poems," being composed of selections from her previously published books. These poems are particularly well selected and the volume contains many of o r old favorites, such as "My Ships" and "Memory's Mansion," as well as many equally good but not so well known. The price of this little volume is $1.

Mrs. Howard, a famous London beauty, has had the words "Votes for Women" tattooed on her cheek, and still some people try to tell us the English suffragettes are sane!

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

No. 6065—Children's Dress—This dress has the fastening at the side of the front and has a dainty two-piece skirt. The neck is collarless and the sleeves may be long or short. The cuffs and belt are fashioned of contrasting material, which gives the frock a pleasing trimming touch. The pattern No. 6065 is cut in sizes 4 to 10 years. Medium size will require [illegible] yards of 44-inch material and [illegible] yards of 27-inch material for trimming.

6224 Modish One Piece Coat—This is decidedly the favorite model for coats at present. The only seam is under the arm and on the under side of the sleeve. The neck is trimmed with a handsome pointed collar and sheik revers which can be buttoned over. The cut of the sleeve is unique at the lower edge, where ten stitching may be used. The pattern No. 6224 is cut in sizes 34 to 42 inches bust measure. Medium size requires [illegible] yards of 44-inch material, [illegible] yard of 27-inch contrasting goods.

6214 Ladies' Dress—This smart gown would make excellent gala evening dress for a bride or a good afternoon dress for any woman. It is made with a shoulder yoke across back and front, extending well down on the shoulder. Here the plain sleeve is attached. The skirt has four gores. The pattern No. 6214 is cut in sizes 34 to 42 inches bust measure. Medium size requires [illegible] yards of 44-inch material, without up or down.

5954 Ladies' Two-Piece Skirt—Here is a lovely skirt model for the completion of an evening dress. It is a two-piece design and has the closing at the left side of the front. The draped effect is quite clever and the design, while at first sight, is simple to cut out. The pattern 5954 is cut in sizes 22 to 32 inches waist measure. Medium size requires [illegible] yards of 36-inch material.

When ordering be very sure to write your name and address in full and to give the pattern and size of each pattern you want. When ordering for children give number and age.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

A sandwich baked for supper may be made from the left over potatoes and hard boiled eggs and a couple of slices cooked or uncooked ham chopped together and a pickled dressing poured over it. Prepare dressing in the following manner: One cup sweet cream and milk mixed, yolk of one hard boiled egg mashed to a cream, level teaspoonful of ground mustard. Whip thoroughly until it is a perfect cream.

[illegible]

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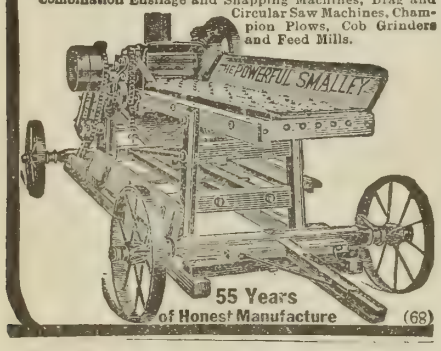

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End of Colonel Goethals' Big Job at Panama

By Frank G. Carpenter

WASHINGTON, July 26.—It was in a little 10x12 room in the top of the Mills building that I talked with Colonel George W. Goethals as to the completion of the Panama canal. The colonel sat in front of a window looking out on the Potomac, the War department and the Washington monument, and the hot breeze which blew through seemed like a North pole zephyr in comparison with Panama. It made his blue eyes bright, his dark cheeks rosy, and he seemed as cool as the center seed of a cucumber. I know now that he was loaded with work, but he did not show it then. Indeed, I find that the the busiest men are those who seem to have the most leisure. They know how to use their minds, and do not let their souls fly to the four corners of the world while talking to you. The chief of the great work at Panama had only a week to spend in Washington, and every bit of that time, with the exception, perhaps, of six hours at night for sleeping, has been occupied with the president, the secretary of war and anxiously inquiring members of the senate and house. Big questions were discussed and matters invoving millions were weighed in the balance.

Entering the Locks from Lake Gatun—Lighthouse Tower at t[illegible] Left (Photo Taken 1913)

Date for Completion

It was during one of the intervals of such discussions that I got an appointment for an interview. I put my questions, and the answers promptly came. Said I:

"When will the canal be done?"

"I don't know. It will be formally opened in 1915. I expect to see it done long in advance of that."

"When will the water be let into the Culebra cut?"

"Early in October next."

"But will the cut be ready by that time?"

"The cut is ready for the water now. The difficulty is that we cannot get the dredges in. The situation is briefly this: When I went back last February I found that two slides had developed, and the engineers told me that the cut could not be made ready for the water until January 1, 1914. So I had to figure backward and see how soon after that time we could raise the level of Gatun lake from the fifty feet, which it is now, to the required level of eighty-five feet. This could be done only during the rainy season, which does not begin until July, and it would have been far along in November of 1914 before we could have the maximum lake level. The canal had to be opened, thoroughly tested and ready for work by 1915, and I could plainly see that this was impossible if we relied upon excavating the balance of the Culebra cut in the dry and did not finish it before January 1. That determined me upon letting the water in during the coming rainy season and completing the work with the dredges.

"The rainy season is now at about its beginning. It will rise to the level of seventy-five feet by October 1, when the dike which separates the lake from the cut will disappear and the waters flow in."

Work for the Dredges

"But how about the work then? What kind of progress can you make in scooping up the earth and rock out of that mighty ditch of water forty feet deep?"

"The progress is all a question of slides," replied the engineer-in-chief. "We expect to put in three dredges, and Mr. Comber, who is in charge of the Pacific division, tells me that these three dredges will take out 500,000 cubic yards in one month. I believe we can do the work cheaper and quicker by the dredges than by the steam shovels. The arrangements are such that we will get the dredges in about October 1. The contractors will finish one flight of locks throughout the canal by that time. We shall then blow up the dike and let the suction dredges in from the Atlantic end. We will bring up the Corozal from the Pacific end, and we will have three great dredges carrying the material of the Cucuracha slide and other material over the sides of the cut into the Rio Grande valley on the west. I have also installed a sluicing plant, which will carry the top of the Cucuracha slide back into the valley at the east."

"That means that on October 1 you will have three great streams of earth and rock flowing out of Culebra cut at different places?" said I.

"Yes; that's it, and those streams will keep moving day and night. We shall keep the machinery going for twenty-four hours of the day and for six days of the week."

Where Will Men Go?

"The stopping of the dry excavation will greatly reduce the number of the men employed, will it not?"

"Yes. We shall begin to make a heavy reduction in the force by October 1."

"How many men have you at work now?"

"About 40,000, including those under the contractors as well as our own."

"What will become of them?"

"The natives will be back home and the Americans will be scattered."

"What will become of the skilled force? I mean the thousands of engineers and mechanics whom Uncle Sam has trained?"

"Most of them will have to find jobs wherever they can," said Colonel Goethals. "It would be almost impossible to transfer the organization as a whole, and there is no other piece of work which the government has on hand that would require such an organization. Indeed, the talk of transferring the organization from Panama to other places is more or less hot air."

About the Machinery

"What will become of Uncle Sam's machinery at the completion of the canal?" I asked.

"There is some talk of sending it to Alaska to aid in the building of railroads, and also to the Mississippi valley for the improvement of that great waterway," replied Colonel Goethals. "I know nothing about that. I am only interested in that we get as much as possible out of it to cut down the total cost of the canal."

"Is there any possibility that we will get very much?"

"Yes, the returns should be considerable, and whatever we get will be clear gain. You see, the cost of the whole plant, including machinery and supplies, is figured up in the cost of the canal. It forms a part of the cost of every cubic yard of concrete put into the place and of every cubic yard of earth taken out. So when the canal is done the machinery will all have been paid for, and what we get for it will be velvet. It will decrease the total cost of the canal."

"Can you give me any idea as to its possible value?"

"No; it is worth what it will bring and that is all. This is always the scrap value and if the government should take the plant and use it elsewhere, we shall get an appraisal value, which will be far more than that of ordinary scrap. We should like to see it go into government work, for that would add to our assets."

"If sold to private parties, it would bring comparatively little, I suppose?" said I.

"That depends," replied Colonel Goethals. "We are now selling it piecemeal at Colon for 50 per cent of its actual cost to us. That is the

price delivered at the steamship docks."

Knows Cost of All

"Can you tell just what the machinery has cost as a whole and in detail?" I asked.

"Most certainly. We keep a close account of everything. Our books tell just what becomes of the scrap, and we have been selling everything from the old wire netting torn from the houses to the steam shovels and dredges and other machinery. We have sold everything possible as soon as it had done its work, and we know just what we have gotten from it. The waste in such matters has been small, and that especially on account of our system of cost keeping, which charges every branch of the force with the tools and machinery and supplies it has to work with. There is a great rivalry between the men to keep the cost down, and this has been so throughout the building of the whole canal."

"But will not a large part of the present equipment be retained at Panama? In one of your reports you say that the government should use every effort to make the canal pay."

"Yes, I believe that," said Colonel Goethals. "The government will have quite a plant at Panama outside of the canal property, and some of the present equipment will be of value in that plant. We shall need supply depots to furnish the steamers with fuel. We are erecting coal depots now and we are putting up tanks for fuel oil on both sides of the isthmus. You know, many of the steamers are now burning oil. This is so of the Peruvian line, which plies between Lima and Panama."

"Is there any possibility of having a pipe line from the Mexican oil fields to Panama?"

"Not that I know of. I doubt that one will ever be constructed."

"Will Uncle Sam keep his hotels on the isthmus?"

"I suppose so. The Tivoli hotel, which is at the Panama end of the canal, is now being run at a profit. The New Washington, which we have opened on the Colon end, will probably do equally as well. There should be good hotels at Panama."

"Will the government keep the Panama railroad?"

Will Keep Railroad

"It will have to do so," replied Colonel Goethals. "That road is a necessity for the working of the canal. We cannot rely entirely upon the boats, for if any damage should occur to the locks we could not get our supplies back and forth across the isthmus. We shall have to operate the road as a matter of convenience and safety. The road has been making money as a private corporation, and it ought to continue to do so under the government."

"How many men will it take to operate the completed canal?"

"Between 1,500 and 2,000, exclusive of the Panama railroad. Adding the force required for that, I should say that the limit would be 2,500."

"I receive many letters from young men and young women who want to go to Panama. Will there be any chance for such persons from now on?"

"There are absolutely no opportunities open to young women, and very few for young men," said Colonel Goethals. "You see, we have now a large force at Panama, and many of the employes of the completed canal will be taken from it. We shall need trained men to operate the canal, and we shall have to try them out and find the best man for each place."

Make it Military Camp

"How about the canal zone? Will it be a pleasure resort or a bee-hive of American plantations and winter homes?"

"I hope it will be none of these?" said the chief engineer of the canal. "I think it should be a military reservation, devoted to the care of the canal and its protection. I believe in depopulating the zone as soon as the work is completed, and in leaving nothing there except the homes of the employes necessary to the running of the canal and the buildings of the military and naval establishments. We shall need dry docks, warehouses and other facilities at each of the terminals, but the interior of the zone should not be given up to private residences, nor to private ownership."

"How are you getting on with the fortifications?"

"Very well. We are building forts on the islands at the Pacific terminal, and we shall have fortifications at the entrance from the Atlantic, as well as a scheme of defense along the line of the canal."

"Will Uncle Sam be able to protect the canal?"

"I don't think I should talk about such matters," said the chief engineer. "They are military features and I would rather not discuss them. There is no question but that the canal should be amply defended, and I have no doubt but that we shall have everything necessary to that end."

"But, Colonel Goethals, do not the improvements in flying machines make it impossible to defend a work of this nature. Could not an aerodrome fly over Panama and knock a hole in your ditch with a stick of dynamite?"

"I don't think that danger is great," was the reply. "It would take a good many sticks of dynamite to harm the ditch proper, and to do any damage to the locks the dynamite would have to be carefully located. You cannot do much by scattering dynamite about as you would have to do from a flying machine. It would be merely a matter of luck, and, besides, we have guns which can disable almost any flying machine."

First Ship Through

"When will the first ship go through the canal?"

"Just as soon as we can get the slides sufficiently dredged to give us ample depth and width for the vessels to move."

"Will you risk anything as to that?"

"I will take no risk as to stating the exact time of the passage of the first ship," said the great engineer.

"What ship will you choose to make the trial?" I asked.

"It will be a boat belonging to the government, and in all probability one of the Panama railroad steamers. We shall choose our own boat, and then, if anything happens to the dog, the dog is ours, and no one can blame us for having done as we pleased with it."

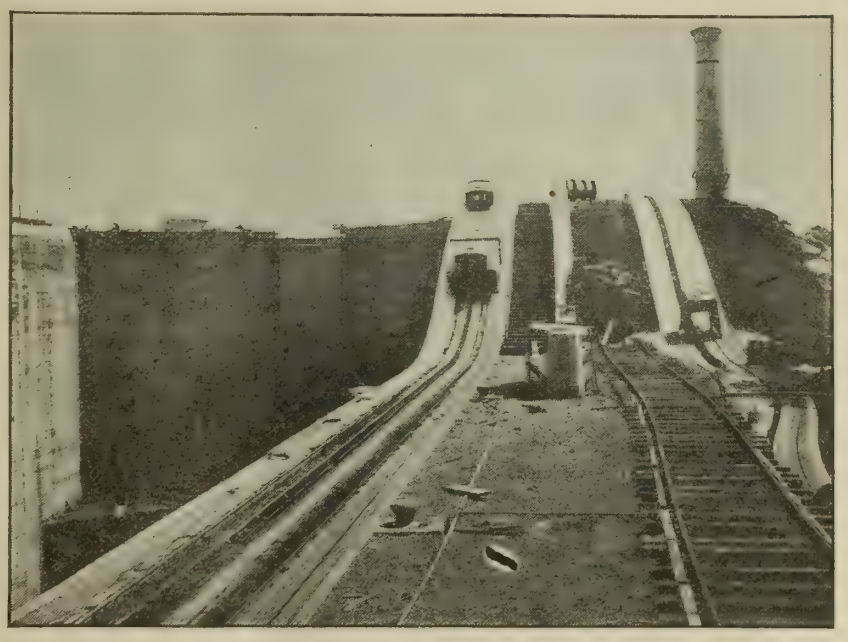
"I see that one of the Hamburg-American line steamers is advertised to pass through the canal about the first of next February."

"Yes; I have seen the advertisement. It is made upon their own responsibility. It is their own look-out whether it goes through or not."

"How soon do you expect the canal to be open to traffic?"

"I shall have to go back and answer that just as I did before. It depends entirely upon the removal of the slides. As soon as we have the canal clear we shall have to run ships through and test the machinery, and then we want as much traffic as possible in order to give us the practice necessary for the official opening of the canal in January, 1915. At that time we shall have the vessels of all the great navies passing through on their way to San Francisco, and we do not want them to be in the least danger."

(Copyright, 1913, by Frank G. Carpenter.)



View of the Locks and the Towing Locomotives

It is only by labor that thought can be made healthy, and only by thought that labor can be made happy, and the two cannot be separated with impunity.—Ruskin.

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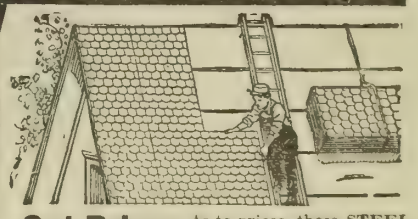

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Offers Solution of Tenant System

F. E. S., Plainview, Neb: I am going to accept your offer under your Readers' Exchange column to express my opinion, whether it agrees or not with others, as to the best way of stopping this land robbing, or in other words, a solution of our present tenant system. Permit me here to say that I have been both a renter and land owner, and after thirty years of farm life have some ideas of my own on the subject.

In the first place, our farms are too large, and I believe it would be wise for the state to enact laws restricting large holdings. I have no objection to a farmer's getting all the land he can buy, but when he quits, from whatever cause, that land should be appraised by the state and sold at a fair price such that the land will pay for itself at the present time, not at some future date, discounting a poor man's labor several years. I do not mean to rob a man of his home. I believe the state should say what should constitute a "homestead." Whether it be one or 160 acres, this should remain his in one tract. But the holding of large acreages for renting, for speculation, or farming by proxy, should not be allowed. It is simply robbing future generations of their just rights. Give us (the nation) a chance to own our own farms at a reasonable price so that the man who tills the soil may have an interest in the land, and 90 per cent of the farmers will increase the productive capacity of their land, thereby striking a hard blow at the high cost of living to his brother man in other walks of life, without hurting himself. I would treat all organizations the same with the exception of our public schools. I would have all church property appraised and taxed as other property, unless such property is valued at less than $10,000. Poorer organizations might be exempt. But a rich church should pay taxes the same as a poor farmer.

Answer—Here is a novel suggestion that sounds good. Let somebody that has done some thinking on this subject tell the rest of the readers what he thinks. We do not care for words unless there is some thought behind them.

Canning Information Wanted

F. M. S. Taylor's Falls, Minn.: There are a few of us farmers here that would like to start a canning industry for canning vegetables, such as peas and sweet corn. We thought at first that peas and sweet corn would not grow here, but we had to change our mind as both yielded large crops. We decided at a meeting that we would raise and can the same. I am therefore writing you to learn if you know of any firm that makes canning machinery. What would you think a one-line plant would cost fully equipped with machinery. How much capital would be required to operate the same for the first year or until we could get the product on the market. We have got the land but not the factory.

If others can start we farmers should be able to. Don't you think so?

Answer—We print the foregoing in the hope that some of our readers have some knowledge about this matter that will be of benefit to the inquirer. Editors are supposed to know everything, and sometimes the editors themselves get into the habit of thinking that they know everything. Then comes along an inquiry like this, about the canning industry, a matter of which the editor knows absolutely nothing, and it gives him a jolt. Such experiences have a tendency to keep him humble. If any readers can help out this inquirer if they will send their letters to this office they will be forwarded.

Handling Sweet Clover for Seed

W. R., Harrison, Neb.: I have about 100 acres of sweet clover on my ranch and would like your opinion of how best to handle it for seed, how to cure, and when it is best to cut it.

Answer—Sweet clover does not ripen all of its seeds at the same time. Part of the seed on a single stem will be dead ripe, part of it in good condition and the balance immature. It should be cut when the greatest amount of seed is in good condition. It need not be fully ripe because when in that condition it shatters too readily so that much of it is lost. The best way in which to handle it is to cut with a mower, using a side delivery buncher. This method will prevent excessive loss through shattering. Then handle carefully so as to prevent unnecessary loss from this source. It may be threshed or hulled directly from the gavel.

For Some Reader to Answer

C. N. R., Casper, Wyo.: Will some of the readers of this paper tell me through its columns if an alfalfa grinder would grind foxtail hay so that the beard would not be injurious to stock, also where I can write for a grinder and what make is the best?

Answer—There probably is no grinder that will fix fox tail beards so that they will not injure the stock. For this purpose they would have to be pulverized as fine as flour. Perhaps some reader has some practical knowledge of this matter, and if so, he is invited to tell what he knows about it.

Dodder in Alfalfa

H. H., Woodland, Cal.: I have just discovered in my alfalfa patch of eighty acres a great many bunches of hair-like yellow vines, which twine themselves about the alfalfa stalks and then seem to send roots or feeders into the alfalfa stalks themselves. Kindly advise me if this is a pest of some kind, and if so, how fast does it spread, and what should be done to check or destroy it. It is something new to our best farmers in this section.

Answer—The vine referred to is dodder, one of the greatest and most destructive of the pests known in alfalfa culture. It starts from a seed in the ground, and after the vine has obtained a firm hold upon the alfalfa stalk, it severs its connection with the ground and lives on the juices of the alfalfa plant. It blossoms and puts forth seed which falls to the ground ready to begin another cycle of growth. It will require careful attention and rigid repressive measures to prevent its spreading and doing great damage. Before it goes into blossom, mow it close to the ground and rake and burn the cut. Do this as often as it appears, and in a short time the pest will disappear. It must not be allowed to get extended advantage over the field.

Price Answers Ord Subscriber

A subscriber from Ord, Neb., in commenting in your issue of July 12 on my recent article on "Rural Credit," asks where the money is to come from to buy the bonds that would be issued by a state land mortgage bank.

In reply I would state that the money would come from the same source that it now comes to purchase state, county, city and school bonds. I would go further, and by legislation provide that state, school and other public funds could be invested in these bonds; also that federal legislation should provide that deposits in postal savings banks could be invested in such bonds.

I believe that such a plan would be far better than direct government loans to farmers.

The rate of interest that is paid either on deposits in bank or on bonds is in proportion to the risk of losing the capital invested or nonpayment of interest.

Bonds issued by a state land mortgage bank and secured by mortgages on farm lands would be equivalent in value to state bonds and the rate of interest that they would bear would be practically as low.

The subscriber raises another objection that such a plan would bankrupt a state and cause taxes to be increased.

Under the plan proposed the state does not guarantee the bonds or assume liability of their payment. The state land mortgage bank, with its branch offices in each county seat, simply serves as a intermediary between borrower and lender, and would be the machinery provided by a state for making farm mortgages negotiable and organizing farmers' credit.

The subscriber further states that it is his experience, if a farmer cannot pay off a loan at 6 per cent, he cannot pay it off at 4 per cent.

Is that any reason why farmers who can pay 6 per cent should be required to pay 6 per cent instead of 4 per cent?

I agree thoroughly with the subscriber's view of the necessity of maintaining the fertility of the land, but I further believe that an improved rural credit system is fundamental to maintaining the fertility of our farms and having them operated by owners rather than tenants.

HOMER C. PRICE.

Columbus, O.

Editor's Note—The nearer one brings the borrower and the loaner together the less hazard there is in making a loan, and the rate of interest that the loan bears should therefore be correspondingly lower. For this reason the plan proposed by Prof. H. C. Price is to be preferred to the plan of those who recommend that the government loan directly to the farmer.

It may be found necessary, in order to find a ready market for bonds bearing a low rate of interest, for the state to guarantee the payment of bonds. This guarantee would give the bonds simply a commercial standing, but in all probability would result in no increase of taxation in the state.

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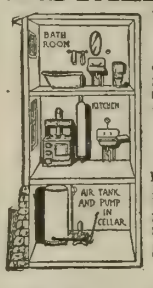

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and ate from a dusty, dirty floor; drank from a questionable water pan, and slept, with a hundred others in a hot hen house, in the same clothes you work in, YOU WOULD APPRECIATE GERMOZONE. The difference in sanitary conditions between a wild chicken and most cooped chickens is almost as great as that between a chicken and yourself.

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Timely Items of Interest to Poultry Raisers and Fanciers

Care of the Poultry Expert.

THE man or woman who succeeds with poultry is the one who never neglects a detail that leads to the health and welfare of his flock. They are fed regularly the right amount and kind of feed necessary for them to make the best of what they are kept for, whether it be for market purpose, eggs or breeding stock, for each require slightly different ration if not care.

The poultry expert knows every hour in the day the condition and place of each member of his flock, and if he find one off its feed or drooping, before it can do much harm, if any, it is placed immediately in prison by itself until the nature of its trouble is ascertained and measures are quickly taken to shut off the menace to the flock. If he find a house springing a leak there is no delay in fixing it. If it is merely a watery eye or a sore developing, though the fowl seem yet vigorous and hungry, it cannot stay around in the flock, as it would be left in most farm flocks, until it would show how sick it was. The expert studies how to treat the least sign out of normal, whether it be symptoms of sickness or merely a vicious temper, and abnormal action, all of which bring large loss either of health or life in his flock. This all means work, but stitches in time mean nine not to take in the future; but it is paying work and scientific work, and the man who is an expert here could be an expert in other lines also, because it is in him to want to know all of his trade or calling.

Egg Laying Contests.

National egg laying contests are productive of a few general facts of future use to the fancier and general utility poultry raiser. They often show the prize winning pens to be of a breed that is lower in egg production, and while this establishes the fact of strain having lots to do with egg production it can also establish the question of which breeds will best respond to the building of laying strains. Another thing, as a rule, when you get this strain well established you have great layers who could not win a prize if judged by the standard. In the Missouri laying contest, now going on, the leading pen of White English Leghorns holding down first place so long are not standard Leghorns in the least, for they are larger bodied than Leghorns of the standard, rangy instead of compact, their combs are larger, legs lighter and tails pinched in feathering instead of fan shaped and spreading. Claim is made of their coming nearer the Minorca in looks than Leghorn. It is thus the shape is changed by the work these must do. It was the same in one of the Australian laying contests. The Langshans, that proved heaviest layers of all breeds submitted in one of the last contests, failed to come within sight of the standard for this breed in several ways. We often wonder why the standard does not build its shape for all breeds upon the shape heavy laying strains take on instead of some merely fanciful shape.

Fancier and Breeder.

[illegible]ader, Iowa: What is the difference between the poultry fancier and the breeder of any kind of standard fowls? I heard a breeder called a fancier the other day that breeds ordinary standard bred Buff Cochins. I had thought of a fancier as a breeder of some fancy kind of fowls, or one who bred new kinds of fowls out of the old, whether for mere looks out of the ordinary, or to produce a new kind for show purpose?

Answer—The name is quite often used in a way to puzzle one. While it was once used to cover the breeding of some new kind of animal life, something whimsical and strange, it does not altogether mean that today. It covers the ground also of any form of breed you have taken a liking to, just so you breed it true to its standard requirements. This entitles you to the name fancier. To be a fancier, you see, does not bar you being also called a breeder, though I know the name of fancier might in some people carry another meaning. One can take a fancy to any one of the common standard breeds and there be nothing fanciful or whimsical or strange about the fancy. If he breed it to its show requirements, and show it to the public this of itself gives him the name fancier.

The Present Egg Question.

The farmer does not set the price of eggs any more than he sets the price of wheat and corn. Eggs through the middle west are lower now than for years—in fact in some localities only brought ten cents a dozen at the huxter wagon or in the country store. The reason assigned for this was the condition the eggs were in during the heated weather when reaching the commission houses—most of them spoiled because held too long in the stores or shipper's care before sent. They came back on the shipper's hands and they retaliated by ordering the buyers to pay under prices for next shipments of eggs. They were going to make up their loss in part, and they made it up off the farmer. The farmer was not to blame. He sold the eggs while fresh.

This matter of shipping also, so government experts say, has another effect on the opposite end of the line from the farmer, and the government is getting after the railroads for breaking so many eggs in transit, and is now ordering shippers to pack as safely as possible, then breakage must come off the railroad, not the consumer, for the commission men, finding so many cases of broken eggs, quite naturally put up the price of the whole cases. This, coupled with the fact that the supply does not equal the demand, is why eggs are so high for the eastern consumer. The Atlantic states cannot keep their big cities in eggs and must look to the corn states to do so. From the corn states shipment is long to market, hence the necessity of carefully carrying the eggs to supply the demand. To break them is nearly a crime.

IDA M. SHEPLER.

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Review of Live Stock Market

By A. C. Davenport

THE week just closed was devoid of new and interesting features so far as the cattle trade of the country in general was concerned. Prices fluctuated within narrow limits at most points and the trade as a rule was of a very ordinary character. Prices on the better grades of cornfed beeves were very firm at all points; in fact, the market as a whole on cattle of that class was as high as it has been any time this season. The corn-fed season is, as a matter of course, drawing to a close and supplies of strictly good cattle are gradually becoming lighter. At the same time there is a good demand, which accounts for prices being so well maintained. The market is really higher than would appear from the daily market reports, as such reports cannot show the real quality of the cattle, which is not very good on an average.

While the better grades of fed cattle have been such satisfactory sellers, the half-fat or warmed-up cattle—that is, the corn and grass cattle, as they are sometimes called—have been steadily working downward. This process invariably takes place at this season of the year. The cause is easily understood when it is considered that the run of range grass-fat steers and native grass stock is just beginning, and cattle of that kind come into direct competition with the half-fat cornfeds. Thus far not enough range cattle have been received at leading market points to really establish quotations, but such cattle as have been received have generally met with very satisfactory sale.

Feeder Conditions Little Changed

The volume of business in stocker and feeder cattle during the last week has not been very large, but that occasioned no surprise, as such an outcome was to be anticipated. As noted a week ago in these columns, the stocker and feeder trade for some little time to come is very likely to be dependent largely on weather conditions. Copious rainfalls and prospects for a good corn crop will naturally tend toward stimulating the demand for feeding cattle. On the other hand, dry weather scares, or weather that may leave the country in doubt as to the outcome of the corn crop, will tend to postpone the free buying of both stockers and feeders. So far as the cattle trade is concerned this condition will have very little effect, no great volume of business in such cattle is ever expected during the month of July, and the cattle are not at hand to satisfy anything like a broad demand.

As to the future of the cattle trade there is very little, if anything, to be added to what was said a week ago. Prospects, generally speaking, are good for the sellers of cattle, barring, of course, unfavorable weather influences. The consuming demand is apparently well up with the supply of beef and there is no reason why well finished corn-fed cattle should not continue to be good sellers to the end of the season.

July Hog Market Comparatively High

Hogs have not changed very much thus far during the month of July. Prices at the opening of the month were considerably lower, but they firmed up very rapidly and by the end of the first week were selling about as high as at the present time. Since then prices have see-sawed up and down, gaining a little one week and losing it the next without any very marked change being made. The demand has been good at practically all buying points and trade has continued in a very healthy condition throughout the greater part of the month. Receipts have been quite liberal, but for the year to date there is still a shortage of over a million head as compared with the corresponding period a year ago at the eleven leading markets. That, of itself, is a strong bull feature, but it must be remembered that the advance that took place the first week in July carried the market to a very high point. In fact, hogs during July have sold the highest on an average of anytime since the latter part of March and early part of April. However, the month of July should not be compared with previous months, but rather with the same month in previous years. When this is done it will be found that hogs at the present time are selling on an average the highest for the month of July in over twenty years. That being the case it would hardly seem reasonable to expect the market to go very much higher at the present time, but still there are some bulls in the trade, who are looking for that very thing. Whether such expectations will be realized remains to be seen, but one thing in this connection is quite well understood by operators and that is that this is the distributing season of the year, the time when the packers already have liberal stocks of provisions in their cellars and are not adding to them very materially, but on the contrary are distributing the surplus as rapidly as possible. At such a time it is well understood that the holders of provisions are not especially anxious to break the market on live hogs and thus reduce the price on provisions. Later on in the season when packers are preparing for the opening of the winter packing season the situation is entirely different, as it is then plainly to their advantage to put down the price of hogs so as to replenish their cellars with provisions at a lower cost.

Under existing conditions most operators on the market are looking for good prices on hogs for some little time to come, although as a matter of course the market will doubtless be subject to frequent fluctuations.

Mutton Market Nervous

Sheep and lambs have been coming to market in fairly liberal numbers during the last week or more, but conditions governing the trade have shown few changes worthy of comment. The market has shown more or less nervousness and prices have jumped up and down quite readily, as receipts have happened to be large or small. Packers have been taking the big bulk of the lambs, leaving a very small proportion to the feeder buyers. Eastern markets are being supplied very largely with natives, while western markets are gradually showing an increased run of rangers. The future of the market is decidedly uncertain and one can find almost as many different opinions as there are different operators on the market. As to the general principles governing the trade most everyone is agreed, but as to how these various controlling factors will influence the market is a problem that the trade has been unable to figure out to its own satisfaction. Without question the great bull influence will be the demand for feeders, which is expected to be the largest in the history of the trade, but here comes the uncertainty. That very demand will depend almost entirely upon the outcome of the corn and forage crops. The great bear influence will be the expected heavy receipts from the range, but this influence would be considerably lessened by bumper crops, resulting in a good demand for feeders. It is also possible that the money market may cut quite a figure in the trade. The more thoroughly the subject is studied the more difficult it becomes to venture even a guess as to the future of the market.

The Selling End of Farming Operations

(CONTINUED FROM PAGE TEN.)

ways gave fair warning when the supply was getting low.

"Well, sir, you should have seen how my customers appreciated the service! I feel sure that when a farmer goes out after business just as intelligently as the merchant does, with due regard for the customers' desires as to convenience, quality, looks and price, he will meet with the success he deserves."

All too often a farmer's selling campaign is launched without any thought whatever on the subject except a willingness to take what the purchaser offers. The great fault with the marketing methods of farmers today is, as one keen observer recently remarked, that their goods are simply bought, not sold.

Same Old Car Shortage Cry

This year, as for many past, railroads are complaining of a threatened car shortage approaching the heavy autumn transportation. This has become an old and familiar cry. While always such shortages of course indicate enlarged business, they are not excusable on that score. Keeping transportation supplies up to demands will in no wise hinder, but will immensely help business. Freight officials are quoted as saying they have done their best to accomplish this, and perhaps they have, but how about those officials and directors, who are really responsible for the facilities? Have they exhausted their efforts along this line?

Experience from year to year leaves no ground for railroads to plead surprise or snap judgment as a defense against car shortages. They have simply become a problem to be met as any other in a process of railroad management. Neither will it satisfy the public to argue, however truly, that careless and dilatory shippers, who unnecessarily withhold cars from the service are largely to blame for shortages. That again is a problem for railroad management. If there is no other outlet than by providing larger supplies of cars, then the roads should be compelled to provide them.

Why Drag the Roads?

A baby mud-hole contains a pint of water, and the wheels cut in a little deeper, and wider, and longer. The road dries; the mud-puddle is only a depression in the surface now, but it is prepared to hold more water when it rains again. Another rain and once more the wheels cut and ream it out, and for longer hours, because it contains more water and does not dry so quickly. The following rains and numerous wheels develop the baby mud-hole into a giant quagmire with strength to seize a loaded wagon and powerful team and hold them helpless in the grasp of its miry fingers. No quagmires haunt the dreams of the traveler over dragged roads. For since there are no baby mud-holes, there are no quagmires; and there can be no mud-holes because the King drag, Herod-like, slays them in their babyhood. The solution of the problem of the hard-earth road is keeping its surface always so that the next rain will find no lodgment. —D. Ward King in Thresherman's Review.

Breeders' Notes

A Modern Breeding Farm

One of the most up-to-date breeding farms in Nebraska is that of Henry Beck, breeder, of Litchfield, Neb., who breeds Percheron, Belgian and Shire stallions and mammoth jacks and jennets. Mr. Beck produces a class of stuff that meets the popular demand and raises it in a manner that insures their future usefulness as breeders. He has young stock for sale at all times and will treat you right. Look up his advertisement elsewhere in this issue and write him when you want anything in his line, mentioning The Twentieth Century Farmer.

Leisey's Duroc-Jerseys

In a letter from Robery Leisey, at Wisner, Neb., he reports everything coming along in good shape. Mr. Leisey has one of the very best herds of Durocs in the state and has a line-up of spring pigs this year that are just about as near "top notchers" as we have seen. He will have a sale on September 29, and will have something mighty good to offer. Keep this in mind and watch these columns for further announcements.

A Review of Percheron Conditions

We are in receipt of a letter from Mr. Wayne Dinsmore, secretary of the Percheron Society of America, in which he gives a comprehensive review of the rapid strides made by the society and also other matters of interest to horse breeders in general. Here is what he has to say:

A review of trade conditions in Percherons for the six months ending April 30, 1913, has just been completed by the Percheron Society of America.

Percheron breeders have cause for congratulation in the excelent trade enjoyed for good Percherons this season. Between November 1, 1912, and April 30, 1913, 4,130 transfers of animals sold during these six months were given and have been

GRAIN BELT BRAND
Vegetable Hog Potash

A perfect worm expeller and preventive. A conditioner and mineral balancer. Guaranteed Analysis:

Potassium Chloride	16%
Calcium Phosphate	13%
Calcium Oxide (lime)	20%
Iron and Aluminum	9%
Sulphur	1%
Carbon Dioxide	3%
Magnesia	2%

Do not confuse this valuable product with the various patent remedies on the market which sell at medicine prices. This is a high reduction of purely vegetable matter and does not contain an ounce of salt or filler of any description. Send today for circular fully descriptive of this product. Agents wanted in unoccupied territory.

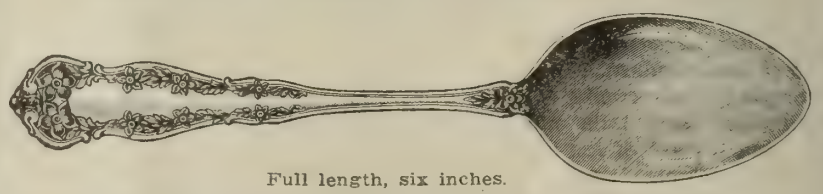
UNION STOCK YARDS COMPANY
South Omaha, Neb.

SILOS Get Yours and Save $50.00
Factory to Farm

Don't delay. The time is short. Write or wire us to ship you a silo to your station on approval. You take no risk. We have a large supply of First Grade Washington Fir Staves for prompt shipment in lengths up to 40 feet. Write for our silo book. Tells why we quote the lowest prices on guaranteed silos. Write today.
INDEPENDENT SILO CO.
2337 University Ave., St. Paul, Minn.

FREE TUITION for 36 weeks. Board and room $2.60 a week. Books rented. Opens October 7th
Humboldt College, - Humboldt, Iowa

Get this dessert spoon



Full length, six inches.

Through The Twentieth Century Farmer, this beautiful dessert spoon, designed and made especially for this magazine by Wm. Rogers & Sons, may be obtained for the cost of handling, 35 cents. The beauty of this spoon is bewitching.

COUPON
Please send my dessert spoon to
Name.....
Address.....
Enclosed find 35 cents to pay for postage and handling.

If you wish teaspoons and forks you may still get them—spoon, 10c; and fork, 20c.
Address
Silverware Department
Twentieth Century Farmer
OMAHA, NEB.

cleared through the office. This does not represent all the sales made, for some purchasers have neglected to file their transfers promptly. Two thousand, five hundred and twenty-two of the above transfers were to men not yet members of the society, beginners in Percheron breeding, who are for the most part substantial farmers.

These cold facts regarding the broadening trade for Percherons, indicate increasing scope and stability in the demand for Percherons, particularly those of high character. A hint to the wise is sufficient.

During the six months just mentioned, a total of 3,374 animals were recorded in the Percheron society. They were as follows:

American bred stallions	1,249
American bred mares	1,666
Imported stallions	602
Imported mares	457

The trade with Canada has been good. One hundred and thirty-four head were sold to the Dominion during the time just mentioned, and most of these have been American bred horses. Our northern buyers have taken a decidedly better class of horses this season than ever before.

The membership of the society has continued its steady growth. A new list of members, just published, brings the membership down to June 1, 1913, giving the society a total of 5,015 individual members on that date. I am sending you under separate cover a copy of this list of members and believe that you will find it of value to yourselves and of sufficient interest to your readers to justify a special review of same showing the distribution of Percheron breeders throughout the United States. The membership has almost doubled within the past three years.

Relative to the international exposition the classification for Percherons is the best ever offered at this show and breeders throughout the country generally are urged to fit any available geldings for this great show, for there is every reason to believe that the decision of the international and other parties interested, to provide such a comprehensive classification for geldings, will be extremely beneficial to draft horse interests in general, by illustrating in concrete form what can be accomplished through the use of pure bred sires in producing the type of geldings for which market men will pay high prices.

Sale Dates

Duroc-Jersey Hogs

September 27—Robert Leisey, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Shattuck, Hastings, Neb.
October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.
October 20—William Ferguson, Scribner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 8—J. L. Naiman, Alexandria, Neb.

RHODE ISLAND WHITES

America's "best yet" breed — pure White—every way desirable. In great demand. Bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, "Good Poultry," our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.
Shorewood Farms Co., Saugatuck, Mich.

SHETLAND PONIES

SHETLAND PONIES

Eleven head, consisting of 10 mares and 1 stallion. All spotted. Will price right.
S. T. CAMPBELL,
43d and Center Sts., - - Omaha, Neb.

HOLSTEIN CATTLE

Pure-Bred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed
Send for FREE Illustrated Booklet
Holstein-Friesian Ass'n, Box 175, Brattleboro, Vt.

RED POLLED CATTLE

RED POLLS FOR SALE.

25 head of extra choice Red Polled females for sale. All ages. A number of show yard character. Also a few bulls of serviceable age. Duroc Jersey hogs for sale at all times. Prices reasonable. George Schwab, Clay Center, Neb.

AUCTIONEERS

JACOB WERNSMAN
Cedar Bluffs, Neb.
LIVE STOCK AUCTIONEER.
Thoroughly posted in pedigrees and values. Can furnish best of references from breeders for whom I have conducted sales. Write me for open dates.

LANDS LANDS LANDS

Canada

CANADA LAND—RAILROAD LAND or improved farms. For further information write to George R. Shelden, Irma, Alta.

Farms Wanted

CASH FOR YOUR FARM OR BUSINESS. I bring buyers and sellers together. Write me. Established 1881. Frank P. Cleveland, 1315 Adams Express Building, Chicago, Ill.

Idaho

WANTED — CORRESPONDENCE with prospective buyers of improved Idaho lands. Box 711, Blackfoot, Idaho.

Mississippi

WOULD YOU ENJOY A CONSTANT, everlasting income of from $1,000 to $5,000 and more per year? Then buy the 10-year-old bearing paper-shell pecan grove of eleven acres—part of the late Senator Money's great Rose Farm estate, near Ocean Springs, Miss., where ocean breezes, artesian water and fine pecan and orange groves abound. A most enjoyable place to live both winter and summer for old or young. Price, $5,500—just half its value. Terms, $2,000 cash, balance long time, 6 per cent. For full particulars, address M. R. Hicks & Co., Ocean Springs, Miss.

Minnesota

CHOICEST MINNESOTA IMPROVED farms, $40 to $65 per acre. List free. Save money buying through me. Absolutely reliable. Highest references. W. C. Murphy, Foley, Minn.

WANTED—TO HEAR FROM OWNER who has good farm for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

100 CHOICE FARMS IN THE GARden spot of southern Minnesota, where corn is king. Price, $60 per acre and up. Prices rapidly advancing. Come now. Free list. The Paffrath-Schmid company, Springfield, Minn.

400-ACRE FARM, ALL CULTIVATED, well improved, Red River Valley. Price, $40; easy terms. William F. Gilbert, Crookston, Minn.

Montana

MONTANA FREE HOMESTEADS IN the Musselshell country—320 homesteads; no crop failures. Get our price to locate you. Going fast. Montana Homestead Bureau, 588 Brandeis Bldg., Omaha.

JERSEY CATTLE

They Keep It Up

There are some cattle that give more milk when they are fresh than a Jersey, but there isn't any breed that gives as rich milk as

The Jersey

at as small feeding cost, nor is there any breed of cattle that will *keep it up* like Jerseys will, *year in and year out*. That's why you ought to buy Jerseys: to increase your herd's efficiency. Send for Jersey facts.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

HORSES AND MULES

FAIRVIEW FARM : :

Percheron, Belgian and Shire Stallions, Mammoth Jacks and Jennets

Some extra good home-bred Stallions, Percherons and Shires, coming 3 to 5 years old, all pasture raised. Thirty head of Jennets of all ages that I will sell at democratic prices for the next 30 days to close them out. Everything sold with a breeding guarantee.

HENRY BECK, - - - - LITCHFIELD, NEBRASKA

...PERCHERONS...

Thirteen young registered mares with big size, a lot of bone and square built. Money-makers for you at my breeder's prices. Just east of Omaha.
FRED CHANDLER, Rt. 7, Chariton, Iowa

RED POLLED CATTLE

Bulls of serviceable age, females, all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

HOLSTEIN-FRIESIAN

Wanted--300 Holstein Cows

Wanted—300 grade Holstein cows, fresh or close to calving. They must be tuberculin tested and free from disease. Give price and description of what you have to offer in first letter.
Address Y 192, Twentieth Century Farmer, Omaha, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Nebraska

640-ACRE FREE HOMESTEADS IN Nebraska. Send $2 for complete map of land opened to entry October 1, 1913. A. J. Van Antwerp, County Surveyor, Broken Bow, Neb.

FOR SALE — CAREFULLY MADE, tax-free first mortgages on Nebraska farms, earning 6 per cent, payable twice a year. Write for descriptions. First Trust Company, Loup City, Sherman county, Nebraska.

FOUND—320-ACRE HOMESTEAD IN settled neighborhood. Fine farm land; no sand hills. Cost you $175, filing fees and all. J. A. Tracy, Kimball, Neb.

FOR SALE—20 ACRES (UNDER CULtivation) northeast of Grand Island, ½ mile from city limits; 6 acres in alfalfa; no buildings; $150 per acre—$500 down, balance 6 per cent, long time; no trades. Fritz Hoefer, Aurora, Neb.

EXTRA GOOD CENTRAL NEbraska farm of 480 acres, well improved; about 300 acres in crops. All good, black-loam soil; no sand. All kinds of buildings needed on a farm of this class. Splendid crops. Owner an old man, is retiring from farm. Price for short time, $45 an acre. Will carry the biggest part of it back on farm at 6 per cent interest. The above farm is a great bargain at the price. W. W. Mitchell, Agent, Bee Bldg., Omaha, Neb.

Wyoming

BLACKBURN FARMS, ALBANY county, Wyoming—Is never troubled with 104 to 112 degrees heat, although it has some 300 sunshiny days per year. Neither rain or excessive heat ever destroys crops or injures the harvest. You can work out of doors every day in comfort. Stock thrives on cured grass all winter without shelter. Roads are good every month of the year. The stage runs to and from Blackburn Farms every other day, carrying mail and packages. The Hahn's Peak railroad brings freight to Millbrook, in sight of the ranch buildings. Almost every farm house has a telephone, so you can talk to any neighbor or to Laramie. Ask Prof. Parsons at the Experiment Station any question about grain, grass or vegetable growing and you will get a satisfactory answer. The animal husbandry professor is just as willing to tell you about stock raising and its troubles. These experts are an invaluable aid to farming there. The boys and girls who live in the vicinity have a wonderful advantage over those who live farther away in getting to and from the university at Laramie. But you ought to read very carefully our illustrated booklet and go and see just what we have. You will be infatuated with what we show you. Cheap rates are on now. Let us tell you about them. A trip there will surely do you a lot of good. No change of cars. Laramie Development Co., Thomas Campbell, assistant secretary, 441 Board of Trade, Omaha, Neb.

TENANT WANTED FOR AN 80-acre irrigated farm, central Wyoming. Unlimited, inexhaustible supply of water. Best soil. Big local market for all crops. A most liberal proposition to the man who means business. For particulars write Russell Thorp, Lusk, Wyoming.

Wisconsin

IDEAL STOCK FARM ONLY $29.00 per acre, 3 miles from station, 171 acres; 60 acres level and gently rolling field; rich loam soil on clay; good buildings, including 7-room house, barn 22x60, with 16-foot shed addition and others. Big hay meadows along river, which flows through pasture. Creamery, stores, mills, school, etc., close by. Personal property if desired. Baker, G-67, St. Croix Falls, Wis.

$8.25 PER ACRE FOR 121 ACRES, with over half mile frontage on St. Croix river, 3 miles from station. Easy terms. One mile from school. Great chance for someone. Baker, E-67, St. Croix Falls, Wis.

BUILDING PLANS

A BOOK OF BUNGALOWS AND houses for cold climates; modern, practical and artistic, sent postpaid for 75c. Special plans for all kinds of buildings also prepared. L. Harry Warriner, Architect, Neeland Bldg., Gary, Ind.

COMMISSION MERCHANTS

POULTRY, EGGS AND BUTTER wanted, highest market price; egg cases furnished free. Perry & Co., Omaha.

COLLIE DOGS

FANCY SCOTCH COLLIE PUPPIES for sale cheap. Hoefelman Bros., Platte Center, Neb.

FENCE POSTS

FENCE POSTS AND POLES OF RED Mountain cedar. All sizes. Write for price list. Gustav Berg, Cocolalla, Idaho.

HELP WANTED

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary, $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

MEN AND WOMEN WANTED FOR government jobs; $65 to $100 month to commence. Vacations. Steady work. Over 12,000 appointments coming. Parcel Post requires several thousand. Influence unnecessary. Write immediately for free list of positions available. Franklin Institute, Dept. R-99, Rochester, N. Y.

GOVERNMENT FARMERS WANTED —Make $125 monthly. Free living quarters. Write Ozment, 39-F, St. Louis, Mo.

LIVE STOCK

CHOICE HOLSTEIN CALVES — WE have beautiful marked calves, 15-16th pure blood, from large-producing, high-grade dams and a very fine sire; either sex; males, $15; females, $17, from 3 to 5 weeks old; crated and put aboard express car for any point. Send order to Whitewater Stock Farms, Whitewater, Wis.; Hanson & Hawes, Props.

POULTRY

Leghorns

WANTED—100 S. C. BROWN LEGhorn pullets, April hatch or 1st. Must be standard bred. State lowest price and full correspondence. State strain of breeding. Address W. J. DeWitt, Prop., Pine Ridge Poultry Stock Farm, Box 9, Belmont, Neb.

Wyandottes

OSCAR L. LOCK, BREEDER OF White Wyandottes, Council Bluffs, Ia.

MISCELLANEOUS

BOYS, READ THIS—WE ARE GIVING away 1,000 Cleveland Automatic Boys' [illegible] and we will tell you how you may secure one of these outfits free. Write Sioux City Novelty Company, 501 Nebraska St., Sioux City, Iowa.

PATENTS

PATENT YOUR IDEAS; THEY MAY bring you wealth. Write Patent Book free. Highest references. Best results. Evans, Wilkins & Co., Dept. 12, Washington, D. C. Established 1869.

SCHOOLS AND COLLEGES

SPECIAL SUMMER RATE NOW IN effect. Qualify for repairman, chauffeur or demonstrator. Write for our free catalogue. Lincoln Auto School, 1527 O St., Lincoln, Neb.

SEEDS

ALFALFA SEED—FANCY [illegible] seed. Write for sample and price. A. F. Scofield, Co. Bluffs, Iowa.

Increase limit and fully double or [illegible] different trees will be on the Limited Parcel Parcels Post list.

Buy a Golden Prairie Farm

Buy It Direct from the Owner and Save the Land Agent's Commission
Buy It on the Crop-Paying Plan and It Will Pay for Itself While You Sleep

Read what one man thinks of the Golden Prairie District and of the Federal Land and Securities Company: "What does it cost to visit the Golden Prairie?" "How much time does it take?" "What sort of folks are the Federal people?" "What is the country like?" These and similar queries arise in the mind of the prospective investor and it was to provide a concrete answer that Mr. Lamont, the member of the Company whose special duty it is to attend to the correspondence from Nebraska, wrote to Mr. Geo. H. Jackman of Louisville, Nebraska, and the following is Mr. Jackman's reply:

Louisville, Neb., July 18, 1913.

Mr. R. M. Lamont,
Cheyenne, Wyo.

Dear Sir:

I have your letter asking for a statement of my actual expenses on my trip from Louisville to Cheyenne and return and the time that it took me to make the trip. For the benefit of those who may be thinking of going to look over the Golden Prairie I am pleased to submit the following:

Railroad fare. . .$22.00 (No excursion rates in effect.)
Meals and room. .$3.60
Total. $25.60

I live at Louisville, Neb., about thirty miles southwest of Omaha. I left Louisville at 9:10 o'clock on May 15 and got to Omaha at 10:30 o'clock. I was fortunate in getting a train out immediately, one that was behind time, and I got to Cheyenne at 12:30 that night. Otherwise I would have arrived at 9:45 in the forenoon. At 8 o'clock we started in the Company's automobile to look at the lands. We got back in town at noon and in the afternoon we went out again. I found two quarters that suited my taste. We looked the quarters over thoroughly that I picked on, drove all over them and went to all the corner stones. I then asked that I be given until morning to think the matter over and we came into town.

The next morning I told them that I would take one of the quarters and the papers were made out. At 1:55 that afternoon I took the train for home arriving at Louisville the next morning at 9:10 o'clock. I was gone just three days from home.

I began corresponding with the Federal Land and Securities Company about three years ago and was favorably impressed with what they wrote me but it was hard for me to realize that the Golden Prairie district could be what they claimed. Then the fact that I was looking for a farm being known around Louisville, I was constantly solicited to go elsewhere to look at land and I made several trips of inspection but until I visited the Golden Prairie District of Wyoming I did not find anything that appealed to me sufficiently to buy it.

It was a pleasure, Mr. Lamont, for me to do business with the Federal people. No pulling and hauling to keep me from seeing things for myself. No cappers, no booze offered me—just a fair honest showing of the lands and letting me use my own judgment. After being "wooled around" by land agents for three years it was certainly a relief to deal with a Company that sells direct to its customers and I am satisfied that I saved a least $5.00 to $10.00 per acre by buying of a firm that cuts out the middleman.

Yours truly,
GEO. H. JACKMAN.

Here is a typical winter wheat field scene in the Golden Prairie District. It is reproduced from a photo taken on the Kendrick farm about July 1, 1913, and not only gives an idea of the crops raised here this season but also the thrifty growth of fruit and foliage trees grown without artificial watering on this fertile upland prairie.
The U. S. Government Weather Bureau Records show that up to this date, July 21, our highest temperature here was 92. How hot has it been this summer where you live?

We Back Our Statements With Our Guarantee

Write your name and address in the space provided in the Certificate published below, cut out and mail the certificate to us and we will return it to you signed by the President of our Company, together with descriptive literature, Pictorial Souvenir and sectional map of the District. Address us at 100 West 17th street, Cheyenne, Wyoming.

THE FEDERAL LAND AND SECURITIES CO.

Capital Stock $200,000.00

References by Permission: Citizens National Bank and First National Bank of Cheyenne.

Cheyenne, Wyoming, _____

CERTIFICATE OF GUARANTEE

The Golden Prairie of Wyoming is an agricultural district. It is protected on the southwest by the snow-capped Rockies and is not subject to extreme heat or hot winds. The records of the U. S. Weather Bureau prove this. The district lies west of the sand hills of western Nebraska and is well grassed, fertile prairie, free from sage brush, alkali, gumbo or hardpan. No irrigation is practiced or required to raise crops here. Pure well water is found in abundance at reasonable depth. To protect those bona fide prospective settlers who have been misinformed or who are uncertain as to conditions here we issue this CERTIFICATE OF GUARANTY for the benefit only of the one whose name is endorsed hereon in ink.

GUARANTY: We, THE FEDERAL LAND AND SECURITIES COMPANY, hereby guarantee that every statement hereon or contained in any of our literature or signed letters relative to the Golden Prairie District of Wyoming, is true and correct. We further agree to reimburse the one whose name appears hereon for his railroad fare from his present address to Cheyenne and return and Five Dollars ($5) per day for the time actually and necessarily spent by him in making a personal examination of said district, this agreement to be binding upon us in the event the said party calls at our office within ninety (90) days from the date thereof, goes over the district with us and does not find conditions here fully as represented by us in every particular.

To _____

_____

THE FEDERAL LAND AND SECURITIES COMPANY

By _____ President.

30.
1 W
stack

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, August 9, 1913 | Number 661

TEN REASONS WHY

We Want You to Have "Making the Farm Pay" in Your Library

1—Because it tells you how to care for, and enrich your soil; giving the latest ideas in SOIL TREATMENT and DRAINAGE—without good soil you cannot have good crops.

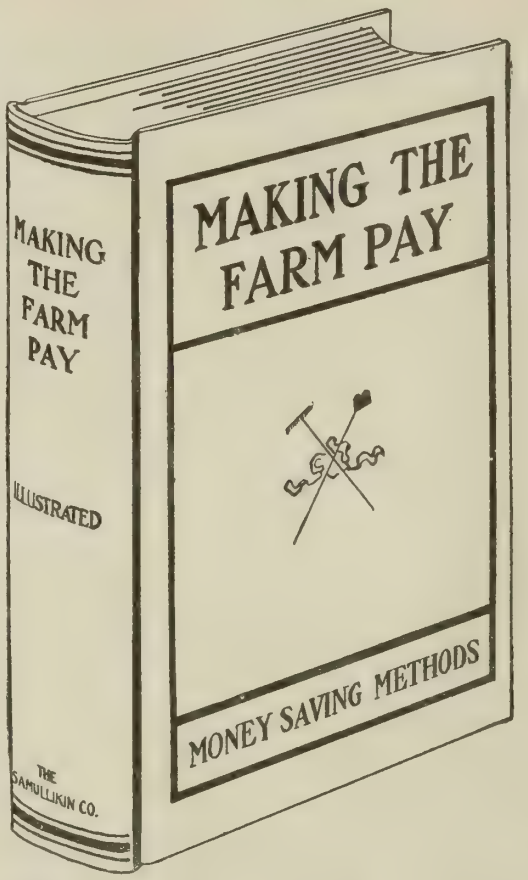
2—Because it takes up the PROPER rotation of Field Crops for different soils. Their adaptation and economic relations and explains the CULTURE DIRECTIONS of crops.

3—Because it explains FRUIT CULTURE and FORESTRY, showing how to Bud, Spray, Graft and Prune. How to KILL INJURIOUS INSECTS that affect fruit and shade trees; also insects that destroy field crops and garden products.

4—Because it tells how to make Vegetable Gardening and Trucking Pay. How HUNDREDS of dollars can be made, by using proper methods, on only a few acres.

5—Because it tells you how to Select and Feed farm animals for greatest net PROFITS; explaining the BALANCED ration and how MUCH feed and MANY dollars can be saved by proper feeding.

6—Because it takes up the Diseases of Farm animals, giving the CAUSES, SYMPTOMS and TREATMENTS of each, which will save you the loss of many dollars' worth of stock; these are explained in Common Terms that any one can read and understand; the treatments are COMMON REMEDIES that you should have in your home.



Size of book 6½x8½ inches. Bound in extra heavy cloth. Contains 500 pages.

7—Because it shows how to MAKE and FILL a silo and explains the VALUE of silage to the average farmer. It gives many rules on measuring feed and grain and many valuable hints and helps for every farmer.

8—Because it tells how to make Poultry PAY and discusses the different breeds — the "Setting" and "Non-setting," the "General Purpose" and "Fancy" breeds. The work tells how to caponize poultry, giving illustrations and cuts; also describes the diseases of poultry and their cures.

9—Because "Making the Farm Pay" is written by the BEST, practical authorities, and takes up improved methods of modern agriculture in all branches of farming; it is written by men who have DONE what they advise others to do.

10—Because "it is the MOST in Agriculture for the money." It is a ready reference library on practical, scientific Farming, giving you Hundreds of Money saving Methods and explaining the successful principles that every wide-awake farmer wishes to know—HOW TO MAKE HIS FARM PAY. A couple of dollars invested in Practical and Scientific Methods will bring HUNDREDS of dollars in Scientific Results.

JUST HALF PRICE

FOR THIRTY DAYS ONLY

	Regular Price	Our Price for Both Only
Making the Farm Pay	*$2.50*	
Twentieth Century Farmer 1 year	*$1.50*	**$2.00**
Total	*$4.00*	

Address TWENTIETH CENTURY FARMER, Omaha, Neb.

Bright and Breezy

Modern Reasons

"What were her reasons for refusing you?"

"Well, it sounded like an essay on eugenics, genealogy and finance."—Judge.

Hard to Please

An old citizen in a country village, being asked for a subscription toward repairing the fence of the graveyard, declined, saying: "I subscribed toward improving that burying ground nigh on to forty years ago, and my family hain't had no benefit from it yet."

True Love

William H. Crane, the actor, says he first learned what true love is by accidentally overhearing a brief conversation between a young man and a very pretty girl. "And you're sure you love me?" said she. "Love you?" echoed the young fellow. "Why, darling, while I was bidding you goodbye on the porch last night your dog bit a piece out of the calf of my leg, and I never noticed it till I got home."

Professional Point of View

The mayor of a small western town sat in the barber's chair, having his hair cut. The remnants of the local Grand Army post, thinned by death and old age, marched past the shop on their way to a flag-raising at the high school.

The mayor remarked to the barber, "Well, they're getting few and far between now."

"Yes," replied the barber, "but you won't be bald for some time yet."—Youth's Companion.

His Literal Wife

Mr. Ives has a mind that delights in facts. One evening he laid down the paper, was silent for a moment, and then said:

"That's odd."

"What is it?" inquired his wife.

"Why, here is a man who says that it would take twelve million years to pump the sea dry at the rate of a thousand gallons a second."

Mrs. Ives sat thinking the matter over. Finally, she said:

"Why, Henry, where would they put all the water?"—Lippincott's.

How the Fight Began

Down in one of the southern states recently a colored man and his wife were haled into court on a charge of disturbing the peace.

"Rastus," said the magistrate, addressing the husband, "you are accused of disturbing your entire neighborhood on Tuesday night. What have you got to say for yourself?"

"It wah dis way, jedge," explained Rastus. "Me an' Lucy got into an ahgument obah de coin she got fo' a week's wash. She call me a lazy loafah, an' I slap her down flat. Up she hop, and smash a skillet on my head, an' draps me flat. Den up I riz and welt her wid a chaih leg, an' den she flang a teakittle at me, which scald quite consid'able."

"I see," commented the magistrate, looking at Rastus. "And then what happened?"

"An' den, jedge," answered Rastus with great deliberation, "an' den we bergun to fight."—Pittsburgh Telegram.

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Farm Power Demonstration, Sept. 8-13

THE Farm Power Demonstration at Fremont will be the most extensive exhibition of its kind that the world has ever seen. For a number of years Canada has had a big motor-plowing contest, but the coming Fremont demonstration, from an educational standpoint, will surpass not only the Canadian contest, but all other such exhibitions as well, regardless of where they have been held.

Fifteen of the largest manufacturers of gas tractors have already entered for the demonstration, and each will show from one to three types of engines and a variety of other implements for use with them, including plows, discs, harrows and seeders. Complete list of entries is as follows:

Aultman & Taylor Machinery Company, Avery Company, J. I. Case Threshing Machine Company, Emerson-Brantingham Implement Company, Hackney Manufacturing Company, Hart-Parr Company, Holt Caterpillar Company, International Harvester Company, Leader Engine Company, Minneapolis Steel and Machinery Company, Rumely & Co., Russell & Co., Wallis Tractor Company, Ward Tractor Company and Jardine Rotary Plow Company.

Notice is given thus early in order that farmers may make their arrangements beforehand for attending the exhibition. No one should miss it.

Prattle of the Youngsters

Not on Good Terms

Effie, will you run to the door and call Fido, please?"

"I can't, mamma, 'cos I aren't speakin' to Fido since he broke my doll."

Lesson in Mineralology

Little Girl (examining a piece of silver ore)—How do they get the silver out of this rock?

Papa—They smelt it.

Little Girl—Well, I smelt it, too, but none of the silver came out—Brooklyn Citizen.

Great Game

"Why, Jacky, open the door and let Katie in. Don't you see it's raining?" cried Jack's mother. "I can't, mamma," said Jacky. "We are playing Noah's ark. I'm Noah and Katie is the sinners, and she must stay out in the wet."—Harper's Round Table.

Doubtful

A little girl whose father was very ill was asked if she had prayed for his recovery. "No," she replied, her innocent eyes wide and solemn. "I did think of it, but then I wondered if it would be any use. I know God's bigger 'n' wiser than people, but I didn't know if He could kill germs."

Safe

The McTavish family was dining, and each member eagerly watched Mr. McTavish carving the fowl, none so eagerly, however, as the dog, for that intelligent animal never took his eyes off the bird. Suddenly the knife slipped and sent a fragment of poultry rolling on the floor.

"Michty me," cried McTavish, "the leg, my own favorite bit. The dog'll get it."

"No, it won't father," said the youngest McTavish. "He'll not get it. I've got my foot on it."—Young's Magazine.

Hard on the Children

An alert little 5-year-old was taking a walk in a city park with her mother for the first time, and when they arrived at the boat landing where the swan boats were waiting Elsie pulled away and declared vigorously that she did not want to go, and as her mother urged her she broke into tears.

The sudden fear was so unusual that her mother could not understand it, until she heard the boatman's call

"Come along, come along; ride clear around the pond, only 5 cents for ladies and gents, children thrown in"

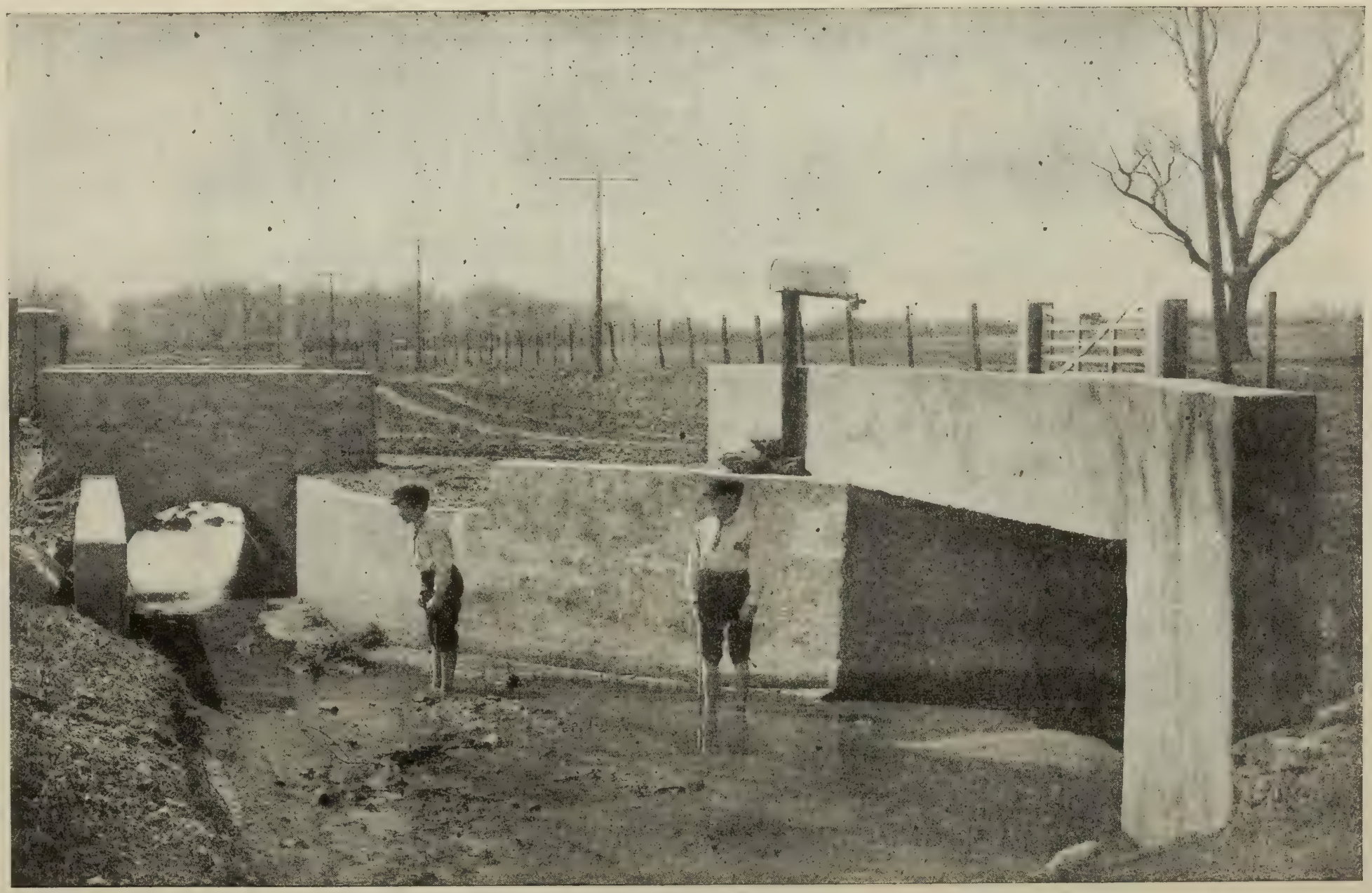
But Not in Suffragette Circles

While purchasing the little sausages of which we are so fond we noticed the arrival of our friends, Terry and Tootsums. Said Tootsums: "Who's that over there?"

"Janitor's wife," said Terry.

But Tootsums was not satisfied so asked: "What's she like?"

At this Terry scratched his head and said: "Why, she's one common example of the English intelligible to a foreigner. 'Tootsums, a wife is a woman that does a man's washing and cooks his dinner. Now, I want you to remember that, for I ain't going to tell you again'"—New York Tribune.



Road Near Springfield, Missouri, Showing Fine Example of Concrete Culvert Construction

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Marketing Plan of Texas Farmers' Union

Wells Fargo Express Company Accepts President Radford's Plan for Handling Perishable Farm Products

PETER RADFORD, president of the Texas Farmers' Union, makes the announcement that he has succeeded in arranging with the Wells Fargo & Co. Express to act as intermediary between the shipper and buyer in the sale of farm produce. The plan which has been worked out by the executive committee of the Texas Farmers' Union and accepted by the Wells Fargo company contemplates that the express company, through its agents, will accept from housewives and dealers in cities a continuous order of country produce, shipment to be made daily or at periods specified by the buyer. These orders will be turned over to the Texas farmer to fill.

The express company will encourage the movement of the business and special packages will be constructed with compartments for eggs, butter, vegetables, fruit, etc., to accommodate the trade so that the farmer can keep his customer supplied with a variety of seasonable produce.

The Wells Fargo people will also keep the producer advised of market conditions in the larger cities and by free distribution of dependable information hope to take out much of the friction and misunderstanding now existing between the shipper and the dealer and to prevent glutting one market and starving another.

It has long been the custom for speakers and writers to graphically measure the distance from the farm to the table, but this is perhaps the first instance where a comprehensive and capable route to shorten it has been surveyed and opened up. As the movement develops, President Radford thinks it will be adopted by other carriers and the territory extended throughout the United States.

A New Roadway of Trade

When asked for his views on the effect of the plan upon distribution, President Radford said: "We are blazing a new roadway of national trade and it is going to take co-operation and patience on the part of both the producer and consumer in smoothing out the rough places, but I have abiding faith in the ultimate success of the movement. The new situation lends itself admirably to settlement organizations of consumers that can place a community order with a local farmers' union to fill. The Farmers' Union has asked the federal Department of Agriculture to put one or more experts on the project with a view of strengthening the weak points as they develop, and to work out plans for extending the new system of marketing into the staple products and apply it to all lines of transportation.

"The only line of industry that has ever been successfully and constructively regulated is the common carrier. If we can make them the agency between the producer and consumer, then we will have a regulated highway of commerce where the article can safely travel without danger of being burglarized on the roadways of trade.

Middleman Needs Regulation

"The Farmers' Union has long cherished the hope of bringing the producer and consumer nearer together. The middleman is nothing more than a farm hand, but he is able to fix his own wages and collect them, and to multiply his transactions as he pleases. He is, at best, an independent and ofttimes incompetent servant of agriculture and frequently deserves to be either disciplined or discharged. The middlemen are without competition or government supervision. They need regulating as badly as the common carrier, and the plan affords facilities for a competitive system of marketing which will act as a check against the greed of the middleman, a leverage against combinations and will have a tendency to avoid gluts on the market.

"The new plan is not without its compensation to the middleman. While reducing him to his natural position as an industrial domestic, it will restore to him many profitable advantages which he has forfeited for power. It will take out waste, uncertainty and inefficiency and will add volume, stability and conscience to the business.

"The consumer will likewise feel the generosity of the new system of distribution in the extension of the season of perishable products far beyond their present limits. As a rule the movement of perishable products scarcely gets well under way until the market is glutted and the best part of the crop rots on the ground and the producer, dealer, consumer and carrier are the innocent victims of a crude and viscious distribution system. The farmer, however, will now be able to fill his orders more regularly during the season, and agricultural panics will be unknown, and business generally will feel the steadying hand of this new influence in trade. The volume of business will be largely increased and waste turned into profit.

The Need of Sound Money

"On the line of products which will constitute the bulk of the traffic adapted to movement through the new channels of commerce, those who are authorized to make estimates tell us the middleman gets an average of 40 cents on the dollar which the consumer pays for the product. In justice to the middleman, I will say that I consider half of this seeming profit is waste. It is toll levied by an incompetent and immoral system of business which breeds panics in marketing and enforces speculation in the business. The farmer is compelled to do business on a 60-cent dollar, while other lines of industry have sound money.

"The annual profit of the middleman of the nation on fruit, vegetables and poultry approximates one billion dollars, and the new system of distribution places in the hands of the producer an opportunity of securing a large amount of this profit. It has the additional possibility of adding at least one third to the volume of the business, as I consider that more than 30 per cent of this class of products never leaves the farm for want of a market or rots in the field for lack of profitable prices.

"The interests of the producer and common carrier harmonize sufficiently to admit of a working basis of co-operation. The carrier, receiving no part of the purchase price or direct compensation for the sale of the article, would not be subjected to the character test which the middleman must meet in every transaction. The desire to move the business would naturally stimulate the carrier to exertion on behalf of the producer, and their activities would compensate, rather than conflict with, the producer, and the Interstate Commerce Commission, having power over rates, can protect the interests of the public. The plan will reduce the element of risk to the minimum.

Railroads Should Have Market Bureau

"I am hoping that the railroads will also put on a market bureau. The railroads have been plowing, so to speak, for several years, and it is easy to understand their intense interest in increasing the tonnage, and the same reasons apply to merchants, manufacturers and business interests generally, but bumper crops without market facilities have sent more farmers staggering down the back alleys of agriculture than all the pests and drouths that ever cursed this nation. Certainly a freight solicitor could offer no greater inducement to a farmer than a profitable sale of the products, and, indeed, the railroad can give no greater encouragement to the producer than top prices for things he can raise. The railroads will find that one good salesman in the market will do more to stimulate production than a dozen professors in the field. The railroads can give agriculture no more serious blow than to dump the farmer's crop at destination, which is frequently done.

"Marketing, not production, is the problem that confronts the American farmer today, and I want to commend the Wells Fargo company for its understanding and co-operation in solving our problems. Our transportation systems are the dray carts of agriculture and can be made capable peddlers of farm produce. The middleman has been driving the delivery wagon, but the present plan gives the farmer a hold on the reins. There is no other machinery now constructed that will lend itself to salesmanship quite so readily as our common carriers, with offices girdling the globe and agencies in every market.

A Word to the Farmers

"The connection of the Farmers' Union with this matter has been to formulate and submit a general plan to the Wells Fargo people. It is up to the farmers individually to make it a success. Remember that honesty and reliability are your best salesmen. Your personal reputation and that of your fellow farmers is at stake in every package. Stand behind your label and back up your goods. The table is waiting at the other end of the line and your service must be reliable in both time and quality."

A Deadly Epidemic in New York State

A Fatal Disease, the Infection for Which Was Derived from Two Cows in a Single Dairy Herd

A FEW months ago the cities of Cortland and Homer, in the state of New York, were visited by a virulent and deadly epidemic of septic sore throat. One peculiarity of the epidemic was that peritonitis and acute inflammatory rheumatism, in many cases, accompanied the septic infection of the throat. It was finally noted that most of the cases were found in that part of each city that was served with milk by a single and the same dairy. The total number of cases of epidemic sore throat reported was 669, and of these 480 received their milk supply from the same dairy herd. Other dairies delivered the milk to 189 patients. The total milk supply of the two towns was 4,900 quarts, of which the dairy referred to supplied only 350 quarts. As soon as attention was called to the fact that most of the infection

Milk Zoogloea from Certified Milk Showing Pus Cells and Streptococci

seemed to come from a certain dairy, the owner of the dairy had his cows examined by the best experts that the state and the nation could afford. These experts pronounced the cows sanitary, healthy and free from disease. If their report had been that the herd was free of systemic disease, it would have been more nearly accurate, because subsequent investigation proved that they were suffering from a local infection of the udder, which was not apparent, and could not be determined except by the most careful microscopic examination.

Test Made with Clarifier

After all attempts to discover the source of the infection had failed, a company that manufactures a milk clarifier asked for permission to make a test of the herd. A word of explanation may be necessary to show what a milk clarifier is, and what work it is supposed to do. A milk clarifier is a machine devised for the purpose of taking impurities out of milk by centrifugal force, and is operated on principles similar to those of a cream separator. This work is done, however, in such a way that the butter-fat is not separated from the milk in the process, and the cream line of the milk is definitely preserved. There is another difference between the operation of the separator and a clarifier. The separator removes gross dirt and sediment from the milk, which is deposited as a slimy coating on the separator bowl, but does not remove the lighter materials, which have been proved to include discharges from inflamed udders, which are, as a rule, loaded with unhealthful bacteria. The milk clarifier is so constructed that it removes both the lighter and the heavier impurities of milk. It might be stated that in all probability the unsanitary part of milk is more frequently contained in these lighter materials removed by the clarifier than in the heavier materials that are removed by the ordinary cream separator. This makes the clarifier a valuable instrument in preparing whole milk for family use in cities and elsewhere, since it does not separate the cream from the milk.

The term zoogloea, which means slime containing life, is the name given to the slimy deposit that accumulates on the inside of the bowl of the milk clarifier. It is the term in general use among bacteriologists to designate the slimy substance in which bacteria are usually found imbedded.

What Accompanying Pictures Show

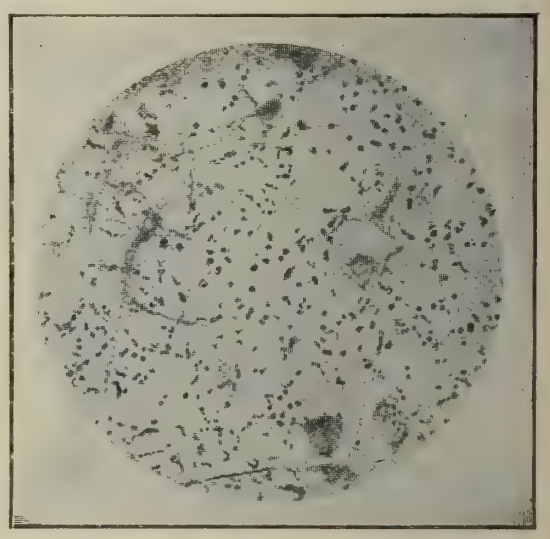
The makers of the milk clarifier tested each one of the cows in the suspected herd. The method of the test was as follows: In the case of each cow the bowl of the clarifier would be thoroughly sterilized, and then the milk from the cow would be put through the machine. The slime deposited on the inside of the bowl from each cow was collected and placed in a separate, individual jar for comparison. The accompanying picture, which shows five of these jars, gives an ocular demonstration of what was found as the result of passing the milk from each cow through the milk clarifier. In the first three jars it is to be noticed that only a slight coating of slime is found at the bottom of each jar. In the last two jars the slime fills the jars nearly half full. This slime in each of these cases came from a cow that had been pronounced healthy and in good condition by the scientific authorities. The amount of zoogloea recovered from each of these two cows as shown in the last two jars is startling.

Inoculate Guinea Pigs

This zoogloea, or slime, was submitted to expert, microscopic, bacteriological examination and found to be loaded with streptococci. A streptococcus was known to be the source of the infection of septic sore throat. Most scientific men, on discovering this fact, would have jumped to the conclusion that they had learned all about the infection that it was necessary to know. But the experts in question submitted guinea pigs to inoculation with this material. These guinea pigs developed not only septic sore throat, but peritonitis and acute articular rheumatism just as the infection in the two towns named had them. Fluids drawn from the peritoneum and from the joints of the infected animals proved the presence of streptococci there. A visit was paid to the hospitals at Homer and Cortland, and fluids were drawn from the peritoneum from patients affected with peritonitis and from joints of those affected with articular rheumatism, and in each case these fluids were found to be alive with streptococci. At this writing it seems almost certain that the manufacturers of the milk clarifier have proved that acute inflammatory rheumatism, which is in reality not rheumatism but an acute inflammation of the synovial membrane of the joints, in other words, a synovitis, is caused by a specific infection by streptococci. The same is also probably proved with reference to peritonitis. This, to say the least, is a very valuable scientific discovery.

Milk of Both Cows Was Deadly

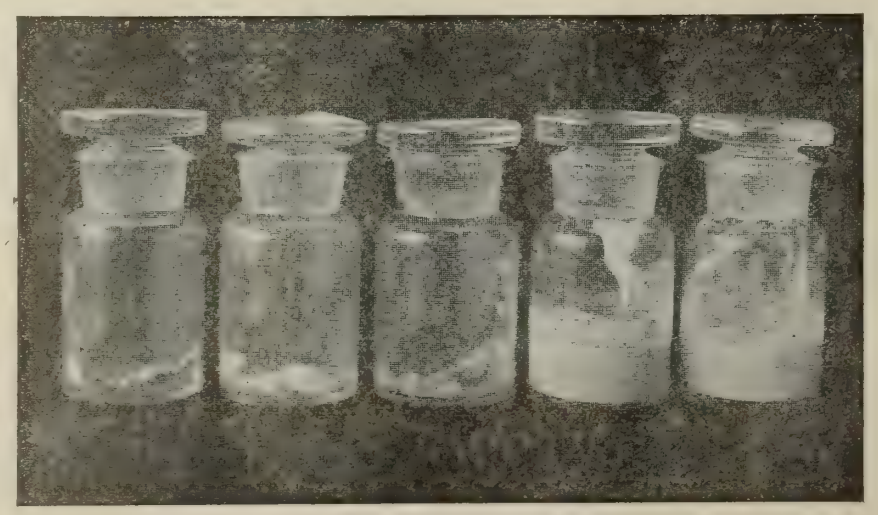
The cows from which this infected milk was drawn were suffering from garget, or had suffered from some inflammation of the udder caused by a bruise or some traumatism, thus accounting for the presence of streptococci. It



Milk Zoogloea Showing Bacteria Removed from Commercial Milk

was merely a local condition, and was not in the least apparent in the general condition of the infected animals. No examiner would have noticed it, and no one would have hesitated to issue a health certificate for both of them. It was left to the milk clarifier to demonstrate that the milk of both was deadly.

Here is something of vital importance for all health authorities to take into account. Certified milk means that one cubic centimeter does not contain more than a specified number of bacteria, regardless of kind. The number is different in different cities, varying from 50,000 to 500,000. Take the lower number. Suppose that the milk certified under the health regulations of a certain city contains only 50,000 bacteria to the cubic centimeter. But suppose that every cubic centimeter contains 500 streptococci. These last would make the milk deadly to users, in spite of the certificate of wholesomeness issued by the health authorities, and in spite of the fact that the label that the bottle bears states that it contains only certified milk.



Each Jar Shows Amount of Slime Recovered by the Clarifier from the Milk of a Single Cow. The Two at the Right Show a Large Amount of Slime Which is Loaded with Streptococci

Human Life Must Be Safeguarded

The first illustration is an enlarged view of streptococci and pus cells derived from certified milk by the use of the clarifier. It is magnified to 1,000 diameters. It proved beyond the possibility of question that it is not enough for the health of the community to depend on the fact that milk is certified to contain only a certain number of bacteria to the cubic centimeter; that human life is not safe when guarded by such lax

regulations. Something more is necessary to prevent infection even from the most apparently healthful milk. There is danger to be apprehended from every bottle of certified milk.

One other thing. Up to date, it has been impossible to discover streptococci in milk that has passed through the clarifier. The manufacturers will not assert that none are present. But this is true—that none have yet been discovered.

This story is told for the reason that it is necessary to forewarn all people, either city dwellers or dwellers on the farm, of the danger that may lurk in apparently healthy milk. It is also told for the purpose of proving to the health authorities of the various localities in the country that bacterial count is not an ideal test for wholesomeness in milk; that if they are efficient to guard the health of their several localities, something more must be done than simply to count the bacteria. It is the opinion of the Twentieth Century Farmer that the time is not far distant when health boards and health authorities will lay upon the shelf the regulation for milk certification as inefficient, and as cloaking ignoranc and inefficiency under a scientific name, as providing a means by which deadly infection may be spread, and will substitute for it a process of clarification that will remove the growth of zoogloea from infected milk. This paper will be glad to answer to the extent of its ability any question that anyone may have to ask with reference to this matter. It is of such vital importance that it should receive careful consideration.

Why We Decline Certain Silo Advertising

II—Advertisements for Silos Erected Under the Harder Patent Will No Longer Be Accepted

WHEN the United States Silo company failed in their effort to coerce all silo manufacturers into joining their combination, it became necessary for them to adopt some other means for accomplishing the same end, if that end were to be gained. The most feasible method for accomplishing this purpose appeared to be to kill the market for all silos manufactured and sold by independent companies. If the purchasers of silos could by any means be prevented from buying silos except those erected under the Harder patent, the end would be accomplished. Accordingly, a plan was instituted for frightening prospective silo users from buying silos from independent manufacturers. The means by which this was to be accomplished was by threatening them or warning them, directly or indirectly, expressly or by implication, with a lawsuit for infringement of the Harder patent.

The "Friendly Warning" Advertisement

Accordingly, in the spring of 1912, and again in 1913, the United States Silo company published in various farm journals an advertisement entitled "Friendly Warning to Silo Buyers." How "friendly" this warning really was may be judged by those who read the whole story of the campaign of this company. In this advertisement it was stated that the United States circuit court of appeals, which is the court of last resort in patent cases, in three separate actions had held the Harder patent good and valid, and had thereby conferred upon the United States Silo company the right to stop all infringement by injunction. This advertisement, if it meant anything, meant that all infringements would be rigorously prosecuted to the end. Why have they not used the injunction which they alleged to be their privilege in stopping infringements on their alleged valid patent?

The Twentieth Century Farmer was one of the several farm papers to publish this advertisement. In doing so, it acted in good faith. It believed that the United States Silo company would do as it virtually promised to do. It believed its representations that the validity of the Harder patent had been fully established by law. But the United States Silo company failed to make good the promise they thus virtually made to the public. This paper intimated, in a short editorial paragraph, that it was time for the United States Silo company to make the promises of their advertisement good. And it was immediately deluged with protesting and threatening letters, some of which would make very interesting reading for the public.

We Start an Investigation

Since that time, within the territory served by this paper, as far as can be learned, no suit has been even instituted, to say nothing of being prosecuted. This fact of itself excited suspicion and led to investigation. It begins to look as though the United States Silo company did not have the faith they professed to have in the validity of the patent under which they were operating. The whole proceeding, considered from the beginning until the present time, has the appearance of a great game of bluff instituted for the purpose of frightening people susceptible to fright. This appearance is given to the proceedings by the following facts:

In the first place, it is alleged that the issue of the validity of the Harder patent has never yet been fully tried out. It is asserted by people who claim to be in a position to know that the suits against Schlichter and against Townsend mentioned in the advertisement were friendly suits brought for the purpose of giving the United States Silo company some basis for their campaign of intimidation; that both of these suits were inadequately defended, and that if in these suits the full validity of the Harder patent had been thoroughly tried out, and had the court granting the decision been fully informed in the premises, the decision would have been adverse to the United States Silo company instead of in its favor.

Lack of Prosecution

There is a wide difference between instituting a lawsuit and prosecuting it. Apparently all that the United States Silo company wished to do was to inform the public that suits had been begun. If one may judge correctly from appearances, this company is by no means anxious to have the final issue of the validity of the patent fully tried out. The following facts seem to indicate this: One independent silo company sent to this company a blueprint of its silo and invited prosecution. Here was a company that could not be bluffed or coerced or scared. A suit was instituted within a very short time, but (and here is the significant fact) this suit so bravely instituted was dismissed for lack of prosecution. Why did not the United States Silo people prosecute this suit to the end, and obtain a decision of the court in the matter? The public will have its answer to this question, and that answer will not be favorable to the pretensions of the silo combination.

Within the last year and a half a number of suits have been similarly instituted in the state of Iowa. The method of procedure in such cases should be known to the reader in order that he may duly appreciate the facts. It is the practice in such cases, as soon as the pleadings have been completed, for the plaintiff to begin taking evidence by deposition and affidavit. If the plaintiff is really anxious to prosecute, he may begin taking such evidence as soon as the pleadings are completed. When last heard from no evidence whatever had been taken by the silo combination in support of their pleadings in any of these cases. This fact of itself does not seem to indicate very great haste on the part of the United States Silo company to have their contention finally and fully determined.

Issues in an Indiana Case

Take another instance. A suit was brought against an Indiana company that refused to be either coerced or bluffed. After interminable delay, all the evidence in the case, both for plaintiff and defendant, has been secured, and for several months now the defendant has been trying to bring the case to trial, but without success. There seems to be some reason for this delay. The answer of the defendant in this case alleges that the Harder patent was not issued on an invention produced by Harder; that silos and containers substantially identical in character and construction, and the same in principle of operation, had been anticipated and described in various patents issued long before the Harder patent was issued, and it named fifteen such anticipated patents. It also names seven different publications in which the same appliances for which Harder obtained his patent were fully described and set forth before the Harder patent was applied for. It also names seventeen different individuals who had erected silos containing the particular construction or a part of it upon which the claim of the Harder patent is based, and these men erected their silos long before the Harder patent was applied for. Now, it is the law that a patent, in order to be valid, must represent inventions invented by the patentee. None of these facts were made to appear in the suits made famous because they are so widely advertised by the United States Silo company.

It is Time to Get Busy

It looks as though the sole aims of the silo combine were specious pretentions to prevent farmers from buying silos from anybody but licensees under the Harder patent. A suit for infringement would be brought and widely advertised in order to keep up the scare, but none of such suits so begun have been tried. It has every appearance of a campaign of deceit and misrepresentation for the purpose of blocking the sale of any other silos than those erected under the Harder patent. It seems to the Twentieth Century Farmer that it is time for the United States Silo company either "to fish or to cut bait." That Indiana company is inviting them into the swimming pool, and is saying, "Come in, boys; the water is fine." They seem to be shivering on the bank, but loudly protesting all the time that they are the greatest and most expert swimmers on earth.

This is not the only instance of deceit in this silo campaign. One of the persons most interested in the United States Silo company sent to this paper an article to which was appended the name of a certain professor whose specialty was live stock feeding. This paper published the article in good faith with the professor's name attached. The professor protested against such unwarranted use of his name. He had not written the article, had had nothing to do with it, and had not authorized the use of his name in connection with it. The silo people laughingly explained that the whole thing was a blunder, a stenographer's mistake, etc., etc. This same company must have kept that same stenographer busy at work. Such "mistakes," if they occur too often, create suspicion. In the advertising matter sent out from the Chicago office of the United States Silo company appeared an article to which was attached the name of another professor. This professor asserts that he did not write the article, that he knew nothing whatever about it,

(Continued on page 11)

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G. E. HALL.....Mgr. Live Stock Dept.

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

A toy company at Sheboygan, Wis., started out to use only the waste wood from other mills. It has worked out a system of using all small waste pieces so that practically nothing but the sawdust is lost.

The production of oats this year in Belgium, Bulgaria, Denmark, Spain, Italy, Luxemburg, Switzerland, United States, Japan, Great Britain and Hungary, excluding Croatia and Slavonia is 1,410,000,000 bushels, or 80.8 per cent of last year's production in these countries. This is according to the estimate of the Institute of Agriculture at Rome, Italy.

The Twentieth Century Farmer realizes that different engines are adapted to different needs. To give the average farmer an opportunity to decide for himself what kind of an engine will best meet his requirements, it is assisting in every way in putting on the farm power exhibition and demonstration at Fremont. It does this for the benefit of its readers. It hopes its readers will appreciate this fact.

Word comes to the office that on July 11 and 12 a nine-tub lot and a thirty-six-tub lot of butter were shipped from Stapleton, Neb., to Chicago. The shipment was two weeks on the road, and the freight rate charged was $1.36. The freight rate from Omaha to Chicago is 45 cents per 100 pounds in carload lots, and 65 cents for less than carload lots. What must the rate be from Stapleton to Omaha? Can the railroads explain, in addition, the delay in transit?

Jokers in Congressional Legislation

When a joker in a bill is spoken of, it is generally understood to be some provision that is slyly slipped into the bill for the purpose of defeating the will of the people in certain particulars, and assisting the efforts of those that prey upon the people. Never but once, if memory serves aright, has a joker been inserted that was fully in the interest of the people, and against the interest of predatory wealth. This kind of joker is found in the parcel post law. At the last moment, when everything had been satisfactorily arranged so that the interests of the railroads and of the express companies were supposed to be properly guarded, a joker was slipped into the bill which contained the administrative clause, putting it within the power of the postmaster general to modify the operation of the law in the interest of the people as he thought circumstances might require. Representatives of the railroads and express companies who had studied the bill carefully, and had come to an agreement as to the exact form in which it should finally pass, took it for granted that the bill contained only what they had sanctioned, and let this innocent little clause slip through right under their noses without seeing it. It looks as though the joke were on the railroads and express companies, and that for once the interests of the people were safe-guarded by a legislative joker.

The Professional Feeder

The feeding of stock for slaughter has in a general way become professional among a very large class of cattle feeders in the corn-growing districts of America. After years spent in the work of feeding, where hundreds each year come into the business and other hundreds go out, there are those who consistently adhere to the practice of feeding a lot of cattle each season. This class of feeders have been termed professional feeders for convenience of distinction. They are of the number who use system and method in their work, and are able to get results approximately as planned.

The great army of feeders, however, are of the spasmodic or shifting character. Circumstances govern whether or not they enter the feeding lists or go over with nothing in the feed lot. The years that everybody feeds they are in the game. When they lose they stay out a year or two. There is always a large grist of recruits in the feeding business when there is a big crop of corn and hay. There is a sort of impression that it gives a farmer a business standing to be classed among the feeders of a community. There is something in this, too, when the work is well planned and carried out.

That the feeding of cattle has developed an industry that deserves the title of a profession, is quite apparent to the observer who measures the results of certain feeders from year to year. The work of the scientific feeding experiments that is being conducted throughout the country is corroborative evidence of the knowledge to be gained that places one feeder in advance of another in his ability to carry on this work successfully and skillfully.

The organization of feeders of all kinds of live stock into state associations seems to be the proper thing. In this way feeding experiments may be made of great advantage to the members. Experiments conducted by state experiment stations and by the individual feeders may alike become helpful. There can be no greater influence toward professional feeding than proper schooling in this industry. This may be accomplished by the state associations, which will systematize experimental work, making it of value to all feeders, and call attention to what is going on in this line of work throughout the state and adjoining states. These associations will soon become of national interest to feeders of live stock, and a national association will result, where state association members may attend and discuss matters of general interest.

Save the Parcel Post

The railroads and the express companies, which at the bottom constitute one and the same financial interest—that is, the big men in the railroads own the express companies—are making a determined effort in congress to destroy the parcel post. The law as it was passed gave administrative powers to the administration. Under this clause, Postmaster General Burleson proposes to reduce parcel post rates and to increase the size of parcels that will be admitted to the parcel post. The railroads and the express companies assert that if these proposed changes are carried into effect it will result in a loss to them of $20,000,000. Whether this is an actual loss or simply just so much decrease in estimated profits, they are careful not to explain.

The question then reduces itself to this: Are the interests of the whole people of the United States to be the determining factor in this matter, or is the whole thing to be decided on the basis of what is best for the railroads and the express companies? The people of this country would as soon consent to the abolition of the rural free delivery of mail as to consent to the crippling of the parcel post act.

The efforts of the railroads and express companies are directed with a view to securing the elimination from the bill of the clause that grants administrative powers. Should they succeed in doing this, no change in parcel post operation in the future would be possible except by act of congress. Everyone knows how difficult, owing to the capacity of the railroads and express companies to mass their influences in Washington, it would be to secure any such change. Each change would require a fight of many years in order to secure its adoption.

Readers of this paper are urged to take this matter in hand at once. Everyone should at once write his congressmen and his senators urging them to see to it that the "administrative powers" clause of the parcel post law be retained at all hazards. The farmers must make their influence felt because the opposition can mass their influence at a moment's notice. Let everyone write these letters at once, and ask simply that the parcel post law be left exactly as it is.

Co-operative Threshing

In each of four immediately adjoining neighborhoods in eastern Nebraska there is a co-operative threshing outfit owned by the farmers themselves for the purpose of doing merely their own threshing. Among the benefits that these farmers derive from this condition are: First, the opportunity of getting their threshing done when they want it done; secondly, in getting their threshing done at comparatively very slight expense; and, in the third place, in being entirely released from the onerous conditions imposed by the threshermen's combine.

The ordinary thresherman is somewhat below par as a keeper of his own promises. He may agree to be at a certain farm at 9 o'clock on a certain day, and during the preceding night he may travel miles in an opposite direction, causing embarrassment and loss to those who depended upon his promise. This co-operative threshing does away with this annoyance. In these different co-operative enterprises the farmers run the outfits themseves.

Such a method is not as expensive as might be supposed. In the case of one of these co-operative enterprises, part of the farmers paid for their share of the complete outfit with their first year's threshing bill, and the rest of them paid for their share with the threshing bill of two years. Now they have their outfit paid for, and, taken as a whole, do their own threshing for nothing, barring the slight outlay for running expenses. Other communities might do well to follow these examples of enterprise and thrift.

That Plano Reorganization

There is growing suspicion that the reorganization of the Plano Independent Harvester company will not inure as much as had been hoped to the benefit of the defrauded stockholders. The list of the new officers includes mostly citizens of Plano, and it is beginning to be suspected that the main purpose of the reorganizers is to hold up the price of land recently acquired in Plano by the old management of the company, and thus prevent a slump in Plano real estate prices. It is to be hoped that this suspicion is unfounded. But there have been so many crooked things about this Plano enterprise that it will bear watching even under a new form. That this is the fear of a good many stockholders is shown by the fact that some of the stockholders have already begun suit for the recovery of their notes, and that others that have paid for their stock in cash are suing to recover judgment against the company. This enterprise is something bigger than an enterprise merely to hold up real estate values. Every stock subscriber has an interest in seeing the company put on its feet on a sound commercial basis as a manufacturing company. A reorganization that does not attempt this will bear earmarks of the old organization that was forced to abdicate.

Technical Training Not Enough

In the Readers' Exchange for this week three letters are published from young men seeking positions as farm managers. These letters were called out, as stated in the editor's note, by a paragraph taken from the bulletin of the Better Farming Association of South Dakota. With reference to this paragraph, Prof. Patterson, the author, writes:

The trouble with our college graduates of today is that, immediately upon the completion of a four years' course, they believe themselves capable of taking charge of any kind of a proposition. When they begin to realize that it is necessary to spend a few years in getting some training from a practical standpoint, the agricultural work will be better off. It is not uncommon for a young lawyer to spend a number of years in the office of an older man before he attempts to work up a practice of his own. If the agricultural college men would spend only a few years working on a good, practical farm, they would be much better trained to take up farm positions; people would have more confidence in them, and everyone would be better off.

This is not putting the matter a particle too strong. Such a suggestion as is here made, if followed out, would put an end to all talk about "book farming," and to the prejudice so frequently shown against it. No college should recommend a man for a responsible position who has merely completed the college course, and is without practical training in his chosen field of work. Progress is delayed by such premature exploitation.

Improving Health Conditions

The county health officials in Kansas are planning for improved conditions. A committee of the county health officers of the various counties of the state has presented to the governor a plan for the appointment of a large welfare committee of ministers, lawyers, physicians and business men and women to consider local health conditions and get definite information about the work that can be done by county health officers in building up and improving the sanitary and health conditions.

This is one of the most important moves yet inaugurated in the interest of any state. It is the health and well-being of the people that makes possible the degree of prosperity that the state can attain.

It is contemplated making a report to the next legislature suggesting the enactment of laws with a more definite plan of action for the county health officers. The epidemiologist of the State Board of Health and the expert on tuberculosis headed the committee appointed to present the subject to the governor. This sort of action is along the line of public enterprise that makes a state progressive and advertises it to the world as in the advance ranks of public improvement.

Anyone that is thinking of buying an engine for farm power cannot do better than to study their operation at Fremont during the week beginning September 8. He will there be able to select the kind of power machine best adapted to his own needs.

Nice Bunch of Iowa Cattle

Protect These Birds

Congress, by a law passed March 4 of the present year, gives the federal government jurisdiction over all the migratory birds of the United States. Under this law the government has selected fifteen men who will assist in this matter in an advisory capacity. It is recommended that the following birds be fully protected against slaughter:

"Bobolinks, catbirds, chickadees, cuckoos, fly-catchers, grosbeaks, humming birds, kinglets, martins, meadowlarks, nighthawks or bullbats, nuthatches, orioles, robins, shrikes, swallows, whippoorwills, woodpeckers and wrens, and all other perching birds which feed entirely or chiefly on insects."

These birds are all migratory, insectivorous birds. This means that they live almost exclusively on insects.

It is to the particular interest of farmers that all such birds be saved. The annual loss to the farmer through insects, in the very nature of the case, cannot be accurately estimated, but it is enormous. The birds mentioned will not work to the farmer any appreciable injury, but, on the other hand, will save much of this loss through the destruction of destructive insects. Let every farmer see to it that no one is allowed to kill any of these birds on his premises. By so doing he will protect his own best interests.

The tariff law as it now stands prevents the importation of the plumage of any wild birds. Interested parties are seeking to have this prohibition amended. If the proposed amendment is adopted, it will practically throw open wide the door to the importation of all kinds of bird plumage. The law should be left as it is. Birds must be protected as a safeguard to agricultural production. Cereals are more necessary and more important than millinery. Let the milliners subside and give the farmers a chance. Keep the law as it is.

New Weather Bureau Chief

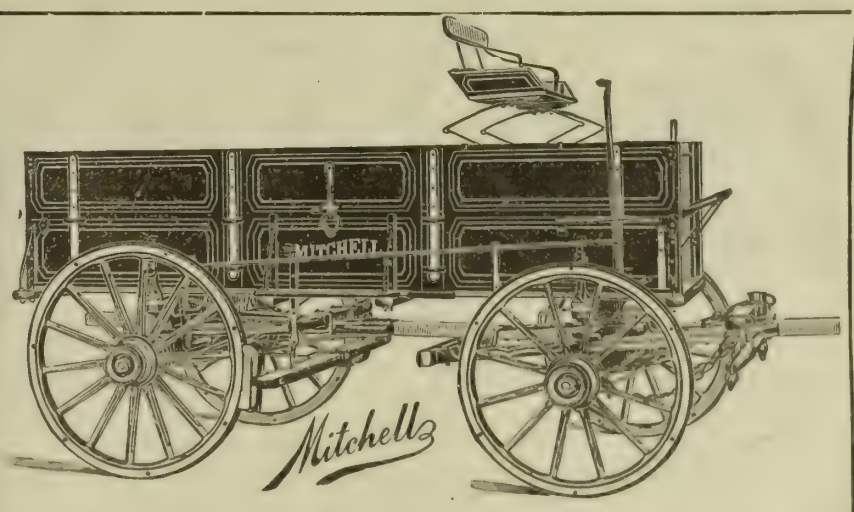
Charles F. Marvin has been appointed chief of the weather bureau to succeed Willis L. Moore, who was recently discharged. His appointment marks a new departure in the method of selecting a man for such a position. Heretofore the choice has fallen upon some college man who has had a technical collegiate training as preparation for his work. The trouble with most such collegiate men is that they have not learned to accept what they learned in college only tentatively, prepared to abandon it the moment something better is discovered, but have regarded what they learned in the college course as including the sum total of all truth with reference to their particular subject. They have thus formed the bad habit of mind of excluding everything that did not happen to fit their particular theory. One of these men once said that he paid no attention to electricity as playing a part in meterological conditions because he could account for all conditions without taking electricity into account.

Another one passed over the path of a recent cyclone with a view to studying the phenomena exhibited, but was utterly incapable of noticing any facts that were not in harmony with his theory or could not be distorted or twisted in such a way as not to militate against his theory. This is the difficulty that arises as the result of technical training unaccompanied by practical experimental work. It may come as a part of the red-tape machinery that is made to prevail in certain departments.

It is refreshing to note that Mr. Marvin is selected from the weather service itself. He began at the bottom, and through practical study of the work of the weather bureau, has now arrived at the top. Under his administration the weather bureau promises to be of more use to the country than heretofore.

It is understood that the new head of the weather bureau will give more attention to meteorology as related to crop conditions and to agriculture in general. The farming community will expect more from him and will undoubtedly receive more than it has received from his predecessor. How the boards of trade will receive the appointment in view of past experience is still to be learned.

A poor silo is better than no silo at all. The man that tries even a poor one will be persuaded by his own experience into getting a good one.



GOING a-field in Mitchell wagons has been the habit of generations of American farmers.

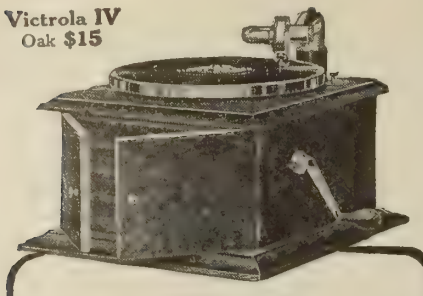
It's going to be the habit of generations to come; for the same old company that's been making Mitchell wagons for 79 years—ever since 1834—is going to continue making them in the same honest way and of the same good material that has made the Mitchell known everywhere as Old Reliable.

If you will study how the Mitchell wagon is made to have strength, light-draft, and long-life built into it you will see why your next wagon should be a Mitchell.

For prices write the factory or the nearest branch house or representative
Mitchell Motor Co. of Dallas, Dallas, Texas
Mitchell Motor Co. of Kansas City, Kansas City, Mo.
Mitchell Motor Co. of Atlanta, Atlanta, Ga.
Mitchell-Lewis Motor Co., Minneapolis, Minn.
E. G. Nelson, [illegible] Farnam Street, Omaha, Neb.
C. W. Keith, [illegible] Wazee Street, Denver, Colo.

Mitchell-Lewis Motor Company, Racine, Wis.

Victrola IV
Oak $15



This $15 Victrola is of the same high quality which characterizes all products of the Victor Company.

Why should you hesitate another moment in placing this greatest of all musical instruments in your home?

Other styles $25 to $200.

Write for catalogs.

Victor Talking Machine Co.
Camden, N. J.

Berliner Gramophone Co., Montreal
Canadian Distributors

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It cuts and elevates the highest quality of silage at minimum cost for time, labor and repairs. Built of iron and *semi-steel*; gear driven throughout; easily set up; fed from ground; convenient to operate; fills highest silos; almost any power will run it; costs less for upkeep, and barring accidents will last a lifetime. It throws as well as blows and the silage is elevated in a steady stream, not in bunches; it operates at slow speed and it is absolutely safe. Our catalog which explains the construction in detail is mailed free upon request.

PAPEC MACHINE CO., Box 49 Shortsville, N.Y.

5 Convenient Distributing Points

RHODE ISLAND WHITES

America's "best yet" breed — pure White—every way desirable. In great demand. Bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, **"Good Poultry,"** our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms Co., Saugatuck, Mich.

YOU CAN BUY

ANY CUT

IN THE

Twentieth Century Farmer

for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

When communicating with advertisers, please remember that you will favor both the publisher and advertiser by stating that you saw the advertisement in The Twentieth Century Farmer.

New Books for Rural Readers

Comment on Publications Just Off the Press

New Rural Text Book

Farm Management, by G. F. Warren, is one of the series of rural text books of which Dr. Bailey of Cornell is the editor. A good many farmers will be prejudiced by the title of this book, because they do not understand it. They think they know how to run their farms, and do not need anyone to tell them how. But farm management, in the proper sense, means nothing more or less than the application of sound business principles to farming. This book tells how to make this application. It refers to problems that the ordinary farmer has never thought about, that many of them have never imagined could be raised, and shows how these problems may be solved inexpensively, and with great benefit to the farmer, and with corresponding increase in production. No one has learned all there is to be learned with reference to his business, no matter what that business may be. No man who is earnestly prosecuting the business of farming—and this means the securing of the greatest production at the east expense—will pass this book. It should be on every farmer's table for frequent reference. It may be had of the MacMillan company of New York, postpaid, for $1.75.

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Traction Farming and Engineering

This is a book of instruction for amateur farm machinists. Gasoline, alcohol and kerosene are rapidly coming into use as sources of farm power. This book contains all the instruction needed to enable the ordinary farmer to operate successfully engines driven by either of these sources of power. It is amply illustrated and gives a full description of leading makes of farm tractors, with direction for their care and operation, with full discussion of all the principles involved in any engine that derives its power from these sources. There is also a special chapter on water supply systems and electric lighting systems for the farm. There is a special section given to the discussion of threshing machines and of the science of threshing. It is published by Frederick J. Drake & Co. of Chicago.

***

Call of the Land

This is a book of miscellaneous addresses delivered by Dr. E. Benjamin Andrews, chancellor-emeritus of the Nebraska University. These addresses have a wide variety of subjects, chiefy sociological in their character. The book derives its title from the opening addresses which are devoted to certain phases of agriculture. It is published by the Orange-Judd company of New York.

***

Farm Manures

This book gives a full discussion of farm manures in all the varied relations of the subject. It is written by Dr. Thorne, director of the Agricultural Experiment Station of Ohio, and is thoroughly reliable. It treats of the composition of the plant and the food necessary for it; of the composition of manure, the production of it, the value of it, the waste in connection with it, and the means of the preservation of it and the proper reinforcement of manure by the use of commercial fertilizers. It also shows the different methods of applying where it should be applied, gives the value and methods employed in the use of green manure, and gives a plan of farm operations for the maintenance of fertility. It is published by the Orange Judd company of New York.

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Catechism of Agriculture

The middle west is just becoming thoroughy awakened to the necessity of instruction in agricuture in the common schools, and in the high schools. The chief difficulty in the way of practical agricultural instruction has been the scarcity of teachers competent to furnish this instruction, and teachers themselves feel crippled through their inability to find proper literature relating to the subject. This book will be a valuable hand-book for any teacher of agriculture in the common schools of the territory, and it will also prove to be an invaluable text-book for use in the common schools and in the high schools. It should be in every school library. If possible, it should be made a text-book for every class in agriculture, and should be in the hands of every teacher of agriculture as a hand-book. It is published by the Orange Judd company of New York.

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Weather

Mark Twain once said, "New England is full of weather." So is every country full of weather of one kind or another. And this weather seems to be the hardest thing imaginable for the ordinary person to understand. It is difficult to know or to learn the causes of the different varieties of weather, how to manage the different kinds, or how to foretell their coming. This book in simple language discusses the fundamental principles of meteorology and the fundamental laws that control that science, in language so simple that anyone may understand it. It also gives full illustration and ample discussion and description of the various instruments and appliances to be used in noting weather conditions and in forecasting the weather of the immediate future. No weather crank can afford to be without it. And it would be well for every farmer to become in a modified sense a weather crank. The book may be had of the Taylor-Instrument Companies of Rochester, New York.

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
California	Sacramento	Sept. 13-20	J. L. McCarthy
Colorado	Pueblo	Sept. 15-20	A .L. Price
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Iowa	Des Moines	Aug. 20-28	A. R. Corey
Kansas	Topeka	Sept. 8-13	H. L. Cook
Kansas	Hutchinson	Sept. 13-20	A. L. Sponsler
Minnesota	Hamline	Sept. 1-6	J. C. Simpson
Missouri	Sedalia	Sept. 26-Oct. 3	John T. Stinson
Nebraska	Lincoln	Sept. 1-5	W. R. Mellor
Oklahoma	Oklahoma City	Sept. 23-Oct. 4	I. S. Mahan
South Dakota	Huron	Oct. 6-12	C. N. McIlvaine
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin
Wisconsin	Milwaukee	Sept 8-12	J. C. McKenzie

Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
Colorado Interstate	Denver	Sept. 2-16	Irving W. Eaton
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Dry Farming Congress	Tulsa, Okl.	Oct. 22-Nov. 1	John T. Burns
Interstate	Sioux City	Sept. 15-20	Joseph Morton
Interstate Horse Show	St. Joseph, Mo.	Sept. 22-27	
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

Why We Decline Certain Silo Advertising

(CONTINUED FROM PAGE SEVEN.)

had nothing to do with it, and that the use of his name in connection with it was entirely unwarranted. What do people call it when a man's name is attached to a document without his knowledge or consent? In some localities they give such an act an ugly name. It would be an easy matter to name the persons guilty in this matter. But the personality of those who would do such a thing as that becomes insignificant when compared with the enormity of such an offense against common commercial decency. It is time to tear the mask from the face of such deception and fraud. Other instances of similar or worse import might be cited. The evidence is at hand. But enough has been said to give the public an idea of the kind of combination that is trying to control their silo business.

The Twentieth Century Farmer felt it due to its readers and to the public in general to give publicity to its reasons for declining further advertising of silos erected under the Harder patent. It has acted in the matter in all good faith in order to protect and to promote the interests of prospective silo users. It will not endorse a business that is conducted by misrepresentation or by deceit. It is assured that the United States Silo company has not treated the public fairly in this matter. And for that reason it declines longer to publish their advertisements.

Meat Inspectors Use Camera

Meat inspectors in Berlin are employing the moving picture camera in their work. If the meat is diseased, enlarged photographs show micro-organisms in motion.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

The Song of the Thrush

"Ah, will you, will you?" sings the Thrush,
Deep in his shady cover;
"Ah, will you, will you live with me,
And be my friend and lover?"

"With woodland scents and sounds all day,
And music we will fill you;
For concerts we will charge no fee;
Ah, will you, will you, will you?"

Dear hidden bird, full oft I've heard
Your pleasant invitation,
And searched for you amid your boughs
With fruitless observation.

Like all that is too sweet and fair,
I never may come near you;
Your songs fill all the summer air;
I only sit and hear you.

—C. P. Cranch.

The Wood Thrush

The thrush is a first cousin of the robin, though one would never guess it from his looks or actions. About the only thing in which they seem alike to any but scientific men is their love of fruit. The thrush is often spoken of as modest and quietly dressed. He is a gentle little bird, building his nest in low branches or in hedges or shrubs, and

sitting quietly, paralyzed with fear if you go near the eggs or nestlings, instead of madly scolding you as most birds will. But he is anything but quietly dressed. His golden brown back and wings and his white vest, with dark heart-shaped spots on it, gleam brighter than the robin's breast on the lawn or among the trees.

Thrushes like to build their homes close to ours, but they are very shy and hard to tame for all that. If you come upon the mother thrush while she is on the nest she will neither fly away or scold you, but sit perfectly still and often even let you touch her. This is not because she is not afraid, for she is, but because she is such a devoted mother that she will not leave her little ones in danger.

There seems to be no way in which the thrush can be kept from eating cherries. It is his one fault, but he also eats the worms that spoil the cherries. The baby thrushes do not eat the fruit at all, as the grown ones do, but they never can seem to get enough worms and bugs.

The wood thrush has two claims to our protection. He is not only a fine bug eater, but he is one of our sweetest singers. Especially at twilight, he loves to perch on a post or branch and send out his clear, bell-like song. In the winter he leaves us and flies off to the southern states, but in March or April he follows the robin back again and stays with us until late in the summer, though he seldom sings after July.

You can generally tell a thrush's nest when you find it by two things—first, it is built close to the ground or in the lower branches of a tree, and, secondly, thrushes love to weave paper into their nests. One man tells of a pair of thrushes that wove in a piece of old newspaper, and in the autumn, when the leaves had fallen and the birds had flown, the printing stood out where it could be plainly read, "House to Be Let or Sold."

THE EDITOR.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the title of the story.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

(Prize Story)

A Pet Lamb

By Lillian Schuster, Aged 13, Rudd, Iowa.

Once upon a time there was a little girl whose name was Dora. Her father had quite a number of sheep. Dora wanted one awfully bad. One day she teased her father for a lamb until her father said yes. Then how delighted Dora felt; she was so glad her father had said yes.

The next day Dora's father put the little lamb in her arms. She named it Snowdrop. Snowdrop was so white and fluffy that she had to play with it all day. She fed it every day until it was nice and fat. When winter came Snowdrop was no longer a little lamb, but a big sheep, but Dora loved it just the same.

In the spring Snowdhop was the mother of a little lamb. When Dora was an old woman she had as big a flock as her father had when he gave Snowdrop to Dora. Dora sheared the sheep and got money to buy her a home, but she always remembered that day when she first held little Snowdrop in her arms.

(Honorable Mention)

Frisky

By Edith B. Woolf, Aged 12, Lost Cabin, Wyo.

I have a little kitty. Her name is Frisky. She is white, with a black spot on her head. One day we missed her, and my little brother Ned and I went out to find her. We were going along the road and Ned saw a well close by. As we went up to the well we heard a cat crying down in it. There was just a little water in the bottom. I looked around to see if I could see a rope and bucket and found one close by. I lowered the bucket to the bottom of the well and Frisky saw us and thought we wanted her to get into the bucket, so she got in and I pulled her up. I took her to the house and mamma was very glad we found her.

A Mule

By Hattie May Johnson, Aged 11, Willis, Tex.

I am an old bay mule. My name is Kate, but my mistress calls me Sugar because I am so lazy. But I am very gentle. All the girls can ride me. Sometimes they get on me and ride me to school. I am very slow, but sometimes I get scared and run away with them.

Once my master was plowing with me and he stopped in the middle of the field. Instead of stopping I kept on going and plowed down a row and turned around and started up another row without turning the plow over and without plowing up another. Don't you think I am smart?

Additional Stories

Maurine Flory, Carleton, Neb.; Esther Neumann, North St. Paul, Minn.; Theresa Leonard, Neola, Ia.; Iris Armstrong, Helvey, Neb.; Lucile Towle, Weeping Water, Neb.; Wanona German, Rogers, Ark.; Jessie Sutter, Papillion, Neb.; Marie Nelson, Newman Grove, Neb.; Imogene Crosby, Deming, N. M.; Minnie Dillet, Ralston, Okl.

His Mistress' Voice

A lady took her little brown cocker spaniel with her to call on a friend who lived a mile or so away. When she left she quite forgot the dog, and as soon as her friend discovered him she did all she could to make him leave, without success.

Some hours passed and he was still there. So she telephoned to his mistress to let her know his whereabouts. "Bring him to the telephone," said she. One of the boys held him, while another put the receiver to the dog's ear.

Then his mistress whistled and called, "Come home at once, Paddy!" Immediately he wriggled out of the boy's arms, rushed to the door, barking to get out, and shortly afterward arrived, panting, at home.—The Spectator.

Cherries

The other day we hired a boy to pick the cherries off our trees. Half an hour later we looked out at the trees and no boy was in sight. Not more than a handful of cherries was in the pail. Later in the day we learned he had gone home with stomach ache, and ever since we have been wondering what in the world could have caused it.—American Boy.

Picture Contest No. 4

All verses on the picture contest must be in this office by August 16. The picture appeared in the last issue. Write your verses now, if you have not already done so, and send them in to the Picture Contest Editor, Twentieth Century Farmer, Omaha, Neb., being careful to observe the rules given you in previous issues.

A Very Young Farmer Marketing His Grain at the Elevator.

PANTRY CLEANED
A Way Some People Have

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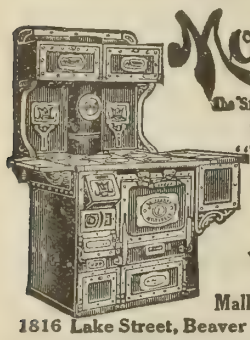

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Of Interest to Our Women Readers

Little Tasks

Ah, me! I often wonder why
When I desire to rise and fly
Up, up and upward to the sun
So many duties must be done.

For each returning day-dawn brings
Its cares to bind my eager wings,
Small cares that weigh and fetter me
When I am yearning to be free.

Wee, little things that must be done,
Tho' I would fain make haste and run—
Duties that I alone must do
If to the Ideal I'd be true.

"Inconsequential daily grind!"
Dear Lord, why gavest thou a mind
Or soul to me that's not content
To toil in my environment?

Small tasks! but mine own work they do.
They're all Thou hast allotted me;
Then help me cease from useless strife
'Gainst my appointed place in life.

And fold my useless, quivering wings,
Content to do Thy little things.
And when at times I try to pray,
"Thy will, not mine," teach me to say.
—Cora M. W. Greenleaf.

Our Home Chat

"Isolation is the mother of ignorance," says Dr. Josiah Strong in his new book, "Our World," which has recently been published, "and ignorance is the prolific mother of misunderstandings and prejudices, racial, national, political and religious." Dr. Strong might also have added "and personal." There are people whom we dislike intensely and instinctively and with whom a closer acquaintance strengthens our dislike, but in nine cases out of ten a closer acquaintance with the object of our dislike will entirely change our opinion. Our antipathy very frequently is founded on ignorance—ignorance of the person's views, character, circumstances and feelings. In the experience of every one of us, I am sure, some woman whom we have credited with being stupid has turned out to be merely bashful, or we have called her "snippy" and have afterward found that she was near-sighted and failed to answer our friendly smile only because she did not see it. We are too prone to stand off in splendid isolation and judge our neighbors from a distance, instead of getting close to them and knowing them before deciding that they are mean, or cold, or selfish, or silly, or whatever seems at first glance to be the matter with them.

There are some people who have a gift of making friends. Everyone likes them, from the baby to the deaf old grandmother. It is because they come close to all of us—because they are interested in us and in our welfare. They do not hold themselves aloof, but enter into our lives at once, making us feel their spiritual kinship with us. They pick up the baby's playthings and listen with unfeigned interest to the old grandmother's stories of her vanished youth. These persons do not dislike many people. They always know something good about everyone. Why? Because they know them all. They do not stand off from the rest of the world, isolated by prejudices and preconceived notions, but live their lives close to their fellow men and know them as they are.

The Iowa State Fair

Dear Iowa Readers—At the coming state fair at Des Moines the Twentieth Century Farmer will have a booth, which you are invited to hunt up while at the fair grounds. The editor of the household department will be there for the express purpose of meeting any of our readers who care to call and will be glad to have you stop in for a rest and a visit. She will not be able to be present the whole week, but expects to be there on Tuesday, Wednesday and Thursday, the 26th, 27th and 28th of August. Come in and talk over the household department and let us get personally acquainted.

Friendly Warning

In a recent issue of a farm paper, which circulates mostly in the eastern states, the following bit of information appeared in the household columns:

"Bromo-Seltzer will frequently cure a headache or settle a sick stomach."

That is what bromo-seltzer is for, but in using this remedy great care should be taken, as it is a dangerous heart depressant and should never be used by anyone whose heart action is not strong. As most of us have no way of knowing whether our heart action is strong or not, it is usually well to leave this drug alone. We have known of more than one case where death was caused by the use of bromo-seltzer for a headache. Taking drugs of this sort for minor ailments is a serious matter and something that should not be indiscriminately advised.

THE EDITOR.

The Farm Woman's Rights

While the suffragette is striving for the rights of woman at the polls and the club woman is bewailing her hard life, social, intellectual and physical, the farm woman is quietly gathering in the crumbs which fall to her lot, in some instances believing with her sympathizers that she is being woefully abused; but in the vast majority of cases she has awakened to her possibilities which belong with her rights, and is making good to herself, her family, and to the community.

She rejoices in the right to pure food. If there are some components of it regarding which suspicion necessitates the investigation of the pure food man, the essentials are under her own jurisdiction. Bread, meat, dairy products and fruit are hers in their original purity. Vegetables she may have fresh from the garden during several months of the year, and in various forms of her own choice for the remainder. The taint of suspicion is thus far removed, save in a very few products, and some of these may be easily eliminated if she wishes.

Pure water is another blessing which may usually be insured to the farmer's wife if she and her partner are of the proper stuff. It may be that the spring will need cleaning; that the old dug well be replaced by one driven so deep into the bedrock that surface contamination is impossible; that surrounding conditions be changed. But if there is a question regarding the condition of the water, it is her right to have it tested, and, if found wanting, due provision made for a new source of supply or a renovation of the old. Farm homes, as a rule, have a better grade of water than that pumped up from some lake or river to supply the city resident.

Best of all, she has a right to pure air. This may seem a very small matter, yet it is really a very great one. Man may live without food for days, without water for hours, but he cannot survive even minutes without air. Country air has few sources of contamination. The smoke nuisance is never thought of. High skyscraping walls do not shut in the air which has been used and prevent its free circulation and the admission of fresh breezes. If her windows are small, they at least open into the wide outdoors, and not into a narrow ventilating shaft, which is never wind-swept from the time of its erection unti the building is burned or torn down and replaced by one a few stories higher.

When doing her regular work there are many times more than she realizes that she can get a dose of this fresh air. Preparing vegetables for dinner, sewing, reading—these and many more things she has a right to do out of doors, at the same time breathing in the fresh air, which is the best of all medicines. If she has neglected to demand this right in the past, she is fast coming to the use of her own. From her fashionable sister she may have learned in part the advantage of the wide porch, the hammock and the shade of the old apple tree. But at this point she has resources which even the finest city resident cannot improve upon. Her plain chair in the yard may not be so luxurious, but the breezes are unrestrained by high walls, uncontaminated by smokestacks.

When a relative contracts tuberculosis and hastens to the wide sleeping porch for the only cure known to science, she recalls the fact that she has the best preventive in the world. With screens or shades, her sleeping facilities are the best known. And with pure food, pure water and pure air in unlimited quantities, what more can she demand?

Yet she does demand and receive much more. Every day the birds furnish sweet music in full orchestra, if she is up early enough to enjoy it—and she usually is, for she has found out that the cool morning is the ideal time for rushing the work in the mid-summer days. If she gets her rights in full, she will have learned to identify the bird notes; to know which birds destroy her cutworms, which ones feast upon the potato bugs, and which make havoc with the tent caterpillar household. But even though she does not care to take up economic ornithology as a study, it is her right to know birds in general, and catch a few stray minutes now and then to note their interesting habits. Life is pleasanter for the diversion.

It is her right to have more flowers in a month than most of her city sisters can afford to purchase in a year. First, she does not have to contrive a porch box tied to some window-sill in mid-air or on the house-top. Neither does she go to the expense of buying soil. Mother Earth, lavish always with those who get near to her, spreads out a whole lapful and says, "Take what you wish." Sand, loam and fertilizer from the barnyard are offered freely.

(CONTINUED ON PAGE FIFTEEN)

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6246—Ladies' Shirt-waist — This shirt-waist can be used to complete a dress or it can be worn with separate skirts. The long or short sleeves can be used. The pattern 6246 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2⅝ yards of 36-inch maerial.

6265—Misses' Dress—This dress shows a novel adaptation of the middy style. The plain blouse is gathered into a hip belt in Balkan style. It has the drop shoulder, sailor collar and inner shield of older models. It is worn with a four-gore skirt.. The pattern No. 6265 is cut in sizes 14, 16 and 18 years. Medium size requires 5 yards of 36-inch material.

6263 — Ladies' Three - Quarter - Length at—This is the favorite length for the summer coats. This model is altogether plain, with low crossover closing, edged with a shawl collar of contrasting fabric. Eponge, brocaded silk, figured crepe, rep, poplin and moire are used for these coats, and also light-weight serge. The pattern No. 6263 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4⅛ yards of 44 inch material.

6271—Ladies' Maternity Dress — This dress has an adjustable lining in the waist, which is trimmed with an ornamental shoulder yoke, and has a bias closing in front. It also has a drop shoulder and long or short sleeves. The three-gored skirt has a top extension for regulating as required. The pattern No. 6271 is cut in sizes 34 to 42 inches bust measure. Medium size requires 6½ yards of 36-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children, give number and age.

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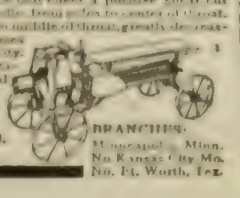

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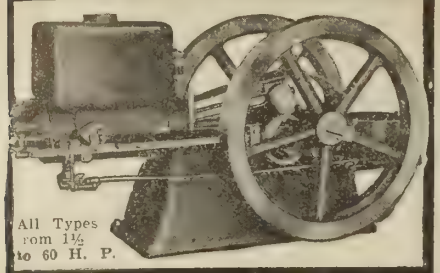

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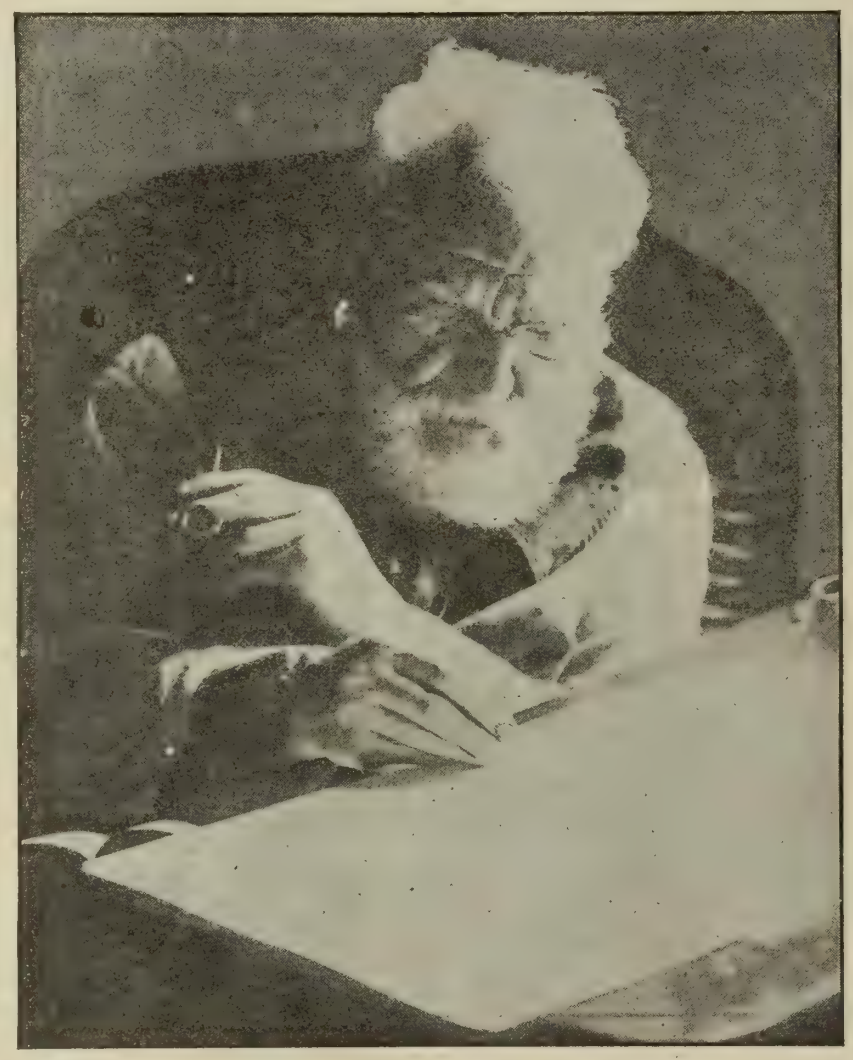
Dr. Alexander Graham Bell Still a Busy Man

By Frank G. Carpenter

WASHINGTON, D. C.—I want to tell you something about the intellectual methods of one of the greatest men of all times, to give you a peep, as it were, into that wonderful mind which, as far as human speech is concerned, has annihilated distance and has brought the hundreds of millions of the human race mouth to ear. I refer to Dr. Alexander Graham Bell, whose invention of the telephone has wrapped a network of quivering iron nerves about the globe and brought men's souls together.

The actions of Dr. Bell's mind that culminated in the telephone were completed more than a generation ago. That invention was patented in 1876, and the concept then brought forth will continue to work and grow as long as time shall last.



Dr. Bell's Mind is Brightest After Midnight. He Works All Night and Sleeps in the Daytime. (Photo Made in 1913)

Many Marvelous Discoveries

Ever since then the same mind has been working along inventive and scientific lines. It has created many new things which are known and has produced others which will come to light when its wonderful records are published. In 1883 Dr. Bell was one of the prime factors in the creation of the graphophone. A little later on he organized the movement for the teaching of speech to the deaf along the lines of visible speech, invented by his father, Dr. Alexander Melville Bell, and to a certain extent those of his eminent grandfather, Alexander Bell, who was an authority on phonetics and defective speech.

Later still, Dr. Bell took up the investigation of matters relating to aerial flight, bringing forth new basic principles of construction which have been of great value to aviation. In addition he has made investigations and discoveries along many other lines, his work concerning which has never been published. His mind, in short, is an intellectual dynamo driven at an enormous voltage by what seems to be perpetual motion.

I have seen some of the first workings of this mind in a model which Alexander Graham Bell made when a boy of a wax and rubber mouth, which would speak and pronounce the word "mamma." He was working at an invention of multiplex telegraphy, with wires attuned to the octaves of the piano, when he discovered the telephone, and his mental activity has continued from that time until now. He is now a half dozen years beyond that age at which Dr. Osler says all working men should be chloroformed, but his mind today is brighter and better than ever.

His Library of Records

The records of a mind like this are of inestimable value. Dr. Bell began to make them when he was inventing the telephone, and it was the dated records he had kept which enabled him to establish beyond doubt his priority of invention. This showed him the value of such records, and from then until now his mind has, as it were, been before the moving picture camera of his note books, and its actions are filed away for the future. He has kept records and notes of everything that he has thought or experimented upon since that time, and these notes now fill several hundred volumes, giving the complete story, as it were, of his intellectual life.

I spent a great part of last night with Dr. Bell in his library, and during my stay took a look at these books. They are full of photographs, diagrams, sketches and figures. Some of the work has been taken down by his secretary and written out by typewriter from these stenographic notes, but there are thousands of pages in the fine penmanship of Dr. Bell himself.

Within the last five years the manuscript volumes have been condensed into a series of digests, which have been issued from time to time in a typewritten journal, which Dr. Bell calls "The Beinn Bhreagh Recorder." Beinn Bhreagh is the name of Dr. Bell's summer home at Beddeck, Nova Scotia, and hence the name of the journal. This journal is issued in typewriting and there are only five copies. One of these copies goes to the records of the Smithsonian Institution and the others are distributed in different places, so that there may be no danger of loss by fire or flood.

Covers Wonderful Range

This digest has now been issued for five years, and the work already comprises thirteen volumes, each of which is as thick as the ordinary law book, having pages as large as those of an old family Bible. Each volume contains 500 pages, and, roughly estimated, about 200,000 words. In the whole thirteen volumes there are more than 2,000,000 words, and these represent the condensation of the workings of Dr. Bell's mind for the last five years only. In addition are the manuscript notes of more than twenty years preceding, constituting altogether a mass of material the contemplation of which makes the mind of the ordinary man buzz like an electric fan.

I wish I could show you these books. The thirteen volumes comprise the workings of Dr. Bell's mind after he had passed the Dr. Osler period. Take, for instance, volume two, giving the last three months of 1909. The index to the volume covers twenty pages, and the subjects include, among other things, experiments on aerial navigation, ideas as to the scientific breeding of sheep, and as to the utilization of waste heat, suggestions for a new metric system for the United States, experiments on preserving foods in paraffin, notes on eugenics and the detailed biological history of a cat.

As I looked over this book, I asked Dr. Bell as to whether his mind worked as well now as in the past. He replied:

"I have never felt stronger intellectually. My mind has a greater power of concentration than it ever had. It seems to be quicker, and it does not tire along the lines in which I am interested. I sometimes work for eighteen hours at a stretch.

His Habits of Life

Later in the conversation I asked Dr. Bell as to habits of work. He follows the same program he has always used. His afternoons and evenings are devoted to social and business engagements, and it is only some hours after dinner that he begins his intellectual work. His best

work is done at night, and he tells me that his mind is at its brightest from midnight on. He is then free from interruptions and can give his soul to abstract thought and scientific invention. Until very recently he has not gone to bed until 4 o'clock in the morning, and his present time of retiring is a little after 3. He sleeps from 3 until 10 or 11 and finds that this is all he needs. He sleeps out of doors. He has an open-air porch back of his library, and he uses this as his bed room. He has no trouble in sleeping, notwithstanding the porch is right over a playground where a little Montessori school of boys and girls are making the usual noises of children ranging in age from 4 to 8 years. He says that the noise affects him much the same as that of a sleeping car. One gets used to it and the mind takes no note of it.

This program for six days of the week goes on regularly, except when Dr. Bell becomes especially interested in some subject. At such times he may not go to bed at all, but will continue his work until he has completed that stage of his thought or investigation. He may work far on into the day, going for hours without sleep, and then sleeping for many hours at a stretch to make it up.

One Day of Solitude

I have said for "six days of the week." He has one day in every seven which is entirely devoted to his own intellectual existence, separate and apart from every other human being. At Baddeck he has a sort of retreat, consisting of an old houseboat, which he has erected on posts and which is hidden away far in the woods. He has a similar retreat in a cabin in some woods which are easily reached from Washington. On this day he leaves the maddening crowd and goes off by himself to do such special work as he may have on hand. He takes some canned food and other so-called digestibles with him and cooks his own meals, so that he is absolutely free from human interruption. This feature of his work is not generally known, but Dr. Bell tells me that he finds it of great value in the product realized and in the maintenance of intellectual and physical strength.

As to his night work, Dr. Bell keeps this going from day to day, year in and year out. When he is traveling by train he has the drawing room of the sleeper and carries on his night work there, and he does the same in his cabin on his long ocean trips over the world.

His Personal Appearance

It is interesting to know how a man who does as much work as Dr. Bell keeps fit. He is now in his sixty-fifth year and is the personification of intellectual and physical vigor. He is over six feet in height and must weigh considerably more than 200 pounds. He is, however, light on his feet, and his complexion is as clear and his eyes as bright as when I first met him fifteen or twenty years ago. I have spoken of his sleeping in the open air. He has done that for more than a generation and long before the open-air cure was advocated. He is not a great eater. As we sat in the library last night at about 1 o'clock the servant brought in a tray, upon which was his supper, which he takes at 3 a. m., just before going to bed. It consisted of a half dozen water-thin crackers, a bottle of Bulgarian milk or artificial buttermilk and a flask of distilled water.

Doesn't Care for Salt

The distilled water recalled to my mind a visit I had made Dr. Bell about seven years ago, just before I started out to make a long trip around the African continent. He was drinking distilled water then and I asked him why he did so. He replied:

"I have found that distilled water is a sovereign cure for rheumatism, at least as far as my own case is concerned. Some years ago I was afflicted with sciatica and was bedridden on account of it. The doctors could not find anything to relieve me. The attack came just when I was investigating certain subjects relating to the deposits of salts. One was as to the deposits of salts in the human system. A well known scientist had written a book in which he said that old age came from such deposits, and that the ills of advancing years were due to the lack of their elimination. This man thought that when such deposits went to the joints man had rheumatism. When they went to the kidneys he had kidney trouble and stones in the urinary organs, and when they lodged in the arteries they produced what is called hardening of the arteries. In the same way, when such deposits coated the nerves they produced sciatica..

"At the same time I had been studying about the Dead Sea, the Great Salt Lake and other bodies of water which have no outlet. They are, as you know, all salt. Well, it occurred to me that my body was much like the Dead Sea, and that it needed less salt coming in and plenty of ways to get the salt out. I tried drinking distilled water and it worked like a charm."

(Copyright, 1913, by Frank G. Carpenter)

The Farm Woman's Rights

(CONTINUED FROM PAGE TWELVE)

Her plot may be in shade or sun, according to her wish, and it is not usually restricted. If she has the determination, she may have flowers at all seasons, and have them in abundance during the larger part of the year.

Another right for which the rural free delivery has been in many ways responsible is to the best of literature. Books and magazines come to her almost as quickly as to the city resident. And there are household duties which she can perform while reading; and even when the work presses she may glean a single brilliant thought from the printed page, memorize it, view its beauty from all sides as she works, and thus find life no longer a mere plodding, but the beautiful creation which was intended by the Divine Power. And her clear head enables her the better to grasp ideas worth the gathering while in the daily round of duties than had she spent the morning hours recuperating from some notable social function.

The agricultural press has been a boon to her, and the end is not yet. Through it she finds short cuts to daily duties, methods for eliminating old routine tasks, hope for the future. She realizes that though agriculture seemingly stood still while the other industries moved forward, the advance call has now been heard in the rural districts. If the mowing machine and reaper were a generation ago among the rights of the progressive farmer, her turn has now come. The washing machine, bread mixer and cream separator have come to her aid, and with wind and gasoline harnessed she has little to do but to give the command and supervise its execution. She is in a new period, and the drudgery of the past may be banished if she but exercises her rights.

She has many means at her disposal of solving the pin-money problem. Dairy products and poultry bring gilt-edged prices in almost all markets; and, best of all, the supply never seems more than the demand. She can also find market for choice fruits and vegetables, fresh or canned. But, mind you, they must be of good quality. This fact insured, and the city markets are open to her. Private customers, who, once found, are stickers, will take good care of her products. It may require work, planning—but what that is worth while in this world does not demand these?

She is free to choose her own hours for work or play. The chicks may seem to confine her for a time, but it is not the demand made by shop, office or factory. She is practically independent. If she feels cross and blue, it is her right—as it may be her duty—to go out and breathe in a few lungfuls of fresh air. She will come in refreshed, better fitted for her part in the world's work and better fortified for keeping her place in the world. It is the right of the farm woman to stand on a high plane physically, intellectually and morally, and she is fast realizing this and appropriating it.

BESSIE L. PUTNAM.

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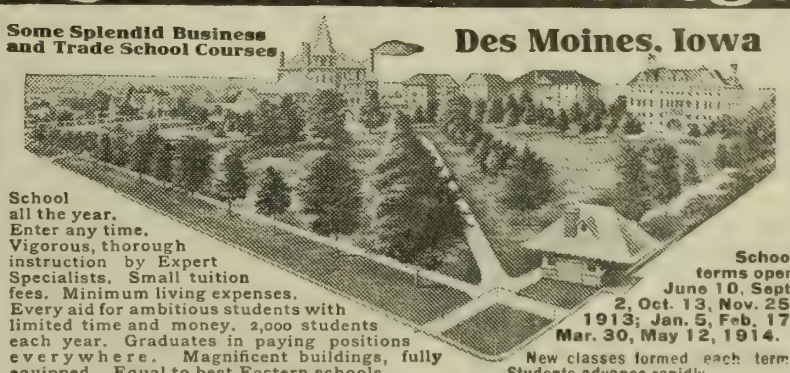

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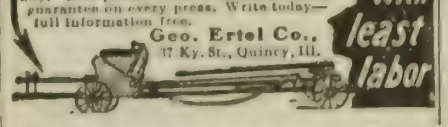

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My special "ONE DOLLAR OFFER" has pleased so many farmers that I have decided to keep it up for another month and thus let everybody take advantage of it. Here it is:

You send me one dollar and I will ship you, ALL FREIGHT PAID BY MYSELF, this, my new 1914 Chatham Grain Grader and Cleaner. Use the machine a month. If satisfied at end of 30 days, pay me my low cash price or give me your note, without interest, payable January 1, 1914. If not satisfied, return the machine at my freight expense and I'll return your dollar.

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The Chatham now handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all shrunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bully chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Easiest running mill on earth.

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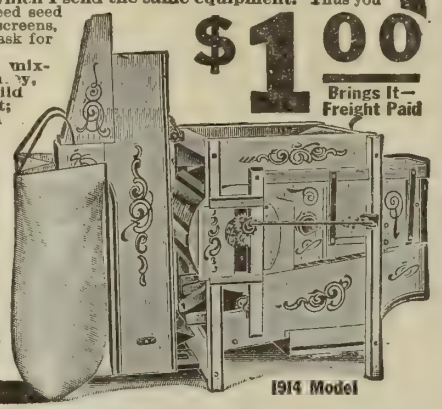

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Treatment for Founder Lameness

C. N., Lovelady, Tex.: In your No. 639 issue you are asked for advice in regard to a horse stiff in all its legs, which you could not give without a complete history of the case. Now, I come to you with the same complaint. I will endeavor to make it as plain as possible. About two months ago my horse seemed to be getting tender-footed in front, rested first one one foot, then on the other. After a few days he began to shift from one foot to the other all the time while standing. When I lifted his foot to clean out the hoof he would stand on his hind feet. A week or so later he got so he could scarcely get up after lying down, and would stand with all four feet close enough together to stand in a large washtub. When starting to walk, would hop off as if he were hobbled. Now, I have asked the advice of horse dealers, livery stable men and our veterinarian as to what the trouble is, and they all seemed to differ in their opinions. One says it is caused from hard driving; another says it is rheumatism; another says he has been foundered; still another says it is narrow heel. I have used every kind of liniment imaginable, but nothing has relieved him so far. After driving him a mile or two he travels better, and seems to be all right; but next morning it is the same old thing over again. Now, dear sir, if you can tell me what to do for him, I will be under lasting obligation to you, and will use whatever you think best for treatment.

Editor's Note—It is impossible in cases of lameness to form accurate notions as to the cause of the lameness. One might tell by watching a horse or by physical examination whether the soreness is in the feet or in the joints, or in the muscles. From the description here given one might reasonably conclude that the trouble is in the feet. It may be a case of chronic founder. Founder is known to the scientific men as laminitis, and consists of an inflamation of the laminae, layers in the structure of the hoof. This laminitis may be acute, or it may be chronic. Relief may generally be had by taking off the shoes and causing the horse to stand with both front feet in a half barrel; that is, the half of a barrel that has been sawed in two, in which there has been placed a thin flaxseed gruel as hot as the horse can stand it. At the beginning the heat should be moderate until the horse is accustomed to it. And then it may gradually be heated by the addition of hot gruel. There have been cases in which such treatment as this has produced permanent relief. In severe or chronic cases the treatment should be continued for not less than an hour and should be repeated so that there are two good treatments each day.

Futures for Young Men

J. O. W., Rock River, Wyo.: I am not a subscriber to the Twentieth Century Farmer, but I had the good fortune to pick it up this morning and read a little of its contents. I read a piece which had reference to the future for young men. The writer went on to say that he knew of a good many farmers that would like to have a good man on their farms. I may say that I have been on the farm and ranch all of my life. I was raised on a farm in the north of England, on which my folks are still living. They run sheep, cattle, hogs, and include with their work quite a bit of farming. I worked on Nebraska farms for more than two years and then came to Wyoming, where I have now been on the ranch and the range for three years. Now, if you think this letter worthy of an answer, I should be glad to hear from you. If you wish me to tell you anymore, I should be glad to do so. I hope you will help me to get a good position or refer me to someone that needs such a man as I am.

F. C. B., North Platte, Neb.: I write you in regard to farm or ranch overseers. Have you anyone on your list that requires such a man. Mr. H. F. Patterson wrote in the issue of July 19 that he knew of thirty or forty farmers that wanted men to manage farms.

J. A. K., Lawrence, Neb.: In your issue of the Twentieth Century Farmer of July 19 I saw the "Future for Young Men," written by H. F. Patterson, in which he said that he knew of at least thirty or forty farmers that are willing to pay a substantial salary to a man who will take charge of a farm business. I would like such a position. I have farmed all of my life, and am prepared to take a job of that kind. If you could give me the names of some of the farmers, or let them know about me, or, if you can't give me the desired information, give me the address of H. F. Patterson so that I could write to him. It would greatly oblige me.

Editor's Note—The article by Mr. Patterson published in this paper did not say that he himsef knew of thrity or forty men that would pay a substantial salary to a farm overseer, but that he had been told so by a noted editor. His purpose in writing the article was to encourage boys to go to agricultural chools and fit themselves to take such positions. A young man that has practical knowledge supplemented by a good technical education in agriculture can always secure such a position.

These letters are published here in order that anyone who may need help may know where they can find it.

Roasted Bugs a Delicacy

An insect much resembling the June bug, and found in great quantities in the high plains about Quito, the capital of Ecuador, is toasted and eaten as a delicacy by the natives of that country. They are sold in the streets in the same manner as are chestnuts in the cities of this country. The roasted bugs taste very much like toasted bread.

It is estimated that there are at least 2,000,000 gasoline or oil engines at work on the farms of the United States.

A potato drying factory, similar to those in operation in Germany, will probably soon be installed in Rosalia, Wash.

Timely Items of Interest to Poultry Raisers and Fanciers

The rooster's crow does very well
As "music" now and then,
But the thing that stands for something
Is the cackle of the hen.
While the first may crow the sun up,
We're not likely to forget
That a fresh egg served for breakfast
Beats the finest sunrise yet.
—Christian Science Monitor.

Eggs

Eggs are the most perfect type of food. They contain all the kinds of food necessary to sustain life, and yet one could not be healthy upon eggs alone, because they are too highly concentrated; therefore some bulky, starchy food must be served with them. This can either be potatoes, bread or rice, or all together. The white of an egg contains water, albumen and material for body building; the yolk contains the same, added to which is oil and sulphur. The egg fills nearly all of the shell, but, as the water evaporates fast through the pores of the shell on exposure to air, oxygen takes the place of the water; this changing the contents of the egg, decomposition takes place. Because water is heavier than what takes its place is why a fresh egg sinks in water and a stale one floats.

Leghorn hens belonging to P. G. Platt of Wallingford, Pa.; first pen for June in the second international egg-laying contest at Connecticut College. Their record is 126 eggs per month, in a month of warm weather.

Picking the Geese and Ducks

I saw a fine mess at a duck picking the other day. The owner did not know, and a neighbor, noticing the yellow tint of the feathers, told her the ducks were now ready to pick and would pick them out themselves and waste them if she did not get ahead of them. She trolled them into an old shed by scattering grain along, then fed them heavily after she got them in. An hour or so after she began picking them, she had a considerable amount of soiled feathers to throw away. Feeding was not the thing to do. When we picked geese we gave them no feed at all the day we picked them; even if they were not to be picked until afternoon, we gave them no breakfast. They were fed well as soon as picked.

Ducks, as a rule, can be plucked oftener than geese, say every four weeks after their heavy laying season is over, and geese every six weeks. If blood or flesh cling to the feathers, then you have picked too soon and they must wait a few days longer. Never mix geese and duck feathers unless specially for your own use, or by request, as duck feathers do not sell so high on the market as goose feathers, and neither do they wear so long. I have seen beds made of goose feathers that were plucked a hundred years before and in constant use all of that time.

Always dry the feathers in sacks made of some thin material like cheese cloth, and let a good, hot sun do the curing, nothing else. If for sale, keep the dark and white feathers in separate sacks; that is, if some of the flocks are white and some dark. Dark feathers are not quite so high-priced as white, and if they find much dark in the white, they dock you on the price.

Silage for Fowls

When feeding silage to the cattle the farmer often has wondered over the appetite the chickens show for the sour stuff. After a taste or two they seem to avoid it for a while, but there comes a hungry time when, other food not forthcoming, they again try it. Next they fight greedily between themselves for every morsel dropped. It has been discovered that they do well and fatten on it, and the winter egg supply increases if they are allowed free access to it. Whatever in silage seems good for the cow seems good for biddy. Now, there are farmers who put up small silos for the benefit of the chickens. Anything that is put up as silage for chickens, and in fact any animal, must not be put up too green; that is, green enough to be immature, as this makes it too sour.

IDA M. SHEPLER.

The State Agricultural College at Corvallis Ore., reports a hen which has a record of ninety-nine eggs in 100 days.

Make Every Acre Pay Biggest Profits

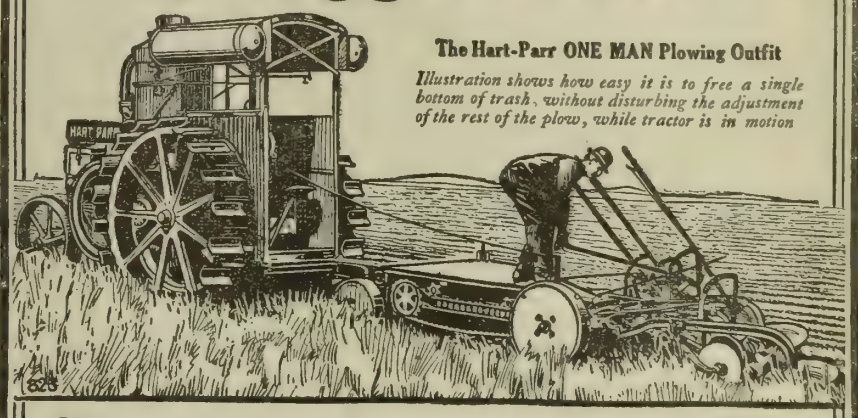

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Illustration shows how easy it is to free a single bottom of trash, without disturbing the adjustment of the rest of the plow, while tractor is in motion

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Illustration shows how Hart-Parr "Hold Fast" lugs grip the ground and pull out straight away without tearing up the soil.

94

is the foundation of an ideal, mellow seed bed—one that is best for seed germination and growth. But early fall plowing that is deep enough to secure best results would ruin the sturdiest horses and prove a costly operation. Instead of risking your horses, do your fall plowing with a

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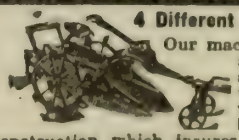

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Review of Live Stock Market

By A. C. Davenport

WRITERS in the public press have advanced a number of reasons for the rapid decline in the cattle industry of the United States, many of them based on well established facts and others merely ingenious in their conception. The public was slow to believe at first that there had been a steady decrease in cattle production for a number of years, and when that could no longer be denied, were equally slow to accept the explanations given. It did not seem reasonable that in a great agricultural country like this the live stock industry could be declining during a season of great prosperity when other industries were being rapidly developed and expanded.

Within the last few days Omaha has been given an actual demonstration of the process by which the cattle industry has been brought to its present condition and the supply of cattle reduced to a point far below the requirements of a country having the population and wealth of the United States. The Omaha market reports of last Monday contained this item, "Nineteen heifers averaging 760 pounds, $8.50." In all probability most stockmen, as their eyes caught that sale thought, "must have been pretty good stuff," and read on through the market report without giving this particular sale any further consideration or fully realizing its real significance. As a matter of fact that sale, occupying less than a line in the market report, contained in itself the explanation of the decline of the cattle industry. It was more than an explanation of the cause, it was the cause itself.

Those heifers were choice yearling pure breds of one of the best beef breeds and in all reason should have gone to some farm or ranch to reproduce their kind and increase the cattle population, but they went to a packing house. Why? The owner's explanation covers the ground: "I had to reduce my cattle holdings and the packer paid me more than the farmers or breeders would pay. I hate to think of their being slaughtered, but of course a man selling stock sells to the highest bidder." There you have it in actual market transactions, the real reason for the decline of a great industry. The packer will pay more than the breeder and cattle are going to the shambles that for the good of the industry ought to be going to the vacant pastures of the west and south.

Influence of Weather

The weather, through its influence on the corn and fodder crops, is the dominating feature of the live stock markets of the country and will undoubtedly continue to be until the outcome of these crops is more certain. Every recent move made by the markets, every price fluctuation, if traced back to its origin, will be found to have been inspired by weather and crop conditions. But even when this fact is fully recognized it is not always an easy matter to figure out just what influence a certain kind of weather may have on the live stock trade. Thus at first thought dry weather and a prospective short crop might be interpreted to mean higher prices for live stock, as it takes fodder and corn to produce fat stock. On the other hand dry weather that would cut short the corn and hay crops as well as the grass in pastures and on the range might have the opposite effect for a time. The first effect of a shortage in feed is to hurry stock to market, and premature shipments of stock, by temporarily overloading the markets, sometimes result in sharp price reductions although later on higher prices may be brought about. The fact is that the influence that the weather may have on the market is about as difficult to foretell as the weather itself.

Heat Lessens Demand for Beef

During the week just closed liberal receipts of cattle at most market points caused a little break in prices. Continued hot weather invariably cuts down the consuming demand for meat products of all kinds and the season of the year is also at hand when vegetables are both plentiful and cheap, at least cheaper than beef in many localities. The prevailing price of beef is also very high and there is no question but what the public is to some extent at least keeping its purchases down to the lowest point possible. Thus the consuming demand is reduced to such an extent that a smaller number of cattle will break the market now than at other seasons of the year. Still after taking off 15 to 25 cents the price of fat cattle is very high and sellers as a rule are very well satisfied. As a matter of fact they have good reason for being pleased with current prices as the cattle coming forward are generally making fair profits for the feeders. Range cattle are becoming somewhat more numerous at leading market points and they, too, have commanded very high prices considering kind and quality.

Plenty of Hogs Coming In

Hogs were good sellers during the last week of July, but prices eased off somewhat under the influence of free marketing. Prices are very high for this season of the year and packers are ready to take advantage of liberal receipts to gain some little advantage. The immediate future of the market is dependent very largely upon weather conditions as noted above. Continued dry weather might possibly have the effect of inducing the premature shipments of hogs, farmers figuring that it would be better to except prevailing high prices and save their feed. The movement of dry weather stock would, while tending to depress the market temporarily, reduce the country supply and might lead to better prices later in the year. That as a matter, of course, is mere supposition.

Sheep and lambs have been easing off a little of late and there are a good many in the trade who feel that this movement may continue still further. Prices as a matter of fact have been very high and quite a good many operators on the market are predicting that fat range lambs will sell at Missouri river markets at $7 and under. One thing that has helped depress the market on killers is the fact that a very large percentage of the lambs coming forward have been fat enough for killers leaving only a small percentage for feeders. As feed on the range has been good it is presumed that there wil be a very liberal supply of killers throughout the year.

Thus far the demand for feeding sheep and lambs has not been especially large. The country has been sending in a few orders, but as a rule there is a disposition on the part of would-be buyers to await the outcome of the crops before buying to any extent. With the prospect that receipts of sheep and lambs will be very large, there is a general feeling in the trade that prices for feeders will be lower. With a bumper corn crop and with a shortage of feeding cattle the country demand for feeding sheep and lambs might be sufficiently large to maintain high prices even in the face of large runs.

What is Baby Beef

Baby beef is the prize meat and is produced by rushing a young animal to the feeders perfection. Baby beef, in its technical sense, is not merely young beef; it is a young beef animal, from a year to a year and a half old, that still retains its baby fat. A calf comes with a pretty good supply of flesh and so long as it has milk enough from its mother to satisfy its hunger that fat is retained. If nature's milk supply falls short and there is no feed to take its place the calf falls off and the baby fat is consumed to supply the needs of nutrition. This fat once lost can never be replaced. The calf may be fed abundantly and get fat again, but the flesh of that animal is never quite the same as it would have been if it had not been allowed to become thin, and the youngster is bound to be a runt. When calves have a hard time on the range there never will be that fine mingling of lean and fat that makes the highly prized beef that resembles the marking of marble. The purpose of the baby beef business is not strictly to produce this quality of meat, but to so feed the calf that the beef it makes will be of superior quality, and to mature it in the shortest possible time.—Stock Yards Nugget.

Fewer Birds and More Insects

Several days ago there appeared in the news columns a number of stories of insect pests, grasshoppers, worms, San Jose scale, chestnut blight and so on. These stories are nothing new. We have been familiar with them for many years, and they have afforded an always ready and excellent excuse for crop shortage, inferior and undergrown fruit, high prices and nearly all the other ills the farmer is heir to. The methods and processes of combating the evil have increased and multiplied and been reduced to a science. Every year the farmer must expend more cash, more time and more labor to overcome the insect pest. Everything must be sprayed, from the orchard to the potato plants. Of course it costs money.

Let's go back a little. How did the farmers do in the early days of the country? Did Washington have an outfit of spraying machinery and "insecticides" on his 3,000-acre plantation before the Revolution? To go back a little further, did the Indians, hundreds of years earlier, have any insect ravages? No more than the middle of the Atlantic Ocean. And why? Because nature kept things evenly balanced. The insects were kept down by the birds. We of this prosaic and metropolitan generation cannot appreciate the teeming bird life of the forests of a century ago. Civilization, the pot-hunters, the sportsmen and women's hats have all but exterminated the birds of the country, and so it is the insects have stolen a march on the crops.

I walked recently from Overbrook to Media by way of Marble. The roads lead through the wildest part of Delaware county. In all that walk of fourteen miles I saw less than twenty-five birds, as follows: House wren, meadow lark, robin, catbird, goldfinch, vireo, chippie and song sparrow. On another walk of nine miles in Delaware county birds were similarly scarce.

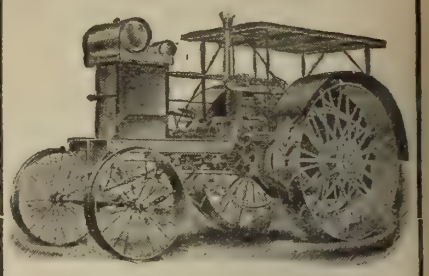
Is it any wonder the ants flourish and the grasshopper is a burden?—A. C. Hart in Philadelphia Record.

The Fremont (Neb.) Power Farming Demonstration to be held September 8 to 13 will be the biggest and most educational thing of its kind ever held anywhere.

What a Sparrow Did

What is perhaps the most remarkable accident that ever occurred was reported last month from Germany. A large touring car was traveling at fair speed along a boulevard lined with trees. Large flocks of sparrows were in the trees, and several boys were taking chances of being arrested by the police by shooting at the

THE FLOUR CITY



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The Twentieth Century Farmer has been giving away handsome Wm. Rogers & Son's silver teaspoons. Forks of the same pattern have now been obtained. Because of the extra expense in handling the forks, and in getting the designs, the price for mailing is 20 cents. You may still get the spoons, each, for 10 cents. Complete your set of spoons, and also get the forks. Start now.

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birds with sling shots. One pebble, particularly well aimed, struck a sparrow on the upper wing and sent him gliding through the air directly toward the driver of the car; the bird struck him full in the face, and in the next instant things began to happen. The driver clutched at his eyes, the car lurched into the ditch, knocking down a telegraph pole, vaulted to a plowed field on the other side of the ditch, and went full force into a huge haystack. Despite this wild swerve, no one was even scratched except the driver, whose eyesight was damaged by the claws of the sparrow. The whole incident had taken far less time than needed to relate it.—Theodore M. R. Von Keler, in Leslie's.

Harvest Festival at Aurora

July 23 was "Harvest Festival day" in Aurora, Neb. A large crowd, representing all parts of Hamilton county and adjacent counties, was there. The day's program began at 10:30 with a parade. There were prizes awarded for the best decorated Shetland pony and buggy, the best decorated automobile and the best display of the business men. In the afternoon the program began with a water fight by the fire boys. There were races for the big boys and little boys, and a base ball game between Hamilton and Aurora, the latter winning 3 to 1. In the evening there was a free moving picture show on the court house lawn, and the band boys furnished music for a dance on the pavement.

Breeders' Notes

Unitt's Duroc-Jerseys

We called on our old friend, W. G. Unitt, at Seward, Neb., a few days ago and found him busy threshing thirty-seven-bushels-per-acre wheat. Mr. Unitt has one of the very best stock farms in the state, located about three miles from Seward. It is equipped with every modern convenience and certainly makes farming and stock raising a pleasure instead of drudgery. Mr. Unitt has been breeding Duroc-Jersey hogs about as long as anybody in Nebraska. His crop of spring pigs this year is far below the usual number, due to the fact that he experienced some trouble in his herd in the early part of the season. However, what he lacks in quantity he will make up in quality, and will have a number of mighty choice males to offer a little later on. These pigs are sired by Colonel Wonder by Colonel Wonder I, a Colonel Crimson Wonder bred boar. They are out of dams sired by Unitt's Choice Goods, Nebraska's Proud Chief, Unitt's Critic and others. Mr. Unitt will have a few choice Polled Durham bull calves to offer at a later date, as well as the Duroc-Jersey boars above mentioned. Just keep his name in mind and write him when you are in the market for anything in his line. Kindly say you saw this notice in the Twentieth Century Farmer.

Shetland Ponies for Sale

S. T. Campbell, Forty-third and Center streets, Omaha, Neb., is advertising a number of Shetland ponies for sale elsewhere in this issue of the Twentieth Century Farmer. They consist of ten head of mares and one stallion, all well marked. Mr. Campbell is pricing these ponies at a reasonable figure and we trust that anyone wanting something of this kind will write him, mentioning this paper.

Red Polls for Sale

W. F. Schwab, the old-time breeder of Red Polled cattle at Clay Center, Neb., still has a number of young bulls and a choice lot of Red Polled females that he is offering for sale at reasonable prices. Mr. Schwab has one of the largest herds in the west and is in a position to supply prospective purchasers with almost anything they want in his line, up to carload lots. His herd is possessed of plenty of scale and is also strong in milking qualities. If you are in the market for some of these great dual-purpose cattle, write him for further particulars, mentioning this paper.

Holstein Cattle for Sale

Dr. B. B. Davis, room 200 Bee building, Omaha, Neb., proprietor of Friesland Farm Holsteins, still has a number of very choice females of different ages for sale; also a number of good young bulls coming on. They are sired mostly by Kalmuck Skylark Johanna and King Segis Lyons. The young bulls are all from specially good A. R. O. dams. Dr. Davis makes an especial effort to keep his herd up to a high standard. It is doubtful if there is another breeder of Holstein cattle in the west who culls his herd as closely as he does. Every breeding animal in the herd must conform to a certain standard, else it does not stay there long. When you buy anything from him you are absolutely sure that you are getting the very best there is to be had. Do not fail to write him if you are in the market for something in his line. You can rest assured he will treat you right. Kindly mention the Twentieth Century Farmer when writing.

LANDS

Farms Wanted

FARMS WANTED—WE HAVE direct buyers. Don't pay commission. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 69 Palace Bldg., Minneapolis, Minn.

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WANTED — CORRESPONDENCE with prospective buyers of improved Idaho lands. Box 711, Blackfoot, Idaho.

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100 CHOICE FARMS IN THE GARden spot of southern Minnesota, where corn is king. Price, $60 per acre and up. Prices rapidly advancing. Come now. Free list. The Paffrath-Schmid company, Springfield, Minn.

400-ACRE FARM, ALL CULTIVATED, well improved, Red River Valley. Price, $40; easy terms. William F. Gilbert, Crookston, Minn.

FOR SALE — RICH, PRODUCTIVE 160-acre Red River Valley farm; good neighbors; healthy country; fine markets and a bargain at $5,000. Terms $1,500 cash, balance easy. Frank P. Cleveland, owner, 1315 Adams Express Bldg., Chicago, Ill.

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WOULD YOU ENJOY A CONSTANT, everlasting income of from $1,000 to $5,000 and more per year? Then buy the 10-year-old bearing paper-shell pecan grove of eleven acres—part of the late Senator Money's great Rose Farm estate, near Ocean Springs, Miss., where ocean breezes, artesian water and fine pecan and orange groves abound. A most enjoyable place to live both winter and summer for old or young. Price, $5,500—just half its value. Terms, $2,000 cash, balance long time, 6 per cent. For full particulars, address M. R. Hicks & Co., Ocean Springs, Miss.

PINE LANDS IN MISSISSIPPI AND Alabama, for stock raising, general farming, etc., $4 to $10, 40 acres and up. Elevated country. Good water. Large timber removed. Terms, one-fourth cash, liberal terms on balance. For folder, maps, etc., sent free, address Mr. Geo. Kilborn, Box 212, Mobile, Alabama.

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GOOD 164-ACRE FARM, VERY GOOD improvements, finely located, 12 miles from Nevada, Mo., all under cultivation. Will sell on easy terms or take part unimproved land in Nebraska. S. G. Hunter, 2812 Cottage Grove Ave., Des Moines, Ia.

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640-ACRE FREE HOMESTEADS IN Nebraska. Send $2 for complete map of land opened to entry October 1, 1913. A. J. Van Antwerp, County Surveyor, Broken Bow, Neb.

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Wyoming

BLACKBURN FARMS CROP CONDItions are the finest ever known. Wheat, rye, alfalfa and all the grasses grown there are doing remarkably well, while potatoes and vegetables promise equally well. This is a natural stock and dairy country, because the climate is suited to it. The wonderful endurance of the western ranch horse is due to the climate, good water and succulent grasses, as you know. Meat exposed to air there will cure as it hangs. Disease microbes can't live there, so hog cholera is unknown. What a place for the dairy and hog farm! But corn don't grow there, you say. Yes, that's true, but barley has more fat-producing qualities than corn, and you can produce as many bushels per acre, so it's really more profitable to feed barley. The alfalfa does so well in quantity and nourishment that a combination of barley, alfalfa, field peas, pure water and air makes the finest flavored meat and plenty of it, bringing highest prices. With hogs at present prices, and no fear of disease, who could not make a fortune raising Duroc-Jerseys in a few years? Water system in use over twenty years. This section has gold, silver, lead, coal oil, gas, soda, cement rock and granite, and only 573 miles from Omaha to Laramie station. Our interesting illustrated booklet tells you much more free. We make a matchless offer. Excursions every day, at very low-cut rates. Write quick. Laramie Development Co., by Thomas Campbell, Ass't Sec'y, Omaha, Neb. Doug. 4823.

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Sale Dates

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September 27—Robert Lersy, Wisner, Neb.
October 3—John Bader, Scribner, Neb.
October 9—William Modrow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.

Poland-China Hogs

October 16—Thomas A. Hattock, Hastings, Neb.
October 17—Thomas P. Walker, Alexandria, Neb., sale at Deweese.
October 30—William Engelson, Scribner, Neb.
October 30—Tim Neuhofel & Son, Central City, Neb.
November 1—J. L. Salmon, Alexandria, Neb.

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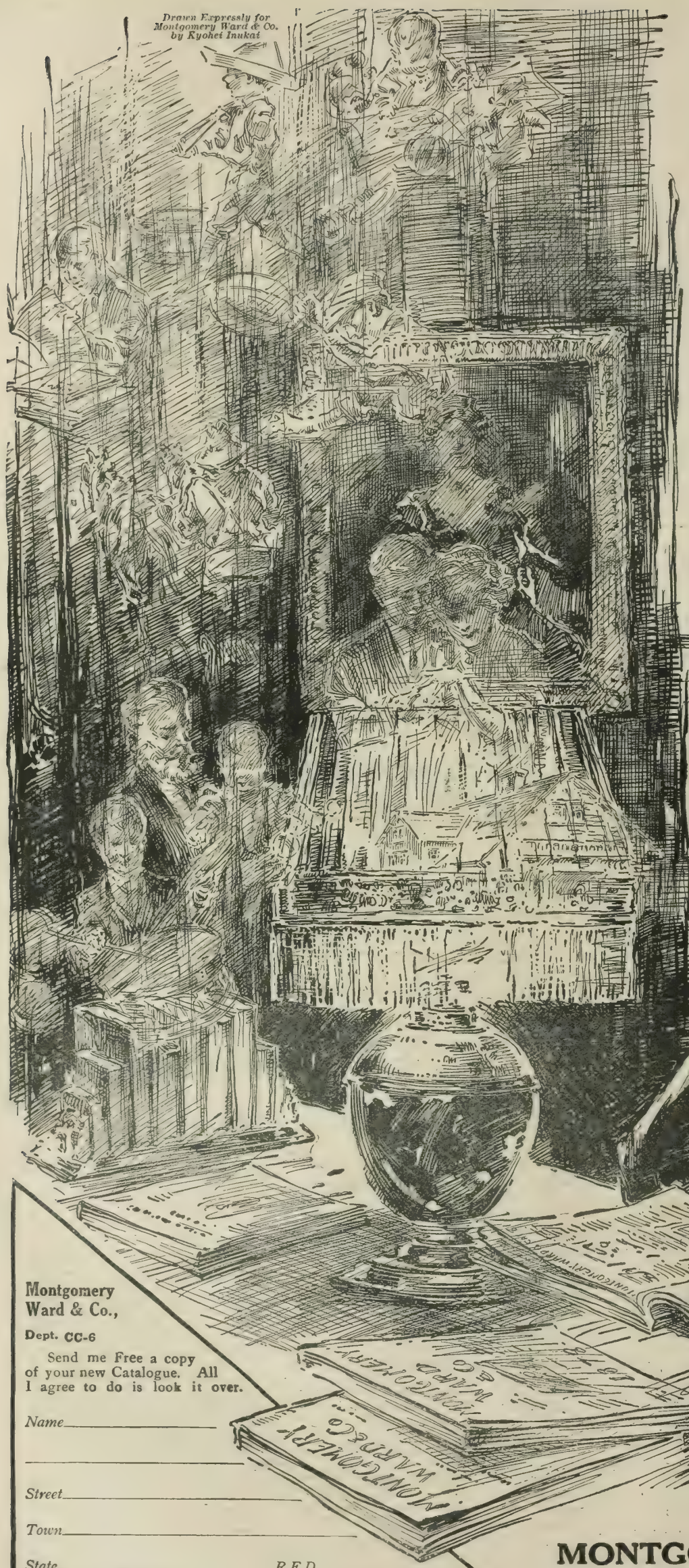

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>
> (*Name and address furnished on application.*)

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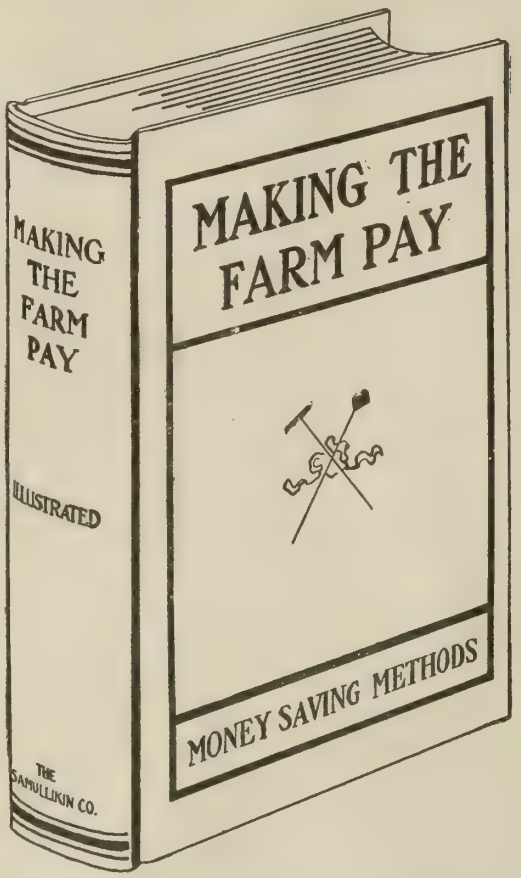

Size of book 6½x8½ inches. Bound in extra heavy cloth. Contains 500 pages.

7—Because it shows how to MAKE and FILL a silo and explains the VALUE of silage to the average farmer. It gives many rules on measuring feed and grain and many valuable hints and helps for every farmer.

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Husband—Your extravagance is awful! When I die you'll probably have to beg!

Wife—Well, I should be better off than some poor woman who never had any practice.

Better Late than Never

Briggs—Everybody should lay up something for a rainy day.

Griggs—True, but too many wait until it begins to sprinkle before starting to do so.—Boston Transcript.

Misapprehension

"How is your garden getting along?"

"Why do you ask that question?" demanded the suburbanite, suspiciously.

"Merely out of politeness."

"I see. I thought maybe I had promised you some vegetables."—Houston Chronicle.

Heavy Reading

General Nelson A. Miles tells, with characteristic brevity, this story of a friend who, after a long siege of typhoid fever, was permitted to eat a mere spoonful of tapioca. When the nurse had refused the hungry patient more food, he turned to her and said, with a peevish gesture:

"Now, I want to read a little. Bring me a postage stamp."

Popular Man

"Although I was traveling incognito," mused Plodding Pete, "I was received with marks of distinction too numerous too mention. People of wealth and position vied for my attention."

"What are you doin'?" asked Meandering Mike, "dreamin' out loud?"

"No. I'm talkin' about when I was in Nebraska pretendin' I was a farmhand lookin' fur work."

Husband's Contribution

The minister's wife was busily engaged one afternoon mending the family clothes, when a neighbor called for a friendly chat. After a few moments of news and gossip, the caller remarked, as she began to inspect a basket of miscellaneous buttons: "You seem to be unusually well supplied with buttons of all kinds. Why, there's one like my husband had on his last winter's suit."

"Indeed," said the minister's wife, with a slight smile. "Well, all these buttons were found in the contribution box, and I thought I might as well make use of them. What—must you go? Well, good day. Come again, soon."

Homeopathic Doses

The testimony brought out at the trial of Colonel Roosevelt's case in Marquette, Mich., reminds a Kansas story teller of this incident: Once there was a college professor who had been a total abstainer all his life. He became run down in health and had no appetite, and his family physician recommended that he take a little beer before each meal. In a week he reported to the doctor.

"That beer has done me no good, and I have taken it regularly before meals each day."

"Uh huh," said the doctor, "how much did you take at a time?"

"Why, doctor," said the professor, "I took a teaspoonful before each meal—in a glass of water."

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Special Fall Fairs Number

DURING the latter part of August the annual series of state and county fairs will begin. Our next issue will be devoted largely to the subject of fairs. We would especially call the attention of our readers to our cover page design and frontispiece, showing fine specimens of show stock. In this number Farmer Putnam will tell his experiences at a state fair, and there will be a special article treating of the practical value of the fair in its various phases. You will also find some special information regarding the fairs in our territory.

The Twentieth Century Farmer will have booths at the Nebraska and Iowa State Fairs, where a representative of the editorial staff may be found, and where the editor of the household department will be present on the days announced on the women's page. Our readers are cordially invited to call for a rest and to talk over with us the various subjects in which we are all interested. We desire to meet and become personally acquainted with as many of our friends as possible.

Prattle of the Youngsters

Easily Fixed

"You must not eat any more tonight, Willie," said his mother. "Don't you know you can't sleep on a full stomach?"

"That's all right, mamma," replied the youngster. "I can sleep on my back."

An Object Lesson.

Willie owned a flock of bantams, but was not satisfied with the size of their eggs. The bantams were much surprised one morning to find turkey eggs in the nest with a card which read: "Look at this and do your best."—American Boy.

A Commandment.

A teacher in a big elementary school had given lessons to an infants' class on the ten commandments. In order to test their memories she asked:

"Can any little child give me a commandment with only four words in it?"

A hand was raised immediately.

"Keep off the grass," was the reply—Newark Star.

Valuable Antique.

An old gentleman was proudly exhibiting his collection of antiques to a friend who had called to see them.

"That table," said the happy owner, "is 500 years old."

"That's nothing," came the startling remark of the visitor's young son, who was accompanying his father. "We have a table at home that is 3,000 years old."

"Impossible, my boy, impossible," cried the old gentleman. "What kind of a table is it?"

"The multiplication table," the lad answered, with a mischievous grin.

The Whole Truth

Father was on the warpath and when at last he came across Willie in an old corner of the garden the engagement commenced.

"Willie," demanded Mr. Smith, "have you eaten any of those large dessert pears I left in the cupboard?"

"Pa," replied the young hopeful, "I cannot tell a lie. I have not touched one."

William senior eyed William junior wrathfully.

"Then how is it," asked the parent, "that I found these three cores in your bedroom, and there is only one pear in the cupboard?"

"Father," said Willie, with an eye on the garden gate—"father, that's the one I didn't touch."

He Knew Then.

When the iceman came out of the house he found a small boy sitting on one of his blocks of ice. "'Ere," he roared, "wot are yer a-sitting on that for? Git off of it!"

The small boy raised a tear-stained face. "Was you ever a boy?" he queried faintly.

"Of course I was," said the iceman, fuming. "But—"

"And did you never play truant?" cut in the youngster.

"Of course I did," snarled the iceman. "Now then you—"

"An' when you got home did yer father take a stick an'—"

"Sit where you are, my little man," the iceman said, gulping. "I understand."—Ladies' Home Journal.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Truth About Silos---Reliable Information

III---Temporary Expedients Adopted by Farmers Not Yet in a Position to Attempt Permanent Structures

THE use of the silo in this territory has not yet been fully tried out. To be sure, wherever it has been tried, under proper conditions, it has proved very profitable. But the farmers, as a rule, have been slow to invest in silos until they could be assured by the experience of their neighbors that silos are profitable. Under these circumstances the farmers in many cases have been unwilling to make heavy investments in silo construction, and have adopted temporary expedients until such time as their experience and the state of their finances would justify the erection of a permanent and easily managed silo.

The Pit Silo

One of the expedients for permanent surface construction that is being very widely adopted by the farmers in this territory is the pit silo. These silos are of different shape and different construction, according to the soil conditions under which the builder must operate. Pit silos have been in use for more than fifty years on the continent of Europe, and have there demonstrated their value in preserving silage for live stock consumption, and their economy in construction. The form most ordinarily adopted, where the conditions of the soil will warrant such construction, is to excavate in the ground a cylindrical hole from twelve to fourteen feet in diameter and not less than twenty feet in depth. In cases where the condition of the soil was such as not to permit such deep excavation, a rectangular trench from eight to ten feet wide and the same in depth and extending in length as far as might be desired has been excavated in the subsoil and filled with silage. Such a silo as this would need adequate roof protection. One of the arguments against the use of such a silo as this is the unnecessary amount of waste that must necessarily follow the use of such a silo. There is too much surface exposed to the air to prevent excessive decay and loss. And yet it might be better to suffer such waste than to pay an extortionate price for an above-ground silo.

The best form of the pit silo is the cylindrical silo. The very best form of cylindrical silo, and perhaps, taking all points into consideration, the best silo made, is one that is excavated near the edge of a bluff so that a tunnel can be run from the bottom of the silo to the foot of the bluff, and silage conveyed by a litter carrier to the feed racks in the feed lot at the bottom of the bluff. Such a silo may be seen on the farm of Peter Berquist near Atlanta, Neb., and a picture of the same is shown herewith. Another form of pit silo is one in which the silo is made to extend above the ground by masonry construction to whatever height may seem desirable. Such a silo as this is called a semi-pit silo, and herewith is shown a picture of such a silo on the Chase farm near Pawnee City, Neb.

Among the advantages claimed for a pit silo there is to be mentioned, first, that it is a permanent structure when it is properly built. It will last indefinitely. It is good for succeeding generations when properly constructed and properly cared for.

Another advantage is the exceedingly low cost. The farmers, as a rule, where such silos are to be made, do the excavating themselves. In some cases they change work with one another, thus saving expense in money. The only expense, then, is for cement and the sand necessary for the concrete plastering on the wall of the silo, and for the concrete collar about the top of the silo. When built in this way, pit silos from sixty to 100 tons capacity have been built at an expense not to exceed $40. This cheapness of construction makes this form of silo very attractive to the farmer whose soil is of such a character as to permit such excavation as is necessary.

Another consideration favorable to the pit silo is that the silage in such a silo never freezes and is always in the very best possible form for feeding.

Another thing in favor of the pit silo is that no expensive or powerful machinery is needed for filling it. With the above-ground silo it is necessary to have heavy and expensive machinery in order to cut the silage and deliver it through a blower into the top of the silo. With a pit silo any common feed cutter may be used, and the silage will fall directly from the cutter by gravity into the silo. This of itself is an item important to consider when the great expense of the power ensilage cutter is taken into account.

These different considerations have been studied by the farmers, and the result has been a rapid extension in the use of pit silos throughout this territory. There can be no doubt, however, that much of this growing favor of pit silos is due to the exorbitant price that has been placed upon their product by those who have been trying to form a silo monopoly. Farmers are unwilling to incur such an enormous initial expense, and will resort to almost any expedient to escape it. If the silo combine had had common commercial insight and foresight, they would have served their business better by selling their silos at a fair margin of profit.

Disadvantages of the Pit Silo

There is only one disadvantage connected with the pit silo. This consists in its unhandiness, and in the extra labor required to elevate the silage from the pit, and also the extra labor required in cleaning the silo after the silage has been exhausted. This labor, however, may be to a great extent lessened or avoided by using proper mechanical appliances for the purpose. By erecting a hay carrier track in the top of such a silo and attaching to it a basket for lifting the silage, a horse on the end of the tackle rope will lift silage enough for a large herd of cattle in a comparatively short time. It will be economy for the users of all pit silos to install such a hoisting apparatus to be operated by a horse or by a small gasoline engine.

Construction of the Pit Silo

The first step in the construction of a pit silo consists in affording sufficient protection to the edge of the excavation to prevent crumbling or caving. An exact circle should be marked out on the ground of the size of the proposed excavation. Immediately outside of this circle a trench should be excavated not less than eighteen inches deep and not less than one foot wide. This trench should be filled with concrete properly made. Advice as to the proper mixing of concrete will be given in a subsequent article in which the building of concrete silos will be considered. As soon as the concrete in the trench has set and sufficiently hardened the excavation may be proceeded with.

It is much better that the earth from the excavation should be carted away, where it may be most needed, so as to prevent an untidy and useless accumulation about the silo. This may be easily done if proper arrangements are made for accomplishing this purpose. A hay carrier track should be arranged above the proposed excavation at sufficient height so that the dirt from the carrier may be dropped into a wagon placed for the purpose of receiving it. This track should have an upward slope toward the wagon so that when the carrier is unloaded it will return of its own weight to the stop, which should be placed exactly above the middle of the silo.

The carrier is best made of a strong box with a hinged bottom, with a fastening that may

A Twentieth Century Farmer

Nebraska is a state of possibilities. The men who came here in the early days and put energy and horse sense into their work have reaped rich harvests from her soil. On the opposite page we show a view of the home of Gus Summick of Waterloo, Neb. He came to the state some thirty years ago and went into the farming business in a business-like manner. He now owns the home farm of 160 acres and three other farms in Nebraska — two eighties and another 160. He is a director in the bank at Waterloo and has stock in the telephone company. He has ten children, but they didn't all get into the picture. The Twentieth Century Farmer has been a weekly visitor at his home ever since it was first published and we count the Summick family among our best friends.

Pit Silo on the Farm of Peter Berquist Near Atlanta, Neb. An Ideal Silo in an Ideal Location

Semi-Pit Silo on Chase Farm Near Pawnee City, Neb.

be easily secured and easily loosened. This may be attached to the hay carrier by chains or ropes so arranged that the box when loaded will balance. A horse on the end of the tackle rope or a gasoline engine wit' a lifting appli·ance will do the lifting. When this appliance is arranged in a satisfactory manner it becomes an easy matter to take care of the earth from the excavation.

The excavation should be made in such a way that the walls are perpendicular and smooth. When the excavation has been carried to about ten feet, and this distance is chosen because experience has proved that it is most satisfactory for the purpose, the walls of the excavated part should be given a good coating of the best cement concrete mixture. This should consist of not less than one part of Portland cement to two and one-half parts of screened sand. The sand should not be too coarse, and should be free from clay, and should be what is known as "sharp" sand. The first coat should be left rough, and the second coat immediately applied before the first coat hardens. In order that this work may be well done, it is best to employ an experienced mason for this purpose. The first two coats should constitute a single coating not less than three-fourths of an inch in thickness. When this coat has had sufficient time to harden enough to be protected against injury, the excavation may be continued to another depth of ten feet, and the plastering repeated.

Drainage for the Bottom of the Silo

It is well to provide for some drainage at the bottom of the silo. This may be done in the following manner: When the excavation is finished the earth floor of the silo should slope toward the center. Here a hole should be dug large enough to receive a drainage tile thirty inches long of any desired diameter. The drainage tile should be inserted in this hole, and covered with an iron grating with a mesh sufficiently small to be protection against rodents. The bottom should then be covered with cement in the same manner that the sides are covered, and this cement should join the grating and hold it in place. Any moisture that accumulates in the silo may in this manner be drained off, preventing both annoyance and waste.

Desirability of a Pit Silo

If one desires a silo and is willing to accept a little inconvenience in order to save money, the pit silo is the form to adopt. It has all the advantages already claimed for it, and the single disadvantage of being unhandy and of requiring more labor to remove the silage. The cost of a pit silo varies according to the size of the silo and to the fancy of the builder. It ranges, when no account is taken of the labor employed in excavating, all the way from $25 to $200. The durability of the pit silo should be taken into account in determining the method of construction.

Extension Above Ground

For convenience sake, it is better, after the silo has been finished, to put a masonry extension above ground for a distance of at least four feet, with a door upon one side through which the carrier used in removing silage may pass. This extension may be built of poured concrete, providing forms can be made for the purpose, or it may be made of concrete blocks properly constructed, or it may be made of vitrified tile, or of any material that to the builder seems most desirable. A roof should be provided, and this should be made in such a manner as to allow the free use of the carrier and track that are used in removing the silage.

May Be Built Almost Anywhere

Many specious arguments have been made by the silo combine against the feasibility of a pit silo construction. The chief argument is that in excavating the silo there is danger of striking underground water, which would make a pit silo useless. Of course, in valleys or in subirrigated land a pit silo of the description here set forth would be impossible. But on nearly all farms where one has to go more than thirty feet to find water for a well, a pit silo may easily be constructed. It would be a very simple matter for any farmer to find out at what depth he would be liable to strike water on the location selected for his silo.

Necessity of a Silo

This paper cannot too strongly urge every farmer to make some provision for some kind of a silo. The economy of silage as a feed, its value to stock growing, its saving of at least part of the prodigious waste that has accompanied the present method of growing corn in this territory, make a silo very desirable, if not indispensable. Many farmers hesitate to build a silo on account of the expense. For this reason, the Twentieth Century Farmer has described the pit silo, its method of construction and its cost, in order that every farmer who feels that he cannot afford a more expensive structure may see that it is not necessary for him, with limited means at his command, to forego the use of the silo. Enough money may be saved and made from a pit silo in a very short time to pay for the erection of a modern, commodious, permanent silo. No farmer should be without a silo of some kind.

Is Our Foreign Immigration Too Large?

By Alvin T. Steinel

TAKE it on the authority of a man who has forty years of experience behind him that if we want to keep our hold on the world's markets and not surrender commercial supremacy of the Western hemisphere to Canada or Argentina, our national immigration policy must become less restrictive, rather than more so.

This is the opinion of C. B. Schmidt, commissioner of immigration for the Rock Island lines, who has been instrumental in bringing more foreigners to our shores than any single individual alive. Mr. Schmidt is known as "the Moses of the Mennonites," having fathered the movement of these earnest religionists from southern Russia to central Kansas, where they have built up communities that rank with the most prosperous in the great central west. This movement was started in the '70s, at a time when it took foresight and faith to induce people to farm the buffalo-grass prairies of McPherson, Reno, Harvey and adjoining Kansas counties, now the very heart of the world's greatest winter wheat belt. The Mennonites, now almost without exception wealthy, are glad they came. The original movement, which marked an epoch in the history of Kansas, was the beginning of an exodus of these people from Russia and other countries, where they had found homes under the peculiar conditions of freedom from military service which their religion demanded, until today there are many colonies of them, from Manitoba south almost to the gulf.

But let us drop historical references for a moment and return to the pressing questions of the day, and get the word of Mr. Schmidt on these. He says:

Immigrants Greatly Changed

"Of recent years the racial complexion of the alien immigration that comes to this country has been greatly changed. The southern and southeastern Europeans—the Italians, the Slavs, the Magyars—by far outnumber the German, Anglo-Saxon, Celtic and Scandinavian immigrants. This class of foreigners, perhaps, does not come as near to the American standard of civilization as the German and other northern people do, but in point of physical capacity and endurance they are at least their equals, if not their superiors, and we need them all. We need them on our irrigated farms, in our mines and mills and manufacturing plants of all

kinds, if we want to continue, or rather regain, our domination of the world's markets and not surrender it to Canada and the Argentine Republic, where that class of immigration is welcomed with open arms and treated with the utmost liberality.

"Shipments of south European immigrants are brought out to the Argentine Republic, for which the transportation is paid by the government of the new country, and the astonishing increase of the export trade of that rival of ours shows the effect of a liberal immigration policy. In our country this alien influx is looked upon in certain quarters as a menace rather than a benefit, and restrictive legislation is constantly urged upon congress, chiefly in the pretended interest of organized labor. It is assumed that the foreign labor will reduce the standard of wages in our country, which is not true. The foreign labor comes here because of the higher wage scale, and in reality an ample supply of unskilled labor, such as southern and southeastern Europe furnishes us, will stimulate our industries and enable the native worker, who despises menial labor, to secure himself higher employment at more remunerative wages.

We Need More Brawn and Muscle

"The time has not yet arrived when we should exclude from our country the surplus human force —brain, brawn and muscle of old Europe—on flimsy pretexts, such, for instance, as the proposed literacy test now under consideration in Washington. We are not getting at present a foreign immigration too large for the country to digest. If the Dillingham bill, or the Burnett bill, should yet become a law, it would mean the exclusion annually of about 200,000 able-bodied immigrants, who come to us to employ their muscle and brawn in hard labor to produce values.

"The United States government has spent $70,000,000 in the reclamation of arid lands, and now the officers of the reclamation bureau find they cannot secure settlers for the lands ready to be served with water for irrigation from the harnessed rivers and streams. The Italian is the best irrigation farmer, but if he cannot read and write he is to be debarred from the privilege of employing his other accomplishments, so useful and necessary to the development of our country.

"We have in our country the contradictory spectacle in which one government department—that of Commerce and Labor—is expected to repress immigration; while that of the Interior complains of a lack of people able and willing to make the government's $70,000,000 investment in irrigation projects remunerative.

"In our Pacific coast states the fruit and wine growers are at their wits' end to secure labor for their orchards and vineyards. Their Chinamen are growing gray and too old to work. There are no more Chinamen coming in; the Jap is 'persona non grata.' Who is to take the place of these, if not the south European, to save these valuable properties from decay? Why not the Italian? He is the best irrigation farmer in the world. He uses the water most economically and to the best effect."

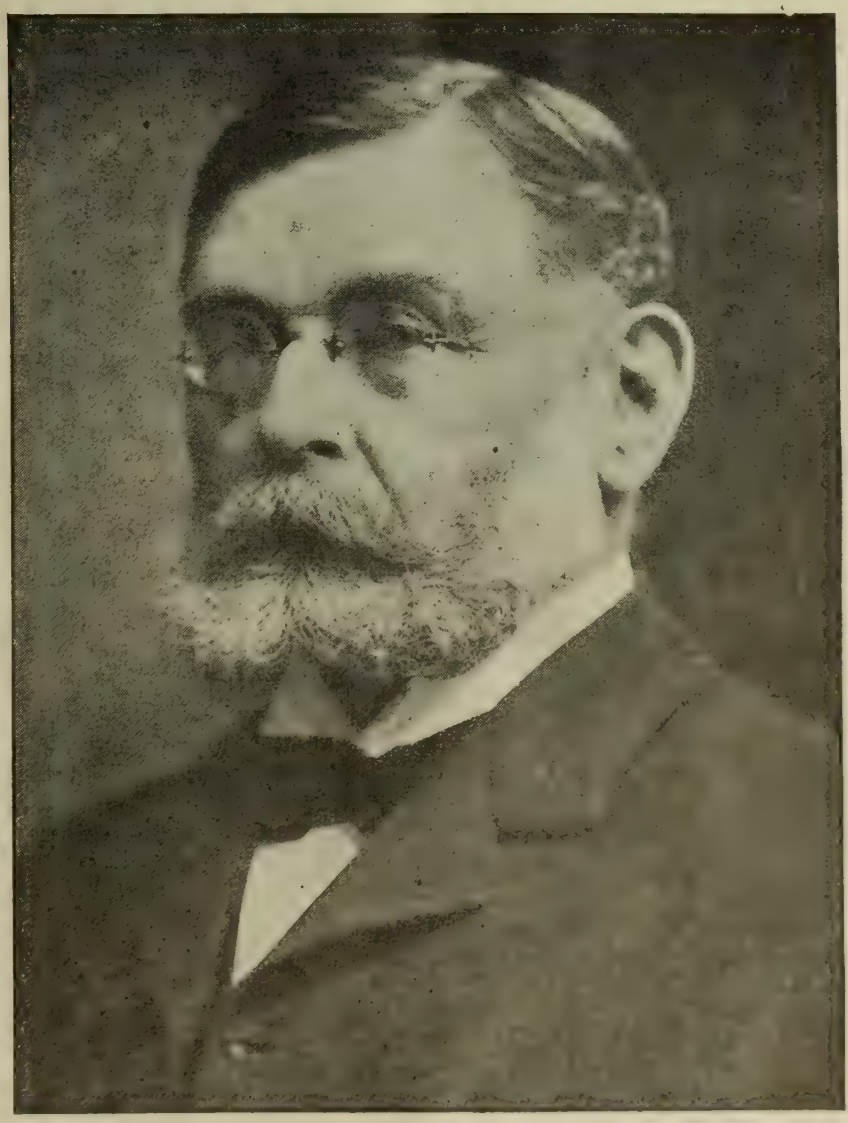
Illiteracy No Cause for Exclusion

Mr. Schmidt speaks advisedly on this point, for he established one of the most successful Italian colonies in the west in the upper Arkansas valley in Colorado some years ago. He states that perhaps half of the prosperous farmers who settled in that colony cannot read nor write, but their children are bright English pupils, and at 12 years of age they begin to transact business for their fathers. He points out, thus, that the question of illiteracy affects but one generation at most.

"If an Italian or Hungarian has the ambition to better his condition and get away from a country where laws are made to purposely keep him poor and in ignorance, it would not be in keeping with the spirit and purpose of the founders of the union, as expressed in the Declaration of Independence, nor would it be wise from an economic standpoint, to refuse him admittance when he knocks at our doors," says Mr. Schmidt. "Every European nationality has contributed to the making of a new nation on our side of the Atlantic, and every nationality, so far as now represented in our country, has added something of its peculiar and best traits to the character of this nation, which is yet in its forming.

"Efforts are annually made to further restrict the European immigration by increasing the head tax from the present rate of $4 to $10, some extremists even advocating $20. A strong lobby is also annually attempting to put through congress a bill imposing a literacy test upon the immigrants, as though the ability to read and write were essential to honest American citizenship. Our present laws regulating the admission of aliens to this country are amply sufficient, if properly enforced, to protect us against the influx of undesirable elements. It is not the illiterate immigrant who is the rogue, or anarchist, but the half-educated adventurer who needs watching.

"The German emperor, whom our English cousins call the 'war lord,' presumably because he has, during his entire reign of twenty-five years, managed to keep his country at peace with all the world, has said that his future wars and battles will be fought on economical and commercial grounds. This is a challenge to all nations, and what nation can, with greater assurance, take up the gauntlet than the United States, with its magnificent and varied resources? But to win a war for economic and commercial dominion we must have the rank and file of the fighters. We need them on every firing line, in the mines, in the factories and mills, but most of all on the farms, for agriculture is the basis for the largest line of manufacturing industries, and there we cannot count with safety on our own sons to join the ranks."



C. B. Schmidt, Commissioner of Immigration, Rock Island Lines

Among the Russian Mennonites

At the outset of his immigration work Mr. Schmidt realized the importance of getting good European stock upon the farms of the then new west. He took charge of the foreign immigration department of the Santa Fe railroad, then just penetrating the southwestern prairies. The first of some forty journeys abroad was undertaken in the interest of the Mennonite movement. These people, driven from country to country in Europe, because of their peculiar religious views, had finally established themselves in the Crimea and adjoining provinces in southern Russia, where for a hundred years they had enjoyed freedom from military service and many other concessions had been granted them as inducements to build up the country. This century of special privilege was about to expire when Mr. Schmidt learned of their intention to leave Russia. He got this news from a German consul in southern Russia, who had read of Mr. Schmidt's glowing Kansas letters in the Frankfurter Zeitung. His first journey was fraught with danger and replete with exciting incidents. He was compelled to flee from the Russian police, who sought to arrest him in spite of the fact that he was well equipped with passports and authority for his mission. The government of the czar did not relish the idea of fostering unrest among the Mennonites, who had become such a valuable asset. It was in February, 1875, that he set foot in the locality that was then home to the future Kansas wheat kings. He says of his visit:

"My desire to transplant to Kansas as many of these people as possible increased as I traveled through those thrifty and handsome villages. The dwelling houses were large brick structures, with tile roofs, a flower garden between the street and the house and well kept vegetable garden and orchard in the rear. The stables were filled with splendid work horses of heavy build, and the sheds with vehicles of all descriptions, among them comfortable family coaches and all kinds of American farming machinery. They were certainly the best appointed farming communities I had seen anywhere. Scattered over the country were large isolated estates, with buildings reminding one of the feudal baronial castles of western Europe. Their owners were millionaire Mennonites, who had acquired large tracts of land by private purchase. I was entertained by one of them, who had the reputation of being the largest sheep owner in Europe. When I asked him how many sheep he owned he could not tell, but said he had 3,000 shepherd dogs to take care of his flocks. A little figuring developed that he owned over half a million sheep, scattered in flocks all along the coast of the Black Sea."

Mr. Schmidt's Arrest Reported

Mr. Schmidt's narrative of the journey continues with increasing interest, concluding with his narrow escape from capture by an all-night ride of seventy miles over terribly rough roads.

"By 5 o'clock in the morning," he continues, "we had reached the village of Terpinje. Here I had a letter to deliver to a prominent Mennonite, Mr. Warkentin, from his son, already in Kansas. The old gentleman had been look-

CONCLUDED ON PAGE EIGHTEEN

THE TWENTIETH CENTURY FARMER

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

During the year ending June 30, 1913, 5,000,000 pounds of sugar, more than was imported the previous year, was imported into the United States from foreign countries and from our own islands.

The government issues a warning against adulteration in hairy vetch seed. The true seed costs from $4 to $6 a bushel. Inferior vetch seed that costs only $2 a bushel is used for adulteration.

The Lincoln Highway Association, a national organization for establishing a continuous connected improved highway from the Atlantic to the Pacific, has already $5,000,000 in hand for the work, but needs $5,000,000 more. The road is intended to be a permanent memorial to President Lincoln.

"Away off at Omaha the Twentieth Century Farmer is talking about our Texas onions. The Twentieth Century Farmer is not orthodox in many things for which it stands, but with all its faults and shortcomings it stands for saneness in production and marketing."—Texas Farm and Fireside.

It has been found that milk may be efficiently pasteurized at a low temperature. The government recommends 145 degrees. But private experimenters claim that less than 130 degrees answers all requirements. When pasteurized at a high temperature the surviving bacteria are mainly of the putrefactive kind, and milk and cream so treated develops in time a tendency to rot instead of to sour.

Save the Corn Crop

A large part of the corn crop of southern Nebraska and of Kansas has been so injured by drouth and hot winds as to preclude the probability of the formation of marketable corn. It remains for every farmer to save as much as possible from the wreck of his hopes.

In this process every true lover of his state will put aside all commercialism, all desire to promote his personal ends, and will work for the greatest possible salvage of the present corn crop. Where corn has been hurt beyond redemption, there is nothing left to be saved except fodder. The best and most expeditious and cheapest way to save the largest amount from fields where the corn crop has been ruined is to harvest and shock it, and then shred the harvested corn fodder with a shredder. There are farmers who every year cut up a part of their corn crop and shred it for corn fodder, the shredder delivering the matured corn into a wagon on the side. There is nothing new about this experiment. It has been tried over and over again, and always with success.

This is the time when the silo combine will get busy with specious arguments and unreliable statements and endeavor to take advantage of the critical condition in which the farmer finds himself with respect to the corn crop. One such writes to this paper as follows: "There is today about one-third of the corn crop in Nebraska that can only be saved by putting it in silos." No statement could be more absurd than this. It takes from seven to nine acres to fill a silo. Where farmers have 100 acres of corn or more, a silo would cut a sorry figure for saving the entire corn crop or in saving even one-third of it.

The thing for the farmer to do at this time is to save as much as he can with as little expense as he can, and the shredder offers the most feasible solution of the problem.

Of course, shredded corn fodder is not as palatable as silage, nor will animals consume the entire corn plant when shredded as they will when it is placed in silage. But every farmer today has in his fields more corn fodder than he can possibly feed, either in the form of shredded corn fodder or in the form of silage. It is necessary for him to save not only the food value of the corn fodder, but its fertilizing value, too. He can cut up his entire corn crop and shred it; feed all the shredded corn fodder that his stock will consume; use the balance for bedding and for the making of fertilizer. When done in this way more can be saved from the wreck of the crop than in any other way.

The average farmer does not have stock enough to consume more than a limited amount of either fodder or silage, and is not in a position to buy cattle or live stock of any kind to consume his entire crop if it were placed in a silo.

A silo is a good thing. Every farmer should have one. The Twentieth Century Farmer will do everything in its power to accomplish this end, but it will not endorse specious arguments or unreliable statements. What it says on this matter is disinterested and may be relied upon. The farmer that listens to interested parties without thorough investigation is liable to be victimized.

Save the corn crop.

What Makes Rain?

The ordinary school text book answers this question glibly enough by saying that rain is the condensed moisture of the air. What condenses it? Once in a while a book will explain that a fall in the temperature of the air condenses it. The others do not tell. But how does a drop in temperature condense the moisture in the air into rain? Here a little explanation is necessary.

All air contains a certain amount of invisible moisture. This is what is referred to when the humidity of the air is spoken of. The amount of moisture that the air can hold depends upon the temperature of the air. One cubic foot of air at zero holds at the saturation point a little over a half grain of moisture. At 100 degrees it holds forty times as much. If there is an area of air with a high temperature, and this air is saturated with moisture or contains a high degree of humidity, and the temperature of it is suddenly reduced from 100 degrees to 60 degrees, it will have to let go of fourteen grains of moisture for every cubic foot of air. This is because a cubic foot of air at 60 degrees can hold only six grains of moisture, while at 100 degrees it can hold twenty grains.

This may be illustrated by analogy. If a sponge is saturated with water and then its bulk is suddenly reduced, it will have to let go of part of the water. If one takes a cubic foot of air, which has a holding capacity of six grains of water at 60 degrees, and heats it to 100 degrees, its bulk is increased, and its capacity for holding moisture is correspondingly increased. When air is suddenly cooled its bulk is reduced, as in the case of the sponge, and it must let go of part of the moisture that it held in saturation.

Suppose that this cubic foot of air at 60 degrees which when saturated would contain six grains of moisture is not saturated, but has a high degree of humidity and contains only four grains of water. If this should suddenly be reduced to a temperature of 32 degrees, it would have to let go of half of its water at least, because air at 32 degrees, when saturated, can hold only two grains of water.

This explains how cooling the air suddenly may cause it to let go of its moisture.

The cloudburst results from having an area of saturated air of high temperature suddenly cooled to a low point at which it must let go of most of its moisture.

The government now permits the use of tobacco dip for scabies, and requires only seven-hundredths of 1 per cent of nicotine in it, with no flowers of sulphur. Heretofore it required five-hundredths of 1 per cent and 2½ per cent of flowers of sulphur. This tobacco dip is a valuable insecticide for gardeners and orchardists that are troubled with aphis and other insects.

The County Fair

A revival in county fair interest is now in order. It is the duty of all farmers and citizens of the county who are engaged in any kind of producing industry to help make the fair interesting, attractive and of general advantage to the visitors. The best county fair is the one that contains the greatest variety of useful and attractive displays. There is scarcely any limit to the features of interest that may combine to make variety in the county exhibit.

In a general way, the present county fair premium list, in its classifications and divisions, is well suited to bring out a good and interesting exhibit. It must be kept in mind, however, by the county fair management that this is a progressive enterprise, that you cannot afford to let the county fair stand still, but that progressive persons must be called into your board councils in order that something new may be added each year, that there be improvements made in certain departments, that new interest and new exhibition spirit be enlisted in the cause.

One of the best and most effective ways to kill the county fair is to get a county fair ring established, a set of managers, officers, superintendents and other elective and appointive help, and keep these same people year after year, until the citizens of the county get to calling the county fair "the ring." It is a good idea when you get a first-class fair man, whom all patrons like because of honesty, fairness and disposition to promote the interests of the county above his own personal advantage, to keep him. But there are few such persons; there are always some whose services can be dispensed with and still advance the fair enterprise.

A well distributed representation from all parts of the county is one of the most important features in securing harmony. A membership by the yearly membership plan works well in a general way, as committees may then get together in the choice of the fair manager and thus have harmonious county representation of the interested fair people of the county.

A good county fair organization is the life of the agricultural and live stock interests of the county. This is had by enlisting the sympathy and active co-operation of the people of the county in all lines of interest. It is important that this interest be started with the public schools of the county. An educational exhibit from the schools, supervised by the county superintendent, is a great help. A boys' and girls' department in as many classes as possible is the life of the county fair. Where the boys and girls are interested and striving for recognition in the contest, there the fathers and mothers will be when the contest is held. Organize your county fair into active operation. Help the managers boost it for this fall's exhibition. Join the forces. There is no better local educator, no better social influence, when it is rightly directed.

Houston Cuts Red Tape

Nearly everything done by the new secretary of agriculture at Washington shows that the work of the department is to be made of more practical benefit to agriculture. Rolls and rolls of red tape are being cut off and dispensed with, and the work of the department is being systematized with apparently the sole end in view of making it of practical efficiency.

A notable instance of this is seen in the new regulations with reference to the publications of the department. More popular, practical matter henceforth is to be issued to the public. Matter of interest only to scientists is to be circulated only through scientific journals, through the Journal of Research and by means of scientific monographs. The general distribution of matter purely scientific or technical, which is of little or no use to the lay reader, will be limited so as to supply only the scientists and men interested in technical details. The Journal of Research will be limited to the publication of the results or research actually made by the different bureaus of the department. But it may be extended so as to include the scientific research of the work of the state agricultural experiment stations. Specialists will be given permission to publish technical reports or even monographs in journals of scientific societies or technical magazines which specialize in the fields of high scientific endeavor. This journal will be distributed freely to scientific institutions and to a restricted list of scientists. But the general public will have to buy copies of it if they desire it.

The monthly Crop Reporter, which until now has not reached the hands of recipients until from ten to seventeen days after the news it contains has been circulated by telegraph and by the daily press, will no longer be published. Publicity in matters in which the general public are interested will be gained through telegraphic and news summaries which will be continually issued to the press.

A weekly news letter to crop correspondents will be mailed direct to them. The Experiment Station and Weather Review will continue, with certain modifications.

The farmers' bulletins will be continued with the sole object of telling the people how to do important things. They will be given a practical efficiency in helping by practical, concise, specific and constructional statements with regard to all matters relating to farming, stock raising, fruit growing, etc. This last regulation is of special moment to the best interests of agriculture.

It is most earnestly to be hoped that this change will be extended so as to include all the publications of the work of the several state experiment stations. Some members of faculties in these state experiment stations have acted on the hypothesis that their business was connected solely with scientific research, had nothing to do with the practical needs of agriculture in their several states, and some of them have openly asserted that the farmers did not know enough to make the work of the experiment station of any practical value to them, and that accordingly they should be ignored in this connection. Such a professor as this should be given his walking papers at once. It is time for such a man to begin to count railroad ties. Each of these state experiment stations ought to be abolished if such ideas are to prevail. The new secretary of agriculture evidently intends to take a hand in this matter. The Twentieth Century Farmer congratulates him on what he has already achieved, and on what he proposes to achieve.

Driving the Sheep to Market

(Photo by Charles W. Stokes, Calgary, Alberta.)

Free Haul for Seed Wheat

The Kansas Public Utilities Commission has arranged for free transportation for seed wheat to farmers in sections of the state where the circumstances seem to demand assistance. The recent drouth damage to crops in some sections of western Kansas is such as to call for assistance in both seed and transportation. This is a proper move upon the part of the state government, in view of the fact that if these lands are re-seeded, a portion of the cost must be contributed or loaned to the farmers who have not yet become full-handed enough to endure successive crop failures.

Western Kansas and southwestern Nebraska, with contributary districts of Colorado, have occasionally suffered crop failure where in seasons of timely moisture large crops have been produced. This district of country, under reasonably good rainfall, has indicated its adaptation to the growing of winter wheat, and merits the attention that may be given it by state authority in furthering the tests as to how this section of dry farming land may be best handled as a self-supporting farming or live stock country.

The Canadian government has supplied 25,000,000 tree seedlings to farmers principally in the Alberta and Regina plains region. The United States does not supply young trees to the public, except in a limited area in Nebraska, under the terms of the Kinkaid act.

According to a Finnish scientist, the air around pine and fir trees is purer than around other trees, because their needles act on the atmosphere as disseminators of electricit, and ozonize it.

Dry Weather Cattle Sales

Dry weather cattle shipments are a strong feature now in the districts tributary to the Kansas City and St. Louis markets. In these sections of the big corn and feed producing states the crop outlook until quite recently induced heavy buying of cows, heifers and light-weight cattle, with a view of having the means at hand of taking up the cheap, rough feeds of the farm—straw, corn fodder, kaffir and sorghum—that seemed a certainty, besides great crops of corn, hay and pasture.

The sudden change, however, from a bright picture of prosperity and plenty to one of discouragement and adversity has, in the space of a fortnight, brought about a revolution in the action of this feature of the cattle market. Thousands of the cattle taken to the farms through the months of May, June and July for breeding purposes are now being brought back and offered at greatly reduced prices because of the changed conditions that the dry weather has brought about over very large areas of country.

The excessive heat and drouth which have prevailed with unceasing severity have blighted portions of these states in their stock feeding ability this year. The shifting of cattle from these districts to districts with an over supply must necessarily be accomplished at a loss, as urgency is always attended with more or less haste and excitement, and buyers very naturally take advantage of the situation.

In the condition now being experienced there is no evidence that there are more cattle in the country than are needed. It is merely a question of adjusting and placing of these cattle where there is a surplus of feed. This dropping of prices is an expediency, under abnormal conditions, to accommodate the overcrowded situation of the markets caused by the necessity of getting these cattle some place where they can be taken care of. The shippers no doubt are consulting their best judgment and doing what they believe to be for their interest.

There is feed in other portions of these states for all the stock they contain, and the general price for this class of cattle will get back to where it was as soon as the people who want cattle can get an opportunity to compete in the purchase of the cattle thus forced onto the market.

Abuse of Franking Privileges

It is time to put a stop to the use of the congressional franking privilege when it is used to promote the interests of any private industrial enterprise. There was laid upon the editor's desk a speech that was recently delivered in the United States senate. This speech must have been printed and delivered to the mails under the franking privilege before it was delivered in the senate. It is a specious plea for a particular industry. Matters have come to such a pass that it is possible for an individual that has a congressional axe to grind, and can get a member of congress to champion his cause, to have his whole campaign of promotion and propagandism financed by the government through the government printing office and the franking privilege. This is an abuse of an ancient privilege. Unless this abuse can be corrected, the privilege should be withdrawn. People do not pay taxes to support campaigns for private interests.

Another reason has developed for exterminating the Texas cattle tick. Hides from cattle infested with ticks grade only as No. 4, when, if free from ticks, they would grade No. 2. This causes a difference in price between the two grades of 3 cents a pound, or about $1.26 per hide. The manufacturers of chrome leather have found it impractical to use tick-infested hides, because most of such leather is finished with the grain left on, so that all imperfections and tick marks on the grain side of the leather show [illegible]

Wisconsin is [illegible] a select potato market. For this purpose a state-wide campaign has been started to [illegible] the growing of one, or at least [illegible] number of standard varieties which can be sold upon the market in standard size and quality to suit the most exacting [illegible]

There will be a safe bank at the next [illegible] Exposition and the Fat Stock Agricultural Fair are held in Salt Lake City at the same time. It will be worth anybody's time to see the combined show.

"Dan," a Faithful Soldier-Citizen Horse

"One day a man came to the village," said grandfather, "with a lot of wornout cavalry horses for sale, and I went down to look at them. They were a dilapidated outfit and I had about made up my mind that I did not care for any of them, when a neighbor called my attention to a horse that seemed to be sick. As I walked toward him I noticed that he was a dark roan, with the 'U. S.' brand on his left flank. His eyes were bleared and watery; his head hung down almost to his feet; he was mud-spattered and dirty, and altogether the most dejected and forlorn piece of horse flesh I ever saw.

"I went up to him, laid my hand on his withers and said pityingly, 'Poor old horse; are you sick?'

"Horses can't talk, they say, but that horse spoke to me in a language stronger than words. He lifted his head and looked at me in dumb agony, with such an expression of helpless, mute appeal in his eyes that it brought a lump to my throat, and I had to bend down and examine his feet while I blinked the tears out of my eyes.

"I don't remember what I paid for him, but it wasn't much. When I got home with him I called grandmother and she was as sorry for him as I was. For several days he didn't get any better, but with good care, good feeding, good nursing and much petting he began to improve, and in six months' time he was a fine looking horse and as handsome a roan as I ever saw. He seemed to appreciate everything that was done for him and would follow me around the yard like a faithful dog.

"When I opened the barn door in the morning he would begin to whinny and refuse to be quiet until I went to his stall and gave him a pat and a pleasant word. He was so kind and gentle that grandmother could drive him anywhere, and it was not long until we began to wonder how we ever got along without him.

"One day when grandmother was petting him she discovered the letters "D A N" faintly branded on his neck under his mane. They may have been someone's initials, but they spelled a good name, so we called him Dan.

"He was always excited when he heard a band. Martial music was a 'call to arms' for him. Many a chase have I had after him when he heard a fife and drum in the distance.

"I had owned him about a year when a stranger rode up to our gate one evening on horseback and asked if we would keep him and his horse for the night. We often kept travelers and I thought nothing of it, so told him he might stay.

"He did not talk much, but soon went to his room, and, as the rest of us were tired, we all went to bed, too. How long I slept I do not know, but something awakened me. I listened, but could hear nothing, and was just dropping off to sleep when I thought I heard the barn door creak. 'That's strange,' I thought. 'I'm sure I locked and bolted the door.' I listened intently for some time, but, hearing nothing more, I concluded it was all imagination and went to sleep.

"The sky was just beginning to show the first streaks of light in the east, when I was startled by someone knocking loudly on the door, and I heard my neighbor outside calling. I sprang out of bed, ran to the window and threw it open.

"'What's that you say?' I asked anxiously.

"'One of your horses is stolen and so is one of mine!' he replied excitedly.

"Hastily dressing, I hurried to the barn to find the door open, the stranger's horse gone and Dan's stall empty. 'I wonder if the man who asked to stay at my house last night is the thief!' I fairly shouted. 'We'll see if he's in the house.' So we went to the stranger's room, where we found that the bed had not been occupied, and the man gone.

"My neighbor decided to start after the thief at once, so we called the constable, mounted our horses and rode away just as the sun rose over the distant bluffs.

"A light rain had fallen in the night, so we were able to follow the tracks in the mud for several miles. After that the roads were dry, so we had to stop frequently and inquire if anyone had seen the man we were after.

"We first asked a man whom we met in the road. He said he had seen such a man about five miles back, who was going south. We followed in the direction he pointed out to us, and rode until about 3 o'clock, then we stopped at a farm house and inquired again. There they told us that a man with horses had stopped for water about noon.

"We rode on until late at night, then found a place where we could feed our horses and rest them for a while. The people here told us that such a man had passed there some time during the day.

"We were soon on our way again. It was a repetition of the day before. Our thief was always just a little ahead of us.

"This continued for three days, when we reached a little town on the Missouri river, where there was a miserable little ferry.

"Calling the ferryman, we asked him if he had seen a man with some horses, and we described him and the horses.

"'Yes, I ferried him over this morning, and he was in a powerful big hurry,' he drawled.

"'Well, hurry up and ferry us over as quick as you can,' we exclaimed.

"With much pushing and splashing and jerking, the rickety little craft was at last launched, and we were in due time landed on the opposite shore.

"When we stepped off the boat we were met by a man in a butternut suit, who said, 'Be you lookin' fur the feller with them horses? I heard you talkin' on the boat. I reckon mebbe you'll find your horses at Jed Simpson's, about ten miles south o' here. Follow this road to your right fur two miles, then go south, and anybody can tell you where Jed Simpson lives. He buys more horses than anybody else in the country. Good day, and good luck to you.'

"Following the man's directions, we soon came to Jed Simpson's.

"Riding up to the big yard gate, we saw a tall, square built man walking across the yard toward the barn.

"'Hello, stranger,' we shouted.

"'Hello,' he replied as he turned and walked toward us.

"'Has a fellow been here with two or three horses?' we inquired.

"He looked at us quizzically in silence, then said slowly: 'Such a feller was here. What kind o'lookin' horses were they?'

"We told him that one was a bay with a white star in the forehead and the other a dark roan with a 'U. S." brand on his left flank.

"The man expectorated, then said. 'Them horses are in my barn now. I told the feller I'd keep 'em a few days and if no one claimed 'em then

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
California	Sacramento	Sept. 13-20	J. L. McCarthy
Colorado	Pueblo	Sept. 15-20	A .L. Price
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Iowa	Des Moines	Aug. 20-28	A. R. Corey
Kansas	Topeka	Sept. 8-13	H. L. Cook
Kansas	Hutchinson	Sept. 13-20	A. L. Sponsler
Minnesota	Hamline	Sept. 1-6	J. C. Simpson
Missouri	Sedalia	Sept. 26-Oct. 3	John T. Stinson
Nebraska	Lincoln	Sept. 1-5	W. R. Mellor
Oklahoma	Oklahoma City	Sept. 23-Oct. 4	I. S. Mahan
South Dakota	Huron	Oct. 6-12	C. N. McIlvaine
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin
Wisconsin	Milwaukee	Sept 8-12	J. C. McKenzie

Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
Colorado Interstate	Denver	Sept. 2-16	Irving W. Eaton
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Dry Farming Congress	Tulsa, Okl.	Oct. 22-Nov. 1	John T. Burns
Interstate	Sioux City	Sept. 15-20	Joseph Morton
Interstate Horse Show	St. Joseph, Mo.	Sept. 22-27	
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

Can You Afford to Support Horses?

THOMAS A. EDISON, the wizard of inventors, says, "The horse is the poorest motor ever built." When you stop to think of it, the horse is about the most costly and wasteful thing at work for a farmer. At best his working time averages only about six hours a day, eighteen hours he rests, yet he eats all year round, working or idle. He eats ten pounds for every hour he works. One acre out of every five plowed goes to feed the horse. The best horse may get sick; when, besides losing his work, you have veterinary bills to pay. When he dies, you have a heavy loss. Since McCormick built his first binder, the tendency of all farming has been away from slow man- and horse-power and toward time- and money-saving machines. Thus far, wherever an

I H C Oil Tractor

has been set to work on a farm, no machine has taken the place of so many horses, or done so much laborious work with so large a saving of time and money. I H C tractors have revolutionized farming. If the owner desires, his tractor will plow nearly as much in a day of twenty-four hours as a team of horses plows in a month. There is efficiency for you!

Whether you use it for pulling field machines, hauling your produce, threshing, cutting ensilage, baling hay, or anything else, the I H C tractor will stand up to the work. In simplicity and strength of construction, ease of operation, durability, and all-around economy, you cannot find the equal of I H C tractors. They are made in all styles and in 6-12, 7-15, 10-20, 12-25, 15-30, 25-45, and 30-60-horse power. You will find one just the right size for your farm. The I H C engine line also includes general purpose engines, ranging from 1 to 50-horse power and operating on low and high grade fuel oils, gas and alcohol.

It will be to your advantage to get acquainted with the I H C tractor. See the local dealer, and write for facts, figures and information to the

International Harvester Company of America
(Incorporated)
Chicago U S A

I'd buy 'em. You'll have to prove that they are yours, though.'

"He had opened the gate, and we had dismounted and were walking with him toward the barn.

"Turning to me, he asked, 'Is yours the roan?' I told him it was. 'Well,' he said as he opened the door, 'if your horse knows you, you can have him.'

"Just then I heard a faint whinny from the further end of the barn, which I thought I recognized. Without waiting for ceremony, I walked toward the stall from which it came and called out, 'Why, Dan, are you here?'

"Then I wish that you could have heard Dan answer me. If ever a horse talked, he did.

"He whinnied, rubbed his nose against me, and fairly danced with delight. Of course, I was as glad to see him as he was to see me, and I let the old fellow know it.

"When I turned around Mr. Simpson was standing near with an amused look on his face.

" 'He's your horse, all right. Take him as soon as you like,' he said. I lost no time untying Dan and led him out of the stall.

"My neighbor, with the help of the constable, had no trouble in proving that the other belonged to him. We offered to pay Mr. Simpson for his trouble, but he would not take anything. He said he 'took chances' when he bought horses in this way, and it was part of the business. 'But if you will sell that roan I'll pay you a good price for him,' he said to me. 'I know more about horses than I do about men. He's a good horse and I'd like to have him.'

"I told him I could not think of selling Dan to anyone. Thanking him, we rode away.

"The thief had fled to parts unknown, and, as we had our horses, we decided to let him go.

"We reached home on the evening of the second day, and grandmother gave us a hearty welcome, you may be sure.

"Some time after this I drove Dan to a neighboring town on the other side of the river, which was crossed by a wooden bridge. We were detained there some time by a heavy rain, so that it was nearly dark when we started for home. It grew darker and darker as we rode on and by the time we reached the river we could see nothing. I knew the road so well, however, that I had no fear. Dan trotted along without any urging until we came to the bridge. Here he stopped. I tried to urge him on, but he would not go. Then I talked to him and told him that it was all right, but it was of no use; he would not move. I got out of the cart and went to his head. He rubbed his nose against me, but shook his head when I took hold of his bridle.

"I tried to lead him forward, but he planted his feet and refused to move.

"Knowing Dan's good sense, I felt that there must be something wrong, and so decided to turn back to a small village we had just passed. We remained there all night and in the morning I learned that the heavy rain had raised the water in the river so high that the middle

(CONTINUED ON PAGE FIFTEEN.)

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Tale of Three Truants

Hanky, Panky and Fo
Never to school would go;
But every day ran off to play
Which was very wrong you know.

At last a wizard came—
Soon did he stop their game;
Changed each one straight
Into a slate,
And they still remain the same.

And now when people hear them shrieking
They say it is the pencil squeaking.

The above verse was sent to us by Marie Nelson of Newman Grove, Neb., for the children's page. She did not state whether or not it was original, but it is a funny little poem anyhow.

The Editor's Corner

Nearly all of the state fairs in the middle west are giving a number of opportunities to the children. Besides the boys' acre corn and other crop-growing contests, for which the entries were arranged earlier in the season, and the school exhibits there are a number of ways, which we have listed, in which the children may compete for premiums.

At the Nebraska State Fair prizes will be awarded for the best articles made with jackknives, for models of farm buildings, collections of insects, woods and weeds, for art work, cooking and preserving, contestants to be under 21 years of age.

At the Iowa fair, premiums will be given for wood carving, scroll saw work, mechanical work, musical composition, fancy work, art, cooking and preserving, contestants to be 16 years of age or under.

At the Minneasota fair premiums will be given for mechanical and cabinet work, cooking, canning, pickling, weaving and rope tying, contestants to be under 18 years of age.

At the Oklahoma fair premiums will be given for art, cooking, preserving, fancy work, and there will be a boy's pig club contest.

The Missouri Fair association announces a canning contest for girls between the ages of 10 and 18, and a corn-judging contest for boys between the ages of 16 and 20.

At the South Dakota fair premiums will be given for cabinet work, collections, needlework, art, cooking and preserving, contestants to be 14 or under.

At the Montana fair premiums will be awarded for cabinet work, lists of birds and wild flowers observed, cooking, sewing, etc.

Even if you are unable to attend the state fairs perhaps you can send something which will secure you a premium, and if you are so fortunate as to be able to attend, be sure you do not miss seeing the children's exhibits, even though you may have had nothing to enter yourself. For further information as to entries address the secretary of your fair board, whose name you will find elsewhere in this issue.

THE EDITOR.

How to be Safe in City Streets

A pamphlet issued by the American Museum of Safety, New York, of which Dr. William H. Tolman is the director, impresses on girls and boys the dangers of city streets and gives the following useful rules, which every city child should heed:

Never jump on or off a moving street car.

Never stand or sit on the car step; nor put your head or hands out of the car window.

Never get off a car facing the rear. With the left hand take hold of the grip handle, left foot to the step, right foot to the ground; face forward.

Never fail, on leaving the car, to look out for passing wagons and automobiles.

Never run in front of a passing car.

Never hitch on and steal rides behind street cars or wagons.

Never play on the car rails.

Never cross a street except at a regular crossing.

Never take chances.

Always, in passing behind a car, look to see if another car, automobile or wagon is coming from the opposite direction.

Always look both ways before crossing a street.—Leslies.

These rules are not only good for the city child, but especially so for the country child visiting in the city.

The First Candlestick.

The first candlestick was a boy. He sat in the corner of a Scotch kitchen holding a piece of fir candle in his hands, from time to time cutting and trimming it to make it burn brightly.

The fir candle was a length of wood cut off a kind of fir tree, which is found embedded in the peat. This kind of candle is still used in some parts of Scotland.

It usually fell to the lot of the "herd laddies" to act the part of candlestick, but should a beggar ask for a night's lodging, he was expected to relieve the "herd laddie" of his duty. A candlestick is still called, in Aberdeenshire, a "puir man," or poor man."—The Child's Hour.

If you have just had a vacation trip, or are just going to take one, remember that it will make a good story for the story contest if well written up.

Picture Contest No. 5

You are each expected to write a four-line verse about this picture. The two children writing the best verses will each receive a book as a prize. Write plainly, in ink, giving your name, address and age, and send the verse to Picture Contest Editor, Twentieth Century Farmer, Omaha.

All verses must be received at this office on or before September 13. Awards in Picture Contest No. 4 will be announced in the issue of August 23.

THE "BLUES."
A Lady Finds Help from Simple Food.

Civilization brings blessings and also responsibilities.

The more highly organized we become the more need there is for regularity and natural simplicity in the food we eat.

The laws of body nutrition should be carefully obeyed, and the finer, more highly developed brain and nervous system not hampered by a complicated, unwholesome dietary.

A lady of high nervous tension says:

"For fifteen years I was a sufferer from dyspepsia. I confess that an improperly regulated diet was the chief cause of my suffering. Finally, nothing that I ate seemed to agree with my stomach, and life, at times, did not seem worth living.

"I began to take a pessimistic view of everything and see life through dark blue glass, so to speak. My head became affected with a heavy creeping sensation and I feared paralysis.

"Palpitation of the heart caused me to fear that I might die suddenly. Two years ago, hearing Grape-Nuts so highly spoken of by some estimable friends of mine, I determined to try it.

"The change in my condition was little less than miraculous. In a short time the palpitation, bad feeling in head and body began to disappear and the improvement has continued until at the present time I find myself in better health than I have ever enjoyed.

"My delight has increased [illegible] in the last year and life looks bright and sunny to me as it did when I was a child."

Name given by the Postum Co., Battle Creek, Mich.

"There's a Reason" and it is explained in the little book, "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Wood Shingles Won't DO!

In this **20th Century AGE OF STEEL**, wood shingles are fast disappearing. They cost too much; they rot out too quickly; too much trouble to put on; too apt to catch fire. That's why 100,000 men have come to put these beautiful **Edwards STEEL** Shingles on their buildings.

Edwards Steel Shingles **never** burn nor rot. Come in big clusters of 100 or more, which makes them ten times as easy to put on as **wood** shingles. Each Edwards **STEEL** Shingle is dipped in **molten zinc AFTER** it is cut. No raw or exposed edges. No chance for rust ever to get a foothold. And the patented Edwards Interlocking Device, which allows for expansion and contraction, gives **PERMANENTLY water-tight** joints.

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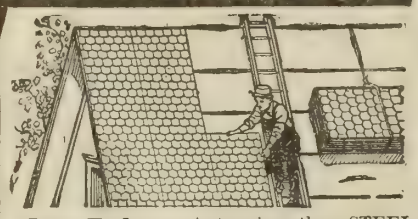

Get Prices As to prices, these **STEEL** Shingles are far below wood. For we sell direct from factory to user and pay the freight ourselves. Just get our latest Steel Shingle Books and Prepaid Factory Prices. Then **compare.** Then see if you can afford common wood shingles when you can buy genuine Edwards **STEEL** Shingles at these prices. Give dimensions of your roof if possible, so we can quote price on entire job. Send postal today and our Catalog 898 and Prices will reach you by return mail.

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BINDER ATTACHMENT with corn harvester cuts and throws in piles on harvester or in winrow. Man and horse cut and shock equal with a corn binder. Sold in every state. Price only $20.00 with fodder binder. J. D. Borne, Haswell, Colo., writes, "Your corn harvester is all you claim for it; cut, tied and shocked 65 acres milo, cane and corn last year." Testimoniale and catalog free, showing pictures of harvester. Address **PROCESS MFG. CO., Dept. 65, Salina, Kans.**

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GOOD POULTRY, A quarterly magazine, published and edited by us. Tells how to mate, breed, feed and care for poultry the best way. Most complete record system. Provides for three months' work with poultry in each issue, along practical, sensible business lines. Quotes prices on eggs from five leading white breeds also incubators and brooders of the best kind. Make big money on poultry by doing it our way. If new in the business, be sure that you start right. We can help you. Deals with special crops and intensive farming, fruit growing, gardening, all supporting poultry—10c a copy; 25c a year. Write tonight.
Shorewood Farms Co., Saugatuck, Mich.

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Send Postal for New Water Supply Plan. It will bring you 100 pictures of it in actual use. Do it Now.
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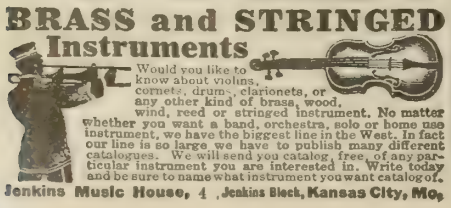

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Jenkins Music House, 4 Jenkins Block, Kansas City, Mo.

Of Interest to Our Women Readers

The Angelic Husband.

Copyrighted, 1900, by Nixon Waterman.

There are husbands who are pretty,
There are husbands who are witty,
There are husbands who in public are
as smiling as the morn;
There are husbands brave and healthy,
There are famous ones and wealthy,
But the real, angelic husband, he has
never yet been born.

Some for strength of love are noted,
Who are really so devoted
That whene'er from home they wander
they are lonesome and forlorn:
And while now and then you'll find one
Who's a very good and kind one,
Yet the real, angelic husband, he has
never yet been born.

So the woman who is mated
To a man who may be rated
As "pretty fair" should cherish him forever and a day,
For the real angelic creature
Perfect, quite, in every feature,
He has never been discovered and he won't be, so they say.

NIXON WATERMAN.

Our Home Chat

Five states in the territory of the Twentieth Century Farmer have announced Better Babies' contests at their state fairs. For the convenience of the mothers who read this department and may want to enter their babies in these shows we give the names and addresses of the superintendents of these departments:

Nebraska, Mrs. M. E. Vance, Lincoln.

Iowa, Mrs. Mary T. Watts, Audubon.

Minnesota, J. C. Simpson, Hamline.

Montana, Miss M. A. Tait, Missoula.

Oklahoma, Mrs. S. R. Cunningham, Oklahoma City.

Information and score cards may be obtained from these superintendents.

These baby contests are not like the old baby shows that used to be held at fairs, where the baby was dressed in its best white dress and the parents' friends all went and voted for it, and the baby getting the most votes won. In these shows charts are made up showing number of points allowed on such things as height, weight, shape of head, condition of spine, limbs, feet, etc., facial expression, disposition, and many other things that really count in the physical and mental condition of the child. The children entered are carefully examined and their condition tabulated, so that even if your baby does not win a prize you know the reason why he did not and what there is that keeps him from being perfect. This gives one a chance to remedy defects in many cases and the trip to the fair has been worth while.

A peculiar thing has been observed in the baby contests held thus far. Contrary to expectations, city babies have been found to grade up better than country babies. When the country babies have the advantage of fresh air, fresh milk and all the other products in their purest condition it seems peculiar that the city babies should average better than their country cousins. Take your sturdy, healthy baby to the fair this year and see if you can't improve the country baby average.

THE EDITOR.

Training Our Daughters

We all agree, men and women alike, that our home is our all. The making or the marring of our homes lies in the hands of our daughters, for they will be the mothers of tomorrow.

We are enjoying now what is recognized as an advanced stage of civilization, but we still have room for many improvements. Were I called upon to say what, in my judgment, I considered the most beneficial improvement, I would say a change in the way of training our daughters. If we analyze our emotions and honestly and frankly admit the result, we will realize that we often follow the dictates of jealousy and envy, putting common sense to the background. The duty of a mother to her children is very binding, but the inability which many of us display to discriminate between duty and over indulgence is indeed appalling.

The trend of the times is to cater to the wishes of our children, overlooking our own individuality. Mary's hands must be kept white and soft, as there is a rivalry between her and her chum as to who shall have the most graceful hand while playing the piano. Mary must read the latest novels so that she will be in perfect keeping with the times. Mother is drudging in the kitchen and doing all the menial duties of the household that her daughter may be spared them. A great number of mothers seem to have an idea that the more they save their daughters from household work the nearer do they come to performing their greatest duty toward them. Poor deluded mothers! You are not only neglecting your duty, but you are guilty of the greatest injustice possible to your daughters, for you are robbing them of their birthright.

Comparatively few girls who are able to have choice select housework as their vocation, for the reason that their mothers have instilled into their minds the idea that such work is menial, fit only for the ignorant and untrained.

Cooking comes naturally to most women, but, like all other trades, it requires considerable experience before anything near the best is accomplished. Many homes are ruined at the outset through the lack of knowledge of cooking and home making in all its phases. Many mothers overlook their daughters' education along domestic lines because of the waste involved. True, this may be an argument worthy of consideration with butter, eggs, meat, flour, etc., at their present prices and constantly soaring, but isn't it true that the accomplishment of anything worth while necessitates the expenditure of time, money or energy. In other words, we must pay the price for anything we get.

There is a tendency now prevelant among the wealthy as well as the poorer classes to teach all children to be self-supporting. I believe this is the right spirit, but I also believe that if a girl can only be afforded a certain amount of training it should be along domestic lines. If her parents can afford a broader education along business or professional lines, so much the better. If we as mothers could look upon this question in a true light, our daughters would be saved many heart aches, there would be fewer divorces and even the prisons would be robbed of many inmates.

Wisconsin. M. B. D.

A Kansas Product

This young man is 13 months old and weighs thirty pounds. Wouldn't you go out of your way to see an exhibit of this kind at the state fair?

A Club in the Ranch Country

In the autumn of 1911 in Cherry county, Nebraska, a section of the sand hills which is devoted almost entirely to the raising of stock, the wife of one of the ranchers made a visit to relatives, leaving the husband to do the housekeeping and care for two of their children, who were in school. Being accustomed to active, out-of-door life, the daily round of cooking, dish washing, etc., grew monotonous. It occurred to him that there is a sameness in the lives of country women which should be broken by some kind of social intercourse—a getting together of the ladies of the neighborhood. Accordingly, he called up two or more of the neighbor women and consulted with them in regard to some sort of regular meetings.

The ladies of the community began to talk it over, and after a number had been sounded, it was decided to call a meeting and make plans for the future. It was April, 1912, before this first meeting was called. On the day specified, six ladies met at one of the homes. It had been decided to take up some kind of useful work, as well as enjoy a social good time. The day was spent in sewing on buttons and making buttonholes in garments for the little people in the home. A good dinner was served and the ladies departed for their homes at 4 p. m., after having done a large amount of work and agreeing to meet in two weeks at another home. It was a pleasant sight to see these splendid women working and chatting, a fine feeling of fellowship existing among them.

They decided to call their association "The Club." There were to be no officers, fees or regulations. All of the women in the neighborhood were to be members, should they choose to meet with them. Before next meeting day, word was passed around and those who had not met with them were asked to attend. There were several new members promptly on hand on the next date.

At this home, quilting was the order of the day. By this time the

ladies were becoming enthusiastic. The plan was more successful than they had hoped. From the date of their first meeting until the present time, they have held their meetings each alternate week, stopping while the haying season was on and during the most severe winter weather. The membership has increased until it includes all the women within a radius of fifteen miles. It must be borne in mind that the homes are not close together, this being a ranch country.

The men have entered into the spirit of the thing, and either they or the older children keep the little ones at home on club day, thus giving the mothers a day of perfect freedom from the routine of life. One very admirable trait of this club is that no unkind gossip is talked. A remarkable good will and helpful spirit exists. The ladies go on horseback or in carriages, almost always without male escorts, some driving past other homes and taking their neighbors along.

As an example, we give what was accomplished at their last meeting, which was held at the home of Mr. and Mrs. Martin Carr. The work was done for Mrs. Robert Thompson, their daughter, whose home is on the extreme edge of the club circle and not convenient for many of the club members. There are three little people in the Thompson home. There were about twenty ladies present, and a dozen garments completed. A dinner of fresh fish from one of the lakes, with many good things, cheered the workers along. Mrs. Thompson is highly pleased with the result of her club day and is an enthusiastic member. Some of the ladies have never missed a meeting. At each regular meeting some member invites the club to her home for the next meeting, and whatever is most needed is taken up.

The object of sending this report to the Twentieth Century Farmer is to bring to the notice of other country women that it is possible for every neighborhood to maintain some such organization for the benefit of those whose work varies but little the year roun

Some of our ladies go ten miles or more and return home with bright eyes and faces showing that they have spent a happy day.

Cherry County, Neb. C. S. REECE.

Late Summer Fruits

Pickled Peaches—Make a syrup with one quart of water, 2 cups sugar, one-half cup good vinegar, boil until thick; wash peaches and drop in syrup and boil until tender, take up and pack in jars or cans as full as possible and pour over the syrup. Will keep in jars a long time. MRS. GILBERT.

Pickled Peaches—Pare and stone four quarts of peaches. Boil one quart of vinegar, three pounds of sugar and a little cinnamon until well dissolved. Then put in the peaches and cook till soft, but no longer. Seal in quart preserving jars. HELEN A. LYMAN.

Apricot Butter—Take six pounds of sugar and five pounds of apricots Heat together and mash well until very soft. Mash again through colander. Then put in two cups of pineapple juice and cook well thirty minutes, stirring so as not to burn. Put in pint glasses and cover at once. HELEN A. LYMAN.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6261—Boys' Suit—This is a new form of the middy or sailor suit, with the usual deep yoke and open neck. The lower edge of the blouse may hang straight or be gathered into the trousers. These are in the new manner, straight at the knee. Linen, pique, poplin, heavy gingham, duck, etc., may be used for this suit. The pattern, No. 6261, is cut in sizes, 2, 4 and 6 years. Medium size requires 2⅞ yards of 36-inch material.

6264—Boys' Overalls—These simple overalls are just like a real grown man's. The front of the trousers are extended to form a bib, a center seam joining the two sides. In the back straps join the bib. Jean, duck, denim, and heavy weight gingham are good materials for these overalls. The pattern, No. 6264, is cut in sizes 4 6 and 8 years. Medium size requires 2⅛ yards of 27-inch material.

6219 Smart One-Piece Dress The most fashionable of all gowns this season is the one-piece model. Our design shows a simple bodice, with ornamental closing the neck finished with a low collar, the plain sleeves ending in a cuff. The four gored skirt has a seam in the center of the front and also of the back. It has a front closing. The pattern, 6219, is cut in sizes 34 to 42 inches bust measure. Medium size requires 4 yards of 44-inch material.

6262—Ladies' Semi-Princess Slip—For wear under thin materials, as well as for other purposes this slip is very desirable. The two-piece skirt is joined to a high-waisted bodice, made with straps over the shoulders, and both open in the center of the back. Colored lawn or silk and also white goods and embroidery may be used for this slip. The pattern, No. 6262, is cut in sizes 34 to 42 inches bust measure. Medium size requires 2⅛ yards of 36-inch material, with 3¼ yards of 10-inch flouncing.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children, give number and age.

Address your orders to Pattern Dept., Twentieth Century Farmer, Omaha, Neb.

If We Might See

"If two great shops could stand side by side on the main street of the world," says Gerald Stanley Lee in his new book, "Crowds," "and all the vices could be put in the show window of one of them and all the virtues in the show window of the other, and all the people could go by all day and all night, and see the windowful of virtues as they were and the windowful of vices as they were, all the world would be good in the morning

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from Cracker to Butt

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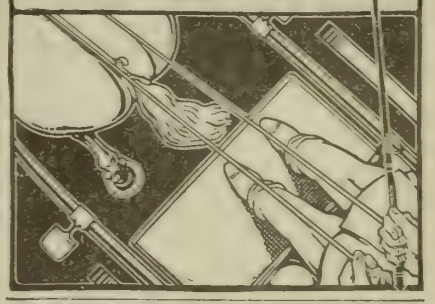

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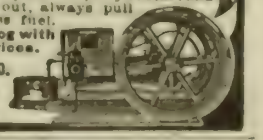

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Write for Dip Booklet.

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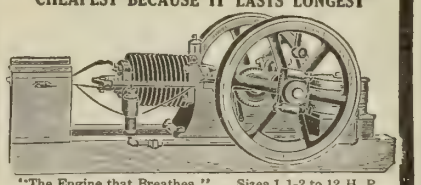

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Shorewood Farms Co., Saugatuck, Mich.

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

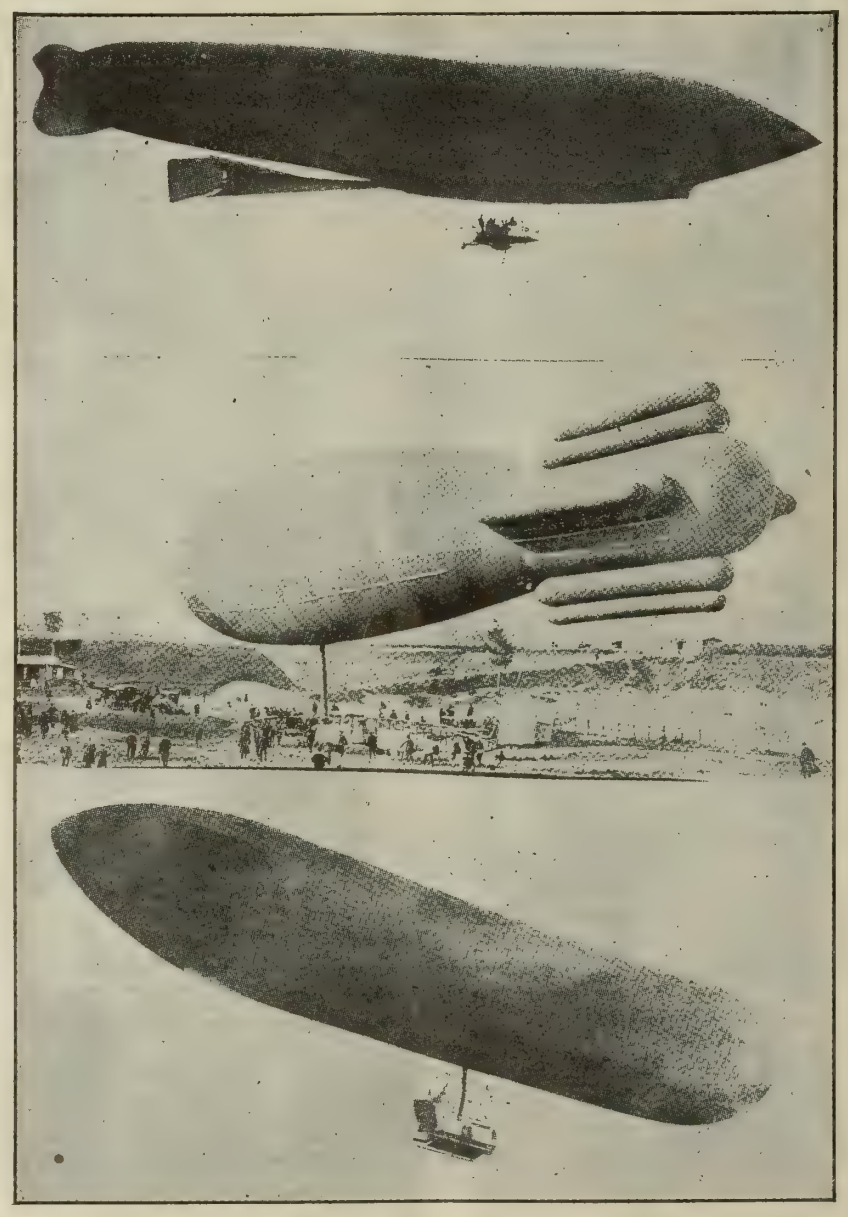
Possibilities of Rapid Travel Over the Ocean

By Frank G. Carpenter

WASHINGTON, D. C. — The day will soon come when we shall be able to go from North America to Europe in less time than we now spend on the railroad between New York and Chicago. We shall be able to start from Newfoundland at noon, or even later, and land in one of the cities of Ireland next morning in plenty of time for an 8 o'clock breakfast. This is the belief of one of the shrewdest and most careful arithmeticians among the scientific minds of today. I refer to Dr. Alexander Graham Bell, the inventor of the telephone, who for the last twenty years has been connected with every movement in the direction of aerial navigation.

Dr. Bell was closely associated with Langley in his experiments as to artificial flight, and he was with him when the first heavier-than-air machine was sent by steam flying this way and that across the Potomac. He is a member of the chief societies of aeronauts, and his own researches as to the basic principles of aerial navigation have done much to bring that science where it is today.

A great deal of Dr. Bell's work has been in connection with others. He was an associate of Simon Newcomb, who had striking theories as to the weight of bodies of certain shapes while in the air; he is also a friend and adviser of Glenn Curtiss, and much of the work of F. W. Baldwin has been connected with his experiments at Baddeck, Nova Scotia. Dr. Bell has made tetrahedral kites, which have supported men in the air, and he has a well equipped flying machine laboratory at Baddeck, where Mr. Baldwin is now carrying on his experiments as to the hydrodrome and making wonderful discoveries as to the rapid movement of boats through the water.



Some Fast-Flying Modern Dirigibles. The Machines at Top and Bottom Are French. The middle One is German

125 Miles an Hour

Dr. Bell has what might be called the scientific imagination, and his deductions deal with possibilities far beyond those of the ordinary inventor. His mind works along scientific lines, and its flights at times make the head of the layman buzz to comprehend them.

Our talk as to short trips across the Atlantic took place after midnight last Thursday, in the big library of his house on Connecticut avenue. We had before us the statistics of all the best aerial flights yet made, and Dr. Bell figured out his calculations on a 5-cent pad as he talked. Said he:

"The shortest distance between Newfoundland and Ireland is less than 2,000 miles, and the fastest speed record of a heavier-than-air machine was made by James J. Vedrines in a Deperdussin aerodrome, on the 9th of September last. His speed was over 107 miles an hour. Now let us suppose that that machine could keep up a speed of even 100 miles an hour, and it would cross the Atlantic ocean within twenty hours. If the flight were made from America to Europe we would have the winds to help us along, and this would give us an additional velocity of at least twenty-five miles per hour, as the general trend of our winds is from west to east. Adding this to the 100 miles, we have a speed of 125 miles an hour, at which rate we could cover the 2,000 miles in just sixteen hours. If we left Newfoundland at high noon we might be landed in Ireland at 4 o'clock in the morning, giving us four hours' margin for our 8 o'clock breakfast. Or, during the summer months, we might start with the rising of the sun at 4 in the morning and be on the Irish coast in time for dinner at 8 o'clock in the evening. All of that ride would be in the daylight and we should be landed the same day we started."

Rapid Flight at High Altitudes

"Is there a possibility that one might go even quicker than that, Dr. Bell?"

"Yes," replied the scientist, "but I do not wish to be quoted as saying anything more definite than that flying machines should be able to cross the ocean in a single day. I have no doubt that a drome will increase its speed in the rarer air high above ground, but whether this increase will be strictly proportionate to the diminution of density is a point that I am not yet prepared to assert. The winds are also more steady there than at the ground. According to Mr. F. W. Baldwin, who has been working out a series of calculations as to the speed of flying machines at high elevations, the speed of the machine will rapidly increase as it goes upward. Mr. Baldwin says that it is absurd to judge the speed of a flying machine by its performance at a low elevation. He says that the resistance of the air decreases as the air grows thinner and at the same time the power which moves the machine has the same force. He asserts that when the machine rises to a height of 16,000 feet it gets into air which is only half as dense as the air at the ground. According to him, the propeller then meets with only half the resistance, but it can go twice as fast, and it therefore has the same pushing force as at the ground. At the same time the aerodrome itself meets only half the resistance and therefore it goes twice as fast. He describes the speed of the drome near the ground as like that of a motor car on low gear, and says all that is necessary for a high altitude is a gearshifting arrangement such as we have on our automobiles. You change your gear as you rise, just as you do with your car when you go up hill. In this way you could leave the ground at a moderate speed in the air and, changing your gear, alight without danger.

"Now, if Mr. Baldwin's calculations should prove true in actual flying, the speed of the machine at 16,000 feet high would be almost doubled, and the possible velocity,

without the assistance of the winds, would be 200 miles per hour instead of 100. It seems to me, however, that it is quite enough to prophesy that we shall be able to fly across the ocean in a day."

Mountain Sickness Overcome

"But, Dr. Bell, would it be possible for man to cross the Atlantic at 16,000 feet elevation? I once went up in the Andes to an altitude of 15,650 feet. At that height I had a bad attack of soroche, or mountain sickness. My nose bled. I had a terrible nausea and an earthquake-splitting headache, and this continued until I got down the mountain. I should not like to fly to Ireland feeling that way."

"That can be easily prevented," said the scientist. "All that you need is to have your place in the machine so covered at the sides and back that you get the air only from the front. Your sickness on the Andes was caused by the thinness and rarity of the air. It was not dense enough to give you your usual amount of oxygen. This is avoided by the speed of the flying machine, which goes so fast that it condenses the air within the hood, and gives you air to breathe of practically the same quality as that you had when leaving the ground. This density will vary with the speed of your machine, and no matter how fast you go your supply of oxygen will be just what you need. At 16,000 feet you are in air which is half the density of that near the ground, but your speed is double that which you had at the ground, and so the density of the air which you are breathing is just the same."

How High Man Can Fly

"But can flying machines go to a height of 16,000 feet?" I asked.

"They have done so, and better. The highest altitude reached by an American is only a little over a mile, but in Europe the aerodrome records have been steadily rising. In 1912 we had some very remarkable flights. June 30 of that year Lieutenant Glatchke ascended from Vienna, taking a passenger with him, to a height greater than the top of Pikes Peak. He went up more than 14,000 feet, which was almost 2,000 feet above all records preceding. September 17, 1912, George Legagneux made a new altitude record of 17,876 feet. That was over 2,000 feet higher than Mount Blanc, and more than 3,000 feet above Fujiyama, Japan. The world's record as to altitude was made last December. The flight was from Tunis, in Africa, by Roland Garros, and the altitude reached was 19,032 feet, or almost four miles."

"But how about keeping up in the air, Dr. Bell? Have we got the fuel which will keep the machinery going all the way across the Atlantic?"

"That we shall have it within a short time there is but little doubt, and the duration records show that such a long flight is already within the possibilities. In October last John H. Towers flew for six hours and ten minutes in a Curtiss hydro-aerodrome from Annapolis, Md., and the world's duration record was made in France last September. The aviator was G. Fourny, and he flew for over thirteen hours."

"Have you any idea of making the flight, Dr. Bell?"

"No, I have not, although it has been reported that I was to compete for the $50,000 prize offered by Lord Northcliffe to the man who shall first cross the Atlantic ocean in an aerodrome in seventy-two hours. I do not expect to enter any contest, nor shall I send any machine. You will note that the limit of Lord Northcliffe's voyage is seventy-two hours, or more than four times as long as the sixteen hours which we have found the possibility to be?"

World's Progress Toward Flight

"Are you satisfied with the progress which the world is making in aerial navigation?"

"Yes. It seems to me that we are moving steadily toward successful flight. We are learning more about the air, and more about the machinery necessary to navigate it. This is so as to all kinds of apparatus. We have, you know, two great divisions. First, machines which are lighter than air, and, second, those which are heavier than air. Under the first kind come the spherical and dirigible balloons, and under the second the various kinds of aerodromes, or, as many call them, aeroplanes. I do not like the word aeroplane. Aerodrome was the term used by Langley. It means 'traversing the air,' and it is far better than the word 'aeroplane,' which means a flat surface driven edgewise through the air."

(Copyright, 1913, by Frank G. Carpenter)

"Dan," a Faithful Horse

(CONTINUED FROM PAGE ELEVTN.)

span of the bridge had been swept away. Dan knew by instinct that something was wrong, and his good 'horse sense' had saved our lives.

"These are only a few of the many incidents in Dan's life. We never let him go out of the family. When he got too old for active use we let him live a quiet life at Maple Grove farm and only used him on special occasions, such as parades and on Decoration days. He never lost his military spirit and the sound of martial music seemed to renew his youth.

"This has been a long story," said grandfather, "but I loved him like a human friend, this soldier-citizen horse—Dan." E. THORNGATE.

Tire Prices Down

Now the Costliest Tires—No-Rim-Cut Tires Cost You No More Than Others

Goodyear No-Rim-Cut tires used to cost one-fifth more than other standard tires. The reasons are told below.

These tires, despite that extra cost, came to outsell any other. As our output grew the cost came down.

Now you pay no more for No-Rim-Cut tires than for any other standard tire. Yet notice what you get.

Rim-Cutting Ended

You save in these tires all the ruin of rim-cutting. And that's an enormous item.

We had public accountants lately gather statistics. They examined thousands of ruined clincher tires—the old-type hooked-base tires. And they found that 31.8 per cent had been discarded for rim-cutting only.

That's almost one in three.

No-Rim-Cut tires, made by a costly method which we control, end that loss completely. That we guarantee.

Save Blow-Outs

We give these tires the "On-Air Cure." That is, they are final-vulcanized on air bags shaped like inner tubes.

That's to save wrinkling the fabric.

All other tires are vulcanized on iron cores alone. The fabric often buckles. And that buckled fabric leads to countless blow-outs.

This "On-Air Cure," which we alone employ, adds to our tire cost $1,500 per day.

Save Loose Treads

We use another costly method to prevent tread separation. The rights to it cost us $50,000.

Millions of dollars have been lost to tire users through the loosening of the treads. No other tire in the world employs the effective method we use to combat it.

Yet No Extra Price

You get all these savings in No-Rim-Cut tires. All these features used by no one else. Yet no other standard tire today costs less than No-Rim-Cut tires.

The reasons are mammoth output, new factories, new equipment. In one item alone—in overhead cost—we have saved 24 per cent.

Another reason is that we keep our profits within 8½ per cent.

Judge for yourself if tires lacking these features are worth the Goodyear price.

Our dealers are everywhere.

GOODYEAR
AKRON, OHIO
No-Rim-Cut Tires
With or Without Non-Skid Treads

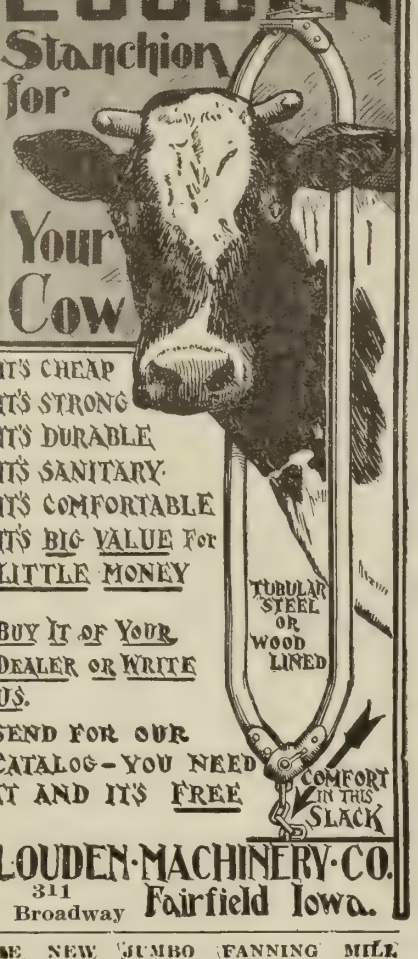
THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Branches and Agencies in 103 Principal Cities — **More Service Stations Than Any Other Tire**

We Have All Kinds of Rubber Tires, Tire Accessories and Repair Outfits

Main Canadian Office, Toronto, Ont. — Canadian Factory, Bowmanville, Ont.

LOUDEN
Stanchion for Your Cow



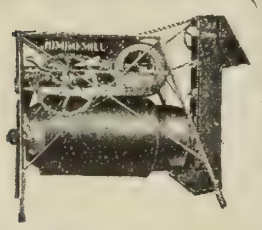
IT'S CHEAP
IT'S STRONG
IT'S DURABLE
IT'S SANITARY
IT'S COMFORTABLE
IT'S BIG VALUE For LITTLE MONEY

BUY IT OF YOUR DEALER OR WRITE US.

SEND FOR OUR CATALOG—YOU NEED IT AND IT'S FREE

LOUDEN MACHINERY CO.
311 Broadway Fairfield Iowa.

THE NEW JUMBO FANNING MILL



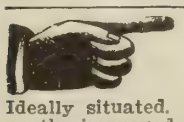
All steel, cleaner and grader, most up to date cleaner and grader for all kinds of grain and grass seeds, —Alfalfa. Fans the grain before it goes into Drum to be separated, and graded from all foul seed. The best cockle mill made Selves always stay clean, will last a life-time satisfaction Guaranteed to give From Factory to you.
WRITE US TODAY.
MINNEAPOLIS SEPARATOR COMPANY
323 Erie Street Minneapolis, Minn.

RHODE ISLAND WHITES

America's "best yet" breed — pure White—every way desirable. In great demand. Bred-to-lay-sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy. "Good Poultry," our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering three months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.
Shorewood Farms Co., Saugatuck, Mich.

YOUNG MEN WANTED
IN AUTOMOBILE BUSINESS
$20.00 TO $50.00 WEEKLY

I will prepare several young men for positions in the automobile business in ten weeks BY MAIL, and assist them to secure good positions. NO CHARGE FOR TUITION UNTIL POSITION IS SECURED. Write at once for particulars. R. S. PRICE, Automobile Expert, Box 463 K, Los Angeles, California.



Minnesota's Best Lands—
Improved and Unimproved
$15-$20 up.

Ideally situated. Some special snaps, 40 partly improved, good buildings, water, $1,500. 280 timber, near town, roads, settled all around. $11.50 acre, cash. Lands on Railway near Duluth. Save money. Write Floodwood Land Co., Floodwood, Minn.

YOU CAN BUY
ANY CUT
IN THE
Twentieth Century Farmer

for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as there is only one of each.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

More About Alfalfa Cultivators

A. H. S., Ft. Bidwell, Cal.: In your paper of June 28 you published an article on cultivating alfalfa. You also mentioned some tools and implements adapted for alfalfa culture. Will you please give me a list of such tools, and where they can be purchased?

We raise alfalfa for hay and also for seed in this country, and there are many diferent implements used for cultivating alfalfa, and different people have their choice in selecting their implements to their satisfaction.

We are farming, or commenced to farm this spring, under the scientific method of dry farming. Cultivation is the principal thing we have to do after the crops are in. Therefore we are anxious to get the best and most useful implements we can. Our grain we can manage quite well, but the alfalfa cultivation seems to be the worst or hardest to do properly.

Your paper is quite interesting and I enjoy reading the same.

Answer—The writer has received a personal letter containing the desired information. There are on the market today two alfalfa cultivators designed especially for this kind of work. Both are mounted on wheels, and the cultivating is done by very narrow shovels, the depth to which they go being controlled by a lever, so constructed that they cannot cut, scrape or wound an alfalfa root. There is also vibration enough sideways to permit dodging the roots. There is a coiled spring above them to hold them steadily to their work, but so applied that if the shovel strikes a solid obstruction, the springs yield and thus save breakage.

The need for cultivating alfalfa is beginning to be appreciated by all alfalfa growers, as the letters published in this column amply show. It is time for the manufacturers to inform the public with reference to the possibility of supplying demands.

Experience of an Iowa Farmer

W. B. Q., Algona, Ia.: I am much pleased with your article entitled "Danger from Shipping Tuberculous Cattle" in your issue of July 12. Iowa is suffering from the same source as Nebraska, and the writer has had a little hand in asking the federal government to put a quarantine on Illinois for this reason, and we join with you in the hope that it will be established. It is a source of great menace to the west, and if the state of Illinois will not prevent it, some steps should be taken by the western farmer to protect himself. We hope the federal government will aid in this matter.

I have had some experience in testing herds of cattle for tuberculosis, and it is amazing to find how few herds are free from it. However, the dairy cattle are not the only ones who have this deadly disease; here in Iowa the beef herds are equally as much affected, and are as much a source of infection as the dairy herds. The only difference is that there is just at this time more rapid sale of dairy cattle than beef cattle, for the reason that many farmers in the west are going into dairying because they have discovered that, when properly conducted, it pays better, has a surer market and keeps up the farm fertility better; and, since the real dairy cow cannot be often found in the west, the farmers are having to ship them from the sister states.

As to the reliability of the tuberculin test, I want to say that the actual experience I have had fully warrants your statement that, when properly conducted, the tuberculin test will reveal the truth in at least 95 per cent of the cases, and that it is the best known test, except perhaps to kill the animal, and in that case the animal is of but little further use even though free from tuberculosis.

I do not know how it is in Nebraska, but I do know that in Iowa the beef breeds are as tubercular as the dairy breeds, and we dairymen would not have it understood that the dairy cow should be held responsible for the spread of tuberculosis.

I want to congratulate you on the stand you take in discontinuing Mr. Dorsey's advertisement. If all farm papers would take this high-minded stand, it would do very much toward helping their patrons, and they would more nearly subserve the purpose for which they are intended, and at the same time add confidence and reliance by the average farmer in the papers themselves.

Editor's Note—It is gratifying to receive such letters as this. It shows that readers are appreciative of what this paper is trying to do to improve agricultural conditions. If the readers show this appreciation, the general public will soon feel it. They may be assured that this paper will not cease in its efforts to bring about improvement in all lines of agricultural endeavor, especially where improvement is most needed.

The Pit Silo Endorsed

L. R. J., Inland, Neb.: For the benefit of the farmers and silo users of the state of Nebraska and the readers of the Twentieth Century Farmer, I send this article for publication, if you see fit to publish it.

In reading over the silo article in your paper of the last issue in regard to transactions of the so-called United States Silo company, it is plain to me why the different kinds of stave silos are so expensive to the users. I have no silos to sell, but I am a user of two underground silos, and have been for the last eight years, and have had no serious results from the so-called gases or the absorption of sap from the ensilage around the outside of the silo so much talked about by the United States Silo company salesmen. I believe that for the farmers of the state of Nebraska, or any other place where they can go into the ground twenty feet or more, the underground silo is the nearest air-tight and the best silo ever made. I do not wish to condemn any certain silo, but, farmers, dig your own silos and keep clear from the monopoly and the smooth-mouthed agent. Pit silos are the cheapest silos made when one has the right conveyances for digging and for getting out the ensilage. The question will arise in your minds, how will I get the dirt out of a round hole twenty to thirty feet deep or more, and how will I get my ensilage out when down in there? I dug my holes twenty-five feet deep, one of them twenty-four feet across and the other one thirty feet across, and I have taken out from 500 to 1,000 tons of ensilage each year and have handled it only once. I can sell you a conveyance to get the dirt of your silo out, or can furnish you a description of one that you can build yourself. This will also take out the ensilage and load it on a wagon if it is desired. I think it the most profitable feed of any forage raised on the farm. If you will read the stave silo literature closely, those writers will get you up in the air so high you will think there is nothing like it. I have at the present time over 400 tons of ensilage kept over from last year in one of these holes, and do not anticipate any great loss from mold or from alleged leakage of sap around the edges of the hole. Last year I fed silage three years old, and it was just as good around the edges as it was in the middle. This hole is twenty-five feet deep, bricked up with a four-inch wall from the bottom. It has no hoops to tighten, and there is no danger of its blowing down and it will last a lifetime. When you consider the durability of this kind of a silo, compared with the stave or any other kind of silo above ground, I believe you will agree with me that they are the only kind to make. When you once put them down you have always got them, and there will be absolutely no further expense connected with them.

Editor's Note—This paper is glad to get this story of experience with the pit silo. A little practical experience of this kind is worth whole reams of printed theory.

Marketing Produce

A. A. E., Council Bluffs, Ia.: In the issue of July 26 is an article from Mrs. Wilbur Kristenson of Iowa on the subject of patronizing home industry. She wonders why farmers cannot sell their surplus products to their local dealers. My idea is that they are not familiar with their market conditions. The day of haphazard marketing is past. A successful seller caters to the demands of his trade.

The first requirement is to have first-class merchandise, then put it up in an attractive manner. With seasonable produce, be upon the early market.

In the instance referred to by Mrs. Kristenson, the dealer may have thought he could depend upon his commission house for his supply better than to buy from his own producer.

Another great factor for any class of merchandising is to know the most dependable market. A wise policy for a producer to follow is to solicit either dealers or consumers exclusively. A dealer will not patronize a person whom he knows solicits the consumer's custom. He justly feels that the consumer is his patron. I once knew a woman who sold her butter to a local groceryman and received the same price in cash that he paid to others in trade, simply because she made a superior grade of butter. I have had a similar experience with spring chickens and sweet corn. I have sold dressed spring chickens at 20 cents per pound when the local dealers were selling them at 17½ cents per pound. Last year I had more sweet corn than I needed. I sold it at 10 cents per dozen straight. I gave full-sized ears and guaranteed it to be well filled. I always raise Stowell's Evergreen. It produced roasting ears when planted on the 20th day of July. I always plant it up to the 15th of July. Evergreen corn in favorable seasons will produce three pickings. If properly graded, it can be made to yield a prime quality, a second quality and a cull grade, all of it good corn, but with different sized ears. I have never made a business of raising produce for market, but have always found ready sale for any surplus that I had in good condition.

Fly pests are said to cost the United States $157,800,000 a year.

Timely Items of Interest to Poultry Raisers and Fanciers

EACH YEAR now we are surprised at the sight of the large number of chickens exhibited at our state fairs. Again, we are equally surprised at the number brought to the county fairs, although, in places, it seems a shame that so few are placed by the farmers or fanciers on exhibition at some county fairs. "No use to tramp away over there to look at the chickens," I heard one farmer woman tell some more, hunting up the poultry exhibit, at a last fall county fair. "There's only a few Barred Rocks, fewer Rhode Island Reds, and three Indian Runner ducks. That's about the pile. I've got better than these at home," she added. And here was where she had made a mistake, for why hadn't she brought them, or at least sent them. There was nothing to hinder, as her husband was exhibiting horses, sheep and hogs, and the man sent to look after these could have found time to have looked after the chickens also.

The small premiums given at some of these county fairs have much to do with the poor poultry exhibit, and yet, this should not deter the breeder of good fowls from making county fair exhibits because the sum you pay for entry is small and the local advertising you get is large. Those who exhibit should insist upon a good site on the poultry grounds and coops that are not set out so far that you must hire a guide, as it were, to get you there. Not only this, but instead if standing the cages in an old style, why not put some originality of design into the poultry display? Most county fair grounds afford the space for this. A Buff Cochin hen, with a dozen half grown chicks, was a pleasing sight in her neat, commodious wire inclosure at one fair. A Houdan hen and her mate, with a flock of Houdan chicks in another wire inclosure, was another attraction as well as an object lesson, for the Houdan does not show the markings of the parent bird when a chick. There are other breeds that would be of interest to show with their young, so unlike what they must be when mature. The poultry display has its crowds, always. It should have more if given favorable grounds and more thought to display by its managers.

It isn't necessary that the young flock be hatched in February or March if put on exhibition. Their age is fully taken in consideration by the judge, and this being one of the off years, and late hatches the rule, most of the young stock will go into both county and state fairs slightly under weight and age both. Despite this, the promise will be there if the stock is good and well pushed with good care. The county fairs give the breeder of good poultry on the farm the first, best and easiest chance for making a beginning in knowing how to bring up the breed he keeps to its highest winning power. In learning this he is, quite naturally, learning how to make it more than a winner. He is learning how to breed it for health and staying power, and through this utility and vitality. And knowing this, don't let the poultry show huxster have all the county fair to himself. Just so sure as you do that poultry show is bound to be a fake, with nothing worth very much to see. The huxster at the fair is the man who may raise a few birds of his own, but he watches the farms where pure bred poultry is in evidence, and picks up show specimens cheap. These he exhibits as his own at the county fairs, and not only takes in the majority of the premiums, but sells those fowls at good prices. They pay little attention to him at the county fairs because, often, if he did not put up a poultry show there would be none. At the state fairs the big fanciers look after his kind.

We have many excellent poultry judges, and we have some that are sort of all-around judges. Sometimes these last are really fair all-around judges, though not great by any means, because our very best will tell you there are breeds they do know how to judge to the last feather, while there are breeds they can only do fairly on. This is why at the large poultry shows more than one judge is hired. At the smaller shows that cannot afford so much expense, the all-around poultry judge comes in good play. If he scores by the card he makes his enemies, and if by comparison, he is likely to do the same, though I believe it is admitted that the patrons of the small poultry show agree that he does best all around when he judges by comparison, as he usually gives the firsts to the finest specimens shown, and so on, according, down the line. And yet the finest looking specimens of any certain breed might, under the eye of an expert in judging that breed, take a third or fourth place; and, under the same judging, one put away back take a front row, and t s all be right and as the standard order

***

Some of the state fairs this year are going to make it something more difficult than of old for the carload exhibitor of poultry to take so much money from the fairs. You see, these are the men that send out a carload of rather rare, or not much sought after breeds of fowls to the fairs. Having very little or no competition, they rake in lots of money. By the time the fairs are coming to a close their roll is something to envy. One is at a loss to know whether this is altogether right or not. Likely it has its provoking side, but it has another also, for there are breeds of fowls the onlooker might never see were it not for these carload entries.

IDA M. SHEPLER.

A bill to protect migratory birds in the United States will become effective October 1. A closed season of almost five years, until September 19, 1918, has been established. No migratory game birds may be killed anywhere between sunset and sunrise.

Motor car owners in Missouri this year will contribute $150,000 in taxes to put the state on the good roads map. The state contributes $225,000 for the same purpose.

More About Germozone

I know a man who bought a profitable poultry farm with two thousand healthy, laying hens and lost sixteen hundred of them within three months. I know another man who bought a 2,500 hen farm, producing regularly 100 dozen eggs a day, and within sixty days his egg production had dropped to 8 dozen per day and over 200 hens had died.

It's easy to keep a healthy hen healthy and it's easy to keep a laying hen laying, but its ruinous to wait until they become sick or until they quit laying before taking preventive measures.

On both of the above mentioned farms the chickens had been getting **Germozone** regularly twice a week in the drinking water and **Lee's Egg Maker** daily in the food. The new owners "did not believe in feeding medicine to healthy chickens," and had their own notions about feeding, not realizing that the previous owners had put in many years in finding out exactly what gave the best results.

One cannot well disinfect the floors, yards, and scratching litter every day, but one can, by use of **Germozone** in the drinking water, produce an antiseptic condition of both food and drink and also of mouth, throat, crop and bowels. **Germozone** is also the best remedy for **Roup, Colds, Swelled Head, Chicken Pox, Bowel Complaint, Cholera, etc.**

On our own farm, we would as soon think of omitting food as to omit the **Germozone** water all day on Wednesdays and Sundays.

LARGE 12 OZ. BOTTLES 50c. NEW SIZE, ONE GAL. CANS FOR LARGE CONSUMERS AT $3.00 EACH, EQUAL TO ELEVEN BOTTLES. (Express paid for $3.50.) Sold by more than 10,000 dealers in the United States.

GEO. H. LEE CO., Omaha, Nebraska, or Los Angeles, California

Silo Owners, Attention!

Save one-half your gasoline in operating ensilage cutters and blower elevators.

Write

Lininger Implement Co.,

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Review of Live Stock Market

By A. C. Davenport

WAITING on the weather—that is the condition of practically every live stock market in the country. Buyers as well as sellers are all at sea and uncertainty and doubt are the chief features of the trade. Everything seems to hinge upon the weather and that forms almost the sole topic of conversation in the yards and about the exchange buildings of the big market centers. Everyone has an opinion of what will happen if it rains soon, or if it does not rain, and there are about as many different opinions as there are talkers. After it is all summed up no one knows and uncertainty continues to hold the market under its sway.

Happenings during the current week have been full of interest to stockmen and really form the basis for such estimates as to the future of the trade as it is possible to make. Dry weather conditions started in the southwest—that is, the drouth became really serious there before its effects were felt farther north. As a natural consequence the southern markets might be expected to reflect drouthy conditions sooner than the northern. That is exactly what has taken place. The Kansas City market has been experiencing increased receipts for some little time and during the week just closed was deluged with cattle from the dried-out pastures of Kansas, Oklahoma and the Panhandle of Texas. A large percentage of these cattle were feeders and had to be sold to the farmers of the corn belt. During the first half of the week 600 cars were shipped to the farms of Iowa, Missouri, Illinois and other states, most of them going east of the Missouri river. Other southern markets felt the same dry-weather influences, but in a lesser degree. The northern markets, like Omaha and Sioux City, did not show any abnormal conditions and the same was true of eastern markets. Omaha had a big cattle run, but no larger than a year ago, showing that the drouth in territory tributary to the market had not yet reached a stage so serious as to force the premature shipment of cattle.

Drouth Affects Cattle Prices

The flooding of the Kansas City market caused a sharp break in stock cattle and feeders at practically all points, as might be expected. It also gave buyers of fat cattle an excuse for hammering the market and they dealt values a hard blow, especially at the beginning of the week. Later on, as it became apparent that the flood of incoming cattle consisted entirely of stock not suitable for packing house purposes, the market firmed up and a considerable part of the loss was recovered. Still most markets were quoted a little lower at the close of the week.

The longer the drouth continues and the more severe it becomes, that is, the wider territory affected, the greater the influence must be upon the market, and this influence for the time being can hardly fail to give prices a downward tendency. A drouth of this character works both ways in that it induces heavy shipments from the sections having the dried-up pastures, while it decreases the buying demand for feeders even from localities not in danger of crop loss. The farmers believing that corn will be high, very frequently hesitate about buying feeders, figuring that there might be more money in selling the corn. Again a continued drouth sooner or later hurries forward fat cattle from territory suffering from dry weather and packers, knowing that there is a possibility of such a thing, take advantage of it to bear the market.

All advices from the western range indicate plenty of feed, with cattle generally in good condition This would naturally lead to the inference that the percentage of range cattle good enough for killers will be large.

Downward Trend in Hog Market

Hogs suffered a sharp break during last week. Conditions up until very recently were all favorable for a firm market during August. The receipts for the year to date were very light as compared with recent years, while the consuming demand was good and there was no great surplus of meat products on hand. The dry weather scare, however, put all these bull influences to naught. Packers, remembering the overwhelming receipts of hogs following the drouth of 1894, began pounding the market the very day that it became apparent that the drouth was becoming serious in some of the big hog producing states. They have brought into play all the various bear tactics that they are able to handle so well and the market during the last week has been steadily and rapidly driven downward. With conditions such as they are at the present time, no one can form the least idea as to the future of the market as the course of values is dependent upon so many different possibilities.

Nervous Tendency in Sheep

As there are no sheep of any consequence in the territory thus far hurt by the drouth, there have been no shipments other than normal. The dry weather, however, has undoubtedly had some influence upon the buying of feeders and should it continue it must have a very great influence in the not distant future Thus far the receipts from the range, which at the present time constitute all the receipts there are at the Missouri river points, have been very moderate as usual at this season of the year. For that reason the drouth thus far has not had very much influence upon the feeder trade as there have been buyers sufficient to take care of the moderate receipts. Packers, however, have shown very plainly that they are fully alive to weather conditions and are prepared to take advantage of the situation whenever possible. Thus it happens that prices have been more or less uneven, showing sharp advances and sharp declines at the various points, there being more or less nervousness manifest in the trade.

As to the future of the market everyone is very much at sea, the same as is the case in the cattle trade. As a matter of course a great deal will depend upon how long the drouth should continue. Thus far the best sheep feeding territory has not suffered any dry weather loss of consequence, but the farmers in such sections may be expected to be rather bearish in their ideas, especially as the feeling at the beginning was that prices were high for feeding sheep and lambs. Operators on the market, however, are by no means agreed as to the probable course of values and up to present writing it is simply a guess and one man's guess is about as good as another's. Some argue that the farmers of Iowa and other sheep feeding states east of the Missouri where crops are good will be crazy for sheep and lambs this fall because of the fact that they fed a good many last year and as a rule made money on them. Others argue that with the possibility of corn being high many of them will stay out of the feeding game this year and that that fact, together with the prospective large shipments from the range, will hold prices down. It remains to be seen.

New Plants on Grazing Lands

In making a study of grazing lands on the national forests, 125 entirely new species of plants have been discovered by the government's experts. Their discovery came about through the collection of some 9,000 different plant specimens, with notes as to their habits of growth and forage value. This work is part of a comprehensive plan to determine the grazing value of every acre of national forest land, in which the capacity of the soil to grow certain forage crops is to be determined and an effort made to decide for which class of stock—sheep, cattle or goats—the range is best suited.

The men who have made the studies have combined the qualities of practical stockmen and trained botanists. They divided the areas into small subdivisions, and maps have been prepared showing the kinds of feed which grow on each acre, and the time of year it is ready for grazing. The maps also show the stock's water supply and indicate the kind of stock best suited to the area.

The investigation also showed the examiners many areas covered with flourishing plants which apparently should furnish excellent grazing, but which were not of a character relished by stock. These areas, therefore, had little or no stock-carrying capacity.

As a result of the study the forest service announces that it will be in a position to perfect its system of grazing management to bring about still better conditions for both stock and range.

Is Our Foreign Immigration Too Large?

(CONTINUED FROM PAGE SEVEN.)

ing for me for many days, but had finally given me up when he had been informed of my supposed arrest. He had also written this information to his son in Kansas, and when I so unexpectedly turned up he was greatly delighted and would not allow me to proceed in my flight. He assured me of my safety under his roof and in Terpinje, which was an exclusively Russian town, with himself as the chief magistrate. 'Here I am the czar,' he said, 'and no gens d'armes will dare touch my guest.' And right he was. No officers came near me. I had a delightful rest of a few days and the first leisure to write home of my safety thus far. It was certain that young Warkentin, when he received his father's letter informing him of my supposed Siberian expedition, would communicate the news to the railroad officials at Topeka and to my family. This was actually the case, and before my first letter reached Topeka steps had been taken by the railroad company, through the government in Washington, to procure my liberation."

These steps, of course, proved unnecessary, for Mr. Schmidt was successful in eluding the vigilance of the Russian officials, and soon after leaving Mr. Warkentin's kind care made his way across the border into Austria-Hungary, after having his passport endorsed by the only American consul then in southern Russia, who was located at Odessa.

Mennonites Locate in Kansas

While he was obliged to cut his journey short because of the threatening attitude of the officials, his mission was nevertheless accomplished, for that same year the first of the Mennonites arrived in Kansas, to the number of 400 families, bringing with them two and a quarter million dollars in gold, and purchasing 60,000 acres of land in the counties of Marion, McPherson, Harvey and Reno. By the year 1883 15,000 of these people had settled in that region, and later the immigration totalled 60,000, this mass movement having communicated itself also to the Mennonites of south Germany, Switzerland and west Prussia.

This movement was but one wave in the great tide that came westward during the two decades that marked the heaviest influx to the plains, and in all of which Mr. Schmidt had a hand. This having been his life work, and he having marked the excellence with which these foreigners built up the country, Mr. Schmidt now notes with regret a tendency toward restriction that is uneconomical in the highest degree and based on no sufficient moral grounds. He believes that this nation has established its right to the title of the "great melting pot" and that the time has not yet come for extinguishing the fires under the cauldron that has made a homogeneous citizenship out of the races and peoples of many lands.

Teaching Principles of Farming

Instruction in the principles of farming in the schools would produce beneficial results. All boys and girls could profit by an elemental knowledge of the great primary industry, and it is unfortunate that in a land pre-eminent in agriculture such instruction has been so largely neglected. Thousands of American boys and girls grow up utterly ignorant of the principles of the farm and farming. The other day a Chicago paper printed a letter from a boy 10 years old who had never seen a farm and begged the privilege of going to the country. That boy is only one of an army with no clear idea of the vast amphitheater in which the brain and brawn of nations is bred.

While we are crying "back to the farm" we must begin laying the foundation for the success of the movement in the instruction of the American youth in the schools. It will be seed sown on fertile, mellow soil that shall one day bring forth fruit in abundance.

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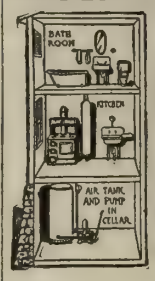

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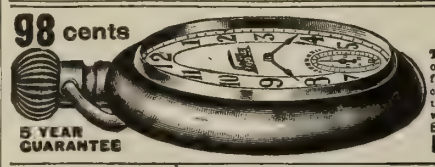

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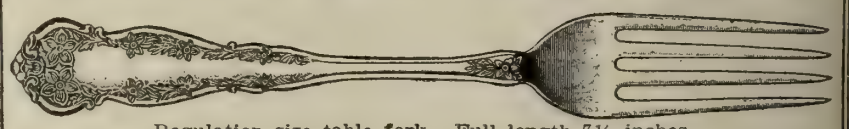

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The Twentieth Century Farmer has been giving away handsome Wm. Rogers & Son's silver teaspoons. Forks of the same pattern have now been obtained. Because of the extra expense in handling the forks, and in getting the designs, the price for mailing is 20 cents. You may still get the spoons, each, for 10 cents. Complete your set of spoons, and also get the forks. Start now.

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Bright and Breezy

Just Complaint

The angry citizen puffed into the ffice of the city editor. "See here, r!" he yelled, "what do you mean y publishing my resignation from ıy political office in this way?"

"You gave the story out yourself, ldn't you?" asked the editor.

"Of course I did," replied the an- ry citizen. "But your fool paper rinted it under the head of 'Public nprovements.'"—Boston Record.

The Lump's Identity

The whizzing motor car struck a ump and one of the occupants of le back seat, a lady possessed of onsiderable embonpoint, executed a eat but not gaudy parabola in the tmosphere and alighted by the oadside like a polypus falling from shot tower.

"I don't believe I have broken any ones," she stated, in reply to the quiry of the omnipresent by- ander, "but there is a lump on this nk that—"

"Lump — nuthin'!" snarled a nothered voice. "I'm the constable at's goin' to arrest you gosh- rned joy-riders, if I live!"—Judge.

Weather Bureau Please Notice

A Dane who owned a farm in Kan- s applied for naturalization papers, ys an exchange. The judge asked m:

"Are you satisfied with the general nditions of the country?"

"Yas," drawled the Dane.

"Does the form of government suit u?" queried the judge.

"Yas, yas; only I would like to e more rain," replied the farmer.— uth's Companion.

Among the Cobwebs

"There was a worldly parson in iladelphia—a great fox hunter— om a Spruce street Quaker took in nd.

"Friend," said the Quaker, "I un- stand thee's clever at fox catch- ."

"I have few equals and no super- s at that sport," the parson com- cently replied.

"Nevertheless, friend," said the aker, "if I were a fox I would hide ere thee would never find me."

"Where would you hide?" asked parson, with a frown.

"Friend," said the Quaker, "I uld hide in thy study."

Always Took Precaution

A young lady at Bath Beach had asion to complain about one of bath-house attendants, an old ow who, in the hurry of cleaning would sometimes burst in upon in the bath-house without knock- .

One morning, after this had hap- ed for the sixth or seventh time, young lady took the old fellow task.

"See here, Peters," she said, ere's no lock on my bath-house, you know, and I must insist on r knocking before you enter. It n't happened yet, but it might y well happen, that you'd come in me when I was all undressed."

"No fear of that, miss, said Peters. fear of that. There's a knothole the door what I always look ough before I venture in."

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Traction Number Next Week

THE issue next week will be largely given up to a discussion of the economic and industrial significance of mechanical power as applied to farm operations. There will be a new and attractive cover page, and the frontispiece will be of special interest to all interested in farm mechanics. The main part of the paper will consist of special articles relating to tractors, the implements that tractors make available for use upon the farm, and general discussions that cover the economic as well as the industrial phases of mechanical power as applied to uses on the farm.

The chief considerations that can be urged for the use of mechanical power upon the farm are the economy to be gained by the use of it, and greater efficiency to be derived from it. Much more work can be done in the same time, and done much more efficiently than is possible by the use of any other kind of power. This whole matter will be fully discussed by special writers in the forthcoming issue.

The special attention of readers is called to the attractive appearance of the next number as shown by the cover and frontispiece. This paper is glad to note the interest in the forthcoming exhibition of farm power already excited among its readers, and representatives of this paper will be glad to meet upon the grounds readers from all parts of its territory. It has undertaken the promotion of this demonstration solely for the benefit of its patrons, and it regards them all as members of its family.

Prattle of the Youngsters

If He Could

"Bertie," said his mother, "what would you like to give your cousin Willie for his birthday?"

"I know what I'd like to give him," answered Bertie, who had been bullied by the elder boy, "but I ain't big enough."—American Boy.

Settling the Boundaries

"Ma! Ma!" sobbed Willie, "do my ears belong to my neck or my face?"

"Why, what is the matter?" was the temporizing reply.

"Well, you told Mary to wash my face, and she's washing my ears, too!"—Sacred Heart Review.

She Saw the Point

The Sunday school teacher had read the day's scripture lesson to the class, and she began asking questions to see how attentively the young girls had followed her. "And what," she asked, "is the lesson taught us in the parable of the seven wise virgins?" Eleven-year-old Ruth held up her hand. "That we should always be on the lookout for a bridegroom."—Cleveland Plain Dealer.

Proved His Contention

The mother was at the zoo with her little boy, and the boy said: "Mother, come and see the dangeroos."

The mother corrected him, saying, "Not dangeroos, dear—kangaroos."

"No, mother dear," said the boy; "they are dangeroos. Come and I'll show you."

He led his mother to where there was this notice on the cage of some animals. "These Animals Are Dangerous."

Working Happiness Overtime.

A school teacher said to her boys: "Now, I am going to give you each three buttons. You must think of the first as representing life, the second liberty and the third as happiness. In three days I want you to produce these buttons and tell me what they represent."

On the appointed day the teacher asked one of the youngest pupils for the buttons. "I haven't got them all," he sobbed. "Here's life and here's liberty, but my mother went and sewed happiness on my trousers."—Chicago Journal.

High Finance.

Willie had a yellow dog that was a perfect nuisance, but so devoted was the boy to him that he could not be persuaded to have him killed. One day, when his father had been unusually annoyed by the antics of the dog, he called Willie in from play and said:

"My boy, I'll give you a dollar if you get rid of that dog."

Willie's face expressed great amazement at the thought of so much money belonging to him. He looked long at the dog and finally told him he would give him his decision the next day.

The following day Willie sought his father and said:

"I've got rid of Max, father."

"I'm more than glad, Willie," said the father. "Here's your money, you've earned it. How did you get rid of him?"

"Why," answered Willie as he put the money in his pocket, "I swapped him to Bill Moran for two yellow pups."

Weary Visitors at the State Fair

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Farmer Putnam on Past and Present Fairs

With the Help of Josephine He Wins First Premium on Fruit

DEAR MR. EDITOR—Your letter just come to hand and found me about the same, exceptin' that I've been laid up with a welt on the back of my neck, all due to the cussedness of Josephine—my cow, not my wife. I named the durn critter after my wife, and fur good reasons, but I never figgered she'd turn out really as stubborn as she did. She got over into the alfalfy the other day—that is, my cow did—and me and one of the boys went down to drive her out. I left the gate open, but she run to t'other side of the passter, and me hot-footin' after her. Jist as I was a-gittin' ready to lay hold on her tail I took a header over a old log that was in the medder, covered so high that I didn't see it. I jarred loose a nest of yallerjackets in the end of the log and by the time I got myself up they was swarmin' around my head, and before I got out of the passter I was bunged up so's you wouldn't know me.

Cures for Hornet Stings

Josephine—the cow—staid in the alfalfy patch and nobody durst come near her till the yaller-jackets stopped swarmin'. I was led up to the house by one of the boys and there I had a tussle with the other Josephine—my wife. She was a-goin' to put turpentine on the stings. I say she was a-goin' to, and I might as well admit right here that she did, but she done it over my protest, fur I wanted her to put on some of Millie's cold cream—that's my niece that's visitin' us from St. Joe.

I was a hoppin' up and down and lettin' out yells, and I says:

"Fur heaven's sake, Josephine, git that jar of cream offen the dresser in the spare room; I cain't stand no turpentine on them stings!"

"You shet up, Tom," she says, pourin' half a pint of turpentine on a red flannel rag, and windin' it so tight around my throat that I couldn't do nothin' except stop hollerin'.

Stubborn! Believe me, Mr. Editor, they ain't no arguyin' with a cow or a woman when she's made up her mind to be different. I've tried both, and meek in spirit, albeit wounded in the flesh, I now take my pen in hand to write you-all what I kin about my experiences in county fairs.

The County Fair as It Used to Be

We used to have great times down to the old Buchanan county fair in St. Joe, when the grounds was down between the Burlington round-house and Buell's wool mills. Old Cap Ernst—he's gone from us now—used to be secretary of the fair association, and it was a serious kind of business in them days, with the farmers competin' fur prizes, to see which had the best stock, or the best pumpkins and melons and squashes. I never will furgit how I won a blue ribbon offen Colonel Thornton, who had a apple orchard over east of Sparta, after he licked me fur three years on fruit awards. I had a purty fair orchard in them days, besides a general farm, and I used to exhibit cattle, hogs, fruits and vegetables, besides which Josephine brought in some jell and some fancy work fur the wimmin's exhibit.

Pesky Critter Allus in Herd

I was allus onlucky enough to have some pesky critter in my herd that would make trouble, and I had one down to the fair in St. Joe this year I'm tellin' about. She was in the dairy class—a good milker, but very fond

of anything she could git to eat, and not very choice about what it was. She had some qualities of the goat.

Well, it was the next to the last day of the fair, and the judges was pinnin' ribbons on the exhibits. My apples was settin' right next to Colonel Thornton's, and lookin' mighty good, but his had blue ribbons on 'em left over from three years before, and you-all know how that is; when a exhibitor onct gits up a reputation fur first-prize stuff it's purty hard fur a outsider to git the judges to switch around and see anything but the exhibit of the regular first-prize winner. And then Colonel Thornton was a member of the board of directors, too, so you kin figure that I, not bein' on the inside, didn't stand much show with my apples agin his.

Josephine Starts Something

Well, by and by that trouble-huntin' cow of mine got out of her stall and begin nosin' around fur somethin' to eat. She strolled over into the fruit tent and before anybody could stop her grabbed off a hull plate of Thornton's prize apples, on which the judges had just pinned a blue ribbon.

I come in jest in the nick of time to keep Thornton from lickin' the cow to death, and he acted so ornery about it that I claimed the ribbon fur that year, my lawyer advisin' me that, while the judges might have awarded it to Thornton, the ribbon was in my possession, the cow bein' my property, and possession bein' nine points in law. Thornton sued me before Justice Fitton in the justice court of Washington township, and I won the case, havin' knowed the judge a heap longer than Thornton knowed him. That's the only time I ever won a first premium on fruit.

Modern Fair Methods Different

Them was the days of the old-fashioned fairs and we used to have great times at 'em, with the hoss racin', merry-go-rounds, pink lemonade and other sports.

Nowadays our fairs is mostly different. We're beginnin' to go in more fur the educational side of things, and like as not some of the places where they'll be readin' this letter of mine you'll see the agricultural college havin' a exhibit of two types of dairy cows, one of 'em a poor milker and big feeder, like the one that et up Colonel Thornton's blue ribbon, and the other a steady milker, earnin' all of her keep in butter. Behind them two cows will be big piles of feed—alfalfy baled up to show how many bales of hay and how many bushels of corn each of them cows eats in a year. Them exhibits will show that the poor milker eats about as much as the good milker. Then there'll be two piles of butter, one a big heap, showin' the gold that the good milker brings in fur the feed that's put into her, and the other showin' a little pile of butter, not worth half the cost of the feed. Them's the kind of lessons that counts fur a hull lot more than John Hopkins' big cucumbers.

While I was runnin' around over the country last year I attended a big fair in Hot Springs, Ark. It was a state fair, and besides the exhibits of snake dens, Egyptian beauties, ossified mummies from the African desert and other high-priced curiosities, I seen one of the finest examples of instruction fur the young that I ever seen. The government has got farm demonstration agents down in them southern states and organizers fur the boys and gals—corn and pig clubs fur boys and canning clubs fur the gals.

Prof. T. M. Jeffords was in charge of a six-day school fer boys, sent in from all the counties in the state—about sixty-five of 'em, their expenses bein' paid by the town merchants. The boys and gals that was at the school was the prize winners in their club work in each

Lengthening the Time of the State Fair

Some of the Advantages of a Longer Fair Period

WHAT is to be done in the interest of the big State Fair when it has outgrown its exhibition ability, when it has become so large that the present limited period of one week set apart for holding the fair is inadequate for a satisfactory exposition of the various interests it represents? Is one week sufficient time to compensate the exhibitors for the labor, expense and worry of getting their exhibits to the fair properly installed and ready for inspection by the visitors? Is the time sufficient to justify the concessioners that buy space to conduct a traffic in merchandise? Is the time sufficient for any state fair industry to meet the success it deserves from a pecuniary or educational point of view? These are questions that are today commanding the serious consideration of some of the big state fairs of the country.

Uncomfortably Congested Travel Conditions

There are many reasons which would justify the extension of time. Starting with the fair patrons as they leave home for the fair, the first embarrassment is met in the crowded cars on all lines of road leading to the fair. It cannot be otherwise, because everybody wants to attend the fair, and there is so short a time in which to do it that people feel impressed with the urgency of going early in the week in order to fortify against disappointments of inclement weather, etc. The congested condition of travel caused by the limited time results in delivering to the fair grounds a lot of tired, disgusted people, who enter into the spirit of sight-seeing and investigation under considerable handicap, both mentally and physically.

There is no relief. To the congested condition of travel to the fair is added on the fair grounds another condition of congestion and discomfort—more people on the fair grounds than can comfortably get around; every department is crowded, and with difficulty the anxious visitors hurry over the grounds, getting but a very imperfect idea of what is on exhibition in many of the departments. The majority of these people plan to attend the fair but one day and are thus hurried from the time they arrive until their train is due to start back home. In most instances families desire to divide up in attending the fair, part going one day and part another day. Thus the affairs at home are kept in operation and the fair is also patronized.

Reasonable and Practical Solution

After the worry of the day the homeward trip is encountered with no perceptible change in the congestion of travel. Overcrowded cars are the custom, and those who are fortunate in getting seats are the envy of the standups in the crowded aisles. It is state fair time and the state fair visitor has become tempered to inconvenience and breathes a feeling of relief and satisfaction when his home station is reached. Can these conditions be changed? Is there any reasonable solution for the congestion that exists in travel and on the state fair grounds during the week of the state fair?

There is a very reasonable and practical solution, which will be found in the extension of the time of holding the fair from one week to ten days or two weeks. This will apply only to the big fairs, those that have outgrown their ability to handle the great crowds of fair patrons. The State Fair of Iowa is one of the fairs that is now battling with a condition of congestion as above described. Its big grounds of more than 300 acres, only a few years ago held in reserve idle acres for future development. These have been brought under survey and platted and now swarm with life and the activity of organized industry in the interest of some feature of the big exposition.

Exhibits Not Thoroughly Examined

Iowa has a machinery exhibit of approximately forty-five acres. This department has become a feature of general interest to fair visitors, because of its great diversity in display, because of the intense practicability of the tools, implements, machines and devices that have been invented and manufactured to assist in turning the resources of this great country into commerce and trade. Fair visitors, under the congested conditions of one week's fair, can neither see nor investigate satisfactorily the things of greatest interest to them on the fair grounds. Concessioners in this department cannot secure the advertising and business advantage they are entitled to in the very short time they are on the fair grounds. These are many of them expensive exhibits, highly instructive and of great business service to fair patrons, and should be given more time.

What has been said of the machinery department will apply equally well to other departments. This is a great object lesson and demonstration. It is educational from the standpoint of observation and comparison. The state fair may become a greater factor for the educational advantage of the people of the state by devising means whereby more people are encouraged to attend the fair. By extending the time to cover ten days or two weeks more people will attend. Families can divide up, part go this week and part next week. This will also have a tendency to encourage a two or three days' attendance instead of one day. It will relieve the crowded condition of the railroads, distributing the fair visitors more uniformly throughout the fair period, and thus remove the congestion that causes so much discomfort now.

System of Fair Circuits

Under the present system of state fair organization there is an arrangement of dates, making a sort of system of state fair circuits. These are planned to suit certain classes of exhibitors and concessioners, so that they may attend all the fairs in a given circuit if they so desire. The race track has always been a prominent factor in the amusement side of the state fair. The horses entered follow the circuits. Some of the live stock exhibitors also follow the rounds of the fairs. Anything that would interfere with this system of dates would work a hardship on both these departments. This would be an argument against an irregular circuit, unless all state fairs would agree on an extension of time.

The duplication of dates in the holding of state fairs, except in the case of fairs in the same circuit, is not a serious breach of state fair etiquette. It happens quite frequently, and no bad results follow, as in the case of Minnesota and Nebraska, Wisconsin and South Dakota. The opening up of the fair, with a complete premium list and advertised attractions for ten days or two weeks, will soon be endorsed by the fair visitor and the general public as an educational advantage.

Fair as an Educational Institution

Times have changed. Farming and the agricultural industries have become matters of study all over the country. The fair is an educational feature closely allied with the everyday duties of the farm and home. The state fair is now a big farmers' institute, so to speak, where lessons are taught by observation, inspection and comparison of the best the state has to offer and is producing. A ten days' active, well programed, well advertised fair will pay a larger dividend in the matter of instruction and education to more people than the hustle, hustle of five days, which marks the present-day state fair the country over.

There is more being attempted in the crowding of ten days' exhibition work into five days than good business judgment warrants. There is too much invested in buildings, grounds, equipment, exhibition, energy and the expenses of exhibitors and concessioners for so short a period. There is too much at stake to risk being drowned out by two or three days of rain in our one-week state fair. Not infrequently does this occur, and the financial prospects of the fair are thereby ruined beyond any possible means of retrievement. A heavy debt is the usual result. A two weeks' fair would obviate the likelihood of this kind of disaster.

Each state fair should be built with a view to permanency, not only of the state fair buildings, but in many cases of the displays as well. Each state should provide a building on its grounds dedicated to the interests of its state university and agricultural college and experiment station, where, in addition to the animal exhibits that these state educational departments would make, there could be permanently housed an agricultural museum for the people of the state. Here they might go at any time to study and inspect the soil, products and resources generally of each county. This exhibit could be collected, in part, each year from the county exhibits in the various departments and halls on the fair grounds.

Such a state display, representative of its resources, would very soon become the greatest exhibition feature on the fair grounds during fair time. It would be the state's greatest permanent advertising agency and would be visited throughout the year by thousands who desire to learn of the resources of the state and of its different counties.

Thousands of state fair visitors each year exclaim, "What a tremendous expense of money and labor for only one week's use in the year!"

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
Arizona	Phoenix	Nov. 3-8	J. R. Henderson
California	Sacramento	Sept. 13-20	J. L. McCarthy
Colorado	Pueblo	Sept. 15-20	A .L. Price
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Iowa	Des Moines	Aug. 20-28	A. R. Corey
Kansas	Topeka	Sept. 8-13	H. L. Cook
Kansas	Hutchinson	Sept. 13-20	A. L. Sponsler
Minnesota	Hamline	Sept. 1-6	J. C. Simpson
Missouri	Sedalia	Sept. 26-Oct. 3	John T. Stinson
Nebraska	Lincoln	Sept. 1-5	W. R. Mellor
Oklahoma	Oklahoma City	Sept. 23-Oct. 4	I. S. Mahan
South Dakota	Huron	Oct. 6-12	C. N. McIlvaine
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin
Wisconsin	Milwaukee	Sept 8-12	J. C. McKenzie

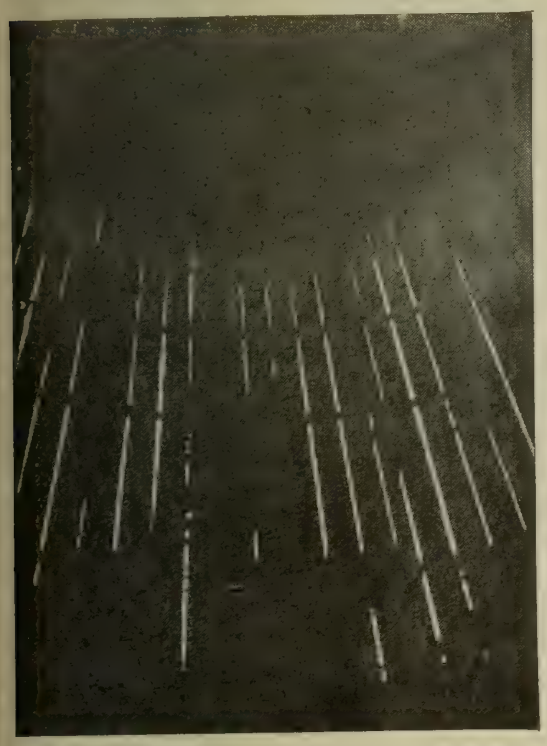
Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
Colorado Interstate	Denver	Sept. 2-16	Irving W. Eaton
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Dry Farming Congress	Tulsa, Okl.	Oct. 22-Nov. 1	John T. Burns
Interstate	Sioux City	Sept. 15-20	Joseph Morton
Interstate Horse Show	St. Joseph, Mo.	Sept. 22-27	
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

Truth About Silos---Reliable Information

IV—The Wood Stave Silo, Its Defects and Its Cost

IT IS always a pleasure to give praise or credit where praise or credit naturally belong. The promoters of wood stave silos have rendered one invaluable service to the country. More than any other agency, they have helped to educate the people of the country with reference to the importance of the silo. They have shown the value of the silo in converting the corn crop, or at least a part of it, into succulent, easily digested feed for all kinds of live stock. Without their efforts, the silo would not today occupy as permanent a place in the minds of stock growers as it does. The silo is a good thing,



Photograph Inside a Stave Silo, Showing Effects of Shrinking of Staves

and anyone that helps to promote a good thing is entitled to credit for so doing.

It is barely possible that the silo has been so strenuously promoted that its relative importance has been somewhat over-emphasized. Throughout the corn belt, farmers raise more corn than it is possible for them to convert into silage. For this reason, whatever has been said about the silo is true only when applied to a part of the corn crop. Other means must be sought for converting the remainder of the corn crop into food, and for preventing the enormous waste in fertilizer value that obtains under present methods of handling the crop.

Certain qualities that are inherent in the very nature of the material of which wood stave silos are made of necessity take them out of the class of permanent structures and put them in the class of temporary expedients for permanent structures. Wood is not an enduring material, especially when exposed to the weather. The very nature of wood is such that it shrinks when dry and swells when wet. The permanency of a wood stave silo depends entirely upon its maintaining a constant rigidity of structure. It consists of staves set on and held firmly in place by hoops. As long as the hoops remain tight, the structure will be rigid and stable. As soon as the hoops become loose, it becomes in the highest degree unstable. In the modern wood stave silo the staves are matched and fitted together by tongue and groove. The tongue and groove are from one-half to five-eighths of an inch in depth. The extreme circumference of a silo sixteen feet in diameter is about fifty feet. It would take very little shrinking to reduce this fifty feet sufficiently to separate a tongue from a groove. Then, unless some method is adopted for holding the stave in place, the stave will fall out and the silo be in imminent danger of collapse. If the hoops become loose so as to destroy the rigidity of the structure, it may be worked in any direction by every light wind.

Effect Produced by Shrinking

A single half day of such weather as the middle west has experienced at times during the last month would shrink the staves on such a silo to such an extent that every hoop would have to be tightened in order to make the structure safe. When the hoops are so tightened, a single shower of rain will swell them to such an extent that either the staves will buckle or the hoops will break. Of course, there can be nothing permanent about a structure made of material in which such qualities are inherent. An illustration printed herewith consists of a photograph taken on the inside of a silo that shows the effect produced by shrinking. No one will imagine for a moment that such a silo would stand erect under even a mild wind. When a silo collapses it is a matter of considerable expense to erect it again. Such erection requires the application of considerable mechanical skill. No farmer will be satisfied with a silo that requires such constant attention and is in such constant danger.

Another illustration that accompanies this article is a photograph of a silo erected by a silo company on the State Fair grounds at Lincoln, Neb. It was erected solely for exhibition purposes by the company engaged in promoting the sale of just such silos. It may be taken for granted that it was erected in the best way possible, in strict accordance with the mechanical principles involved in proper erection. The photograph shows that one side of the silo had blown in, thus rendering it practically worthless until it had been repaired.

History of Thirty-One Silos

During the summer of 1911 thirty-one stave silos erected in the vicinity of Lincoln were inspected. In the inspection no silo was passed by. They were taken singly one by one as they were found. Here is the result of the inspection:

Five had blown clear down once before they had been built twelve months; one blew clear down twice before it had been built twelve

Blown-in Silo Erected by a Silo Company for Exhibition Purposes on Fair Grounds at Lincoln, Neb.

months; one blew clear down three times before it had been built twelve months; one blew clear down once before it had been built five years; one blew clear down once before it had been built nine years; two blew clear down, but the date of their erection was not ascertained; eight had been re-erected once before they were up twelve months; one had been re-erected twice before it was up twelve months; four were leaning badly; one had been straightened twice; two had very loose hoops; one had broken nearly every hoop more than once; only six were in good condition.

With such a record as this, it is impossible

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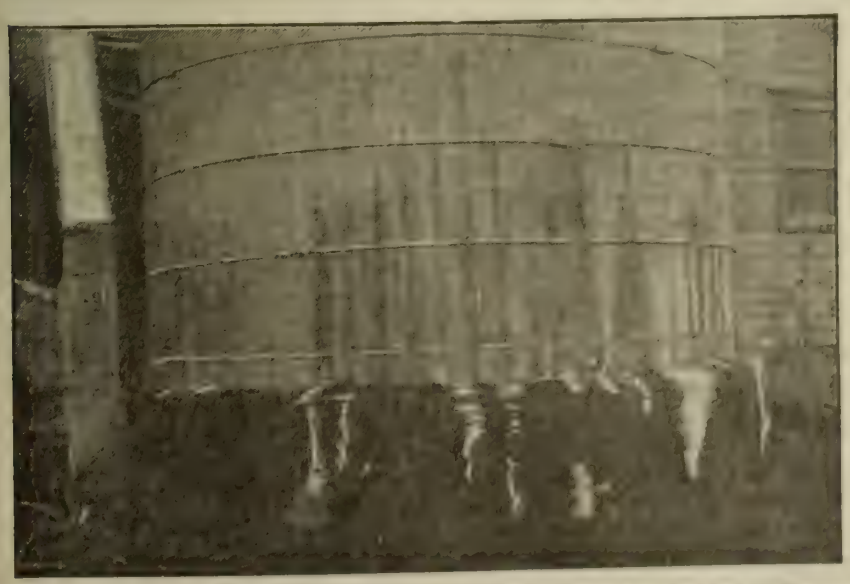
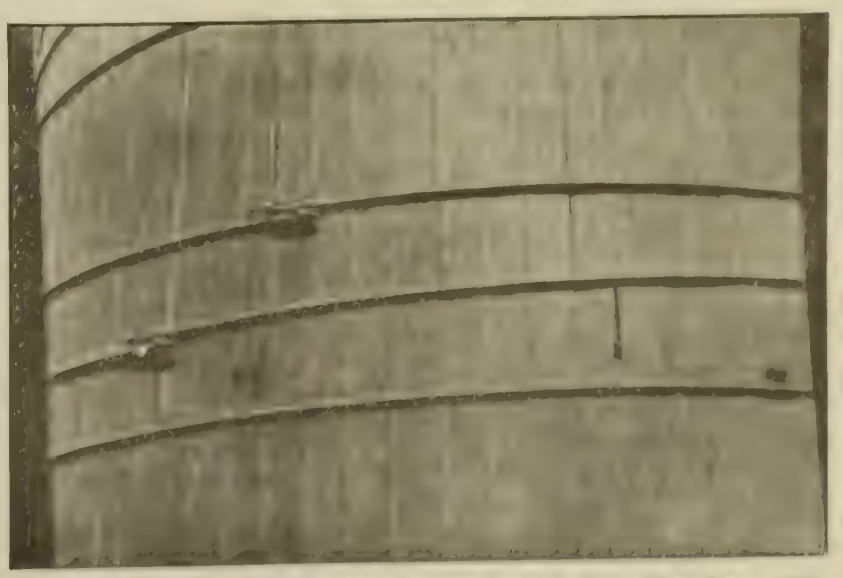


Wood Stave Silo, Showing Bottom of the Staves in Last Stages of Decay



Rotten Places in Wood Stave Silo When Less than Five Years Old

THE TWENTIETH CENTURY FARMER

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

Ohio Dutchess, a 3-year-old Hostein cow, owned by the Ohio State University, produced 63.35 pounds of butter-fat in thirty days. A great record for a 3-year-old.

A conference of representatives of the larger business interests of the state has been called for August 20 for the purpose of considering ways and means for increasing grain and live stock production in Nebraska.

Take care of the milk. Keep it in clean vessels and protect it from contamination by the air. At this time of year special care is taken in order to prevent intestinal troubles among those who use milk as an article of diet.

The conservation movement has reached China, which shows that China is emerging from the past into the glorious light of the present. While this is a new movement in China, they have been conserving the fertility of their soil in the empire for more than 4,000 years.

The better babies movement is getting under way. The best way in which the average family can help the movement is by taking such care of the babies that they will develop in the best way possible. It might be well for the parents to start the improvement in themselves.

Traveling, making new acquaintances, meeting old friends, seeing new sights, becoming inspired by new conquests over the forces of nature, have an educational value that no farmer can afford to miss. All these things may be had by a trip to Fremont during the second week of September.

Another Side of Bumper Crop

The middle west has just harvested one of the greatest wheat crops in its history. Everybody is congratulating everybody else, and each state is telling how much richer it is than it was before the crop was harvested. There is another side to the question, and it takes a full consideration of both sides of it to determine whether a state is richer for a big crop.

At a conservative estimate, each bushel of wheat contains 18 cents worth of fertility. If a field yields thirty bushels to the acre, then every acre of it is poorer in plant food to the value of $5.40. There are some men who claim that the fertility in a bushel of wheat is worth 22 cents, but for present purposes the conservative estimate is taken.

What, then, has the bumper crop done? Has it merely taken fertility from the land and converted it into cash? Has it increased bank accounts at the expense of the producing power of the land?

The fertility that is in the soil is the farmer's capital. He should use it in such a way that it will not be depleted, but will yield a steady income. To convert capital into cash is not making money. No stock company would claim that they were getting rich by converting their capital stock into cash. They get rich from what the capital stock produces. The same is true of the farmer.

Every bumper crop impoverishes the soil unless the farmer takes such measures as will keep the fertility of the soil intact. Every farmer that wishes to have something that is really worth bragging about should see to it that the producing capacity of his land is constantly increased and is constantly yielding a greater revenue. Unless this is done, a bumper crop is gained only at the expense of the inherent value of the land. It is a great question, with our present methods of agriculture, whether a bumper crop increases the real wealth of any state. Let us not brag so much until we have something to brag about that will bear investigation.

Future generations have an inherent, inalienable right to the fertility that is in the soil. A bumper crop may be gained by such methods as will take bread from the mouths of the women and children of the future. Their interests must be safeguarded, if agriculture is permanently to flourish.

Selection of Seed Corn

Seed corn should be selected from the field before corn harvesting begins. This is the only way in which the kind of stalk on which the corn grows, the height of which the stalk sets its ear, and the general thriftiness and leafiness of the stalk may be known. It is necessary to know these things in order to make the proper selection. Hence it is necessary to make the selection in the field. This may not be insisted upon too strongly.

The laws of heredity apply as well to plants as to animals. No one would think of sending a blind man into a herd of cattle to select breeding animals. And yet the man that selects his corn from the wagon or from the crib is making the selection just as foolishly as he would select his stock for breeding if he engaged a blind man to make the selection.

There is no reason on earth why a stalk of corn should produce only one ear. Most of the material that the plant uses to mature an ear of corn is derived from the air rather than from the soil. There is always fertility enough in the soil for the production of more than one ear. Single ear production is the result of bad breeding.

An Indiana farmer began selecting his seed corn from stalks that produced two good ears, selecting in each instance the upper ear. In a short time the majority of his stalks produced two ears and a few of them produced three. He continued selecting the upper ear for seed in each case. Now he has corn that sometimes produces as high as four good ears to the stalk, and the average produces more than two. By the proper selection of seed, one may breed corn to produce more than one ear to the stalk.

But he cannot do this by selecting his corn from the wagon or from the crib. He must select it from the field, where he can see from what kind of a plant he is making the selection.

The height at which the stalk sets its ear is also a matter of breeding. Therefore, any farmer can grow corn that sets the ears at whatever height he chooses, provided he makes proper selection for breeding such corn.

The time is near at hand when this selection must be made if it is to be properly made. May every corn grower hold the matter seriously in mind.

Weak Defense a Confession

The Twentieth Century Farmer a few weeks ago made a direct charge of incompetence against the director of the experiment station at Lincoln and the dean of the agricultural school there. It feels that if either of these institutions is to take the place that it should take in the estimation of the people of the state, some change must be made in the administration.

Either the director himself or some of his subsidized apologists answer the charge by showing how the institution has grown in buildings and grounds, and in increased attendance at the agricultural school. In other words, they defend the director on the ground that he has spent a whole lot of money.

To all this it may be said that the institution has grown, not through the help of the director, but in spite of him. It has grown because the people want such an institution and are willing to provide the wherewithal.

It would have been better had either the director or his friends been able to show that he had added luster to the state, had raised the institution to a level of fair comparison with institutions of similar kind in other states, that he had made of it as much of a power in the state as might have been done.

A defense that cannot make these claims is a confession of the incompetence charged.

Unfair State Fair Promotion

There are some minds that are so constituted that they can see no way to advance their own interests except through an assault on other interests. It is a contemptible trait of small minds to attempt to advance themselves at the expense of others. Such methods earn the contempt of all right-minded people, and in the end those that employ such methods get what they earn.

The secretary of the State Fair Board of Nebraska is employing just such methods in attempting to promote the State Fair. He makes the preposterous claim that the State Fair furnishes more education to the people of Nebraska for the money that it costs the state than either the university or the normal schools. Of the educational features of the State Fair, this paper will have something to say in a later issue. It contents itself to referring to the unjust, unfair, indirect attack that the secretary makes upon the institutions referred to. In another column appears an article from a prominent citizen of the state that reflects the feeling, the secretary may rest assured, of a majority of the right-minded people in the state.

If the State Fair is not big enough an institution to stand solely on its own merits, it had better go out of business. It is not necessary, in order to boost the State Fair, to attack any other institution.

The cause of education lies very near to the hearts of the people of Nebraska. They are exceedingly proud of their university and of their normal schools, and exceedingly sensitive with regard to anything that reflects upon them. They are proud of these institutions, and will resent any mud-slinging, especially when the mud is dug up by dirty minds and involves misrepresentation and false innuendo.

One always doubts the praiseworthiness of any enterprise that employs such methods in promotion. The result of such methods must inevitably tend to defeat the very object they are employed to promote.

The board of managers of the State Fair board had better put the curb on their ambitions and self-seeking secretary, or the people of the state at large will take the job out of their hands, and will themselves apply the curb.

The people of the state prize the State Fair for just what it is, or rather for just what they think it is, but they do not love the secretary, and are beginning to distrust him with a distrust that the methods he employs proves to be well founded.

Fremont has a great reputation as an entertainer. It is going to outdo itself at the big tractor meet. They will be prepared to take care of all comers, and will entertain royally. They cannot have too many guests, and they are going to show them the time of their lives.

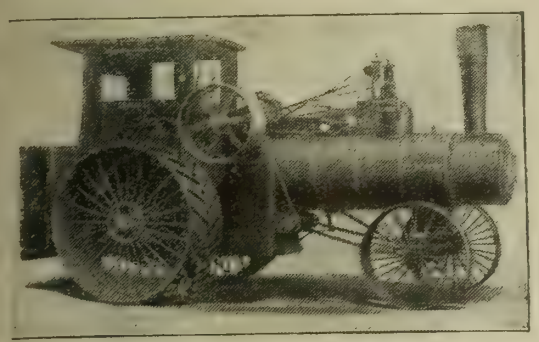
Dr. A. Bostrom, former state veterinarian, has been made chief examiner for the Stallion Registration Board of Nebraska. His former connection with the board makes his services invaluable.

9 OUT OF 10

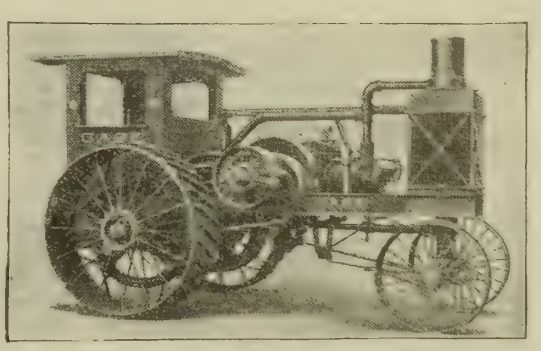
Winnipeg GOLD MEDALS Won by

CASE With Its Steam, Gas and Oil and Tractor Gang Plows Tractors

This phenomenal demonstration of Case superiority only continues to prove that the standard set by Case Machinery is still the standard of the world. Do you want machinery that will do the most work in the shortest time at the least cost? The answer to your problem is found only in Case products. In the field, on the road, in the laboratory—the results of Winnipeg are always substantiated. Read what the only scientific, unbiased official tests of farm power in America tell you of Case Machinery. It is your gain to know the significance of these figures.



The Standard of Mechanical Excellence the World Over



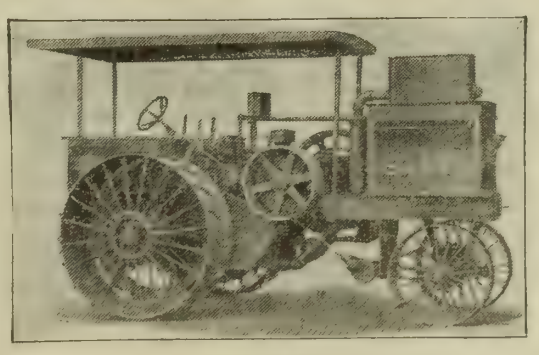
STEAM

The Case 110 H. P. Steam Engine not only won the Gold Medal in its class, but established a new world's record of 2.65 pounds of coal per brake horsepower hour, thereby breaking its own world's record by 11 per cent. This engine has been entered in Winnipeg four times, and four times it has won the Gold Medals and four times it has been awarded the Sweepstakes honors.

The Case 80 H. P. Steam—three times entered—three times Gold Medal winner. No other engine has ever approached the record of this one—except our own 110. By again winning the Gold Medal in its class this year, this engine substantiates our claims that when Case engines compete, it is only against their own previous records. This engine holds the record for the lowest coal consumption per draw bar horsepower hour, the lowest water consumption per draw bar horsepower hour, and the lowest water consumption per brake horsepower hour—excepting the Case 110.

The 40 H. P. Steam. In winning the Gold Medal in this year's Contest, its nearest competitor was an engine weighing 65 per cent or over 6¼ tons more, and costing $1,040 more than this tractor. In 1910 and '11 this Case engine received diplomas of award, because no other manufacturer dared pit his engine against the Case "40". In fact there never has been an engine entered against the Case "40" which properly belonged in this class—a class intended to include only engines under 60 brake horsepower.

These figures are eloquent testimony to our wisdom in continuing to improve our steam, as well as our internal combustion engines, while other manufacturers have forgotten their steam products in their frantic efforts to get upon the market a gas tractor that will equal Case.



OIL

The Gold Medal winning score of the Case 60 H. P. Oil Tractor illustrates the value of those sterling qualities that have won international fame for Case Machinery. In scoring 79.15 points on design and construction, out of a possible hundred, this tractor proves that simplicity, accessibility and rigidity, combined with economy, go to make the perfect tractor—the one that will earn real dollars for its owner. This tractor has always won a higher score for accessibility, protection of working parts, easy manipulation, than any other make in any internal combustion class entered at Winnipeg. Its Gold Medal is a just recognition of those features that have always characterized Case Machinery—Design and Construction.

PLOWS

Case won both Gold Medals and Sweepstakes Honors awarded to plows. Our tractor gang plows led their closest competitors in all the essentials of good plowing—those qualities which a practical plowman demands. Our 10-bottom, 14-inch tractor gang plow won the Gold Medal in the large class, and the 6-bottom, 14-inch automatic—lift tractor gang plow won the Gold Medal in the small class. This last named outclassed its nearest competitor, a much heralded "lift" plow, winner of last year's Gold Medal when Case did not compete.

GAS

The score of the Case 40 Gas and Oil Tractor, burning gasoline and kerosene, won the Gold Medal in each class. When reduced to its simplest terms, its score showed that with gasoline it cost our closest competitor 42 per cent more to plow an acre than Case, and on kerosene 32 per cent more. Further, that on gasoline our average Draw Bar Pull was 20 per cent more than our competitor, and we produced 41 per cent more Draw Bar Horsepower, with the same amount of fuel. On kerosene our average Draw Bar Pull was 49 per cent more than that of our competitor, and our "40" produced 65 per cent more Draw Bar Horsepower with the same amount of fuel than our competitor.

The lower your operating costs, the higher your profits. This is the final standard of value, and on this score Case 40 is without a rival.

The Case 25 won the Gold Medal in its class scoring 36 per cent more points than its competitor. We have often stated that we do no experimenting at the expense of our customers. This is again proved by the notable fact that this 25 H. P. Tractor was the very first of its type publicly to be exhibited. The fact that it won the Gold Medal, surprised no one, familiar with Case design and construction. The accessibility and protection of the working parts, its compactness, thoroughness and simplicity in construction were the envy of all manufacturers.

The Catalog Tells the Details

The winning of Gold Medals by Case products in this Winnipeg Contest is positive proof to the purchaser of farm power that in this field Case has no rivals. The Winnipeg Motor Contest is international, under the supervision of the Canadian government and is the only scientific, unbiased official test of Tractors and Traction Gang Plows in America. We shall be very glad to furnish further information regarding the details of construction of our tractors and tractor gang plows. Your request for a catalog or any other information will receive immediate acknowledgment.

J. I. CASE THRESHING MACHINE COMPANY, Inc.

657 State Street, Racine, Wisconsin

J. I. Case Threshing Machine Co., Inc.
657 State Street, Racine, Wisconsin.

Please mail Catalog of Steam, Gas and Oil Tractors and Tractor Gang Plows. Also information regarding your proposition to farmers.

Name _____

Address _____

Saves ½ the Cost Of Fall Plowing

You can put this small, light Hart-Parr Oil Tractor and "Self-Lift" plow up against the stiffest kind of fall plowing and easily save one-third to one-half the cost of horse plowing on every acre, and do it with less drudgery. You can plow deep—6 to 8 inches—finish 10 to 15 acres daily and do a better, quicker job. Work the outfit 24 hours every day, if necessary. Specially designed carburetor on tractor guaranteed to handle cheapest KEROSENE on heavy, light or no loads. No plowman needed. One man runs the entire outfit right from the engine platform.

The 27 B. H. P.

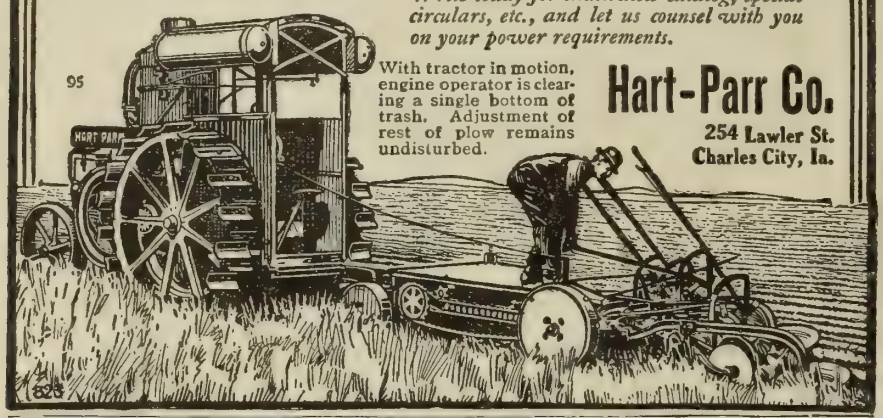
HART-PARR -OIL TRACTOR-

is built light, yet amply strong, with no dead weight to drag around or waste power. Every detail is simple in construction. Tractor has only 300 parts—that is 500 to 1200 less than all others. Drive wheels are solid steel castings—not built up, and afford 31% greater surface contact, due to wonderful wave form lugs. For extremely soft soil, drivers can be equipt with "Hold Fast" extension lugs, the lugs that hold to the soil with a bull dog grip, yet do not injuriously pack or tear it up.

The Hart-Parr "Self-Lift" Plow

is one-third lighter and has one-third less parts than any other. Automatic lift is operated by a slight pull on a rope attached to the clutch lever. Separate hand-lift attachment for raising or lowering any individual bottom without disturbing adjustment of rest of plow. Special spring beam coupler permits bottoms to skid around or pass over stones, etc. Furrow wheel keeps plow straight in furrow. There are several features about this Tractor and plow that you ought to know about before you invest in a power equipment. We build a power outfit for any farm, large or small.

Write today for illustrated catalog, special circulars, etc., and let us counsel with you on your power requirements.



With tractor in motion, engine operator is clearing a single bottom of trash. Adjustment of rest of plow remains undisturbed.

Hart-Parr Co.
254 Lawler St.
Charles City, Ia.

Crop Maker Roller Bearing—Fanning Mill

The easiest-running fanning mill a man ever turned—therefore the one for complete service and biggest results.

Every farmer knows the value of a good fanning mill. If you don't own one now, you are probably thinking of buying. But before you do buy, let us send you a Free Book telling about our great offer, which enables you to prove to your own satisfaction the wonderful capacity of this Crop Maker for *perfect work.*

30 Day Trial—Direct Factory Price

We mean just what we say—*free* use of the Crop Maker on your own farm for a full month, without obligation to buy, with the machine *yours at factory price* when you find that all we claim for it is true.

The Crop Maker runs "like oil" because it has roller bearings. It cleans, separates and grades grains and seeds of all kinds—turns out perfect seed for planting—insures bigger crops and larger profits. You will make many times its cost in a single season. This machine goes *to you from us*—one small profit added to the actual expense of making. Be sure to write at once for the Free Book, detailed description, price and complete offer. Please write *today.*

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Genasco

THE TRINIDAD-LAKE-ASPHALT
Ready Roofing

stays put and stays tight against sun, rain, wind, snow, heat, cold, alkalis, and acids.

Put it on all your buildings. Apply it with the Kant-leak Kleet

Write us for samples and the Good Roof Guide Book. Free.

The Barber Asphalt Paving Company **Philadelphia**

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

New York San Francisco Chicago

SAVE ON ENSILAGE CUTTING

DOLLARS
TROUBLE
TIME
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The Ensilage Cutter you ought to have is the one that has the strongest built frame, a throat and a blower that never clog, a positive safety device and the other special features found only in

The Light Running "SILBERZAHN" ENSILAGE CUTTER

—the cutter that is guaranteed to do more and better work with less power than any other cutter on the market—positively cannot blow up—and is absolutely safe under all conditions. Write today for catalog, prices and details of our liberal Free Trial Offer.

GEHL BROS. MFG. CO.
121 S. Water St.
West Bend, Wis.

Cheap, Efficient Hog Shed

Nebraska Hog Shed—Cheap, but Affording Absolute Protection—May Be Used for Stock Hogs or for Individual Farrowing Pens

A CORRESPONDENT asks for directions for building a cheap, efficient hog shed. A picture of such a hog shed is here shown, a shed that has been in practical use for a dozen years in eastern Nebraska. This shed serves a double purpose. During the farrowing season it is divided into individual farrowing pens for brood sows. Outside of the shed there is a little yard for each farrowing pen. With such a shed as this, each sow at farrowing time has a pen within the building, five by eight feet in dimension, and outside of the building a yard also five by eight feet. Thus each sow has a runway of five by sixteen feet. When the farrowing season is over all the doors may be left open for the accommodation of the herd in general. The small pens under the shed prevent the general herd from bunching up too much during cold weather.

Here are the directions for building such a shed: Set posts in the ground four feet apart in such a way that the posts will project four inches above the surface of the ground. On the top of these posts nail flatwise 2x6 cypress dimension pieces for sills. The posts should be set in such a way that when the sills are in place the inclosure will measure eight feet wide from outside to outside of the sills. As each of the farrowing pens is five feet wide, the length of the inclosure should be in even multiples of five feet and should be long enough to furnish as many individual farrowing pens as are desired. Beneath the 2x6 sills nail to the posts 1x4 cypress pieces. Cypress is recommended because it is practically indestructible and will not rot. When all this has been done the builder will have a box eight feet wide and six inches deep and of whatever length he desires. Fill this box full of earth, tamped hard; or, better still, with sand, if sand is convenient. Over the top of this earth floor, raised in this way six inches above the level, stretch Elwood woven wire corn-cribbing and fasten it at both ends thoroughly. Then over this corn-cribbing throw a couple of inches more of earth and tamp it thoroughly. This makes the floor of the hod shed. It is raised far enough above the ground to remain absolutely dry at all times. Little pigs must be kept dry and warm. The woven wire corn-cribbing prevents the hogs from rooting up the floor. It is practically indestructible and inexpensive when compared with any other kind of a floor.

Next put up the studding and rafters. These should be set two and a half feet apart. The rear studding should be three feet long and the studding for the front of the shed should be five feet long. The shed should face the south. When studding and rafters are in place, put in the partitions between the farrowing pens. The lower two feet of the partitions should be of boards well nailed and stayed. Above the boards woven wire fencing may be used. After the partitions are all in place, put on the siding and the roof. The material for this should be cheap, 1x6 tongued and grooved sheathing. Cover knot holes and cracks with tin, which may be had by melting down tin cans that are abundant on every farm. Cover the roof and back side with the best quality of felt roofing, well nailed. In siding up the front, a door two by two and a half feet should be left at the bottom, in each pen, to allow the hogs to go in and out. This door may be closed in bad weather to keep out storm. The upper two feet of the siding in front of each pen should be made into a door, which may be dropped in fair weather to allow the sun to shine into the nest. It should be closed in bad weather to protect the occupants.

For the outside yard, build panels of 2x4s and woven wire for partitions between the yards. These panels should be three by eight feet. When fitted in place, board up the front of the combined yards three feet high, leaving a door into each yard.

Here is a hog shed that is completely wind and water proof, affords each brood sow ample room at farrowing time, and, by leaving all doors open, may be used by the general herd in such a way that they will be prevented from bunching up too much in bad weather. Builders who are looking for efficiency, at the least expense, cannot do better than to try this plan. Small individual feeding troughs may be prepared for each pen.

Nebraska Fair Board Tactics

"Knocking" the University to Boost the Fair

RIDICULOUS antagonism to the university has again broken out in a new and unheard-of form. This time the attack is found in the State Board of Agriculture's official organ, "Nebraska." The article is written by Mr. George W. Kline, present managing editor of the "Nebraska," and at one time, I am informed, secretary of the Nebraska University Alumni Association, and is a very judiciously screened and cunningly veiled assault on university efficiency and economy. Starting out as a boom "write up," a sort of story-advertisement about the coming State Fair, it is finally sought to prejudice the popular mind against the State University in what purports to be a comparison of the relative cost to the taxpayer of the two great educational institutions—the State Fair and the State University. As a taxpayer who is proud of both these institutions for the great good they have done the state, I protest against any attempt to popularize the one at the expense of the other.

Comparison of Fair with Schools

Comparing the relative cost to the taxpayers of the fair and the university, Mr. Kline writes:

Without disparaging in the least the work done by the State University and the normal schools, the State Fair can claim an enormous advantage over both in the matter of cost to the taxpayers. The State University costs the taxpayers of Nebraska $1,760,000 a biennium, and to this sum must be added the proceeds of the three-quarters of a mill levy made by the last legislature, and this will be over $600,000 a biennium. The state normal schools cost the people of the state $800,000 each two years. For 1911 and 1912 the State Fair was maintained by an appropriation of $19,000, $15,000 for repairs for a grandstand and $4,000 for premiums.

Comparing the educational value of the State Fair and the State University, Mr. Kline writes:

The State University and the normal schools are for the purpose of preparing the young for intelligent activity in meeting the problems of life. On the other hand, the State Fair, with its many object lessons, is distinctly the college of the busy man—the man who is bearing his share of the burdens of life, providing for his family, paying his just proportion of the taxes and striving to improve his condition in every way. Such a man has no time for the ordinary means of education. He cannot attend college or take special courses. However, he can, by taking a vacation of five days, secure valuable and practical education applicable to his every-day needs, and he can obtain this information direct from the object lessons displayed by men who have successfully mastered the difficult art of profitable agriculture.

Source of These Attacks

While the form of this hidden thrust at the university is the work of Mr. Kline, responsibility for the substance is easily fixed. Mr. Kline, as manager of the "Nebraska," is the employe of the secretary of the Board of Agriculture. As author of the article he obtained the facts upon which he bases his laughable comparison from the report of the secretary of the Board of Agriculture. Plainly, there is only one man on top of earth at whose door must be laid the responsibility for these sinister implications, and that man is none other than the present secretary of the Board of Agriculture.

Furthermore, so characteristic of the secretary is the comparison itself that no one who has heard Mellor and read the article would mistake its identity. To those most familiar with his appearance in public, and his public utterances, the secretary is one of our ablest "self-made" men. He attaches no necessary value to a college education, and he looks upon the State University not as an efficient factor in production, but more as a luxury and excess. Moreover, the secretary is not only responsible for the "Nebraska" and its contents, but also for the State Fair. As manager of this important exposition, he has made it the greatest place of amusement in the state, and, like other great showmen, he loves to justify the questionable utility of his pet institution by ascribing to it an educational value. By nature he is less friendly than hostile to the university, and by office he is custodian of the fair. How easy and how natural, therefore, for the more fluent pen-pusher, Mr. Kline, equipped with his well known spleen against the university, to secure the permission of the secretary in producing attacks on an institu-

(CONTINUED ON PAGE TWENTY-ONE.)

PUT AN **INDEPENDENT SILO** **on Your Farm This Summer**

Independent Silo on Farm of Frank Krivohlavek, Schuyler, Neb.

and get the most out of your corn crop. You know you will buy one sometime; get it now and let it pay for itself. It will do this in one season. Saves $3.00 per ton on your rough feed.

The **Independent** is constructed of finest quality Washington fir, full length staves, door frame of unusual strength. Is guaranteed to the limit. You can't buy a better silo. Our price can't be matched. We ship on approval and at a day's notice. Free silo book gives the facts you have wanted. Tell us where to send yours.

See Our Exhibit at Nebraska State Fair.

Independent Silo Co.

2526 University Avenue. St. Paul Minnesota.

WHITE PLYMOUTH ROCKS

Prize winning stock, bred-to-lay-Sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, "GOOD POULTRY," our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering 3 months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood Farms Co., Saugatuck, Mich.

KANABEC COUNTY, MINN. WANTS SETTLERS

Buy a farm on easy terms, in the heart of the best clover country in the world, 65 miles from Minneapolis. Money made raising corn, potatoes, cattle, hay and hogs. Plenty of water. Clay loam soil, with clay sub-soil. 200 acre farm 5 miles from town, $33.00 an acre. 120 acres, 2 miles from town, $36.00 an acre. 320 acres, good pasture and hardwood timber land, $12.00 an acre. Two miles from railroad, and lake Mille Lacs. Send for Free Map, and special bargain list. Write, RALPH, at once. 204 Corn Exchange Bldg., Minneapolis, Minn.

BINDER Attachment with Corn Harvester cuts and throws in piles on harvester or windrows. Man and horse cuts and shocks equal with a Corn Binder. Sold in every state. Price $20.00. W H BUXTON, of Johnstown, Ohio, writes: "The Harvester has proven all you claim for it; the Harvester saved me over $25 in labor last year's corn cutting. I cut over 500 shocks; will make 4 bushels corn to a shock." Testimonials and catalog free, showing pictures of harvester. Address

NEW PROCESS MFG. CO., Salina, Kan.

FAMOUS COLLINS SADDLES

None genuine without the Collins stamp. The same old saddle at the same old price, the best saddle ever made and made by the same old men that have made them for 25 years. Write for free 1913 catalog.

ALFRED CORNISH & CO.
1212 Farnam Street, OMAHA, NEB.

Post Toasties for Lunch

Appetizing and wholesome these hot Summer days.

No cooking — no hot kitchen.

Ready to eat direct from the package—fresh, crisp and dainty.

Serve with cream and sugar — and sometimes fresh berries and fruit.

Post Toasties are thin bits of Indian Corn, toasted to a golden brown.

Acceptable at any meal—

Post Toasties

Sold by Grocers everywhere.

Power

The largest exhibition of power farming machines ever shown in America

Organized by

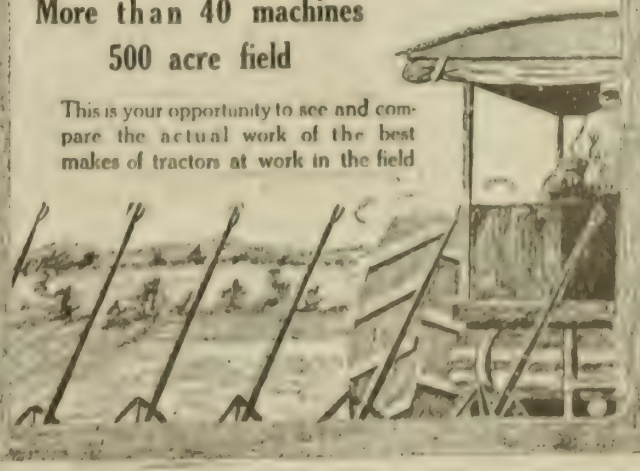
THE TWENTIETH CENTURY FARMER

Under the auspices of the Fremont Commercial Club

Fremont, Neb., September 8th to 13th

More than 40 machines
500 acre field

This is your opportunity to see and compare the actual work of the best makes of tractors at work in the field

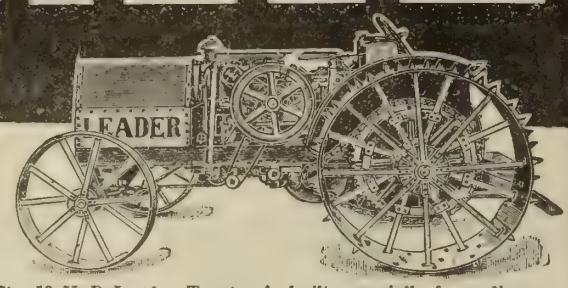


Makes Big Profits On Corn Belt Farms

This Book Will Tell You

—all the startling facts about the LEADER Tractor and also about the Leader Engines. If your farm is from 100 to 1000 acres you certainly can *save money* on the LEADER Tractor. Get all *facts* and *convince yourself.* Learn all about its thorough construction—its selective sliding gears, made of nickel crucible steel, its double opposed cylinders, balanced power and its *big record of results.* Don't fail to get our book. Write a postal or letter

Now



The 18 H. P. Leader Tractor is built especially for ordinary sized farms—100 and 200 to 800 and 1000 acres. It's just the thing for farms in the corn belt. The right *weight*, the right *power*, the right *size*, is *built low*, but with *good clearance*, and is made of the highest grade materials. It's a regular little giant for its compact size. Can positively do *all* your field work, including *corn cultivating. No other tractor has been known to do this.* It can displace 10 to 12 horses.

The Leader Tractor

Can Reduce Your Cost of Crop Production

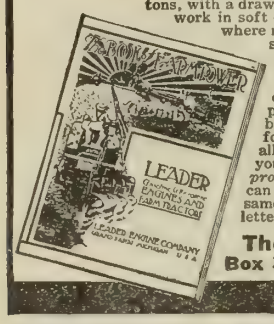
It has often saved 11 to 13 cents per bushel of corn and 4 to 5 cents per bushel of oats. It does work for a *less* cost than the *very best* method of using horses.

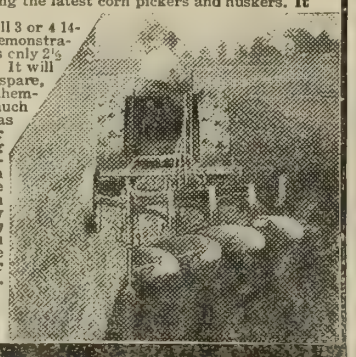
Pays for Itself in 18 Months on 100 Acres or More

This is an *actual fact.* The upkeep cost of the LEADER is astoundingly *economical.*

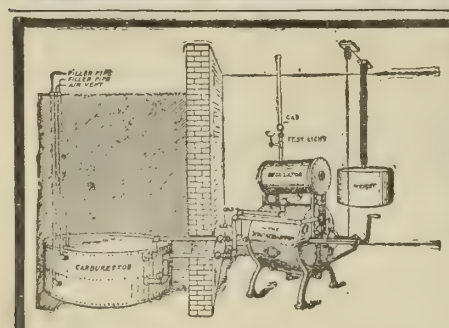
You just ought to see the LEADER pulling the latest corn pickers and huskers. It surely would surprise and *convince.*

And then for plowing—the LEADER will pull 3 or 4 14-inch plow bottoms up a 15% grade. *That's* a demonstration that *proves efficiency.* The LEADER weighs only 2½ tons, with a draw bar pull of 2,800 to 3,000 pounds. It will work in soft or rough ground with power to spare, where many big tractors couldn't move themselves. Will not pack the soil as much as a corn or grain binder. Also has 18 horse power on belt to run your silo filler, feed grinder, threshing outfit, haybaler, etc. Sold on Approval—do the work on *your* farm before you pay us one dollar. Write for "Book of Farm Power" and learn all about the LEADER. Learn how you can own one on a *money-saving proposition.* Why not learn how you can make your work *easier* and at the same time *earn bigger profits?* Put your letter or postal in the mail to us *today.*





The Leader Engine Co.
Box 245, Grand Rapids, Mich.



Underground Carburetor in Yard. | Automatic Pressure Pump in Basement.

A Modern Lighting Plant

Lights your house and runs a Gas Stove. No generating. Perfectly safe. Works itself. Carburetor and gasolene buried in ground outside of house. No gas in house except what is in iron pipes and that is 85% air. We have been in this business 10 years and we can light your house and run a gas range and do it economically. Best thing on the market for farm homes, and right up-to-date. Write us and we will tell you all about it and send you Free Catalogue.

R. F. STRUTHERS CO.,
1108 Farnam St., - - Omaha, Neb.

DON'T FAIL TO SEE

BEATRICE IRON WORKS'

FARMING TOOLS AT THE NEBRASKA STATE FAIR

A full line of cultivating and grain seeding machinery—land rollers, combined grain and alfalfa grinders, alfalfa cultivators, road drags, sickle bars, etc., etc. New features shown this year for the first time instantly appeal to both dealer and farmer alike.

Our Experts Will Take Pleasure in Showing Goods

THE BEATRICE IRON WORKS, Beatrice, Nebr.

YOUNG MEN WANTED

IN AUTOMOBILE BUSINESS

$20.00 TO $50.00 WEEKLY

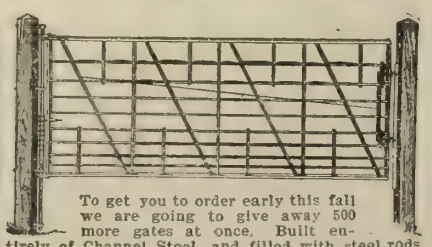
I will prepare several young men for positions in the automobile business in ten weeks **BY MAIL**, and assist them to secure good positions. **NO CHARGE FOR TUITION UNTIL POSITION IS SECURED.** Write at once for particulars. R. S. PRICE, Automobile Expert, Box 463 K, Los Angeles, California.

S. C. WHITE LEGHORNS

The greatest of all layers—regular egg machines—Shorewood Strain, produced from Lady Mourine and Prince Peerless, trap-nested true to Standard. Bred-to-lay-Sure-to-pay. Stock and eggs for sale. Orders booked for future delivery. Send 10c for copy, "GOOD POULTRY," our quarterly magazine, 25c a year, with 3 months' egg record, each issue practical instruction on the business side of poultry raising—the Shorewood way—write tonight.

Shorewood, Farms Co., Saugatuck, Mich.

GET YOUR NEIGHBORS TO ORDER With You and Get a FREE GATE



To get you to order early this fall we are going to give away 500 more gates at once. Built entirely of Channel Steel, and filled with steel rods. Stronger than any three others. PRICE IS RIGHT. (See this gate at Iowa, Neb. and Minn. State fairs.) Address

C. L. GADE, 118 Main St., Iowa Falls, Ia.

Truth About Silos---Reliable Information

(CONTINUED FROM PAGE SEVEN)

Nebraska Silo Erected in 1906—Blown Down in 1911

to classify wood stave silos as permanent structures, and this impossibility rests not, as the wood stave silo men claim, upon failure to observe mechanical principles in the erection of them, but upon qualities inherent in the very nature itself of the material. Nor can such a state of affairs be charged to the fact that these silos were not properly guyed, because no guying is sufficient to hold such material in proper place with a proper degree of rigidity to insure stability.

Wood Will Decay

No wood exposed to the action of the elements is safe from decay. The rains that beat upon the outside of a silo, the change in moisture conditions and in temperature, the absorption of moisture from the enclosed ensilage, all help to hasten the process of decay. There are many stave silos erected within this territory that have become useless until repaired, because some of the staves have rotted beyond repair. An illustration that accompanies this article shows such a silo. This defect in silos is largely due to the fact that the manufacturers were not careful enough in selecting their material, or were too grasping to furnish the best material obtainable for the price paid. Members of the United States Silo company have been very careful to advertise that they used nothing but single-length staves that are entirely free from knots. Everyone that knows anything about lumber knows that a sound knot with the curling wood tissue that surrounds it will outlast any other part of the piece in which it is found. If the United States Silo men had been as careful to reject all staves that contained a strip of sap, they would better have conserved the interests of the silo user. The sap part of wood decays very rapidly.

Cost of the Wood Stave Silo

The wood stave silo has been sold in this territory at such an exorbitant price that its sale has been very largely limited. Any man that has even a moderate knowledge of the cost of material knows that the price charged by the United States Silo people for their silos is excessive. More than this, at this excessive price, only the material of the silo is sold, delivered at the railroad station of the buyer. The buyer must then put in his own foundation, must put on a roof, and if he is to do the best by his silo, must give it the best possible paint protection. One of the members of the United States Silo company sold to the state farm at Lincoln a silo for $295, having cut the price from $347.50. This silo, before it was completed and ready for silage, had cost the state in the vicinity of $700. A permanent silo might have been erected for much less money.

The material of which these silos are made at one time cost the silo manufacturers $33. per thousand feet laid down at Missouri river points, with the exception of stations on the Missouri Pacific railroad. Later the price was advanced to $38 per thousand feet. The present price is about $34 per thousand feet. These prices are for full-length staves. The price on two-piece staves is about $4 per thousand less. In a silo sixteen feet by thirty feet the staves contain 3,510 board feet. When an accurate account is taken of the amount of lumber and of hardware used in building a silo, and the price of these is put at the figure which the silo manufacturers are compelled to pay, it will be seen that the silo for which $347.50 is demanded costs the manufacturers less than $150. The price demanded is accordingly seen to be excessive and extortionate. No farmer is justified in paying such a price, especially for material that in its very nature cannot endure. By the employment of such uncommercial methods, methods that surely would not be adopted except by commercial amateurs, the United States Silo company members have placed a limit to the output of their own product. They have over-reached themselves, and lessened the demand for the silos they sell.

The new Chinese republic has established a department of agriculture and forestry. For a long time China had been pointed out as the most backward nation in forest work.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Old Bob White

Old Bob White's a funny bird—
Funniest you ever heard!
Hear him whistle—"Old-Bob-White!"
You can hear him, clean from where
He's 'way 'crost the wheat field there,
Whistlin' like he didn't care—
"Old-Bob-White!"

Whistles allez ist the same—
So's we won't fergit his name!
Hear him say it—"Old-Bob-White!"
There! He's whizzed off down the lane—
Gone back where his folks is stayin'.
Hear him! There he goes again—
"Old-Bob-White!"

When boys ever tries to git
Clost to him, how quick he'll quit
Whistlin' his "Old-Bob-White."
"Whoo-rhoo-rhoo!" he's up and flew,
Ist a-purt' nigh skeerin' you
Into fits! 'At's what he'll do—
"Old-Bob-White!"

Wunst our hired man an' me,
When we drove to Harmony,
Saw one whistlin' "Old-Bob-White!"
An' we drove wight clost, an' I
Saw him an' he didn't fly—
Birds like horses, an' 'at's why—
"Old-Bob-White!"

One time, Uncle Sidney says,
Wunst he rob a Bob White's nes'
Of the eggs of "Old-Bob-White;"
Nen he hatched 'em wiv a hen
An' her little chicks, an' nen
They ist all flewed off again—
"Old-Bob-White!"
—James Whitcomb Riley.

(Copyright, 1902).

***

The Quail

One of the few bird friends that stays with us all the year round is the quail, or Bob White, as he has named himself. Bob White is not exactly a song bird, but his happy call across the fields is one of the most pleasant things in country life. He has another call, too, that sounds something like "Quoi-ee-he," in a soft, low tone, when he calls to the other members of his family.

Quail have large families. In the spring the mother quail lays from twelve to twenty eggs, all packed tightly away in a hole in the ground, point down, and so well placed that if one egg were to be removed by a careless hand it would be impossible to replace it again. And, besides, we do not want to touch the eggs of the quail, as the old birds will not return to a nest that has been handled by human beings. As soon as the eggs are hatched out and the little balls of fluff begin to hunt bugs for themselves, the father looks after them, while the mother starts in to lay more eggs and raise another family In the southern states there are often three or four families in a season, but the farther north one goes the fewer families he will find the quail have time to bring up, in the shorter summer seasons. In the very northern states there is sometimes only one.

All the quail children love their little brothers and sisters, and the whole family stays together all the season, sleeping at night in a circle, with their heads toward the outside to protect themselves from the approach of an enemy. If one approaches, the whole family or covey starts off at once with a perfect roar of wings. They keep quite warm this way in the winter, and the snow falls on them and makes a soft, warm blanket. This is all very well if they get out before a crust forms on the snow, but sometimes they stay too long and the hard crust forms above them, and they all smother, and in the spring we find the poor little russet brown bodies all lying in a circle dead.

It is a wonder that any quail ever grow up, in spite of the large families they have and the good care they give them, as the quail has so many enemies—the hawk, the fox, the skunk, and, worst of all, the man or boy with a gun and dog. It is true, Bob White is good to eat, but he should at least be well protected through the nesting season and until his chicks are grown in the fall. We need all the quail we can persuade to stay on the farms, for they are about the best weed eaters known. They eat waste grain from the fields and weed seeds, including the disagreeable poison ivy, all winter, and in the spring they are so tired of a vegetable diet that they would not touch the sprouting grain for anything, but get out after the bugs as soon as they come, and eat chinch bugs particularly, besides grasshoppers, potato bugs, weevils and lots of other things. The government has figured that in Virginia and North Carolina alone the Bob Whites eat 1,341 tons of weed seeds every winter. After that, who wondern that they are not anxious to eat the farmers' grain?

THE EDITOR.

(Prize Story)

Moving Day

By Kathryn Haughn, Aged 14, Scribner, Neb.

Mrs. Brown sighed heavily as she took a picture from the wall. "It's just work, work, work, from morning to night, when you are moving," thought she. "But, then, the other house is much nicer, so I guess it's worth it," and she started work again.

Every room in the house was torn up for packing. Emma Brown was in the dining room packing dishes, while Lorraine was packing books in the library. Mr. Brown and his son Morgan were in the kitchen taking down the stove. Mr. Brown was standing on a chair taking down the stovepipe.

"Morgan, Morgan," he cried; "Come and take this pipe quick! Look out! Look out, Morgan! Oh!" And he laughed and laughed, and the family, who had run from all parts of the house to see what was the matter, joined in. All but Morgan, for as he reached up in response to his father's cry the stovepipe dropped from Mr. Brown's hand and fell right on Morgan, while a shower of soot flew in every direction.

"You had better go wash yourself," gasped his mother when she could get her breath.

He went at once to the sink, but the sight of himself in the glass was too much for him, and he laughed until the tears came and trickled down his cheeks, leaving streaks of mud all over his face, for, indeed, he was a sorry spectacle, covered with soot from head to foot. His

(COTINUED ON PAGE SEVENTEEN.)

Awards in Picture Contest No. 4

(First Prize)

By Vera James, Aged 9, Farragut, Ia.

I love to ride my pony when sister leads him round.
When first I tried to ride him he threw me to the ground,
But we treated him with kindness and gave him such good care,
That now he is so gentle we can ride him anywhere.

(Second Prize)

By Helen M. Herron, Aged 11, Burchard, Neb.

Little Dottie Dimple, who is 5 years old,
Was riding Pet, her pony, up and down the road.
Pet's the nicest pony Dottie ever rode;
She never scares at autos, nor starts until she's told.

By Eva Murphy, Aged 12, Sidney, Ia.

We are starting to town to shop.
And there's only one thing will do:
We'll search the stores till we find it—
A saddle that's made for two.

By Opal Smaltz, Aged 9, Ida Grove, Ia.

We love our spotted pony;
His name is Dandy Jim.
You might offer an enormous sum,
But could not purchase him.

By Lydia Farnsworth, Aged 11, Moab, Utah.

The trees are bare, but the sun shines bright.
Let's take a ride on old Spot tonight.
"My first ride," said sweet little Bess.
Says May, "Then I'll lead Spot, I guess."

By Mildred Mattalas, Cumberland, Wyoming

I love to hear my pony neigh,
I love to see him munch his hay,
I love to ride him better still
Along the road and down the hill.

By Violet Nance, Aged 8, Auburn, Nebraska

One little girl sitting on a horse,
The other one down below,
And when she wasn't watching close
He stepped right on her toe.

AN OLD NURSE

Persuaded Doctor to Drink Postum

An old, faithful nurse and an experienced doctor are a pretty strong combination in favor of Postum, instead of tea and coffee.

The doctor said:

"I began to drink Postum five years ago on the advice of an old nurse.

"During an unusually busy winter, between coffee, tea and overwork, I became a victim of insomnia. In a month after beginning Postum, in place of tea and coffee, I could eat anything and sleep as soundly as a baby.

"In three months I had gained twenty pounds in weight. I now use Postum altogether instead of tea and coffee, even at bed time, with a soda cracker or some other tasty biscuit.

"Having a little tendency to diabetes, I used a small quantity of saccharine instead of sugar to sweeten with. I may add that today tea or coffee are never present in our house and very many patients, on my advice, have adopted Postum as their regular beverage.

In conclusion, I can assure anyone that as a refreshing, nourishing and nerve-strengthening beverage there is nothing equal to Postum."

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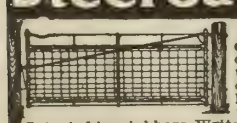
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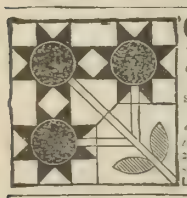
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Of Interest to Our Women Readers

A Memory System

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As soon as you have done it;
Forget the praise that falls to you
The moment you have won it;
Forget the slander that you hear
Before you can repeat it;
Forget each slight, each spite, each sneer,
Wherever you may meet it.

Remember every kindness done
To you, whate'er its measure;
Remember praise by others won,
And pass it on with pleasure;
Remember every promise made
And keep it to the letter;
Remember those who lend you aid,
And be a grateful debtor.

Nebraska and Iowa Fairs

The readers of these columns are cordially invited to make the Twentieth Century Farmer booths at the Iowa and Nebraska State fairs their headquarters. The editor of this department will be at the Iowa State Fair Tuesday, Wednesday and Thursday, August 26, 27 and 28, and at the Nebraska State Fair Tuesday, Wednesday and Thursday, September 2, 3 and 4, and will be very glad to become personally acquainted with you at that time. Do not fail to call if you are at the fairs on these dates. We wish it were possible to be present at some of the other state and county fairs.

***

Our Home Chat

Two things in particular influence our lives and our characters—the friends with whom we associate and the books we read. In the country or in small communities our associates are forced upon us. We have to make friends with our neighbors or else go without friends. The narrower one's circle of friends the narrower one's sympathies and mental horizon are apt to be. The fewer people we know the less our experience and the smaller our conception of humanity. Books serve to widen our circle of friends and the bounds of our experience.

Good books are books which introduce us to real people, or which tell us interesting facts about real things. The people may have had the experience described in the books or they may not. A book is good if it tells us of things as they are and of people as they exist, regardless of whether the book is biography or fiction. Generally fiction—the right kind of fiction—is truer to life than biography. Biographies tell us the dry facts about a man's life; they deal with it from the standpoint of tthe neighbor, the outsider. Fiction deals with a man's life as it appears to the man himself, with all the conflicting emotions and motives. William Allen White's "A Certain Rich Man" is of infinitely more value as a human document than anybody's "Life" of Lincoln, or Washington or Rockefeller, or Harriman, or anybody else. Into a biography no author dares to put himself for fear of misrepresentation. Into fiction he puts his soul.

The friends we make in the world of books are friends that stay with us always. The child that learns to love "Little Women" and "Little Men" has been given a standard by which to judge his own actions and those of his associates all through childhood. The older person who, in his leisure hours, associates with the noble men and women of good, clean fiction has broadened his horizon and gained a standard of living that will unconsciously influence his every-day actions. History and travel are good reading, especially if read aloud in the family circle and discussed, but many people read them to the exclusion of fiction, which they consider not worth while. This is a serious mistake. Fiction has its place and its value and should not be neglected.

***

Although it may be necessary to take the baby or a small child to the fair if you go yourself, yet it is not necessary to let the child be a burden to you and to himself after you get there. At both the Nebraska and Iowa fairs day nurseries will be established, as they are in the department stores of the large cities, where children may be checked and left in the care of competent nurses. It is a pleasant sight to see the children in these nurseries playing together in a cool, shady place, where they are much better off and happier than they would be if dragged about from exhibit to exhibit in the sun and among the crowds. THE EDITOR.

Children's County Fair

If the children are disappointed because they cannot go to the fair, a fair may be had at home for them. We arranged one once in the following way: A large swing and hammock and easy seats in the pretty grove near the house afforded great pleasure. Stands were put up and ice-cool lemonade, ice cream, nuts, candies and fruit were plentiful. Croquet and races were indulged in. The ladies, or rather little girls, dressed in pretty costumes and they and the boys on horseback paraded back and forth among the green trees to music. First and second prizes were given for the prettiest doll. Much merriment can be given the little ones at home in this manner, with a small amount of time and expense.

INA E. HEATH.

Gossips

Photo by A. F. Bonney, Iowa.

Crochet Tape

I have been making crochet tape to use in underwear in the place of ribbon. It looks better and wears better than the ribbon commonly used and never becomes stringy. Use No. 20 cotton and a medium-sized steel hook.

Chain eight and form a ring. Chain three and work double crochet in the ring until a wheel is formed. Join and work one single crochet in the top of each double crochet. This is to make a firm outside edge. Continue making chain stitches until the chain is the length desired for one piece of the tape; turn, single crochet back to wheel.

Run the tape through the garment and make a second wheel and sew to the other end of the tape. Of course, this tape is not removed for laundering and the wheels prevent it slipping out of place.

MRS. GILBERT.

Late Summer Fruit

Peach Marmalade—Pare and quarter peaches. Cook slowly three quarts of peaches, two pounds of sugar and two cups of water. Then stir and mash the fruit. Skim, being careful it does not burn. When nearly cooked, add a little lemon juice. Cook ten minutes after this and can in small jars or glasses.

HELEN A. LYMAN.

Preserved Pears—Peel fruit; take about half and half pears and sugar, let stand over night; in the morning drain syrup off and boil, pour over pears, let stand again one night. Cook now until tender, skim the fruit out and boil the syrup until thick. Will keep a long time.

MRS. GILBERT.

Coffee Ice Cream

Boil one quart of rich milk, add one cup of strong coffee. Moisten one-half cupful of sugar, two level tablespoons of cornstarch and a pinch of salt, with one-fourth cup of milk. Stir into the boiling milk and cook until smooth. Add two well beaten eggs and another half cup of sugar. Stir briskly and cook. When cold, freeze, using three parts fine ice to one part rock salt. A half cupful of cream may be added and more eggs used if a very rich cream is desired.

MRS. GILBERT.

Fruit Eggnog

Beat one raw egg quite stiff, add one-half glass of fruit juice and beat again. Then add one-half glass of cream; whip thoroughly, and serve at once. MRS. GILBERT.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6309—Ladies' Two-Gored Skirt—A very smart model and one which is extremely youthful as well. The high waistline is used with a few gathers in the back and a bit of drapery at one side seam, held by a strap of material. Serge, crepe materials, messaline, linen, ratine and all soft fabrics are suitable for this skirt. The pattern 6309 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2⅝ yards of 36-inch material.

5988—Misses' Dress—This frock closes at the front and has a six-gored skirt. The sleeves may be made long or short. Serge, cashmere, cheviot or mixed goods can be used, with the collar and cuffs of contrasting material. This is an excellent pattern for a school dress. The pattern 5988 is cut in sizes 14, 16 and 18 years. Medium size requires 5½ yards of 36-inch material, with 1⅛ yards of 27-inch contrasting material.

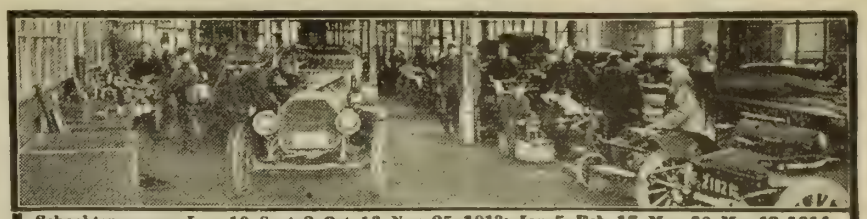
6300—Ladies' Work Apron and Cap—This garment is called an apron because it can also take the place of the dress, as it is made just like one. It has an empire waistline, with a plain blouse and a plain gathered skirt, short sleeves and patch pockets. The closing is in the back. Gingham, calico and the like make neat aprons. The pattern No. 6300 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5¾ yards of 27-inch material.

6235—Girls' Dress—This dress is made on sacque lines, straight from shoulder to hem. From the shoulders on each side of both front and back a tuck extends down the entire length of the dress. The neck is trimmed with a wide collar, and, if the sleeves are long, they are finished with a cuff. The pattern No. 6235 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 2¾ yards of 36-inch material.

6247 Girls' Middy Blouse—The middy blouse of this season is somewhat changed from the old style. It has the usual drop shoulder and open neck, with fancy collar. The sleeve is plain top and bottom and the lower edge of the blouse is gathered into a wide, flat belt. The pattern 6247 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2¾ yards of 36-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

Address your orders to Pattern Department, Twentieth Century Farmer, Omaha, Neb.



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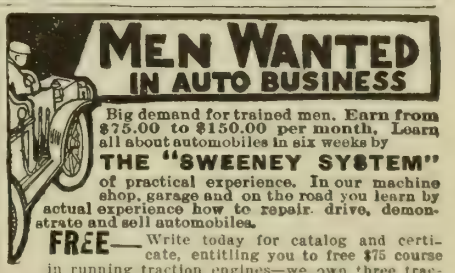

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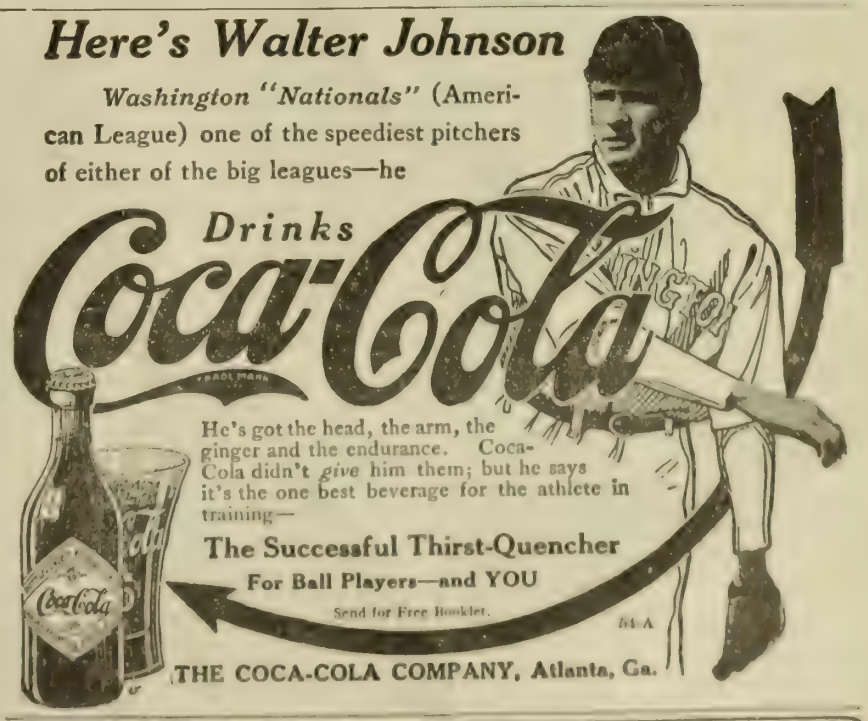

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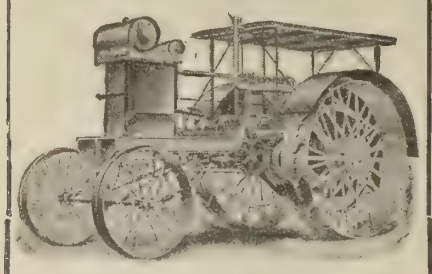

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Mention the Twentieth Century Farmer.

General Foster on China's Greatest Statesman

By Frank G. Carpenter

WASHINGTON, Aug. 16.—I spent an evening this week with a man who for more than half a century has been molding the affairs of nations—a man who has formed not only an integral part of our domestic and diplomatic history, but who has had much to do with making the history of others of the great world powers. Born in Indiana, during the presidency of Andrew Jackson, he graduated at the state university there when Franklin Pierce was still in the White House. He carried on his law studies at Harvard during the first years of James Buchanan's administration, and has held important commissions ever since. I refer to John W. Foster, soldier, ambassador, secretary of state, international lawyer, statesman and author, who now, at 77, has an eye as bright and a mind as keen as when he began the practice of law at Evansville, Ind., more than fifty-three years ago.

Long Career of Service

Mr. Foster's diplomatic career began before he was 40. General Grant then made him our minister to Mexico, and from that time to this he has been more or less connected with our diplomatic history. He has represented the United States as minister and ambassador in Russia and Spain, and he has been a special envoy to make treaties with such countries as Great Britain, Russia, Germany and Brazil. As an international lawyer during the intervals of his diplomatic services, he has acted as the counselor of Mexico, China and other nations, and to aid in bringing about the treaty of peace with Japan at the close of its great war with that country. In those negotiations he saved China an immense loss of territory and the actual payment of more than $75,000,000.

Hard to Settle Subject

To interview a man like this makes one feel as Aladdin must have felt when he first rubbed the old lamp in the cave and saw the vast quantities of gold and jewels about him. He did not know what to take first. General Foster has done so much, been so much and seen so much that it is hard to know what questions to ask or what lines of his life to touch.

I have settled this question in favor of China, and that because of the manuscript of a diary of Li Hung Chang which General Foster has been examining with the purpose of writing an introduction thereto for the Houghton Mifflin company. It is not generally known that this diary is in existence. It consists of memoranda and notes collected from the archives of the high offices which Li Hung Chang held during the seventy-eight years of his life.

Rows with the Dowager

Said General Foster: "The diary was not written from day to day, but only as matters of interest and importance sprang up. Some parts of it came from the private papers in the possesssion of Li Hung Chang's family. Other parts were found in the records which he left in the archives of the yamens at Shanghai, Tientsin and Canton. Many of the notes were written at Peking and not a few were dashed off at the close of his interviews with the empress dowager, Prince Ching and others of the highest Chinese officials. In all cases he handles things without gloves, saying just what he thinks, describing just what occurred and making emphatic observations thereon. He usually speaks of the empress dowager as the "Old Buddha," and often tells how she went into a rage and ordered him out of her presence. At the end of one interview he writes that the Old Buddha manifested an ebullition of passion such as he had never seen, except in his own family, and he rather pathetically continued that "the chief difference was that while he was at his home he could control his own actions, and, it might be, retire; but with the empress dowager this was not possible, for there one had to remain on his knees and bow his head to the floor in humble submission."

Li Hung Chang at 55

Influential and Frank

"Had Li Hung Chang much influence with the empress dowager?" I asked.

"Yes, the old empress had great confidence in him, and Li had a great respect for her, but did not hesitate to tell her what he actually thought, although he knew it might result in his own degradation. It was his frankness that several times lost him his yellow jacket and once or twice came near losing him his head. The empress dowager was surprised and angry at the way things turned out during the Chinese-Japanese war. She supposed that her army was equal to that of Japan and she blamed Li because it was not. He was, you know, at the head of the Chinese military establishment as far as modern methods were concerned. He had organized what was thought to be a modern army, and had to a large extent dispensed with the old spears and flintlocks. He was refused the money, however, which was needed to bring his troops to a state of efficiency, and he warned the empress dowager not to engage in that war. The empress thought she knew better, and when the Chinese troops were found wanting she denounced Li Hung Chang and took away his high honors."

Goat for the Populace

"But, nevertheless, general, she appointed Li Hung Chang the head of the commission which made the treaty of peace."

"Yes, the viceroy remained in disgrace until the time came when peace had to be made. The empress dowager knew that he was the best man in the empire to head the treaty commission and so she was forced to receive him into favor again. After the treaty stipulations had been settled they proved to be very unpopular in China. Expressions of disgust came in from all parts of the empire, and the most prominent officials denounced Li Hung Chang. He had many enemies and they all pounced down upon him. I was, you know, the foreign counselor of the treaty commission and was with Li Hung Chang at Tientsin at the time. We had concluded our work at Shimoneseki, and everything was thought to be settled. Then the news came that the treaty might not be approved, and Li asked me to go to Peking to see about it. I urged him to go himself, but he would not, and so I was forced to consent.

"Now, in making the treaty we had been careful to telegraph it, section by section, to the emperor for his approval. This was given, and was reported to the Japanese, so that the emperor himself had endorsed every provision of the treaty. When I met the officials at Peking I told them the treaty had long since gone beyond the hands of Li Hung Chang, and that, stipulation by stipulation, it had been ratified by the emperor. I told them it was now the emperor's treaty, and that if they refused to abide by it their emperor would lose face among the nations of the world. As a result they reconsidered their action, and shortly after I left made the ratification.

"In the meantime Li Hung Chang was waiting in agony at Tientsin, and when I arrived there Mr. Pethiek, the viceroy's secretary, met me and said that the old man, meaning the viceroy, was anxious to see me. He told me of the ratification of the treaty, but said that I must not let Li Hung Chang know that I heard it, as he was anxious to give me the news himself. I then went to the yamen, and Li came clear out to the gate to meet me. The tears ran down his face as he told me of the ratification."

Japan Not at All Powerful

"The making of that treaty must have been interesting. The Japanese had the upper hand and they could demand what they pleased, could they not?"

"China's situation was such that

it could do little more than submit," replied General Foster. "But, nevertheless, there were certain bounds beyond which Japan could not go. Li Hung Chang's diary describes the meetings of the commission at Shimonoseki and among other things the despair of the Chinese commissioners when the first demands of Japan were presented to them. This story is a pathetic one. It tells how Li felt and among other things states 'that the face of Mr. Foster was ashen.' I do not remember any particular paleness of countenance, but I know that Prince Li and the other commissioners were in the depths of despair. Japan had demanded that China pay an indemnity of 300,000,000 taels and also give large cessions of territory in Manchuria and elsewhere. There were other demands which were very offensive to China, but which we were afterward able to materially change. I was asked to prepare an answer to the demands of Japan and to propose changes in the draft of the treaty. I did so and Li Hung Chang and I went carefully over the paper. It was then submitted to the Japanese, and, after much discussion, the most of my recommendations were agreed to. Among other things they included the reduction of the war indemnity to 200,000,000 taels instead of 300,000,000 taels, which had been demanded. The demand for the cessions in Manchuria was also withdrawn, and altogether a treaty was arrived at which was much more in the favor of China. Li Hung Chang seemed very grateful to me for my work in connection with the treaty, and told me that the emperor was anxious that I should stay in China and act as his foreign adviser and counselor. I replied that I had a great deal of business at home and could not possibly leave. Li Hung Chang answered that his government would give me a leave of absence of several months, or long enough to close up any business that I might possibly have, and also that they would make the proposition so attractive financially that it would more than compensate me for all losses. I then told his excellency that I would like to oblige China, but that I had promised my little grandson, a boy of 7, that I would go fishing with him that summer, and I knew that his excellency, who appreciated so highly the relations between children and parents, would see that I could not possibly break faith with the boy. The viceroy thereupon smiled and ceased to persist.

When He Was Shot

"It was at Shimonoseki that the shooting of Li Hung Chang occurred, was it not?"

"Yes. A Japanese from the interior tried to assassinate him. The man was a fanatic who thought he could benefit the nation by killing its arch enemy, Prince Li. The shooting occurred when Li Hung Chang was returning from one of the meetings of the treaty commission. He was riding in a sedan chair through a narrow street, which was crowded with people. The man fired and the bullet struck him about an inch below the left eye,

The "Old Buddha," or the Empress Dowager

going so far in that it was not possible to extract it."

"How did the viceroy act at the time of the shooting?"

"He showed quite as much nerve," replied Mr. Foster, "as Theodore Roosevelt did at the time of his attempted assassination last year. Li Hung Chang did not get out of his chair. He quietly asked one of the bearers for a handkerchief to stop the blood, and then ordered them to carry him on home to the Buddhist temple, where he was living. When he reached there he stepped out of the chair and walked, unaided, to his own rooms and gave himself into the hands of the surgeons. He took no anesthetic, and as they probed for the bullet they asked him if the pain was great. He told them not to mind that, but to go on with their work. The surgeons kept on probing for some time, but were not able to find the bullet, and it remained in his head to the day of his death."

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Our Young People

(CONTINUED FROM PAGE THIRTEEN.)

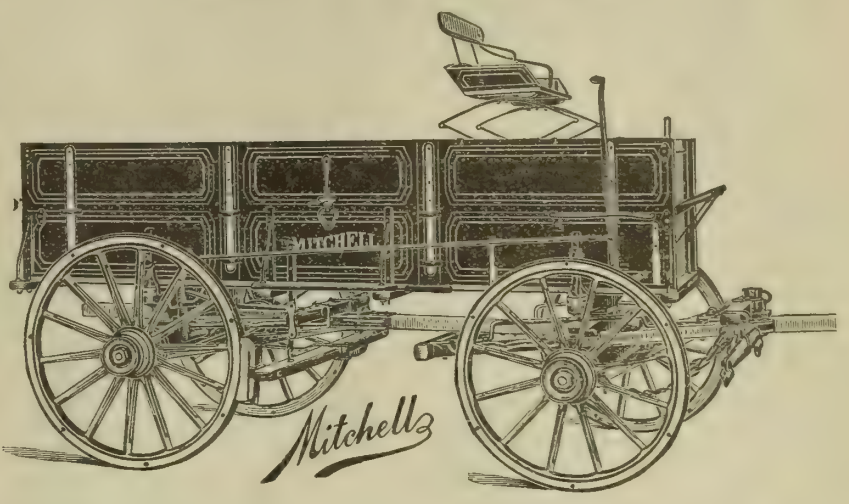
eyes shone from his face, with its covering of black, like live coals.

It was some time before the family could get settled enough to go back to work, and Mrs. Brown said, "There's more fun in moving than I thought there was," and the family agreed with her, especially a little later when she dropped a picture on Mr. Brown's foot, who had come in to help her. I shouldn't like to tell you what Mr. Brown said.

Additional Stories

Hazel Dickhute, Burwell, Neb.; Joseph Daley, Atlantic, Ia.; Ruth Lundstedt, Guide Rock, Neb.; Flora Johnston, Atwater, Cal.; Marjory Ide, Winchester, Cal.; Maud Wallin, Mainard, Md.; Oswald Fleming, Sutherland, Neb.; Margaret Walser, North St. Paul, Minn.; Faynella Elmendorf, Rock Falls, S. D.; Mabel Myers, Dell Rapids, S. D.; Zora Mowery, Arcadia, Neb., Emma Seberg, Oakland, Neb.; Grace Warner Thedford, Neb.; Myrtle Ruckman, Washunga, Okl.; Glenn McCartney, Adah, Ia.; Luella Beals, Emerson, Ia.; Viola Lewis, San Francisco, Cal.

Are you prepared to haul your crops?



IF you need another wagon on your place, get one you can depend on 20 years or more after buying as much as on the day you buy it. The advantage in owning a

Mitchell Wagon

is that you don't take any chances on having just what you want; that's because the Mitchell is made by a company that has been building good wagons since 1834, and is using the same careful methods and well selected, air seasoned material as ever.

Better look into the Mitchell the first chance you have.

For prices write the factory or the nearest branch house or representative:
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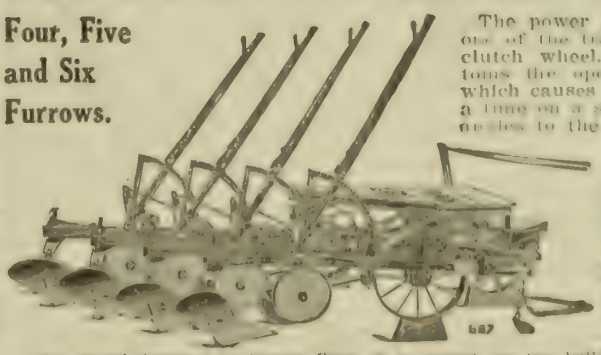
P & O

MOGUL POWER LIFT PLOW

Four, Five and Six Furrows.



The power is transmitted from one of the traction wheels to the clutch wheel. To lower the bottoms the operator pulls a rope which causes them to drop one at a time on a straight line of travel regardless to the course of the plow. In raising the bottoms the operation is the same. The timing of the raising and lowering of the bottoms is such that it makes a square field, eliminating the three cornered piece of unplowed land left by a plow which is made so that all furrows operate together.

The Mogul Power Lift Engine Gang is in principle on the building of Traction Engine Plows and is the Ideal One Man Outfit as the engineer can operate the plow without leaving his place on the engine.

In this plow we have not only provided a simple and substantial device for automatically raising and lowering the plows, but we have made it complete at every point and a first class plow that can be operated with extreme ease.

Consider what it means to be able to adjust the depth of the bottoms without stopping the engine and getting out a wrench. You can do it as soon as you see the plow is not doing good work. Consider what it means to clear stubble and weeds or trash from the shares without stopping the engine. Consider what it means to be able to raise all the bottoms a little when ascending a steep grade for the purpose of easing up a little on the engine.

No other power lift or automatic plow combines all the features found on the Mogul. The power lift appliances are all built and operating so as to prevent a continuous strain on the operator. The platform is located at the front end and can be thrown up for the purpose of oiling the working parts.

We believe that the Mogul is destined to take the lead owing to its many superior features and we will be pleased to send complete illustrated folder and other details regarding prices, etc.

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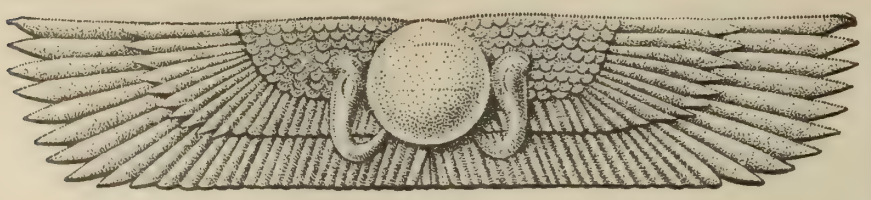

Symbols of Protection

Ancient Egyptians carved over their doorways and upon their temple walls the symbol of supernatural protection; a winged disk. It typified the light and power of the sun, brought down from on high by the wings of a bird.

Mediæval Europe, in a more practical manner, sought protection behind the solid masonry of castle walls.

In America we have approached the ideal of the Egyptians. Franklin drew electricity from the clouds and Bell harnessed it to the telephone.

Today the telephone is a means of protection more potent than the sun disk fetish and more practical than castle walls.

The Bell System has carried the telephone wires everywhere throughout the land, so that all the people are bound together for the safety and freedom of each.

This telephone protection, with electric speed, reaches the most isolated homes. Such ease of communication makes us a homogeneous people and thus fosters and protects our national ideals and political rights.

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Our new illustrated catalog gives facts showing how "The Wonderful Papec" will save time and money at cutting time. Send for copy today.

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Silo Owners, Attention!

Save one-half your gasoline in operating ensilage cutters and blower elevators.

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To advertise our business, make new friends and introduce our big catalogue of Elgin watches we will send this elegant watch postpaid for **only 98 cents.** Gent's size, high grade gold plate finish, lever escapement, stem wind and stem set, accurate time keeper, fully **Guaranteed for 5 Years.** Send 98 cents today and watch will be sent by return mail. Satisfaction guaranteed or money refunded. **ARNOLD WATCH CO., Dept. 821 CHICAGO, ILL.**

Mention The Twentieth Century Farmer When Writing.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

An Amateur's Revenue from Bees

W. D. S., Richfield, Neb.: In February of 1912 I secured by purchase four stands of bees. They were in a rather weak condition, but during the summer they gave me 125 pounds of honey and two new swarms. To these I added three more swarms, thus having nine at the beginning of the present season. Up to the 25th of July I have taken off 445 pounds of what our merchant pronounces A-No. 1 honey. Only one new swarm has issued from my hives this season, but I secured one other, to the great relief of the telegraph operator at our station, as they had settled on the signal pole at the depot and a passing through train had angered them till they were vicious, and the manipulator of the "ticker" was prisoner for the time being till I had coaxed them into the hive. This gives me eleven swarms for the winter.

I am past the half century mark in life, and have always been a lover of honey, but was never situated so I could care for bees till the date above mentioned. I had never seen a swarm hived, and did not know a worker or a drone or a queen, except that a few times in life worker bees had stung me, and a bee sting on my person was a thing not to be forgotten, as the swelling and itching was something terrible to endure. I have always been a reader and student of literature on bees and much interested in them. Hence I had some of the theory, and by the knowledge thus gained I was able to recognize each variety of the colony and able to hive, unassisted, the first swarm I ever saw clustered, and also captured the first queen I ever saw.

It seems to me strange that more people do not keep bees, for of all the sweets to be found none can equal that of honey, both for flavor and healthfulness. Thousands of gallons of manufactured syrups made of various and questionable materials are consumed, ofttimes to the hurt of the eaters, when the purest of sweets gathered directly from nature's own "factory" can be had by a little care and attention to the "busy bee."

I take no chances in getting stung, for I fortify myself with a covering for my head made by taking common window screening ten inches wide and forming it into a circle amply large to set out from my face and neck. I put a top to it out of muslin and a cape of the same, wearing under this a small cap to hold the top up off my scalp, and after putting the screen on I put over it a common overall "warm-us," well buttoned up or pinned with safety pins, not forgetting to pin the cape down securely under the "warm-us." Then, with a common pair of 10-cent gloves that have been well oiled in linseed oil, to which gauntlet sleeves, with rubber elastics to hold them tight on the arm, are attached, and my smoker in hand, I am ready to go among them as bold as you please.

It is a pleasure to work with them, and in some way it seems I have a sympathetic feeling for the little fellows, so industrious, so cleanly and methodical. I am amazed at their apparent intelligence, yet we do not know whether it is intelligence or what force it is that makes them such wonderful creatures.

It is with reluctance that I leave off watching them in their busy light coming and going afield, and then when the lid is off the hive and they are so intent on their work, with no confusion amid the thousands of them, each busy with his own part in the hive.

Many town and city people could, if they only knew it, keep several stands of bees for their pleasure and profit, affording recreation, a study of nature and supplying their table with what is now a costly luxury to them. Besides this, the multiplying of bees in the country adds to the productiveness of fruits and flowers by the sureness of pollenization of their bloom. Of course, they require a certain amount of care. Everything that is worth while requires care. But the work is of that light kind that either man or woman can attend to without great effort.

We hope to increase our number of stands to two or three dozens, for we find a ready market at good prices for more than we can produce, as my 445 pounds are now nearly all gone, and no search has been made for a market at all.

Editor's Note—The subject matter of this letter is worthy of careful consideration by every farmer and every dweller in towns. Every family might easily secure in this way most of their table sweets, which form so large an item of expense in table furnishing.

Alfalfa on a Muck Loam Soil

J. M. P., Bleecker, N. Y.: Can we grow alfalfa in this part of our state on a muck loam soil with a gravel or hardpan subsoil? The elevation is 1,600 feet above sea level, and by getting in the eight-row yellow corn early, can usually get a fair crop. Other clovers do fairly well for a year or two and then die or freeze out. I am willing to do anything within reason to get a good stand, even if we have to use it as we do our garden crops. Any information along this line, and as to seed, will be greatly appreciated.

We certainly enjoy the Twentieth Century Farmer.

Editor's Note—Alfalfa does not do well on real hardpan subsoil. Some people call a hard clay subsoil hardpan. But a real hardpan is impenetrable by roots. It may be broken up with dynamite. The muck loam soil is ideal for it. In that latitude it should be sown not later than the middle of July, on ground that was plowed early and kept in cultivation so as to conserve the moisture and kill the weeds. It should be broadcasted, twenty pounds to the acre, putting on ten pounds going one way and crossing the field and putting on the other ten pounds. When this is done, there will be no balks or blank spaces in the field. The probability is that on such soil as you describe soil inoculation will not be necessary, but a good coating of manure applied as a top dressing and partly cultivated in would be of great value.

Marketing Article Pleases

R. A. W., Amedee, Colo.: I write to state my appreciation of an article in the July 12 issue of your paper entitled "The Unnecessary Mid-

dleman Must Go," by Christine H. Winters. The sooner the producer and consumer realize that they must get rid of the non-producer of commodities, the sooner will they receive the just share of the wealth they create. I am glad to see the awakening that is taking place among the farmers, particularly of the middle west and among the consumers of the cities. Such an awakening in this matter is taking place in many parts of California, and I think it is due mostly to the influence of eastern people who have settled in California within the last few years. The old-time settlers of California do not seem to grasp this new idea very readily. This is specially true in this section where I am located. This is, and has been for fifty years, a farming and stock-raising community, and the majority of farmers are wedded to the old order of things. A few more years and the awakening will commence here. It is only waiting for the old-timers and the shiftless to let go of their old methods. I should like to be able to place this article in the hands of every farmer here. Whenever an opportunity occurs, I preach this "get rid of the middleman idea." I hope you will keep up the good work.

Editor's Note—This letter shows how wide an interest is already being excited over the matter of marketing of farm products. It is not enough to produce; that is only a part of the work. Marketing is as necessary as production. This paper is glad to see that the agitation is taking root in the minds of producers. Good will of necessity result from such a movement.

Ruptured Colt

F. M. B., Greybull, Wyo.: I notice a great many helpful hints in your Readers' Exchange, which I read with interest.

I should like some advice how to treat a ruptured colt. I have a horse colt 8 days old that is ruptured in the testicles or bag. When I lay the colt down I can work it all back so it does not show at all; but after it is up a while it comes down. Will a good pad fixed in the form of a truss be all that is necessary, or will there need be an operation performed?

Your early advice will be appreciated, as I realize that the sooner this is attended to the better.. Thanking you in advance for the information you may give me, I remain, etc.

Answer—In most cases this condition will correct itself in a few months if left alone. When necessary to operate, what is known as the covered operation is used. There is no arrangement in the shape of a pad that would be of any benefit whatever, but might be of consi lerable injury.

Breeder's Experience with Pit Silo

To the Editor—A little more than a year ago we made up our minds to put in a silo, and selected the pit kind. We were called upon by several stave silo agents, who tried to convince us that the pit silo was very dangerous, and that the labor of getting the ensilage out was very great. Nevertheless, we constructed a pit silo eighteen feet in diameter and twenty-five feet deep, constructing ourselves the apparatus necessary for hoisting the dirt, also the ensilage later, which I will not attempt to describe at present further than to say that it was a success. We fed this ensilage through the latter part of the winter, every pound of which was good save the few inches on top; at least it was good enough so that the cattle would leave shelled corn and bright alfalfa until the last of the fifteen pounds per head of the ensilage was consumed. It took nine minutes to get enough ensilage out at a depth of seventeen feet to feed fifty-five head of cattle, two men working, taking the ensilage from over the entire surface of the silo. This time includes the unhitching and hitching u necessary for raising the ensilage.

In 1912 there were eight wooden silos sold in this section. This year we have not heard of any sales, but know of six pit silos being put in, and we are constructing another for ourselves, 18x30. The cost of our first silo, including track, carrier, ropes, pulleys, overhead drum, all frame work and cover, was $135; n t included in this was one man helping dig and two hauling dirt away. The cost of the last one was less than $100.

As a joke on the foul-air proposition that the stave silo men are so industriously circulating, we caught two rabbits and placed them in the silo, and so could readily tell if there was foul air. However, we liberated these rabbits in the spring.

A person living in a section where a pit silo can be constructed will make no mistake in putting one down. They will have no hoops to tighten, no guy ropes to bother with and no worrying over high winds or hot suns. GEORGE C. JUNKIN,
Smithfield, Neb.
Breeder of Hereford cattle.

Editor's Note—The readers of this paper will be glad to learn the opinion of the pit silo that is entertained by a man of such prominence as the author of this letter, especially as the opinion is based on personal experience. Let other users of pit silos send in an account of their experiences with them.

A Pleased Subscriber

G. B. H., Spokane, Wash.: I am glad to see that someone is ripping open the silo matter, as was done with a similar situation in the creamery combine, also the Plano Harvester matter. It strikes me that great work is being done by speaking thus frankly, without the suggestion of a note of expose, but rather of plain, simple information in behalf of the farmers. A Kansas subscriber to your paper said to me the other day that the special, direct, new articles and discussions were of great value.

But I do not know what Ella Wheeler Wilcox would opine if she should see the headline of one of the reading notices of one of her books as the headline appears on page 13 of the last issue.

Was the front page illustration with the mustache, close-cropped cheek and chin-point whiskers intended as a caricature on any individual?

Cyclones and Silos

A. H. B., DeWitt, Neb.: I would be pleased to get some sample copies, as I shall try to get some subscribers for the Twentieth Century Farmer. I count it a splendid farm paper. I saw a man from Seward this morning and he told of seeing a block silo that was in the path of the cyclone and suffered no damage except the roof, while a stave silo close by was swept away and not enough was left to make a toothpick.

Editor's Note—This paper is in possession of photographs of the tornado at Seward, which show the two silos mentioned. These photographs show the condition of the silos after the tornado had passed.

Cultivating Broadcasted Alfalfa

L. H. Albuquerque, N. M.: I have been very much interested in your recent articles on the culture of alfalfa there, particularly in the statement that there is a cultivator that will remove all weeds that are not tap rooted. Will you please give me the name of the same? I have never practiced cultivating alfalfa, but can readily see the advantage, especially here where we irrigate. I have been considering the purchase of a cultivator, but do not feel like taking any chances on buying something that is not the best.

Where cultivating is practiced, would it not be better to drill the alfalfa than to sow broadcast? One might then cultivate with the rows.

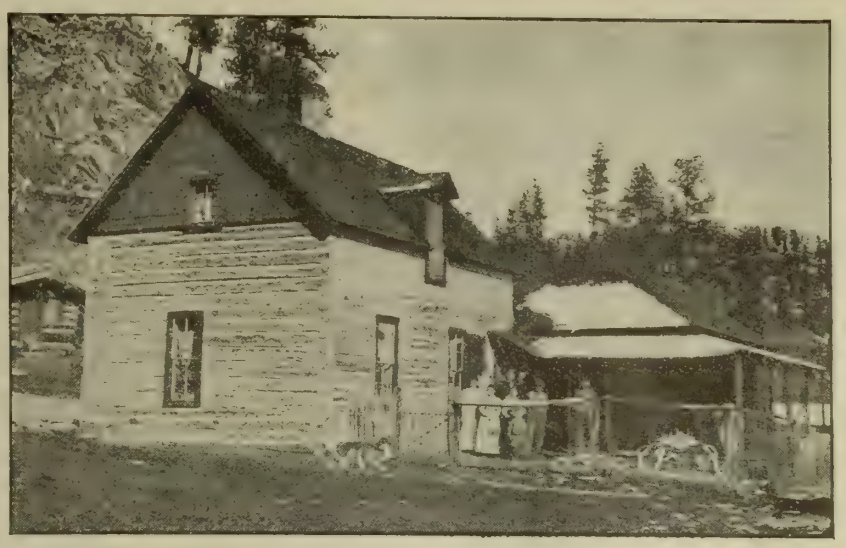
Editor's Note—There is sufficient vibration to the right kind of an alfalfa cultivator to permit it to work just as satisfactorily when alfalfa is broadcasted as when drilled in rows. For other reasons, the broadcasted alfalfa is to be preferred.

Cause of Bloody Milk

L. W., Cody, Wyo.: I have a heifer 3 years old, fresh some time last March for the first time, and has given bloody milk from the first, sometimes in clots and sometimes just clear blood, when stripping. She has had good feed, but still is rather poor. What is the cause? Is there any cure? Would be obliged to hear from you right away.

Answer—The cause of bloody milk is a rupture of some of the blood vessels. There is no treatment except the giving of a teaspoonful twice a day in the feed of powdered copperas.

Home Among the Hills



Some of the Ranch Homes in the Black Hills of Wyoming and South Dakota Are Tucked Cozily Away Under Projecting Cliffs, Safely Sheltered from Possible Storms

CASH IN ON THE OLD STOVE

Do you realize that you can discard your old stove with advantage and profit?

Lasts Longer In construction, workmanship and design. The Monarch is years ahead of all other ranges. It is made of malleable iron and steel. It has com-
Less Fuel plete triple walls—asbestos and steel. Full protection against damage by corrosion. The top and oven heat quickly. Every seam is riveted tight—no bolts
Less Work or stove putty to loosen and fall out. The Duplex Draft and Hot Blast Fire Box insure even heat and full use of
Better Cooking all the fuel. The polished top never needs blacking.

Monarch MALLEABLE
The Stay Satisfactory Range

Two Valuable Books
"The Range Problem"
and
"Cash in on the Old Stove"
Sent FREE!
WRITE today!
Address
Malleable Iron Range Co.
1816 Lake Street, Beaver Dam, Wisconsin

"INGECO"
KEROSENE ENGINE

Farm Type
2½ to 15 H. P.

Farmers have been demanding an internal combustion engine to operate on cheaper fuel—here it is.

"INGECO" Kerosene Engines operate perfectly on plain kerosene—the kind you use in your lamps and lanterns. They are real kerosene engines of the "Throttling Governor" type—not a makeshift gasoline engine with attachments and complicated parts for operating on cheaper fuels.

"INGECO" Engines run successfully and economically on kerosene, distillates and other light oils—they are quickly started, safe and have no exposed flame.

Write for catalog—we make just the engine for your use. State what size you are considering.

INTERNATIONAL GAS ENGINE CO.
168 Holthoff Pl., Cudahy, Wis. (Suburb of Milwaukee)

Save you 1/2 on fuel

Money-Making Farms
188 Acres, 12 Cows, Machinery

The dairy farms of Delaware County, N. Y., earn $1,500,000 yearly; this is one of them and a good one, too; spring and brook watered pasture for 20 cows, smooth fertile fields, easily worked, 500 cords wood, 100 barrels apples in orchard, 2-story 7-room house, spring water, big barn and other buildings, near milk station, school, church; unable to care for it longer, must retire, if taken now he includes 12 cows, brood sow, 5 sheep, machinery and tools, all go for $4,500 takes all. $1,000 down and easy terms; this farm will pay for itself in two years; read all about it and traveling directions to see it and scores of other bargains in our 11 state list; Catalogue 36," write today for free copy. E. A. Strout Farm Agency, Reaver Bldg., Park Row, Phone [illegible]

COME TO MINNESOTA

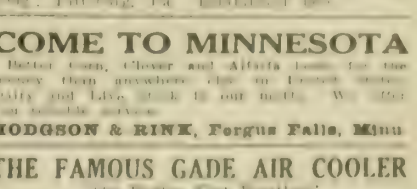
Better Corn, Clover and Alfalfa lands for the money than anywhere else in [illegible] Dairy and Live Stock is our motto. We [illegible]

HODGSON & RINK, Fergus Falls, Minn

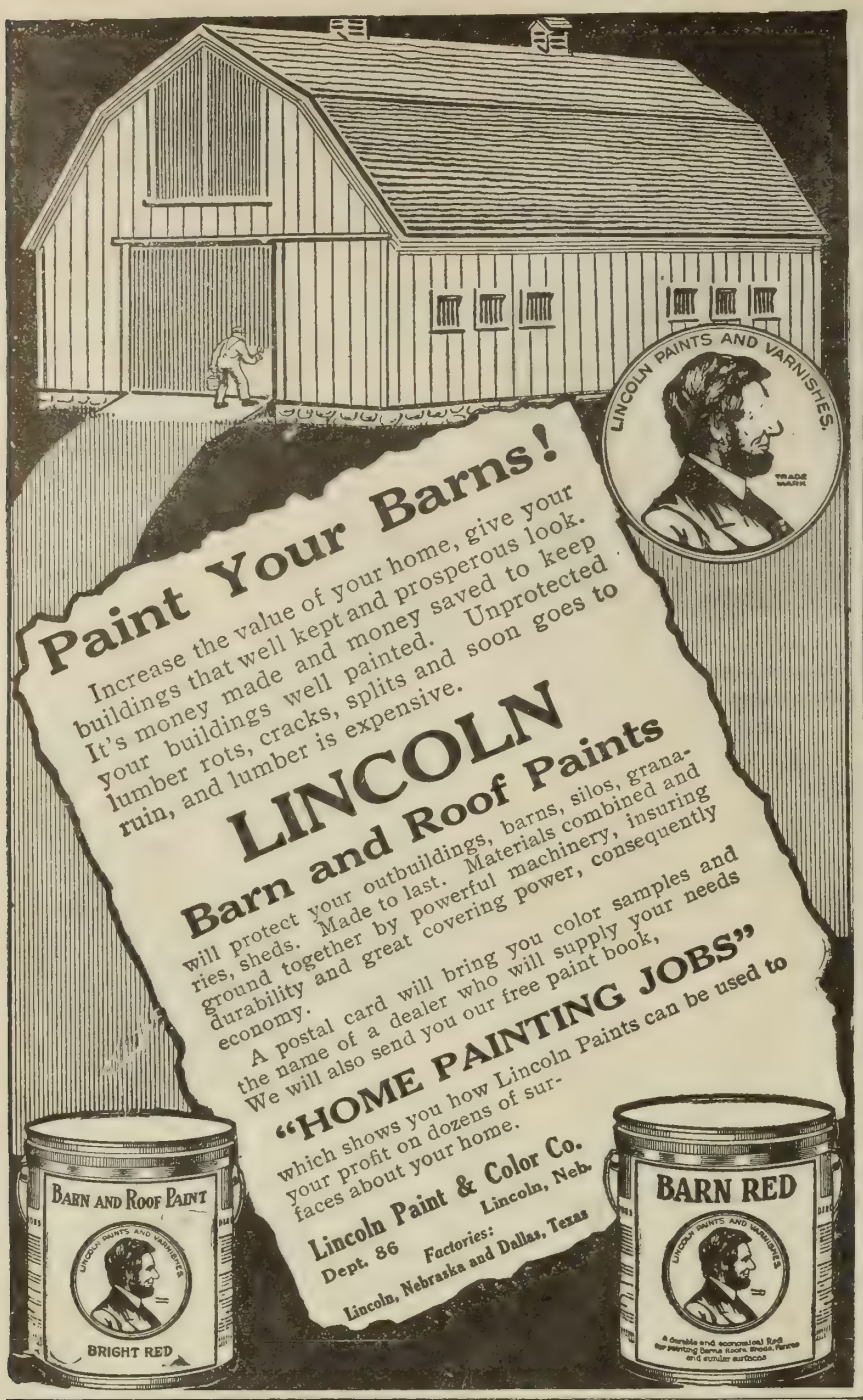
THE FAMOUS GADE AIR COOLER

The Cooler That Location

[illegible] on exhibit at the IOWA STATE FAIR. Don't fail to call [illegible] We want to show you [illegible] MADE.



GADE BROS. MFG. CO., Iowa Falls, Ia.
200 E. Iowa Street.



My Famous $1.00 Offer

Manson Campbell

My special "ONE DOLLAR OFFER" has pleased so many farmers that I have decided to keep it up for another month and thus let everybody take advantage of it. Here it is:

You send me one dollar and I will ship you, ALL FREIGHT PAID BY MYSELF, this, my new 1914 Chatham Grain Grader and Cleaner. Use the machine a month. If satisfied at end of 30 days, pay me my low cash price or give me your note, without interest, payable January 1, 1914. If not satisfied, return the machine at my freight expense and I'll return your dollar. As a matter of fact, $1.00 won't half pay me for the freight. I only want the dollar to hold as evidence of good faith.

Chatham Grain Grader and Cleaner

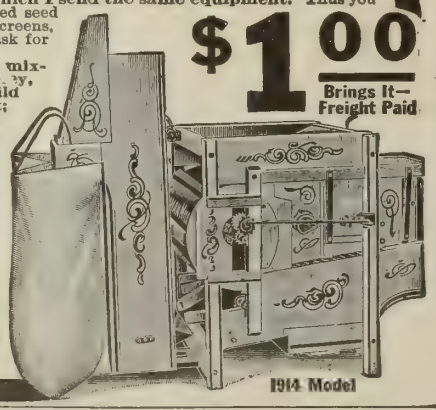
After 41 years' experience, I know every grain and noxious weed grown in America. I know the section where each one grows. I know every grain and weed that grows on your farm. Experience has shown that a Grain Grader and Cleaner should have the special equipment for the particular farming section to which it goes. For example, I send an **entirely different equipment of screens, riddles and gangs to Maine from what I send to California. There are scarcely two states in the United States to which I send the same equipment. Thus you** get the exact outfit to handle the grains and weed seed on your farm. If you want more or different screens, I will send them free. Not a penny would I ask for extra screens and riddles.

The Chatham now handles over 70 seed mixtures—wheat, oats, peas, beans, corn, barley, flax, clover, timothy, etc. Takes cockle, wild oats, tame oats and smut from seed wheat; any mixture from flax; buckhorn from clover; sorts corn for drop planter. Removes foul weed seed and all shrunken, cracked or sickly grains. Takes out all dust, dirt and chaff. It is also a bully chaffer. Handles 60 bushels grain per hour. Gas power or hand power. Easiest running mill on earth.

Write Send postal today and receive FREE by next mail my latest copyrighted book, "The Chatham System of Breeding Big Crops."

Address Dept. 49
The Manson Campbell Co.
Detroit, Mich.
Kansas City, Mo.
Minneapolis, Minn.

My Free Service Department will separate, clean and grade FREE any mixture you send in. If you've got some impurity in your grain that you cannot get rid of, don't get discouraged. Write me. Send postal for Big Free Book.



$1.00 Brings It—Freight Paid

1914 Model

Rhode Island Whites

America's "best yet" breed—pure White every way desirable. In great demand. Bred-to-lay-Sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy "GOOD POULTRY," our quarterly magazine, 25c a year. Quotes prices, gives valuable record covering 3 months' work with poultry. The way to make it pay—the Shorewood way—write tonight.

Shorewood, Farms Co., Saugatuck, Mich.

PRATTS

To Kill Lice and Mites
on fowls and in the houses, use
PRATTS POWDERED LICE KILLER
25c and 50c per package
and PRATTS LIQUID LICE KILLER
35c quart; $1 gallon
Each the best of its kind
"Your money back if it fails"
160-page poultry book 10c by mail

At all dealers, or
PRATT FOOD COMPANY
Philadelphia Chicago

PRATTS

Timely Items of Interest to Poultry Raisers and Fanciers

Caponizing

R. S., Merriman, Kan.: I have been reading with interest the items on caponizing in your paper. What is the proper age and size for caponizing? What is meant by slips? Would like to hear some actual experience of other readers who have done caponizing.

Answer—The age and size of the cockerel is most important; more so than the time of year, because the operation is usually successful—one fatality in a flock, perhaps—and they heal easily—as soon as they weigh from two to three pounds and are from 2 to 4 months in age. When too young the organs are hard to find; if too old, there is danger of killing them, as the arteries are then carrying much blood to these organs. Directions come with the instruments. I learned on dead fowls, while dressing them for the table; but in our country certain men do this work, asking 5 cents a head for the operation.

A slip is a cockerel that was not fully caponized. To leave part of even one organ in spoils the cockerel for a capon. He is a nuisance and must go into the pot. Send for free Farmers Bulletin No. 452, United States Department of Agriculture. This is your bulletin by right, and it will tell you much on the subject. One of my neighbors had sixty-two young cockerels caponized last July. They were Light Brahmas. They picked up a living in the fields, with a feed of corn when they came home to their fence and tree roosts at night. Two disappeared. In the winter she housed them in corn shocks, feeding them twice a day on corn. In January she fed them up on moistened cornmeal, fine grit, for two weeks. They averaged her $1.10 apiece, and the market not extra at that time. She thought she did well enough. The feed was no item at all on her farm.

Featherless Chicks

A Farmer's Wife, Benson, Neb.: Have read with interest answers to poultry questions in your magazine, and now ask one. Why do so many of my chicks, when they shed their down, refuse to grow feathers? Some have a few on their wings, some none. It is mostly roosters that show this lack of feathers; nine out of ten die. It makes no difference, hen or incubator hatched. Is it something the hens lack in their feed before they lay the egg that is the cause of this trouble?

Answer—This makes twice in the last few days this question has been asked, and, looking about, I find this a general complaint this spring, although others do not report a death rate of any kind from it, and unless the bare chicks are allowed out in the wet and cold, I cannot see why they should die. One of my neighbors says that it is caused by their bunching too closely together at night and getting overheated. I am sure she is simply guessing, because you cannot keep chicks or chickens from bunching together. To lessen any trouble bunching up might do, one must give good ventilation and plenty of it and not keep too many together. In the early days of my poultry raising I was told that the chicks slow in feathering out would prove healthiest and strongest as well as largest chicks, and the plumage would set more closely and smoother than when grown too fast. I found this true unless I let these chicks chill when bare. Many chillings would finally kill them. The slow growth of feathers is a natural process in the case of certain breeds. The food given the chicks develops the body at the expense of the feathers. Outside of feeding them heavily and keeping them warm and dry on cool, rainy days, I know of only the extra feeding of bone meal and a little sulphur, the latter twice a week, to hasten the growing feathers—bone meal, a tablespoonful to each six once or twice a day; sulphur, a teaspoonful at a time to that number. One subscriber asking this question feared it might be the depluming mite holding back the feathering of her chicks, but I think not. She would have first noted its work on the larger chickens. These must have it bad before the chicks would be bothered. This last is best controlled by using one part carbolic acid to eight parts fresh lard, and greasing the fowl with this solution, but care must be taken to grease only part of the body today, another part tomorrow, as this is a severe lotion.

Try housing the bare chicks warmly and feeding them plenty of cracked corn or wheat, oats, skim milk or beef scrap, and see if they do not quit dying and soon show that the feathers were merely taking a natural time for coming out. I can understand how half-starving chicks that had a time of it with slow-coming feathers might make the matter worse.

Living Grasshopper Traps

Grasshoppers love Kansas soil, and chickens relish grasshopper steak, and so certain poultrymen have set the chickens to rid their land of grasshoppers; also large flocks of turkeys are doing the same for some of the Kansas farmers. The experimental plots of grain at the Garden City Experiment Station were threatened with destruction by the grasshoppers. They set small, movable coops on runners, and, filling them with chickens, pulled these up and down the alleys between the plots. The chickens were then let loose in the plots and they destroyed all grasshoppers as they went. One farmer, it is said, completely cleared his farm of the grasshoppers this way, though on more extensive plan. He purchased chickens of every kind from everywhere about, made movable roosting and laying coops for them. These coops he moved all over his land, moving them at night. It is said that he cleared his land of the insects, saved his crop last year and this, for there were no grasshoppers left to lay eggs for this year's crop, and sold the chickens at a profit when the season was over.

IDA M. SHEPLER.

There are now over 2,000,000 using the telephone—when their lines are not out of order.

Farmer Putnam on Past and Present Fairs

(CONTINUED FROM PAGE FIVE)

county. The boys brought their own bedding and they slept and et in the armory, where the school was held. The gals was cared fur in the homes of people near the fair grounds. Every day them youngsters heard from six to eight lectures on farm topics. They had to make notes on 'em and write about their work, and every hour or so a bunch of 'em, in charge of some professor, was took to some particular exhibit on the fair grounds, and there them youngsters was allowed to assist in judgin', or the fine points of grain, grasses and other plants and live stock was pointed out to 'em. It was a week's short course in agriculture that give 'em a hundred dollars' worth of good each, and got 'em started on the right road toward stayin' on the farm, by showin' how attractive the study of farm products was when we understand the science of it. I don't pretend to be no scientific farmer myself, but if I'd a had the advantages in my younger days that some of them youngsters has got now, I'd be secretary of agriculture, or runnin' a good farm paper, like the Twentieth Century Farmer, today, instead of writin' fool letters to the editor from here in Stockbridge.

We're makin' wonderful progress in our farm education and I wouldn't be surprised to see the day come when any man who wanted to run a farm had to have his diploma nailed to the front gate, showin' that is he is a Ph. D.—doctor of pharmacy, as they spells it in Latin.

Yours very truly,

THOMAS JEFFERSON PUTNAM.

Nebraska Fair Board Tactics

(CONTINUED FROM PAGE ELEVEN)

tion whose agricultural activities the latter has never been able to control.

True Value of the University

Of course, no one will take stock in Mr. Kline's farcical comparison. While a farmer doubtlessly gains some education at the fair, the intelligent taxpayers of the state—and this means all of them—will recognize at a glance that the State Fair is in no sense the educational rival of the university. The State Fair is an exposition, an industrial exhibit of undoubted and unimpeachable value, but the education to be gained at the fair is a purely incidental matter. The university, on the other hand, is neither show nor horse race, but a place where men and women are trained, with no bands and little display, for efficient and productive labor. There is absolutely no way to compare the educational cost of the State Fair with the educational cost of the university. Mr. Kline knows it, the secretary of the Board of Agriculture knows it, and the taxpayers of Nebraska know it. To those who supply the money for both these institutions, Mr. Kline's appeal to them as busy men, men af affairs, who have no time to waste on study, but must raise their families and pay their taxes, must seem the flimsiest kind of a fallacy, the basis of which is either ignorance or spite.

It is true that nominal entrance fees are charged students of the university, yet in comparison with the tolls exacted by the State Fair from its attendants, university fees are a negligible quantity. The only cost of university education that Mr. Kline can legitimately call a burden on the taxpayer is the sum annually spent for maintenance, and that sum in truth and in fact is less than half Mr. Kline's exorbitant amount.

Criticism Based on False Estimates

In his estimate of what the State Fair costs the taxpayers, Mr. Kline again commits error. He assumes that the legislative appropriation is all the taxpayer has to pay for the fair. As a matter of fact, the appropriation takes the taxpayer only to the fair ground gates. To go in and see the performances to which Mr. Kline ascribes an educational value comparable to a course in the university, the taxpayer must pay for an admission ticket, a seat in the grandstand and a concession, if he wants one. So much of a burden on the taxpayer is the State Fair that when the farmer gets back from his "vacation of five days" he appreciates that he has paid for more education than he has got. This has been my experience every time. For the sake of popularizing their pet activity, Mr. Kline and his boss have willingly disparaged a great state institution, disparaged it by making statements about the cost of university education that are not supported by the facts, and because of their insusceptibility to the truth they cannot be disappointed when the people refuse to believe what they say.

From the standpoint of the taxpayer, all state institutions are alike. They all cost money, and when they are well managed, as the State University is, they render a tremendous service to the people of the state. For this reason, no taxpayer will stand quietly by and see one institution's popularity exploited in order to advance the interests of another.

CITIZEN.

Custer County, Nebraska.

In the United States, in every business day of the year, $1,000,000 worth of property is destroyed, three lives lost and seventeen persons seriously injured by fire.

Sale Dates

Duroc-Jersey Hogs

September 27 Robert Leiser, Wisner, Neb.

October 1—John Bader, Scribner, Neb.

October 9—William Moderow, Bancroft, Neb.

October 9—M. O. Froistad, Newman Grove, Neb.

October 5—W. M. Putnam, Tecumseh, Neb.

October 25—Herman Tolle, West Point, Neb.

October 30—J. Kane, Wisner, Neb.

Poland-China Hogs

October 6—C. B. Van Kleeck, Central City, Neb.

October 16—Thomas A. Shattuck, Hastings, Neb.

October 17—Thomas F. Walker, Alexandria, Neb.; sale at Fairbury.

October 20—William Ferguson, Scribner, Neb.

October 29—Tim Neuhofel & Son, Central City, Neb.

November 5—J. L. Naiman, Alexandria, Neb.

LANDS

California

FRUIT RANCH—132 A. ADJOINING school, $10,000; $2,500 can stand. For particulars address H. R. Gugson, Red Bluff, Cal.

Colorado

WE ARE COLONIZING A LARGE tract in the shallow water district, Logan county, Colo. Finest farm land in the west. Wheat yield this year 46 bu. per acre. Land pays for itself in two years. We put in 40 acres free of charge. Good terms and low prices. Best of soil, level roads, fine water and good markets. Write for free circular. Platte River Valley Land Co., 1119-22 City National Bank, Omaha, Neb.

Farms Wanted

FARMS WANTED—WE HAVE DIrect buyers. Don't pay commission. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 69 Palace Bldg., Minneapolis, Minn.

Montana

MONTANA FREE HOMESTEADS IN the Musselshell country—320-acre homesteads; no crop failures. Get our price to locate you. Going fast. Montana Homestead Bureau, 588 Brandeis Bldg., Omaha.

MONTANA AND DAKOTA—NORTHwestern and central Minnesota lands for sale, in the Red River and Mississippi valleys; wild and improved farms, large and small tracts. Write for prices and descriptions of best bargains in northwest. J. W. Denny, the land man, St. Cloud, Minn.

HOMESTEADS—WE CAN TELL YOU of best locations for homesteads in Montana, Wyoming and Colorado. Booklet, "Western Homesteads," 4 cents, stamps. Western Homesteaders' Exchange, Douglas, Wyo.

Miscellaneous

SMALL LAKE SHORE FARM ON White Ash lake, famous for fishing and hunting, 43 acres, only $1,250; 20 acres under plow and balance practically cleared. Small house and barn; also another old set of buildings. Rich clay loam soil and nearly level surface. Easy terms for quick sale. Baker, I-67, St. Croix Falls, Wis.

LANDS

Mississippi

PINE LANDS IN MISSISSIPPI AND Alabama, for stock raising, general farming, etc., $4 to $10, 40 acres and up. Elevated country. Good water. Large timber removed. Terms, one-fourth cash, liberal terms on balance. For folder, maps, etc., sent free, address Mr. Geo. Kilborn, Box 212, Mobile, Alabama.

Minnesota

FOR SALE—RICH, PRODUCTIVE 160-acre Red River Valley farm; good neighbors; healthy country; fine markets and a bargain at $5,000. Terms $1,500 cash, balance easy. Frank P. Cleveland, owner, 1315 Adams Express Bldg., Chicago, Ill.

Nebraska

640-ACRE FREE HOMESTEADS IN Nebraska. Send $2 for complete map of land opened to entry October 1, 1913. A. J. Van Antwerp, County Surveyor, Broken Bow, Neb.

FOUND—320-ACRE HOMESTEAD IN settled neighborhood. Fine farm land; no sand hills. Cost you $175, filing fees and all. J. A. Tracy, Kimball, Neb.

CHICKEN AND FRUIT FARM FOR sale, all stocked. Write W. D. Kelly, Valley, Neb., particulars.

RICH, LEVEL, PRODUCTIVE LAND near main line railroad; good building material cheap and easy to get; good water, fuel, market; free range; best proposition yet offered for general farming and stock raising. Write now to Interstate Land Company, Lock Box 899, Omaha, Neb.

Wyoming

BLACKBURN FARMS, ALBANY county, Wyoming, are finely situated. Country generally level; good traction plow land, easily cultivated. It grows wheat, oats, barley, rye, field peas, all the grasses; alfalfa does remarkably well. Potatoes and vegetables yield surprisingly, and the quality of every plant will easily satisfy the producer. Water is abundant and good, for it is in reality snow water from the nearby mountains. It's a shallow water district, for the whole area is underlaid with sheet water some fifteen or twenty feet from the surface. With the fine air, good, pure water and the purest food grown anywhere, how can either the inhabitants or their stock get sick? Do you know that those who now live there have all the advantages you have where you are, if you live on a farm? Indeed, they have more. Roads are fine for autoing; hunting and fishing is within sight and so is the railway station. Then, in an instant you can telephone to Laramie and have any article brought to you when the stage comes along. The stores in Laramie will compare favorably with any city of 10,000 people. The Wyoming University, with its thirty professors and great equipment, is immensely valuable to both the farmer, who may there consult expert, scientific farmers about either animal or plant life or teach the boys and girls the way to prepare for life's duties. Then there are fine churches and lodges of almost every kind. Everything considered, there is no better place to rear a family and make money. Write for our illustrated booklet. It's free. Low-rate excursions on every day now. Let me tell you about them. You must see Blackburn Farms to appreciate them. Laramie Development Co.; Thomas Campbell, Ass't Sec'y, Doug. 823, 411 Board of Trade, Omaha, Neb.

THE VERY GRANDEST OPPORTUNity yet 80 acres of the richest irrigated land three miles from Arapahoe, Wyoming, on the main Northwestern line, where the Peters Milling company of Omaha get most of their alfalfa to grind into meal. Will lease for ten years to tenant if he will pay the water maintenance of 60 cents per acre per year, or I will sell for $50 per acre and 10 per cent interest on ten or fifteen years' time. Write quick to H. I. Strand, cashier, First National Bank, Shoshoni, Wyo.

COME TO PINE BLUFFS, WYOMing, where farming pays. Where 1,000 car of grain were shipped out last season, where on an average the crops yield 40 or more per under cultivation more than pays for the land, there oats yield 60 to 100 bu. per acre, wheat 20 to 45 bu., where the land cultivated easily, where we have fine climate and ample rainfall, where those who are here have made good. Will refund your expenses if this statement be untrue. I own 1,000 acres of choice farm land, which I offer for sale at $15 to $25 per acre on terms, within easy reach. Pamphlet free. Low railroad rates. C. L. Beatty, Pine Bluffs, Wyoming.

Wisconsin

[illegible] CASH buys [illegible] Taylor [illegible] improved 80 of the best acres [illegible] has been sold [illegible] part cash, [illegible] and part rolling. Lots of hardwood timber. New 14 h. p. hot [illegible] the place. Spring water. Well located on state [illegible] one mile from [illegible] and 4 miles county seat. Price [illegible] St. Croix Falls, Wis.

Wisconsin

SPLENDID 80-ACRE DAIRY FARM—only $30 per acre, on easy terms. Clay loam soil, excellent surface, house 16x26 and 18x24, roomy shed, barn, corncrib, granary, ice house, etc. Fine drilled well, with steel windmill; 20 acres field; fine pasture and timber on balance. Mail, telephone and cream route. This is a great chance for a good dairy farmer with a bunch of cows. Baker, "H-67," St. Croix Falls, Wis.

BUILDING PLANS

A BOOK OF BUNGALOWS AND houses for cold climates; modern, practical and artistic, sent postpaid for 75c. Special plans for all kinds of buildings also prepared. L. Harry Warriner, Architect, Neeland Bldg., Gary, Ind.

COMMISSION MERCHANTS

POULTRY, EGGS AND BUTTER wanted, highest market price; egg cases furnished free. Perry & Co., Omaha.

HELP WANTED

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary, $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

GOVERNMENT FARMERS WANTED—Make $125 monthly. Free living quarters. Write Ozment, 39-F, St. Louis, Mo.

GOVERNMENT JOBS OPEN TO MEN and women, $65 to $150 month. Vacation. Steady work. Short hours. Common education sufficient. "Pull" unnecessary. Thousands of appointments coming. Write immediately for full particulars and list of positions open. Franklin Institute, Dept. S-99, Rochester, N. Y.

SALESMEN WANTED TO CANVASS the farming and threshing trade, soliciting orders for lubricating oils, greases and prepared paints. Previous experience unnecessary. Excellent opportunity for right party. Address at once. The Victor Oil Co., Cleveland, Ohio.

FENCE POSTS

FENCE POSTS—GENUINE RED CEdar, the most durable; shipped in mixed cars with cedar shingles. Write for freight-paid prices. Keystone Lumber Company, Tacoma, Wash.

HONEY

HONEY—FINEST QUALITY AND flavor, guaranteed pure, gathered by our own bees and put up in clean, new cans holding 60 lbs. each, at $9 a case of two cans, or only 7½c a lb. f. o. b. Myers, Mont. Address The Rocky Mountain Bee Co., Forsyth, Mont.

LIVE STOCK

CHOICE HOLSTEIN CALVES—WE have beautiful marked calves, both pure blood, from large-producing, high grade dams and a very fine sire; either sex, males, $15, females, $17 from 2 to 3 weeks old, crated and put aboard express car for any point. Send order to Whitewater Stock Farms, Whitewater, Wis.; Hanson & Hawes, Props.

POULTRY

Wyandottes

OSCAR I. LOCK, BREEDER OF White Wyandottes, Council Bluffs, Ia.

SCHOOLS AND COLLEGES

[illegible] SUMMER TERM NOW IN effect. Quality for reputation. Call, [illegible] or demonstrator. Write for our free catalog. [illegible] Auto School, [illegible] O St., Lincoln, Neb.

ENGINES

[illegible] ENGINE [illegible] CYCLE [illegible] de [illegible] complete [illegible] engine. A [illegible] at [illegible] Co. [illegible] and [illegible] at [illegible]

SEEDS

[illegible] ALFALFA, [illegible] CANADA FIELD [illegible] Write [illegible] and [illegible] Co., Pacific, Iowa.

[illegible] TWO NEW [illegible] Improved White Wheat [illegible] Hardened White [illegible] [illegible] Descriptive [illegible] free. Address [illegible] Co., [illegible] 10th St., Lincoln, Neb.

[illegible] [illegible] [illegible] [

GRAIN BELT BRAND

Vegetable Hog Potash

The Great Appetizer, Mineral Balancer and Worm Expeller. A Bone Builder. Make Your Herd All Big Type by Feeding This Remarkable Product.

BIG BONED TYPES

of all swine is the result not alone of selection of individuals to breed from, but more particularly of the method and selection of feed. It should be apparent to all breeders and feeders of swine that if you can make runts by starvation and poor selection of feed, then you can by the same rule make big types by feeding bone building material. **Grain Belt Brand Vegetable Hog Potash,** is not a collection of different drugs and condiments that gives a temporary stimulating effect to your herd without adding anything to a ration already deficient in bone building material, but is a high concentration of vegetable matter that eliminates all bulk and leaves only the mineral matter in an assimilable form and by supplementing your grain ration with 5% of **Grain Belt Brand Vegetable Hog Potash** your swine will get mineral matter in a natural form in sufficient quantities to make big boned types in any breed of swine. Worms cannot live in the presence of this product. **Remember we add no salt or other filler,** so when feeding **Grain Belt Brand Vegetable Hog Potash** add 10% salt and keep before the hogs in protected troughs or self feeder always.

ANALYSIS: Equal to:

Potassium Chloride	16%
Calcium Phosphate	13%
Calcium Oxide (lime)	20%
Iron and Aluminum	9%
Sulphur	1%
Carbon Dioxide	3%
Magnesia	3%
Balance Natural Silica.	

Guaranteed by Union Stock Yards Co. of Omaha (Limited) under the Food and Drug Act June 30, 1906, Serial No. 51624.

See our exhibit at Des Moines, Lincoln and Sioux City fairs. Prices on application.

Manufactured by

Union Stock Yards Co.

(Limited)

South Omaha, Neb.

The above boar is the sire of a number of Duroc-Jersey boars being offered for sale by William Moderow of Beemer, Neb. He was a strong favorite for grand champion at Nebraska last year, and it will take a mighty good one to head him off this year. A boar sired by him should be a valuable asset.

Review of Live Stock Market

By A. C. Davenport

"ALL signs fail in dry weather" was a wise saw of our grandparents that is receiving a fresh illustration in the live stock markets of the country these days. Many conditions that should have worked out in a certain way and have produced certain results have been, if not entirely changed, greatly modified by the dry weather. It is a good deal like a row of bricks set up on end a few inches apart; knock one down and it in turn pushes over its neighbor until the whole row is flat on the ground. A severe drouth strikes a hard blow at the corn crop, and the corn crop, in its turn, has a most direct influence upon the live stock markets, affecting in turn all the different branches of the trade, cattle, hogs and sheep.

Weather is still the ruling factor in the cattle trade and is likely to continue so for some time to come. Sections where the drouth has become very severe are shipping their stock to market by reason of the shortage of pasture and the scarcity of water. Kansas City is receiving more of these dry weather cattle than any other market, but all of the southern markets are receiving more or less of such cattle and Chicago is getting quite a sprinkling. Thus far Omaha has received none of any consequence direct from the country, as the drouth is not severe enough in territory tributary to that market to force the farmers to ship their stock. Omaha is, however, receiving quite a good many drouth cattle bought on the Kansas City market and reshipped to Omaha to be sold for feeders.

Beef Cattle Prices Strong

Ordinarily the first effect of a drouth is to increase shipments and depress prices, but that is not holding good in all cases at the present time. Beef steers of good quality, that is, well finished cornfeds, have been strong to higher in most markets during the week just closed, due to the scarcity of that kind of stock. More than that, the feeling among most operators on the market is bullish on that kind of cattle. They reason that with at least three of the big cattle and corn states already out of the feeding game the rest of the country will not be able to fatten enough cattle to prevent there being a decided shortage in cornfeds the coming winter and spring. As a matter of course there is no certainty that such will prove to be the case. The farmers of Iowa, Illinois, Indiana, Ohio, Michigan and other states that have good corn crops are already buying feeders very freely and it might be possible that enough more cattle will be fed in those states to make up for the deficiency in Kansas, Oklahoma, Missouri and parts of Nebraska.

Immature Hogs Flooding Market

The hog market presents a more difficult problem than cattle and it is hardly safe to hazzard even a guess as to its future. Three influences—dry weather, prospective high prices of corn and a desire to take advantage of current high prices for hogs—have combined to send a good many hogs to market. Most of the markets show a large number of immature hogs, ranging all the way from pigs from cholera infested territory to heavy hogs showing a lack of fat and finish. Many of the hogs now coming to market under normal conditions would be held until October of even November.

So much for the present of the hog market, but what of the future? It does not require a very close study of the situation to discover that most operators on the big live stock markets of the country have gone over to the bear side of the deal. They are pointing out that while the present break is undoubtedly due to the premature shipment of hogs on account of conditions noted above, such conditions are likely to continue for some time to come and the farmers will crowd everything in the way of hogs and pigs onto the market just as fast as possible. According to their ideas the market will be receiving immature hogs all the fall.

Mutton Market Slightly Higher

Sheep and lambs have shown improvement during the week just closed. Receipts at northern markets from the range have not been as large as expected thus far and prices have strengthened on this account, aided by a good buying demand. Wyoming has not commenced to ship as yet, and the range season, as a matter of course, is not yet under full headway and will not be for some little time to come. There will be plenty of opportunity for the revision of prices between now and the height of the season. Thus far the demand has been very good, both for killers and feeders, and prices have been very satisfactory to the selling interests It remains to be seen whether the demand will increase sufficient to maintain prices when receipts become larger.

Nebraska State Fair

September 1-5, 1913, Lincoln

Plan now to enjoy this week of education, recreation, festivities, etc. The one big week of the year for Nebraskans. Second largest state fair live stock exhibit in the United States. Special daily attractions, including prize Baby Show, Harness and Running Races, eight acts of Spectacular Vaudeville before the grand stand, Pain's Mammoth Spectacle "Old Mexico 1847."

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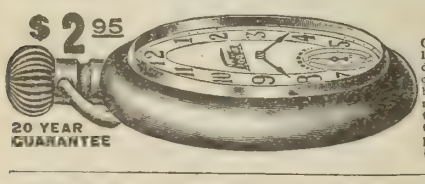

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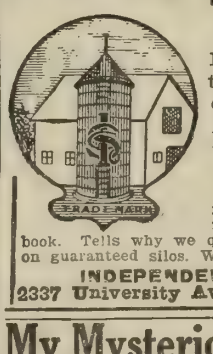

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The effect of this wonderful trick is to show three cards, making any one disappear and reappear at will. Anybody can do it. SEND 10c for one, or 25c for four sets TODAY.
WM. A. DROSTE CO., Suite 162, Detroit, Mich.

Breeders' Notes

Smith & Son Offer Duroc Males

O. G. Smith & Son of Kearney, Neb., are starting an advertisement in this issue of the Twentieth Century Farmer, in which they are calling the attention of our readers to the fact that they have a number of very choice Duroc-Jersey males for sale. This firm is too well known to our readers to need any especial mention at this time. They have been breeding Durocs for a great many years and have always been prominent in Duroc affairs. Their herd is particularly strong in the predominating blood lines of the breed, and from an individual point of view they are of a very high standard. They have a splendid lot of spring pigs this year and among them quite a number of males of herd-header character. These pigs are sired by Queen's Wonder, Model Goods, Queen's Wonder Again and Uneeda Wonder. Queen's Wonder is a son of Crimson Wonder Again and out of H. A.'s Queen. He is a mighty strong individual in every respect. In fact, he was good enough last year to get inside the money in the yearling class with absolutely no fitting whatever. We believe that he will be a power to be reckoned with this year. Model Goods is a Golden Model bred hog and is a breeder of outstanding merit. Queen's Wonder Again is a splendid son of Queen's Wonder, and Uneeda Wonder is a son of Uneeda Crimson Wonder. Messrs. Smith & Son will have a mighty strong lineup at the State Fair this year and we trust our readers will look them up while there. If you are looking for a herd boar, you cannot make any mistake in getting in touch with this firm. They have the goods and they will treat you right. Kindly mention this paper when writing.

Duroc-Jersey Males

Mr. C. E. Clauff of Central City, Neb., calls your attention in this issue to the fact that he has a strong lineup of Duroc-Jersey fall and spring males that he is ready to book orders for at this time. He reports his pigs as coming along in fine shape and says that he will be in a position to give his customers their money's worth at any time. Fall males are by Crimson C., Commodore W., Model Again, B. & L.'s Perfection and Crimson Bob. The spring males are by Crimson C., Crimson Wonder 10th, Cleveland's Pride and Critic B., the grand champion boar at Nebraska last year. The larger part of the number, however are by Crimson C., a splendid breeding son of Uneeda Crimson Wonder. Mr. Clauff has used this boar in his herd for some time and he has proven himself to be a remarkably strong breeder. One of the very best litters we saw while at this farm was by Crimson C. and out of the dam Miss Model by Count Medoc, he by Medoc. There are four males and six gilts in this litter and they are just a ripping good litter all the way through; in fact, good enough to make somebody go some in any show. He has enjoyed a very satisfactory business over a large territory in the past and no doubt these good ones will go fast. Better write him at once, mentioning the Twentieth Century Farmer.

Poland-China Males for Sale

In this issue of the Twentieth Century Farmer we wish to call attention to the advertisement of J. A. Schaldecker of Grafton, Neb., who is offering Poland-China spring males for sale. Mr. Schaldecker is one of our substantial breeders of Poland-Chinas and has the reputation of sending out nothing but the best. The males he is offering for sale are sired by Big Sensation by Vindicator and B.'s Great Hadley, one of the good breeding Hadley bred boars of the state. One thing you can rest assured of is that if you buy anything from Mr. Schaldecker it has got to be just as he represents it to you or you will get your money back if you are not satisfied. This is the kind of a guarantee that really does guarantee and one that we feel should show the readers of the Twentieth Century Farmer that Mr. Schaldecker has confidence in his own judgment and also in what he has to offer for sale. He is breeding the big, smooth, heavy-boned kind of Poland-Chinas with quality. In fact, they are the kind that will go out and make good as a pork-barrel proposition. Get in touch with him at once if you want anything in his line. Kindly mention the Twentieth Century Farmer when writing.

Golden Valley Durocs for Sale

Perhaps no name is better known among Duroc-Jersey breeders of the west than that of William Moderow at Beemer, Neb. No man has done more in the last few years toward boosting the Duroc business in Nebraska than has William Moderow. One thing that can be frankly said of him is that he is a pusher at all times. No man ever heard of Will Moderow having his hammer out for any other breeder. He simply pursues the policy of breeding the very best Durocs possible and attending strictly to his own business. When he has felt the necessity of introducing new blood into his herd, he has simply gone out and got the best breeding animals that money could buy, and in doing this he has always let the price remain a secondary consideration. It was the hog he was after, and when he found what he wanted he simply bought it. As a result, he has today a herd that is second to none in popularity of blood lines and general individual makeup. At this time he has twenty-seven head of corking good fall boars and sixty-five head of males of spring farrow that he is offering for sale. They are sired mostly by B. & G.'s Wonder, reserved champion at the Nebraska State Fair last year; Blue Ribbon Model, a breeding boar of great merit; Chief Select 2d, one of the best young boars out last year and one for which he and Mr. Tuelle paid a very long price. He also has a litter or so sired by Valley King, grand champion boar at Nebraska and Iowa two years ago. Write Mr. Moderow for description of what he has to offer for sale at this time. Kindly mention the Twentieth Century Farmer when writing.

Duroc-Jersey Males for Sale

L. J. Kuzel, Clarkson, Neb., has one of the choicest lots of Duroc-Jersey spring pigs that we have seen this year. Mr. Kuzel is starting a card in this issue of the Twentieth Century Farmer and we take pleasure in calling the attention of our readers to what he has to offer for sale. His pigs are in a nice, thrifty condition, very growthy, have plenty of size and bone and will go out and meet the requirements of the man who is seeking to raise a profitable kind of hog. He is one of the few Nebraska breeders who was successful in saving his crop of March pigs. The fact of the matter is that practically his entire lot were sired in the month of March and as a result they are a nice, uniform lot. The larger part of these are sired by his principal herd boar, King Echo Top, a splendid breeding son of Echo Top King. Mr. Kuzel has used this boar in his herd for some time and he has been siring a great line of stuff. Besides these he has others sired by Proud Wonder Junior, a son of the champion, Belle's Crimson Wonder; Model Wonder 3d by the champion Crimson Wonder 3d; Crimson Boy by B. & L.'s Wonder, and Prince by Prince of Colonels. We cheerfully recommend the males that Mr. Kuzel is offering for sale to our readers, because we know that the hogs are right and we know that he will give his customers value received. Get in touch with him for further information, mentioning this paper.

DUROC-JERSEY HOGS

KUZEL'S DUROCS

Echo Top King, Model Wonder 3d, Proud Wonder Jr., Crimson Boy and Prince, by Prince of Colonel's, are the sires of my spring pigs. Choice boars for sale at reasonable prices.
L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

Spring boars for sale, sired by Model Goods, Queen's Wonder, Uneeda Wonder and Queen's Wonder Again. They are the kind that win. Correspondence solicited.
O. G. SMITH & SON, Kearney, Neb.

DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.
C. E. CLAUFF, Central City, Neb.

PRIZE WINNING DUROCS.

Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Moderow's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

POLAND-CHINA HOGS.

POLAND CHINA BOARS

I have a choice lot of big growthy spring male for sale, sired by Wasside Jumbo by Wade's Jumbo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille, Columbus, Neb.

POLAND-CHINA BOARS.

Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

RED POLLED CATTLE

RED POLLS FOR SALE.

25 head of extra choice Red Polled females for sale. All ages. A number of show yard character. Also a few bulls of serviceable age. Duroc Jersey hogs for sale at all times. Prices reasonable. George Schwab, Clay Center, Neb.

Bulls of serviceable age, females, all ages. Best quality. Prices right. W. F. Schwab, Clay Center, Neb.

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EARLY BUYERS SAVE MONEY and get the best horses. Buy BIG PERCHERONS now from my big bunch of registered stud. 2 and 3 years old. Just East of Omaha.

FRED CHANDLER, Rt. 7, Charlton Iowa

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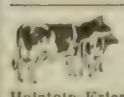

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The Greatest Dairy Breed
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FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

SOUTH OMAHA

Great Live Stock Market of the West

SOUTH OMAHA is the most convenient and centrally located large market for the Nebraska shipper, where his live stock can be sold in unlimited quantities with the *least shrinkage* and *risk; lowest freight* and *best transportation,* and be assured of net returns *unequalled elsewhere.*

Nebraska's Home Market

THE SHIPPERS of Live Stock desire *service* when their stock has arrived at the market. The management of the *South Omaha Market* has anticipated this fact and has expended during the past four years *over one million dollars* for permanent and up-to-date improvements to provide the live stock shipping public with

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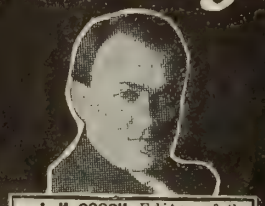
For All Stock



L. H. COOCH, Editor of the Practical Farmer, Philadelphia, Pa. says—"After feeding "SAL-VET" to my horses and cows for a mon'h, I am glad to give the preparation my hearty endorsement. 21 cows fed "SAL-VET" showed a condition that was really remarkable."

ROSCOE M. WOOD—Sec'y The Standard Delaine Merino Record, Saline, Michigan, says: "We have found a worm preventive in "SAL-VET" when proper conditions are maintained and it is kept constantly before the flock so they can eat all they want and have no other salt."

Hon. A. J. LOVEJOY, Roscoe, Ill., Pres. International Live Stock Exposition, Sec'y Berkshire Swine Breeders Ass'n, and State Senator of Illinois, writes: "SAL-VET" is the best thing we have ever used. We can heartily recommend it to all sheep and swine breeders."

S. R. FEIL
President

Registered Pharmacist; Graduate National Institute of Pharmacy

Now I Ask You to Judge It For Yourself

I am willing to let you decide on your own farm, the real value of using SAL-VET on your own stock. I have PROVED to the satisfaction of thousands of prominent farmers and stockmen, breeders and prizewinners, agricultural colleges and experiment stations, that SAL-VET is DEATH TO WORMS—is a big profit producer—that it prevents losses by putting stock in condition to better resist disease—that it saves feed—saves worry and makes healthier, thriftier, more valuable animals. Notwithstanding the fact that I can refer you to hundreds of breeders who have used SAL-VET I STAND READY TO PROVE ALL THIS TO YOU ON YOUR STOCK BEFORE YOU PAY ME A PENNY.

TRADE MARK

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The Great Worm Destroyer and Conditioner

is a wonderful medicated salt, prepared especially to rid farm animals of their greatest enemies—the stomach and intestinal worms. These destructive pests cause 90% of live stock losses and no telling how much in wasted feed. They keep your animals in a weakened, unthrifty condition and consume the feed that ought to be making your profit. You may not always notice their presence, but all stock are infested and cannot thrive until you rid them of these pests. Let me rid your stock of these profit-eaters. Let me make your stock healthier, sleeker, more profitable. I'll prove my claims before you pay.

I'll Feed Your Stock 60 Days Before You Pay

Just tell me how many head of stock you have, or want to feed—Fill out the coupon below—Send it to me personally according to the address given, and I'll ship you enough SAL-VET to feed your stock 60 days. DO THIS NOW. Don't take chances. Insure good health in your herds and greater profits.

Stock Relish It—Doctor Themselves

There is no drenching—no dosing—no trouble—in feeding SAL-VET. Simply put it where stock can get to it. They'll make better gains with no more feed. You will be repaid many times over in bigger profits and protection against loss.

Don't Send Me One Cent—Just the Coupon

Mail the coupon properly filled in—tell me how many head of stock you have and I'll ship you enough SAL-VET to last them 60 days. You simply pay the freight charge when it arrives. Let your stock run to it freely. In 60 days report results. If SAL-VET does not do what I claim I'll cancel the charge, and you won't owe me a penny. I could not make you a fairer offer.

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SIDNEY R. FEIL, Pres.

THE S. R. FEIL CO.

Dept. TF 8.23-13 Cleveland, O.

Ship me enough SAL-VET to last my stock 60 days. I will pay the freight charges when it arrives, agree to report results promptly in 60 days and at that time pay for it if it does what you claim. If it does not, you are to cancel the charge.

[132]

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*P. O.*_____

*Shipping Sta.*_____ *State*_____

*Number of Sheep*_____ *Hogs*_____ *Cattle*_____ *Horses*_____

These Men Have Fed It

"Sal-Vet" was a great asset in feeding our undefeated home-bred animals at the fall shows, and we must have it to produce winners for the next season. The Champion Oxford Ram at the 1912 International has had constant access to "Sal-Vet." —Geo. McKerrow & Sons Co., Pewaukee, Wisc.

"Will say that "Sal-Vet" is the best stock remedy I ever used; beyond all doubt, it clears the worms from all stock, gives them soft, smooth, glossy hair, and tones up the system better than any stock powder I have ever tried."—J. M. Hodges, M. D., Physician and Surgeon, Cranberry, N. C.

"Since I have fed "Sal-Vet" I have not lost a single hog nor cow this spring. Everybody else around here has lost hogs and a great many cattle are dying in the neighborhood."—Lewis E. Choate, McAlester, Okla.

"After using "Sal-Vet", I find it possesses the essentials to a good stock remedy: 1st—its handiness to feed, 2nd—the fact that it is effective for all kinds of stock, 3rd—its low cost. Am very well pleased with the results."—A. H. Loucks, Aurelia, Iowa.

"I have seen such great improvement in the condition of my stock that I am fully satisfied that your "Sal-Vet" does even more than you claim. It cleared my horses of worms, after all other medicines had failed. You have a great stock remedy."—R. C. Pecht, Milroy, Pa.

"I was losing my lambs right along, until I began feeding "Sal-Vet"; since then, I have lost only one. After six weeks, I shipped them to the Pittsburgh market, where they sold for $9.30 per hundred, which was 5 cents over and above anything that sold in the market that day. This is what "Sal-Vet" has done for me."—Geo. Horn, Gambier, Ohio.

"Sal-Vet" surely is a great medicine. My lambs were dying at the rate of one or two every day. After I began feeding "Sal-Vet" I lost but one that was nearly dead by the time the remedy arrived. Since then I have not had any more losses and the lambs are all in tip-top condition. I would not think of keeping sheep without "Sal-Vet." —J. A. Biedert, R. No. 3, Findlay, Ill.

"My hogs certainly did fine while fattening, and I did not lose a single one, while some o. my neighbors lost their entire herds. I must, and do give "Sal-Vet" credit for these results."—J. Wales Munroe, R. 6, Plainfield, Ill.

Look For This Label

on all SAL-VET Packages. Don't be deceived by imitations.

Don't buy "Sal" this or "Sal" that. Get the original genuine **SAL-VET.**

PRICES: 40 lbs., $2.25; 100 lbs., $5; 200 lbs., $9; 300 lbs., $13; 500 lbs., $21.12. No orders filled for less than 40 lbs. on this 60-day trial offer. Never sold in bulk; only in Trade-Marked SAL-VET packages. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular size packages.

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TWENTIETH CENTURY FARMER

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The largest exhibition of power farming machines ever shown in America

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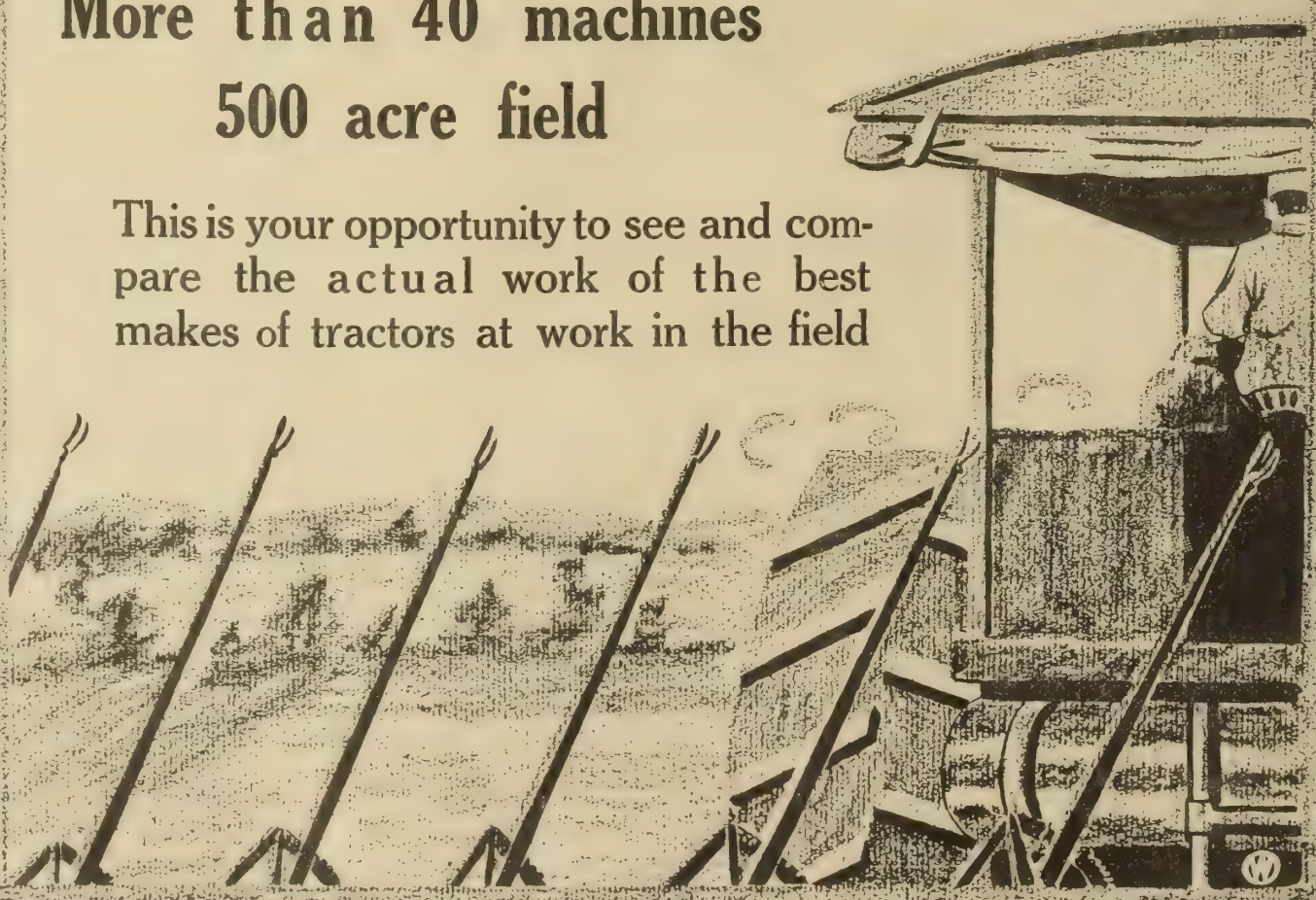

Bright and Breezy

Together?

A woman on trial in a big case was trying to prove an alibi.

"My maid was combing my hair at home at the time, your honor," she said.

"Yes," said the judge, "but where were you?"

Some Progress

"Thirty years ago," said a woman of middle age, "it was the custom of demure girls to sit in public conveyances with their silk-gloved wrists crossed. It is now the custom of demure girls to sit in public conveyances with their silk-stockinged ankles crossed."—New York Sun.

Guilty Party

Mrs. M—'s patience was much tried by a servant who had the habit of standing about with her mouth open. One day, as the maid waited at the table, her mouth was open as usual, and her mistress, giving her a severe look, said:

"Mary, your mouth is open."

"Yessum," replied Mary. "I opened it."

Just Compensation

John Butts, Sr.—I want to leave my property to my two sons—one-tenth to my youngest son, John Butts, and nine-tenths to my eldest son, Royal Chesterfield Chauncey De Feyster Butts.

Family Lawyer—H'm! Do you think that's quite fair?

John Butts, Sr.—Yes. I want to make some kind of reparation to Royal for allowing his mother to give him such a damfool name!—Puck.

Got What He Asked For

A distinguished professor of bacteriology, wishing to study infected meats, went into a butcher shop and asked the butcher if he had any measly pork.

"No, no, sir," answered the indignant man. "All our meats are fresh, first class."

"I'm sorry. Could—couldn't you in some way procure me some?"

"Why, yes; if that's the kind you want."

A few days later the professor stepped into the shop.

"I came in to see if you had secured that measly pork for me?"

"Why, yes, sir. Didn't you get it? I had it sent up for your dinner last night."—Lippincott's.

Proper Punishment

The servants were all abed, and the doctor answered the bell himself. A colored man stood on the steps, holding a large package.

"Is Miss Matildah, the cook, at home, sah?" asked the man.

"Yes, but she has retired," returned the doctor.

"Can I leab dis fo' her, sah?"

"Certainly," said the doctor. He took the bundle, from which flowers and buds were protruding, and, after bidding the man good night, carefully carried it to the kitchen, deposited it, paper and all, in a pan of water. The doctor thought nothing more of the affair until he heard Matilda's angry voice next morning raised in conversation with the maid.

"If I had de pussun heah," cried the cook, "dat put my new fall hat in dis yeh dishpan, I'd scald 'im fo sho!"

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Power and the Man

A MAN is measured by the power that he uses. "The Man with the Hoe"—"almost a brother to the insensible clod he stands upon"—is a type of the lowest plane of human effort. His body only is alive; his mind is dormant. Continued exhausting physical exercise deadens mental activity and prevents mental development. "Grant me but to see, and Ajax asks no more," was the cry of the blinded hero in the thick blackness of the hostile camp. That cry typifies the yearning of every man that struggles toward a higher plane of effort. Brain power indefinitely multiplies muscular power, and finally supplants it. The discovery of the use of the lever and of the inclined plane, which made the powerful screw possible, marks a new level in human achievement. The engine, the product of man's brain, doing man's work for him, touches the highest level of achievement in human labor. Brain power emancipates man from brutalizing drudgery of mere physical toil. Brain power makes possible the cultivation of the humanities, and the art of living.

By I. W. HUNT, Associate Editor.

Prattle of the Youngsters

Scientifically Correct

A little Boston girl, about 4 or 5 years old, was enjoying a slide upon the sidewalk, when her heels flew up and she fell with great force upon the stones. A lady picked her up, and asked kindly: "You poor little mite, how did you fall?" The tiny child looked up into her kind friend's face, and, with the tears streaming down her cheeks, sobbed: "Vertically, ma'am."

Good Judgment

At the dinner table father had just corrected his 10-year-old daughter for eating with her fingers and then wiping them on the front of her dress, which by this time was very soiled. Then he pointed to her little sister Irene and said:

"Look at your little sister; she doesn't get her dress soiled as you do when she eats."

"No," said Irene, "my dress is nice an' clean in front. I wipe my fingers down at the bottom of my dress."

Business for Father

The small daughter of a practicing physician, who evidently has an eye to business, told her mother, in no uncertain terms, that she must call at once on their new neighbor.

"And why must I call on her?" asked the mother, amused at the child's positiveness.

"Well, in the first place," explained the little lady, "they've got three of the scrawniest kids, and the mother herself don't look very strong."—Kansas City Star.

As She Understood It

One of the members of the Twentieth Century Farmer force has a small daughter.

"Mother," said this young lady the other morning, "may I wear my ball-bearing dress today?"

"Your ball-bearing dress!" said her mother. "Show me which one it is."

And the small daughter brought forth a Bulgarian blouse suit.

His Name

"What is your last name?" asked the teacher of a new pupil.

"Arthur, ma'am," replied the boy.

"Arthur!" exclaimed the teacher. "What is your other name?"

"Cooke," said the boy.

"Then Cooke is your last name, of course," said the teacher, looking at the boy with considerable severity.

"No, 'm," replied the child respectfully. "My name was Cooke when I was born, but mother says they didn't name me 'Arthur' for 'most three months."—Lippincott's.

Like a Lady

"Frances," said the little girl's mother, who was entertaining visitors, "you came downstairs so noisily that you could be heard all over the house. Now, go back and come downstairs properly."

Frances retired and in a few moments re-entered the parlor.

"Did you hear me come down that time, mamma?"

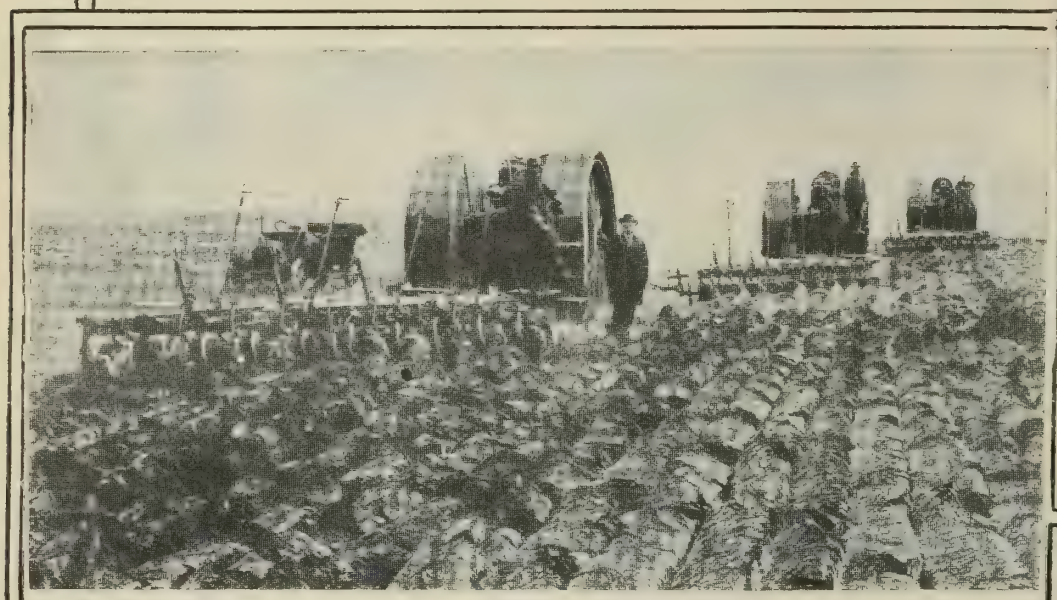
"No, sir dear. That time you came down like a lady."

"Yes, mamma," explained the child. "I slid down the banister."

Mechanical Farm Power at Work

Plowing Season Shortened

Preparing One Of Nebraska's Large Wheat Fields



One Hundred Acres Turned Daily

A Real One Man Outfit.

Turning The Virgin Prairies

Breaking, Disking, Harrowing in One Operation.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Truth About Silos---Reliable Information

V--Certain False Statements Corrected and Certain Disseminated Misinformation Set Right

IT HAS been said that falsehood is business blindness; to which it might be added that false statements and vicious misrepresentations constitute business suicide. No one can afford to misrepresent a competitor or a competitor's wares, because the truth is bound ultimately to come to the surface, and will then react against the promulgators of falsehood. There is no reason why the promoters of wood silos—and the chief promoters of wood silos in this territory have been members of the United States Silo company—should make either false or misleading statements with reference to silos made of other materials. Such a policy has resulted in calling closer attention than would otherwise have been probable to the inherent defects of the wood silos themselves.

Philosophy of Silage Preservation

Silage is preserved in the silo simply and solely by excluding the air from it. Given an air-tight silo, with silage so thoroughly packed as practically to exclude the air from the body of the silage, and the silage will keep, no matter of what material the silo may be built. Whenever there is failure with such a silo to keep silage, it may be attributed to the fact that the silage has not been sufficiently packed to exclude the air. This is the sole condition, this air exclusion, of keeping silage indefinitely in a condition fit for food for live stock. Whatever promoters may say to the contrary, this fact cannot be challenged.

One of these promoters, in answering an inquiry, wrote with reference to the tile silo erected on the state farm at Lincoln, Neb., "In the tile silo you would find tons and tons of spoiled ensilage." This statement is absolutely and unqualifiedly false. The silo referred to contained only a little spoiled ensilage, and this was due to two reasons: The ensilage material was not in a proper condition when it was put into the silo. It had been cut for a number of days; the bundles had lain all this time upon the ground, and had received several showers of rain, and were unfit for ensilage for this reason. The farm foreman had to get the material in the field out of the way and so ran it into a silo after the bundles were dried. Water was added in order to furnish the requisite amount of moisture. Mold was in evidence at the time beneath the bands of the bundles. There was no roof upon the silo, and the sun could strike the ensilage at the north side. Here is the true statement of the actual condition of affairs with reference to this silo. When the silo was opened it was found that, owing to the fact that it had no roof, and to the direct action of the sun upon the contents of the silo, this material on the north side of the silo had rotted down not to exceed four feet. On the south side of the silo it had rotted but little below what is always the case with any silo. When the rotted portion was removed, it was piled up near the door of the silo until sufficient would accumulate for hauling away. The whole amount of rotted silage did not amount to more than one ton under these circumstances, and this is something remarkable. Although in the balance of the silage occasional spots of mold were found, fully as many were found in the middle of the silo as near the sides. The entire remaining contents of the silo were used as feed, and made good feed at that. There is an interesting story that might be told showing how the representatives of the United States Silo company juggled with the contents of this silo in order that they might secure a photograph showing how the contents of a tile silo had rotted. Such misrepresentation as this has had only one effect—it has destroyed the confidence of everyone that knows the facts in anything that the men who promulgated such a statement might say.

There is on file in this office a statement from another representative of the United States Silo company that 25 per cent of the ensilage in concrete silos rots beyond use. This is another false statement. During the course of this investigation, concrete silo after concrete silo has been visited. In no case has dissatisfaction with such a silo been found by the user. Such silos have been in use for a number of years. The investigators have not been able to find a silo owner of a concrete silo who would build a silo from any other material.

Such statements as these are an insult to the intelligence of any farmer to whom they may be made. There are concrete silos enough in this territory amply to prove the falsity of such a statement. The farmers may satisfy themselves on this point—keeping your ensilage does not depend on the material of which the silo is made. It depends upon the silo itself being air tight and the contents of the silo being sufficiently packed to exclude the air. After a lengthy investigation, Prof. A. W. Dox of the chemical section of the Iowa Agricultural College states that in examining a large number of samples of silage he found only one of the samples that contained any considerable amount of objectionable butyric acid, and that this sample came from a wood silo. The concrete silo is now endorsed by the agricultural experiment stations of most of the states in the union. This is of itself sufficient to refute all the false statements made by the United States Silo company's adherents.

Frozen Ensilage

It is stated by these misrepresenting wood silo promoters that the ensilage in a masonry silo freezes to such a depth as to constitute a valid argument against the use of the concrete silo. Now here are a few plain facts to enable the farmer to judge for himself in the matter regardless of any statements the glib salesman may make. Wood is a better radiator of heat than concrete. A concrete wall eight inches thick is a better protection against cold than a wood wall one and five-eighths inches thick. Because wood is a better radiator of heat than concrete, it will require a lower temperature to freeze ensilage in a concrete silo than in a wood silo. If the cold snap is of short duration, for this reason more ensilage will freeze in a wood silo than in a concrete silo. Concrete being a poor radiator of heat, the concrete wall will hold frost longer than wood. If the cold spell is prolonged and the cold is intense, ensilage in a concrete silo will freeze to greater depth than in a wood silo, because, the concrete being a poor radiator, will hold the low temperature for a longer period.

But all this talk about frozen ensilage is of very little moment. Purchasers of silos should not allow their minds to become confused by it. It is a very easy matter, after having taken one feed from the unfrozen part of the ensilage, to throw the ensilage that is frozen into the middle of the silo. By the time the next feeding time comes around it will be thawed out and in fine condition for feed. Freezing does not hurt silage providing it is fed as soon as it is thawed out, and it can be thawed out by throwing it into the middle of the silo. Very few winters are severe enough throughout this territory to make the damage and trouble from frost greater with concrete silos or masonry silos of any description than with wood silos.

Action of Acids Upon Silo Material

It is very glibly stated by the salesmen of wood stave silos that the acetic acid developed by the process of fermentation in ensilage corrodes and eats away the concrete wall so as ultimately to destroy it. This statement at first glance would seem to have some basis of truth, for the reason that it is a well known fact in chemistry that acetic acid will attack some of the materials of concrete wherever found, and thereby produce acetates. This fact has been magnified and has been used by wood silo men to damage the reputation of concrete silos. But here is another fact: The amount of acetic acid developed in fermenting ensilage is so small and is so much diluted that it has practically no effect whatever upon the concrete. Concrete silo after silo has been visited, some of them having been in use for more than twenty-five years, and in no case has the least evidence of the action of acetic acid upon the silo wall been discovered. The walls are as smooth and clear and clean after twenty-five years of service as they were in the first place. One correspondent very glibly informed the Twentieth Century Farmer that a "little investigation" would have shown the truth in the matter. Among other things, it is suggested that it would have shown that 25 per cent of the silage in such silos decayed and would have shown that the silo walls were honeycombed and made worthless by the acids. To which the Twentieth Century Farmer responds that a little investigation by the writer of such a letter would have shown him the ab-

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Mechanical Farm Power for the Farm

It is Demanded by the Growing Demands of a Growing Agriculture

THERE is no arresting the march of progress. First comes the progressive idea, and then the progressive action in order to meet the needs created by the idea. As the intelligence of man develops, it continually reaches out for new fields to conquer. Then arises the new demand for new means with which to meet new requirements. In a decadent age this action is reversed, but in a progressive age it is being continually accelerated.

Such progress begins with individuals, and spreads to small groups, and finally influences the great mass of humanity. In the beginning, it is never the movement of the mass. Stephenson alone began with steam from his mother's tea kettle, but it took several generations before steam conquered the world. The great mass of the people, as a rule, fail to note the beginning of such progressive movements, fail to attach to them the significance that is inherent in them. It is only little by little that the new progressive movement gains momentum, but its onward march is always steady and never to be repressed. There are those so constituted by nature that they instinctively resent all change. The past has been good enough for them. The future cannot be better, according to their notions. There is such a thing as inertia in the human mind, mental inertia which dreads and opposes all change. This retards progress, but cannot prevent it. No human effort is sufficient to withstand the operation of the law of industrial evolution.

Perhaps there is no class of people as a whole that is so prone to be content with the methods and processes of the past as the great agricultural class. They are among the last to be impelled forward by a new movement.

They are naturally conservative. They are naturally suspicious of change, naturally persons of habit, naturally always do what they always have done, naturally consider the methods that they have always used as the best methods for the purpose.

Necessity the Mother of Invention

But necessity is the mother of invention. The demands of the new agriculture for greater production have created demands for new methods with which to secure it. The new agriculture proves that methods of handling the soil for production hitherto in universal use are inadequate to the growing demands of a growing age. The soil must be stirred to lower depths and tillage must be more thoroughly and efficiently done if agriculture is to meet the growing demanls that the age is pressing upon it.

Advanced agriculture is demanding deep plowing. The purpose subserved by deep plowing is two-fold. The subsoil that has heretofore been unstirred contains immense amounts of crude plant food. This crude plant food must be oxidized before it becomes available for the use of plants. In order to oxidize it, it is necessary to turn it out to the action of the air, and of the sun, and of the various meteorlogical activities. This throwing out of the subsoil for oxidization adds to the available amount of plant food in the soil, in the same way that the addition of fertilizers to the soil would do. Increased plant food means increased production, and without it it will be impossible to raise production to the point that is demanded by the growing necessities of the time, and that is possible with improved conditions.

Moisture in Subsoil the Greatest Need

The greatest need for growing plants is a sufficient supply of moisture in the subsoil to sustain a vigorous growth through all kinds of weather conditions. As an ordinary thing throughout this territory there is sufficient rainfall to supply all the demands of growing crops, provided none of it is permittted to run off, but all of it is caught and held until such time as it can be taken up through absorption by the subsoil. The deeper the soil is loosened by cultivation, the more rainfall it will take and hold until it can percolate down into the subsoil, where it is safe from the wasting influences of wind and sun.

Deep Plowing is Demanded

This provision demands deep plowing—plowing that is really deep. The practice of plowing five or six inches, which is ordinary deep plowing, must be extended. Twelve, fourteen and sixteen inches on soil that is supported by a good subsoil is none too much. It is uniformly better than less. Soil that is loosened to the depth of fourteen inches will take and hold all the water that falls upon it up to the point of saturation, and it will retain it long enough to enable it to descend into the subsoil, where it will remain a permanent source of supply for growing vegetation.

Horses Inadequate for the Work

To do this kind of work in the ordinary soils of this territory, horses are inadequate. Of course, horses enough might be attached to any tool to do as much work as any engine might do, but horses in sufficient number to do the work that is easily performed by an engine would make a team too unwieldy to handle in the field, and the use of them for such purposes would be utterly impractical. It follows, then, as a matter of course, that if such cultivation as this is to be done, it can be done only through the use of mechanical power. There is no escaping this conclusion. Growing demands for the right kind of work with the soil is going to make the substitution of mechanical power for horse power imperative.

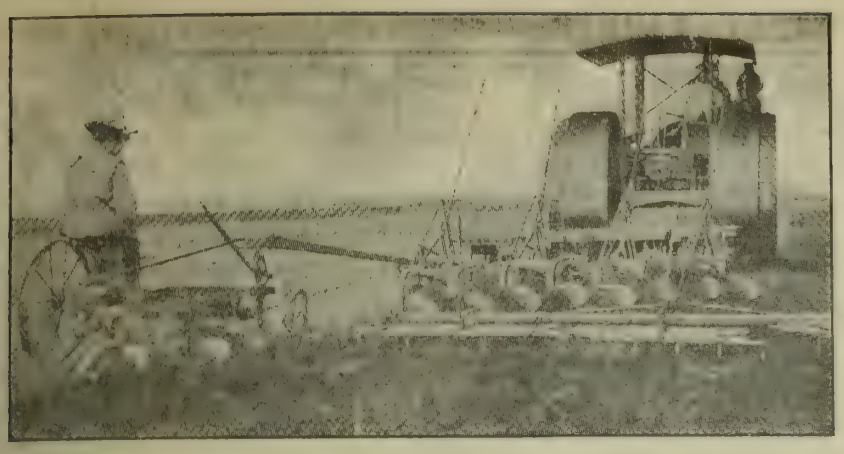
There are other reasons besides the demand for efficiency that require this substitution. The engine is tireless. It can be worked all the time. With the use of the engine much more work may be accomplished in the same time than is possible with the use of horses. There is a limit to the physical endurance of horses; they can go so far, but no further. There is no such limit to the engine as a source of mechanical power. With an engine one man can do four times as much work as he can do with horses; do it much more efficiently and within the same limit of time. With the farmer of the future, time will have a money value. With an engine any man will in this way be able to keep ahead of his work, and can devote a large part of the time that is now employed with horse labor in other fields of productive activity.

Chance for Mental Development

There is another side to this matter. It releases the farmer from the grewsome effects of constant and prolonged muscular labor, and gives his mind a chance to expand and develop. The man that wears himself out with muscular labor is thereby precluded from mental development. The farmer of the future must be a man of mind. Brains will count more than muscles and sinews in the work of the coming age. The farmer must be given a chance to develop this mental power. The use of the engine that releases him from the slavery of toil gives him the needed opportunity for the development of his mental resources. As mind develops and broadens, life becomes richer and broader and fuller, and much more worth living. The engine in this way can contribute to social development and to the art of living. Already, through the telephone, the rural mail delivery, the use of the automobile, and of other

Ready for the Demonstration

Typical Nebraska Farm Scene



Preparing a 500-Acre Wheat Field

Solution of the Hired Man Problem

cheap and rapid methods of transportation, the comforts of city life are being brought to the farm. The use of mechanical power upon the farm will release forces for the upbuilding of life in all its relations, so that every farmer may form adequate conceptions of his true relation to the world at large, and be able to devise means for enlarging and protecting and developing all the domestic arts and comforts which contribute to the joy of living. This is no small consideration. It means the social and intellectual uplift of the whole farm community.

More Economical than Horse Power

Not only will mechanical power do more work, and do it more efficiently than is possible or feasible with horse power, but it will do it at much less expense. In other words, it will be found to be more economical than horse power. It is estimated that in the Missouri valley territory it costs not less than $72 a year simply to keep a work horse. There is a limit of endurance for all horses beyond which it is impossible to go. All living things are exposed to the accidents of life, and the best horse may, in a moment, by such an accident, be incapacitated for further work, and his value become a dead loss. Work horses are subject not only to accidents and diseases, but to age as well. None of these accidents are attached to mechanical power. It is not proposed that mechanical power shall supplant entirely the use of horses on the farm. A certain number will always be needed for work to which an engine cannot be successfully adapted. But it will be found by everyone that tries it that the heavy work on the farm—the work that wears out horses while they should still be strong and vigorous—can be more economically and more expeditiously done by mechanical power.

Some farmers hesitate about investing in an engine on account of the large initial expense involved. On the ordinary farm part of this initial expense might be met by selling such horses as the employment of an engine will render unnecessary, and using the money so derived as part of the purchase price of the engine. Money, in order to produce a return, must be invested. There is no investment, in the opinion of this paper, that will render the average farmer better, quicker or longer returns than an investment such as is here considered. It would be well for every thinking farmer to take this matter, merely in its relation to his expense account, seriously into consideration.

Will Help to Solve Labor Problem

There is still another consideration in favor of mechanical power. It will assist materially in helping the farmer to solve some of his most difficult problems which are concerned with the employment and use of farm labor. Farm labor is expensive, highly expensive. No matter at what price it is secured, it is not always satisfactory. In the Missouri valley the average price paid for a farmhand from the first of March until corn harvesting is $30 a month, with board. No one can figure on boarding a hired hand at less than $10 a month. The additional equipment in the way of teams and tools, the additional breakage, the additional expense involved in keeping the young man's horse (which he is beginning to insist upon), the loss in efficiency in labor of the young man that spends too much time at night upon the road or in town, will make not less than an additional $10 a month expense.

Interested in Power Farming

Preparing an Ideal Seed Bed

Taken altogether, the expense of hired help on the average farm will not fall below $50 a month when all items of expense are given due consideration. The employment of an engine, with the implements adapted for successful use of an engine, releases the farmer from a large share of this expense. This is no small item, and should be given thorough consideration.

Engine that is Needed

In selecting the type of engine that will be best adapted to his use, the farmer must be governed by the conditions with which he is confronted. It is self-evident that the small farms of the Missouri valley will require a different type of engine from those specially adapted to the wide reaches of arable land on the big ranges of the west. Again, the character of the soil must enter into calculation, and the farmer must select such tools as will do the most efficient work in his particular type of soil. It is also self-evident that a general utility engine is better adapted to use upon the small farms of this territory than the heavier and more ponderous types. The average farmer in the Missouri valley will need an engine not only for the cultivation of the soil, but for the hauling of loads upon the roads, for driving threshing machines and corn shellers, for road grading, for silo filling, and for the delivery of whatever power may be required, for whatever purpose, upon the average farm. Such an engine must be flexible and adapted to this general utility purpose. It must be flexible in its uses so that a farmer at a moment's notice may turn from one kind of work to another and always find his engine adapted to the uses demanded of it. The farmer that sees only one type of engine, or listens to the persuasion of a single salesman, is in no position to judge as to what engine will best meet his needs.

Exhibition of Engines Planned

For the purpose of affording the farmers of the Missouri valley a chance to form an intelligent opinion with reference to this matter at first hand, the Commercial Club of Fremont is promoting a Farm Power Tractor Exhibition and Demonstration. R. H. Woodruff of the Twentieth Century Farmer will have charge of the field work. This will in no sense be a contest. It will be simply an exhibition of engines for delivering power for all purposes. It will afford to the farmers the opportunity so much needed of seeing all classes of engines at work, and of judging from what they see as to what type of engine will best meet their individual needs. There will be held at the same time with this exhibition a four-county agricultural fair, participated in by Dodge, Douglas, Washington and Saunders counties. This will make an agricultural exhibit second in importance only to the State Fair. The exhibition will begin on September 4 and will close on September 11. It will be one of the most notable exhibitions ever held in this part of the country. Winnipeg for years has had a plowing exhibition and contest that has drawn visitors from all parts of the world. It is time that the United States, which has such greater needs for farm power than have yet been developed in upper Canada, should have an exhibition of its own. The farmers of the middle west will have an opportunity at this exhibition such as has never been afforded them before. It is earnestly hoped that they will take full advantage of the opportunity so generously afforded by the city of Fremont. The tractor is surely coming into use, and it is of especial moment for future users of tractors to post themselves thoroughly with reference to the peculiarities of each type so as to be prepared to make a proper selection for future use.

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The new state veterinarian, Dr. Kigin, has been in consultation with the government authorities in order to secure demonstration work to prove the possibility of completely eradicating hog cholera from a certain territory.

Pleasure combined with profit; that is what the big meet at Fremont will offer an opportunity for. After the strenuous harvest, every farmer will need relaxation and stimulus. He can get both at the mechanical exhibition in Fremont.

It is reported that Chicago has 65,000,000 pounds of butter in cold storage, ten million pounds more than at the same time last year. Cold storage, when rightly used, equalizes prices and gives a stable market. When wrongly used, it may be abused for predatory purposes.

It will be some sight to see gasoline and oil do the work of horses at the big farm power demonstration at Fremont. We can all remember the first time we used the telephone, the first time we saw a flying machine, and it will be just as interesting for the first time to see what mechanical power can do in helping the farmer with his work.

Silo men emphasize the silo as a means for saving the corn crop. The best thing about the silo is that it makes succulent, nutritious, easily digested feed. As for saving the corn crop, it does save a little of it, and is entitled to credit for that, but it does not save nearly enough, and some other means must be adopted in addition for accomplishing this purpose.

Hog Cholera Demonstration

On Tuesday, Wednesday and Thursday of State Fair week at Lincoln, Neb., at 8 o'clock in the morning, there will be a hog cholera demonstration at the judging pavilion at the state farm. This will consist of showing how to administer the simultaneous method of cholera immunization to hogs. Several shoats will be used every morning for this purpose. There will be an address as to what serum may be expected to do, and also on what may not be expected from it, and then there will be plenty of time for questions and answers. Farmers can get out to this 8 o'clock demonstration, get all the benefit to be derived from it and still have time for a full day at the fair.

The importance of such a demonstration as this may be judged from the fact that cholera is at present emphatically in evidence in the eastern part of the state. During July serum was sent to eighty-three different towns in the eastern half of the state. It is time that the farmers woke up to the importance of taking measures to protect themselves.

They are showing their appreciation of the action taken at the serum plant in Lincoln by which the price of serum was put at 1 cent per c. c., and are beginning to rush in their orders. The supply of serum in all of the state plants, and in most of the commercial plants, is at present practically exhausted. Farmers who need serum should attend the demonstration and put in their orders so that they may be sure to secure a supply.

Dr. S. W. Alford of Fremont, Neb., has been added to the force of the serum plant at the state farm. He will be used at the plant until he becomes thoroughly versed in all matters relating to serum administration, and then will be put into the field for actual work. During the winter it is to be expected that he may be available for use on farmers' institutes platforms. Increased efficiency at the plant is promised by this necessary increase of help.

The County Fair

The county fair spirit is easily aroused when the crops are good and all features of farm production are manifesting vigorous growth. The reverse is true when a season of drouth prevails and there is little to exhibit in the line of farm products that will commend themselves to the sight-seer. The fair visitor and the exhibitor alike are enthused by the large, growthy products. A big pumpkin, a big cabbage, a big beet, a big onion, a big potato, always atways attract attention, and people like to see such exhibits. These monstrosities always get endorsement, though a smaller size would be selected as the most acceptable in quality for market or for practical utility purposes.

The same thing is true in the live stock departments. The bull that weighs a ton will receive more attention from the general fair visitor than the bull of more quality and value weighing half this. Fair visitors have very largely clamored for the extraordinary things, the things that are unusual. The educational tendencies of the farm and home are correcting the old-time fair attractions, making the demand more practical each year. The neighborhood institute is possibly exerting a greater influence for quality of production than almost any other source, since judging classes have become a part of its exercises.

The farmers' institute should become the basis of the county fair. The two are so closely allied in interest and operation that the one should be practically the result of the other. The teachings of the institute should develop in an exhibition of the doctrines advocated and worked out by production on the farm. The exhibition at the county fair should be made more educational by being accompanied with more of the details of method of cultivation of the article produced. It is not alone the observation of an excellent article that instructs the fair patron, but how it was produced.

The average county fair is left too nearly to exhibit itself. Instructors should be stationed in every department who are competent to answer all questions pertaining to the articles on exhibition in the department, with name, how planted, cultivated, etc., and a general utility talk on the value and importance of such articles. This is within the province of every fair to be so handled. A circus without a ringmaster would soon go out of business for lack of patronage, yet we see the same thing practiced in almost every agricultural show and fair.

Why not hold a fair even if the county was severely damaged by drouth? The people all know the conditions; they know why certain departments are poorly represented or not represented at all. There will be some departments that will not be seriously hurt. Throw a little more influence, a little boost, into these departments, and hold the county fair. There is always live stock left. Make this department stronger, and, if only one or two days are observed, get together and keep up your organization; make a farmers' harvest home picnic out of it; turn it into an institute and lecture course. Have a good, social time, and make everybody feel good in spite of misfortune. It is the best investment any community can make.

They are having a packing school for fruit growers in Billings. This fact will make some people sit up and take notice. Montana used to be regarded as good for nothing except range cattle. Now they are growing fruit there in such quantity that they have to hold schools to show people how to pack their fruit so as to command the highest market price.

By the time the great tractor demonstration comes off in Fremont, during the second week of September, burning, blistering, deadening August will have become a disagreeable memory. By that time the weather will be pleasant, the air delightful, the nights cool. It will be just the kind of weather in which to enjoy an outing.

"Education" at Nebraska Fair

The secretary of the State Fair Board at Lincoln claims that the State Fair is an educational institution. He does this with apparent seriousness, but one cannot help imagining him putting up his hand and slyly winking behind it. The general public would like to know a little more about the course of study offered there, and the "educational" methods adopted.

Is a horse race "educational?" If so, the university, with which the secretary compares his "educational" institution, to the disadvantage of the former, had better add horse racing to its curriculum.

Is the Midway designed for "educational" purposes? Perhaps so. The short skirts and scanty attire furnish animated object lessons in anatomy. Are they intended for this purpose? This might be called a course in suggestion.

One of the board of managers stated that the only way in which the State Fair could make money was to run it "wide open." Is this wide-open policy to be regarded as a part of the "educational" method to be employed there?

Does the course in English consist in part of composing and adopting resolutions of condolence, and then afterward expunging them from the record? This would certainly make a graduate adept in such matters, fully as adept as the secretary and his invaluable aid.

Preliminary announcement of this State Fair "university" states that neither the police commissioner nor the chief of police of Lincoln will be looking when the comedy circus lands in Lincoln and hustles to the State Fair grounds. May this be taken to indicate the spirit of the "education" that the State Fair offers?

Does the State Fair Board, or its secretary, offer free tuition to anybody except just before a legislature is to be elected, and then is this free tuition accorded to anyone except candidates before the primaries? Of course, the candidates need instruction in the kind of civics desired by the secretary and the State Fair Board, and perhaps free tuition might induce candidates to take such a course in civics.

Would it not be well for the normal schools, in order to meet this strenuous competition, to put in a course on sanitation and morals, such as is offered every year at the State Fair "university?"

Such "education" at the State Fair, with Secretary Mellor and Undertaker Haws holding the two chief chairs in pedagogics!

Shades of Pestalozzi and Horace Mann forbid! It is a prostitution of the word "education" to use it in such a connection. Does the secretary take the people of the state for such fools as to imagine that they will swallow such guff as this? Let the fair stand for what it is. It is folly to try to make it appear to be other than what it is.

"Aspirations" has an imposing sound, and maybe it's a good word. It has a subjective, if not an objective, reflection.

Missouri Valley Fruit Growers

The commercial orcharding industry of Nebraska, Iowa, Kansas and Missouri has discovered recently that there has been a very serious discrimination in rates against the shipments of their crops compared with those of the far eastern orchardists. Not only have they been charged higher rates, but other classes of freights, such, for instance, as dressed beef, where carloads represent a value of $3,000 or more, are being sent from Kansas City to Chicago at cheaper rates than a car of apples, worth not to exceed one-fourth the value.

These discrepancies in just dealing with the producing public are left with the producer to discover. When this sort of a thing exists, it should not be a one man fight, but where an industry is not organized into a protective association so as to be able to carry such grievances before the adjusting authorities, the wrong goes on indefinitely, levying its unjust toll upon the producer.

This discovery and the protest entered against discriminatory and unjust freight rates in apple shipments from the Missouri valley orchards are the result of the organization of the apple growers of these various states. It is imposition on the public and dishonest practices that are forcing all classes of manufacturing and producing interests to organize for their own protection. There is yet great room for improvement in the matter of transportation, affecting all classes of production. Just what will be the final outcome of the present system of constant controversy between the state railway commissions and transportation companies in the interests of carrier and shipper is a problem not yet solved.

Missouri Showing, Not Shown

While Missouri figures up among the leading states in grain and live stock production, now holding the third place in corn on a ten-year estimate, third in winter wheat, third in hogs, fifth in horses, fifth in cattle, it has also been making a pretty good showing in the production of cotton. It has demonstrated that it can produce this very profitable crop to a degree highly satisfactory, especially when we consider that Missouri is looked upon now as a northern state.

Missouri's 1912 crop of cotton, grown in twelve counties, was worth $3,803,735. The yield consisted of 26,670,000 pounds of cotton, valued at $3,213,735 and 25,000 tons of seed, worth $590,000. This crop was grown on 89,600 acres of land, yielding a revenue of $42.45 per acre. This gives Missouri the eleventh place in the cotton-producing states of the union and fourth in quality of product grown. Missouri is strictly in the list of states that are showing the world what can be done.

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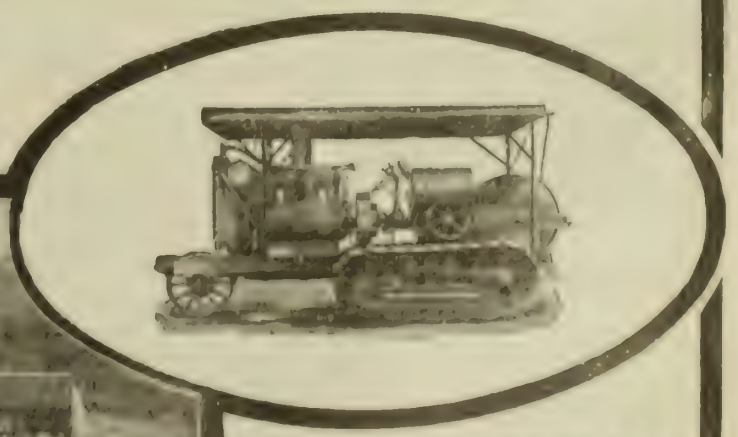

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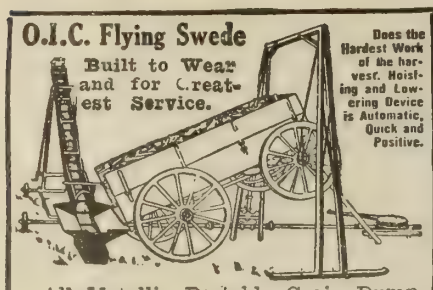

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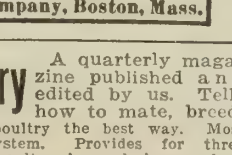

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Avalanches Uncle Sam Encounters at Panama

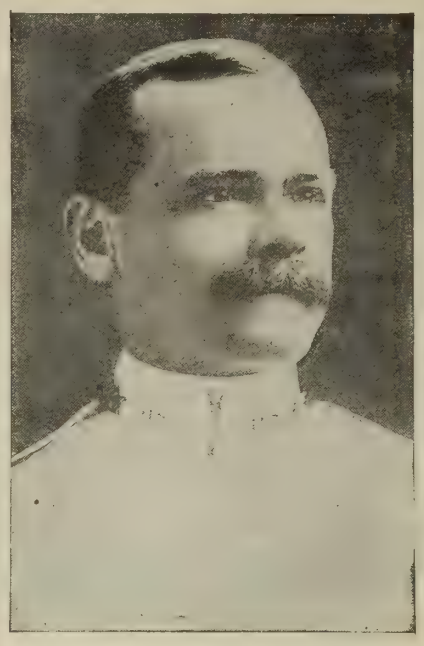
By Frank G. Carpenter

WASHINGTON, D. C., Aug. 23.—I have just had a long chat with Colonel David D. Gaillard, the engineer commissioner, who for the last six years has had charge of the mighty excavations of the Culebra cut. I first met him when I wrote up the Panama canal, now more than a year ago. I then went with him on foot through the mighty gash which he was making in the Andes. We walked together from gang to gang of the thousands of men who were gouging out the earth, blasting the rocks and carrying the mighty trains of spoil down to the ocean. We investigated the petty volcanoes and studied the slides. At one place in the canal Mother Earth had humped up her back and thrown a railroad half way down to the bottom. I photographed the colonel beside this great hump, and had just time to change my film before another hump occurred and the railroad again went flying, being overturned under our eyes.

My talk with Colonel Gaillard last night was at the Monday evening reception of the Cosmos Club. He wore a black steel-pen coat, a boiled shirt, well blacked shoes, and looked more like a club man than a civil engineer who is doing one of the biggest things upon earth. When we walked together through the canal at Panama he was in his working clothes. His riding trousers were wrapped in leggings of leather, his shirt was of flannel, and he looked as much the day laborer as any steam shovel man or as any Jamaican handling a drill. When at Panama he walks miles through the canal every day, and there is not a detail of the excavation of which he has not a practical and scientific knowledge. He knows the work so well that he can describe it to the amateur in plain English and the latter will understand what he says. It was in the same simple language that we talked last night. I had asked Colonel Gaillard not to deal in figures, but to give me the story of what was going on in round numbers, and in such terms that the man on the street could understand.

The Culebra Cut

Everyone knows what the Culebra cut is. It is that part of the canal where the mountains had to be gouged out to make the lock waterway through which the ships can go. The excavation began at a point above sea level almost as high as the top of the Washington monument. That was on the top of Gold hill, and on the opposite side of the pass the digging began, a little more than 100 feet lower. It has to go down to forty feet above the sea level, and the amount of excavation has been estimated as enough to make a tunnel to the center of the earth so large in size that a railroad train could run through and not scrape the walls. The total amount of digging and carrying away of earth done by the Americans will be about 220,000,000 cubic yards, and the bulk of this vast sum has come right out of the cut at Culebra. In order to understand what this means,



(Photo, 1913, by Harris & Ewing.)

Colonel David D. Gaillard, Who Has Excavated the Culebra Cut

I would say that a yard of earth weighs over a ton and a half, and for each of these millions of cubic yards you may figure that it would take two good-sized horses to haul it in a wagon up hill and down over the ordinary farm road of our country.

During my talk with Colonel Gaillard the question as to the actual amount of material which had been handled under his supervision at Panama came up, and he said:

"When I first went to Panama I was in charge of the dredging in the Atlantic and Pacific divisions, and I there took out something like 5,000,000 cubic yards of material. In addition I had the Culebra cut. That was in April, 1907, just about six years ago. Since then we have excavated more than 106,000,000 cubic yards. When I took charge 5,500,000 cubic yards had been taken out, and I was told that there were only 65,000,000 yet to dig. The actual amount taken out has been 50 per cent above that, and there are about 6,500,000 cubic yards still to be moved before the Culebra cut will be finished."

Uncle Sam's Culebra Avalanches

"What have the slides amounted to?"

"So far they have added over 20,000,000 cubic yards to the material in the Culebra cut alone. A million cubic yards is equal to a solid block 300 feet square and 300 feet high. Such a block would have a base of more than two acres, and it would rise to the height of a twenty-five or thirty-story building. Twenty such blocks would be equal to a solid block of two acres more than a mile high. Talk about the pyramid of Ghizeh! That is estimated to contain 3,000,000 cubic yards. Six or seven such pyramids have slid down into the Culebra cut, and we have had to move them out."

How the Mountains Flow

"What are these slides?"

"They are of two kinds," said Colonel Gaillard. "One is the slide proper, which consists of the movement of material lying on the bedrock. They are composed of clay and earth, and may have a great deal of rock mixed with them. They are masses of earth, moving by gravity on a smooth inclined surface of harder underlying material. The other class is known as the "break." It comes from the weakness of the various strata far under the surface. They are squeezed out by the enormous weight of the material lying above them.

"Take first the slide proper. In this case the motion is very like that of a glacier, and it ranges in speed from a few inches a month to fourteen feet a day. In the large slides the motion is uniform. In one instance the speed was about ten feet per day, and the variation during the first ten days of the movement did not amount at any time to more than 10 per cent. That was the famous Cucaracha slide, which covered forty-seven acres, and carried down a mass of moving material of several million cubic yards."

Danger to Ships

"Is there any possibility of one of those slides dropping down on a steamer in transit and swallowing it up?"

"I think not," replied Colonel Gaillard. "The slide would have to move far more rapidly than any we have had to fall upon a steamer in transit. The only way that a ship could be affected would be by one of the breaks, where the material in the bottom of the canal might rise up and the ship go aground. You remember the hump that occurred when we were together in the canal. Had that taken place when a steamer was passing over the place it might have gone aground if its keel had been within six feet of the bottom. As to the speed at which the slides proper come down into the canal, we have not yet had a man killed by any of them. So, you see, they do not go very fast. Indeed, we do not look for any danger as to slides and breaks more than a temporary blocking of the channel, and that may not occur."

Rock Which Flows Like Molasses

"Tell me something about the 'breaks'?"

"The breaks are caused in every case by the crushing of a weaker underlying layer of rock through the enormous pressure of the high bank on the side of the canal above it. If this weak layer runs across under the canal at a few feet below the level of the bottom, the material is forced laterally toward the center of the canal and is heaved up through the bed. If it is above the bottom level it may be squeezed out from the sides or walls of the canal. It is just as though you had some jelly in a layer cake. If you press on the cake the jelly will ooze. Now, the pressure is so great upon these weaker layers of rock that they ooze out, as it were, or are forced up into the bed of the canal."

"But how does that come?" I asked.

"It is caused by the disturbance

of the equilibrium of the earth's strata by the digging of the canal. As long as the strata lay one upon another the weight of the mass was equally distributed bed upon bed, so that it was not possible for any of the strata to move. When the great ditch was cut, and the material taken out, the lateral pressure which held the weaker strata in place was taken away, and the great weight above squeezed the weaker materials far below out into the canal. I might explain it more scientifically, but that is a rough, simple idea of how these breaks occur. Where they come up through the bottom we dig the heaved portion away and often the broken part of the high bank settles again, causing another hump in the same locality. After a time, however, the weight of the broken portion of the bank is so reduced that it cannot move again. I look for all such breaks and slides to disappear gradually. They will stop as soon as the earth has accommodated itself to the changes in equilibrium made by the digging."

"How long do you think they will continue?"

"There will probably be slides until the excavation is entirely completed, but they ought to stop shortly thereafter. The water will aid in preserving equilibrium, and the vibrations caused by the firing off of charges of dynamite and that of the hundreds of loaded trains which are passing through the cut every day will then be removed. The humps which come, if any should come after the work is completed, can be removed by dredging.'

Sea-Level Canal Impossible

"Do not the slides show that we could not have built a sea-level canal?"

"It would seem so to me. The unforeseen increase indicates clearly that the construction of a sea-level canal would have been practically impossible within any reasonable time and at any reasonable cost. For such a canal the excavation at Culebra cut would have had to be eighty-five feet more than the present depth, and this would have caused a much greater relative addition by slides than has been the case up to the present time. During the month of April last 54 per cent of the total excavation made in that cut was necessitated by slides."

"Had you known the possibility of slides at the beginning and changed your angle of excavation, could you have done the work more cheaply?"

"We might have made more regular slopes, but I doubt whether any material diminution in the quantity of the excavation would have occurred."

"When do you really expect to see the water flow into the cut?"

"Prior to my departure the chairman and chief engineer said it was his intention to turn the water into the cut early in October, 1913."

"Does that mean that the canal will be ready for use then?"

"I do not like to prophesy as to that. There are all kinds of estimates. I see that one big steamship line is advertising that it will send tourists through on a 16,000-ton ship early in February, 1914. I will only say, however, that it seems certain that it will be possible to pass ships through the canal several months before the date of the official opening; that is, considerably in advance of January 1, 1915."

Men at Work

"What force have you now at Panama. I suppose that the men will soon be leaving to find other jobs."

"During the last year we have had more men at work than ever before May 1, 1913, the number was 45,000. That is the largest in the history of the canal."

"What can Uncle Sam do with the men he has trained in this work?"

"I know of no large public undertaking now authorized where they could be used. You understand that the great mass of our employes there are comparatively unskilled. That is so of the Jamaicans and other natives of the tropics. Our total number of Americans is only about 5,000. Some of them will remain on the permanent operating force of the shops and canal. Others will leave the government service and find work under contractors or with private firms. A large number of steam shovel men and locomotive engineers will be ready for employment elsewhere."

(Copyright, 1913, by Frank G. Carpenter.)

Truth About Silos

(CONTINUED FROM PAGE FIVE.)

solute falsity of the statements to which he so glibly subscribed.

The Cost of Masonry Silos

The greater initial cost of masonry silos is another argument used against them by the wood silo men. This argument might be made valid, if the wood silo men would put their price where it might be regarded as reasonable. This fact, however, must be remembered—that the first years' loss on a wood silo that blows down during the first year and has to be re-erected amounts to more than the initial cost of any masonry silo. The masonry silo, when properly reinforced, is a permanent structure. There are no hoops to tighten, no danger from blowing down or from fire. It grows stronger and more stable with each succeeding season. It is good for generation after generation. In some places, owing to cost of material, the initial cost may be a little more than the cost of a wood stave silo, but in the end it is a more economic structure.

Recapitulation

To recapitulate what is herewith stated, let it be said that silage keeps as well in a masonry silo as in a silo built of any other material; that the damage from freezing in this territory is about equally balanced between a masonry silo and a wood stave silo; that the acid of silage does not corrode or injure the walls of a concrete silo; that, all things considered, the initial cost, together with the cost for re-erection and for repairs, the masonry silo is a cheaper silo than a wood silo; that it is a permanent structure, whereas in the very nature of the case the wood silo must be and must remain a temporary structure.

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A good operator and a poor tractor is an unsatisfactory combination. A good tractor and a poor operator does not improve the situation, but a **"Flour City"** tractor and a good operator is a paying investment

The "FLOUR CITY" has many distinctive features. The bevel gear transmission is worthy of special mention. The gears are made of forty-point carbon steel and are practically indestructible. The complete transmission, together with the drive pinion and belt pulley are mounted on one shaft and are controlled by one lever. The over-head valve is also a feature of the "Flour City." It is conductive to perfect ignition, combustion and economy, opening direct into a cylinder free from valve pockets; the full energy of the charge is utilized, and the constant necessity of re-grinding the valve is eliminated. These features will appeal to any mechanical mind. Our catalog, giving all details, will be sent on request.

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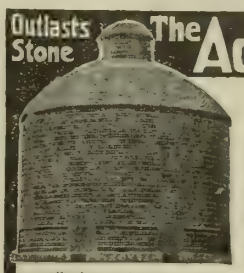

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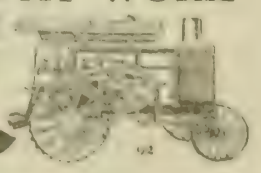
Beatrice Iron Works, - - Beatrice, Nebraska

SEE HART-PARR TRACTORS AT WORK

When you attend the power farming demonstration at Fremont, Nebraska, September 9th to 12th don't fail to see the demonstration which will be given by Hart-Parr Oil Tractors. One representative on the ground will be glad to answer any questions you may wish to ask and fully explain the advantages of the Hart-Parr Line.

HART-PARR -OIL TRACTORS-

HART-PARR COMPANY,



264 Page Book On Silos and Silage

1913 copyrighted edition just off the press. Most complete work on this subject published. Used as a text book by many Agricultural Colleges. Gives the facts about Modern Silage Methods—tells just what you want to know. 264 pages, index, 45 illustrations, a vast amount of useful information boiled down for the practical farmer. Tells "How to Make Silage"—"How to Feed Silage"—"How to Build Silos"—"Silage System and Soil Fertility"—"Silage Crops in Semi-Arid Regions." All about "Summer Silos" and the Use of Silage in Beef Production. Ninth Edition now ready. Send for your copy at once. Enclose 10c in coin or postage stamps and mention this paper.

10c

Silver Manufacturing Co., Salem, Ohio.

WEBER FOUR-CYLINDER, 35 H. P. TRACTOR

The sensation of the century. Backed by Weber's 30 years' reputation. New Model 35 Horse Power. Lightest, strongest, most efficient Tractor made. A complete power plant.

SAVE $1,000.00

A wonderful price revolution. Tractor will pay for itself the first season. **FREE TRIAL.** Cash factory proposition. Write quick for illustrated book and wonderful price offer.

AMERICAN GAS ENGINE CO., Dept. 1650 Kansas City, Mo.

KENDALL'S SPAVIN CURE

Don't waste money on "cure-alls" or "just-as-good" Spavin remedies. Get a bottle from your druggist—Price per bottle $1. Treatise on the Horse" free at druggist or from Dr. B. J. KENDALL CO., Enosburg Falls, Vt.

You can buy any cut in The Twentieth Century Farmer for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as we have only one of each kind.

The Manufacturer and Inventor

Improved Agricultural Mechanical Devices

Denatured alcohol is recommended for use as a decarbonizer and engine cleaner for all types of gasoline engines. The cylinder of the engine is filled with denatured alcohol, and it cuts away the accumulation on the inside.

***

A pint of gasoline will carry a man sixteen miles on a motorcycle.

***

Eighty-one million nine hundred and forty-one thousand nine hundred and ninety-eight barrels of cement were manufactured last year, 3,500,000 more than were manufactured the preceding year.

***

They use a pendulum test for testing the strength of wheels. The wheels are rigidly fastened and a pendulum weighing 480 pounds is pulled back different distances and allowed to strike the wheels in the same direction as the wheel strikes a curb. It is said that the wire wheel endures this test better than any wooden wheel.

***

A power house on the farm is a great labor saver. The proper gasoline engine mounted in such a power house will do a great deal of the house work, under the direction of the housewife, and a great deal of the yard work, very frequently saving a farmhand that might cost as much as $500 a year and still be unsatisfactory.

THIS department does not attempt to recommend any of the mechanical devices or inventions which may be mentioned, but instead aims only to point out the latest products of the world's manufacturers and inventors who are looking to the agricultural industry for their market. Contributions of interest are solicited.

Readers desiring more complete information upon any of the subjects or devices mentioned may, in many cases, find the advertisement of the manufacturer in another column of this magazine, but if not, they may obtain it by writing this department, enclosing postage for reply.

***

They are beginning to make tractors now with the power applied to each of the four wheels. There are four such tractors that have recently been invented. It is claimed that such engines utilize at least 30 per cent more of the power of the fuel than an engine of the old type.

***

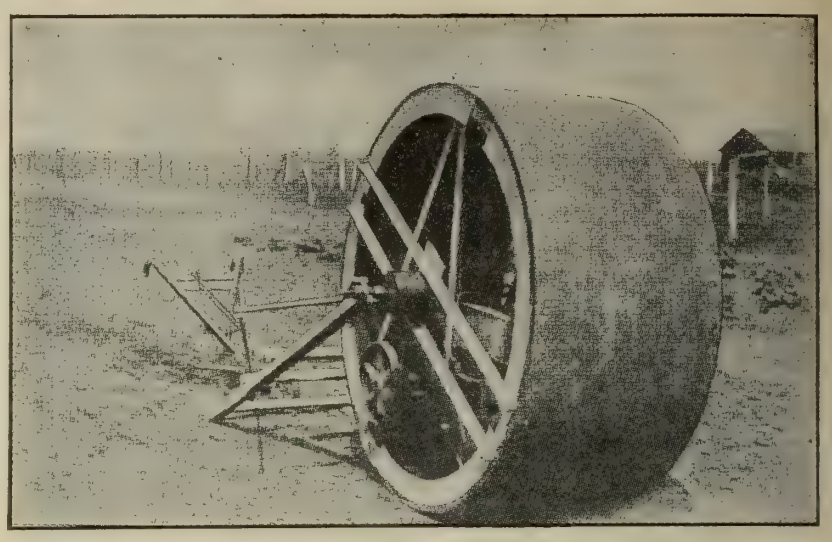
They had a fire in a little village in Vermont not long ago in which the library, the church and the opera house, which were covered with shingle roofs, were burned to the ground. Progress of the fire was finally arrested by a barn that was covered with the best quality of felt roofing, which did not take fire.

***

An automatic distributor has been invented and used with certain types of hay loaders. This distributor extends from the rear over the load and advances or recedes, delivering hay continuously, thus distributing evenly over the load. This saves the use of one man at least on the wagon that has been loaded.

***

Herewith is shown as a curiosity a new type of tractor engine. It consists of an immense wheel within which is mounted a twenty-five horsepower engine. The engine climbs the inside of the rim of a wheel in the same way that a squirrel climbs the revolving wheel in a squirrel cage. This gives it the name of squirrel-cage tractor. It is said to be a practical, useful and powerful machine. This is certainly a curiosity in mechanical construction.



The Squirrel-Cage Tractor

***

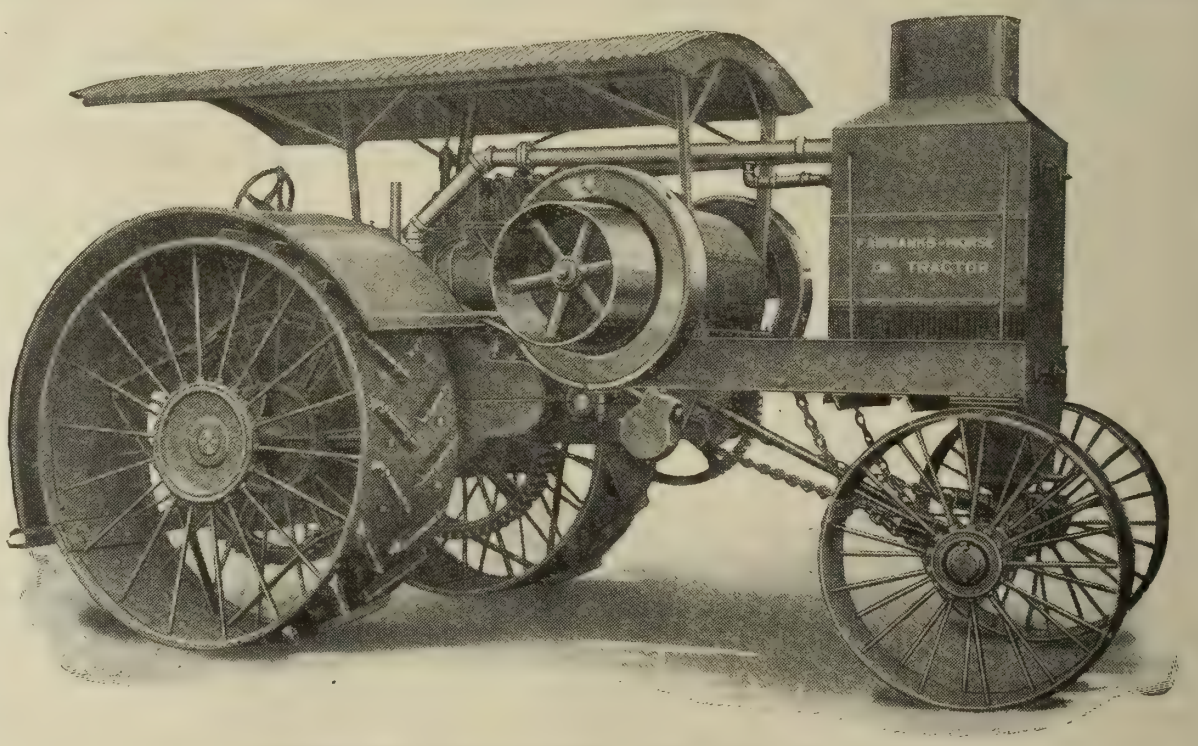
The use of tractors has brought out an invention of a self-lifting plow to be used behind a tractor. The engineer, by the use of a pull rope, sets the mechanism in motion for lifting the plow out of the ground. Another pull of the pull rope puts in operation machinery that causes the plow to enter the earth in proper form to do its work.

You Want a Tractor for Service

One that will meet conditions such as exist on your own farm.

We will be pleased to show you our machines in actual operation under just such conditions — a test that means more to you than any other.

For REAL SERVICE rugged construction is vitally essential. Fairbanks-Morse Oil Tractors are strong in every part.



Fairbanks-Morse 30-60 Oil Tractor—9,000 Pounds Draw Bar Pull.

The Fairbanks-Morse 30-60 Oil Tractor Has

Simple Transmission.
Steel cut, case hardened gears running in bath of oil.
All valves in cages and mechanically operated.
No pockets in combustion chamber.
Two fly wheels insuring minimum vibration.
Two speeds ahead; 1¾ and 2½ miles.
No bevel gears.
Belt pulley on engine shaft.
Driving pinions equi-distance from side of tractor frame preventing unequal strain and insuring permanent alignment.
Slow speed, two cylinder engine.
Convenient control levers.
Renewable liners in every part subject to wear.
Crank Shaft cut from solid billet of steel.
Force feed lubrication.
Spokes threaded in hub and securely held with lock nut.

Full Power Developed on Kerosene, Gasoline or Distillate. Will operate on cheap, low grade oils on all loads and at full range of speed.

Let us send you Catalog No. 821B39 and record of performance from men who own machines.

Fairbanks, Morse & Co., Omaha Chicago Kansas City

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Lie Awake Songs

I.

When we go so very far,
We have to take the sleeping car;
All night long awake I lie
To watch the world go marching by.

Poles and poles go flashing fast,
Strung on miles of shiny wire,
And snorting engines gallop past
Like horses running to a fire.

Great big towns with windows bright,
Houses wee with just one light—
So much we see as on we leap,
How can the grown folks go to sleep?

II.

Past my little window
The stars go by all night.
One by one, two by two,
They travel out of sight.

So many lands to visit
In such a little while,
They have no time to linger
For more than just a smile.

Past my little window
All night their way they take,
To smile on all the children
Who somewhere lie awake.

—Amelia Josephine Burr, in St. Nicholas.

The Editor's Corner

Vacation days are almost over, with their long, hot, sunny hours, in which some of us have played and some of us have worked. Work or play, we have all rested, for in a change of work there is sometimes as much rest as in play. The first days of school will be hot and unpleasant, probably, but we will be glad to get back to our schoolmates and teachers, and soon the short, cool days of autumn will be at hand.

The boy or girl who has had a trip to the mountains, the seashore, the fair, an adjoining city or even a farm in another part of the country, has had a welcome change, and one which is almost sure to do him good. It is not only good as far as health is concerned to get away from the place where you have lived a long time, but it is good for your mind as well.

If you have had a nice, long trip, or even a short, interesting one, write it up for the story department. We all want to hear about the trips the others have taken, and your editor will publish as many of these trips as there is room for. Tell us about the things you have seen that are different from what you have at home. THE EDITOR.

What Boys Can Do

Wireless stations on farms?

It may sound problematical, but it's within the range of possibility.

The young man shown in the accompanying portrait not long ago took from the air a message that stirred every man and woman in this country who afterward read it. Long before anybody of his neighborhood knew what had taken place, the little instrument in the corner of the bed room of the young man had ticked it off to him and he was out in the streets telling what had taken place. Some laughed at him, but very soon it was discovered that he had given them a straight tip, and the civilized world was eager to get more news about it.

If a boy is able to set up a contrivance in his village home that tells such momentous things, why can't he do the same thing on a farm?

We do not like to write about young men leaving the farm; everybody interested in farms wants to see the young people remain there. But it is known that a large per cent of the boys who have gone to town have learned the electrician's trade. Many of these boys have helped build and equip the farmer's telephone lines all over this nation, and it is because of the fact that the farmer boys have been able to help the older heads in an emergency that the telephone lines have become less independent and overbearing. An Illinois company wanted its farmer subscribers to pay a toll on each message to the town. The farmers threatened to cut the wires off their farms and to build and equip a line of their own. There were farmer boys who knew how to do it. And so we feel safe in saying that there is no telling what some farm boy may do some of these days —something that isn't any more unlikely than telephoning from farm to farm and to town appeared to many soil tillers not many years ago.

J. L. GRAFF.

Wellington Van Slyck of Wisconsin Has Wireless Outfit in His Room

(Prize Story)

Poor Little Buster

By Helen Barnhouse, Aged 11, Lane, South Dakota.

Buster and Nigger were my pet puppies which I used to have. I have one of them yet, but he does not play as Buster used to. Buster was always ready for a good romp when I came home from school. Out upon the lawn we'd frolic, with a gunnysack as a tool. Buster knew what this meant. He would hold one end of the sack with his teeth, then drop over on his side while I would pull him along. Perhaps he thought I was the horse and he the wagon.

We'd romp and play till we would both be too tired to play any more. Little Nigger would run along and look while Buster did the tricks. If we asked them to speak they would look so wise and give a loud bark. They would sit up and shake hands also. But one morning poor little Buster was lying dead close to our d o o r s t e p s. Someone was cruel enough to feed them poison. Nigger was still alive, but was sick and suffering badly. We saved his life by making him drink oils.

(Honorable Mention)

A Day at the Beach

By Viola Lewis, San Francisco, Cal.

My mother, Florence, Alice and I went to Engleside Beach one day. We got on the cars and had to stand up all the way out there. When we reached the beach we got off the car and walked through the sand until we reached a clean place to sit down.

After sitting down awhile we ate our lunch. Then, taking off our shoes and stockings, we went in wading. Then we ran up to mamma and began to roll in the sand. Alice would sit on a high sand hill and I would take hold of her legs and pull her down. We all enjoyed ourselves and put on our shoes and stockings and went home, after having some ice cream, some candy and a ride on the merry-go-round.

Picture Contest No. 5

You are each expected to write a four-line verse about this picture The two children writing the best verses will each receive a book as a prize. Write plainly, in ink, giving your name, address and age, and send the verse to Picture Contest Editor, Twentieth Century Farmer, Omaha

All verses must be received at this office on or before September 13. Awards in Picture Contest No. 5 will be announced in the issue of September 27.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write plainly at top of story your name, age, address and the title of the story.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

Additional Stories

Jessie E. Rooks, Mystic, Ia.; Maudie Andus, Clark, S. D.; Margaret O'Brien, Atkinson, Neb.; Stella Ratkover, Valparaiso, Neb.; Mildred Latta, Kenesaw, Neb.; Clara Luther, Coats, Kan.; Emma Seberg, Oakland, Neb.; Elsie H. Baldwin, Culbertson, Neb.; Golda Clark, Fairmont, Neb.; C. Loney Caldwell, Chelsea, Okl.; Irene Blanchard, Cotesfield, Neb.; Violet Porter, Fort Dodge, Ia.; Bertha Dickinson, Osceola, Neb.

STOPPED SHORT

Taking Tonics and Built Up on Right Food

The mistake is frequently made of trying to build up a wornout nervous system on so-called tonics—drugs.

New material from which to rebuild wasted nerve cells is what should be supplied, and this can be obtained only from proper food.

"Two years ago I found myself on the verge of a complete nervous collapse, due to overwork and study, and to illness in the family," writes a Wis. young mother.

"My friends became alarmed because I grew pale and thin and could not sleep nights. I took various tonics prescribed by physicians, but their effects wore off shortly after I stopped taking them. My food did not seem to nourish me and I gained no flesh nor blood.

"Reading of Grape-Nuts, I determined to stop the tonics and see what a change of diet would do. I ate Grape-Nuts four times a day with cream and drank milk also, went to bed early after eating a dish of Grape-Nuts before retiring.

"In about two weeks I was sleeping soundly. In a short time gained 20 lbs. in weight and felt like a different woman. My little daughter, whom I was obliged to keep out of school last spring on account of chronic catarrh has changed from a thin, pale, nervous child to a rosy, healthy girl and has gone back to school this fall.

"Grape-Nuts and fresh air were the only agents used to accomplish the happy results."

Name given by Postum Co., Battle Creek, Mich. Read the little booklet, "The Road to Wellville," in pkgs. "There's a Reason."

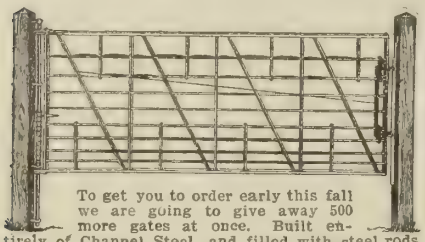
Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

FITZ OVERALLS

Give that air of prosperity necessary to success. Get a pair and identify yourself with SUCCESS.

BURNHAM-MUNGER-ROOT DRY GOODS CO. Kansas City, Mo.

GET YOUR NEIGHBORS TO ORDER With You and Get a FREE GATE



To get you to order early this fall we are going to give away 500 more gates at once. Built entirely of Channel Steel, and filled with steel rods. Stronger than any three others. PRICE IS RIGHT. (See this gate at Iowa, Neb. and Minn. State fairs.) Address

C. L. GADE, 118 Main St., Iowa Falls, Ia.

CUP ELEVATOR

Always ready for use. Placed inside the crib in the dry. Easy running, durable and strong. Elevates oats, wheat, or ear-corn, 50 bushels in three minutes.

SET IN YOUR CRIB BEFORE YOU PAY

The first successful Upright Ear Corn Elevator made—SOLD DIRECT to the Farmer. Free Catalog showing 8 styles with crib plans which save you money. Write for it today.

INTERLOCKING FENCE CO. BOX 67 MORTON, ILL.

Zimmerman Pitless Wagon Scale Extra Heavy

solid steel frame; double strength steel platform beams. All bearings completely protected from mud. The strongest and most accurate weighing scale on the market; guaranteed for 10 years. For catalog and discounts address Dept. 20

Zimmerman Steel Co., Lone Tree, Ia.

WHITE PLYMOUTH ROCKS

Prize winning stock, bred-to-lay-Sure-to-pay. Stock for sale. Eggs for hatching. Send 10c for copy, "GOOD POULTRY," our quarterly magazine, 25c a year. Quotes prices—gives valuable record covering 3 months' work with poultry. The way to make it pay—the Shorewood way. Write tonight.

Shorewood, Farms Co., Saugatuck, Mich.

Running Water

In House and Barn at even temperature Winter or Summer At Small Cost.

Send Postal for New Water Supply Plan. It will bring you 100 pictures of it in actual use. Do it Now.

Aermotor Co., 1144 S. Campbell Av., Chicago.
Aermotor Co., 2d and Madison Streets, Oakland, Cal.

My Mysterious Fade Away Card Trick

The effect of this wonderful trick is to show three cards, making any one disappear and reappear at will. Anybody can do it. SEND 10c for one, or 25c for four sets TODAY.
WM. A. DROSTE CO., Suite 162, Detroit, Mich.

SWEET CLOVER Seed for Fall sowing, price and circular how to grow it, "Free." John A. Sheehan, Falmouth, Ky. R. 4.

YOUNG MEN WANTED

IN AUTOMOBILE BUSINESS

$20.00 TO $50.00 WEEKLY

I will prepare several young men for positions in the automobile business in ten weeks BY MAIL, and assist them to secure good positions. NO CHARGE FOR TUITION UNTIL POSITION IS SECURED. Write at once for particulars. R. S. PRICE, Automobile Expert, Box 463 K, Los Angeles, California.

FREE TUITION for 36 weeks. Board and room $2.60 a week. Books rented. Opens October 7th. Humboldt College, - Humboldt, Iowa

Of Interest to Our Women Readers

The Lazy Day

Well, this has been a splendid and a very perfect day;
I took my work and worries and I threw them all away—
I took the work I ought to do and looked it in the eye
And said: "You get a holiday, old task of mine, goodbye.
I hope you have a pleasant time wherever you may roam.
Now, don't get lost, but just the same you needn't hurry home."

My work stood begging at my side, my elbow Duty nudged,
But with a stern and haughty heart I never even budged.
I stretched myself upon my back within the hammock here
And swung and swung and let my soul get bubbling full of cheer.
My work went galley-west, I guess—I know it isn't done—
But, friend, to have a lazy day is certainly some fun.

And all the things I worry for and of—the pesky things!
I gave them all to understand they might as well take wings.
I'd worried over them in a most faithful, earnest way,
But worry hasn't any place in any lazy day.
Some little worries fretted up and sighed: "What can you do?"
I blew them all to smithereens with one intense "Pooh! Pooh!"

So here I am, with work undone, unworried worries, too,
And still the grass is nice and green, the sky is nice and blue;
The world is rolling right along; no doubt the stars will gleam—
I guess I'll linger here a while and muse and doze and dream.
My friend, when Work is fighting you and Worry wants to stay,
Just throw the whole thing to one side and have a lazy day.

—Wilbur D. Nesbit, in Collier's.

Our Home Chat

"These are lovely, flaky rolls, if I did bake them myself," said the lady of the house, as she drew the pans of crisp, brown, good-smelling mounds out of the oven. "I'd like to take a pan of them over to my neighbor, but she would think she had to bake some in return tomorrow, and I know she will be busy with harvest hands."

"Why should she think she had to return them?" I asked curiously.

"I wish I knew," replied the lady of the house, smiling. "She is a splendid neighbor, helpful in emergencies, cheerful and pleasant to visit and everything, but she makes me so uncomfortable. When we first came here she was always sending me good things when she baked, and as soon as I got settled of course I began to send her something now and then, when I happened to be baking. But I found that whenever I sent her anything she would always return it in kind the next day. If I sent her a pie from my baking, a pie would come back the next day; bread would be paid in bread. When I sent her strawberries from our enormous bed, she promptly returned cherries from their one little tree, though I hated to take them. I never expect to do as much for her as she has done for me, and should not think of trying to, but I do like to do a little favor for any of my friends now and then without their thinking of paying me for it."

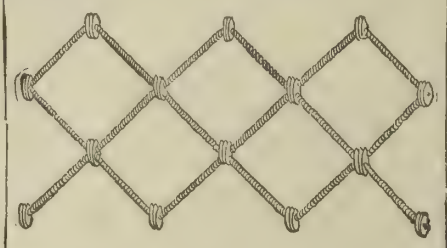
"She seemed like such a nice, motherly woman when I met her the other evening," I said. "I thought then how lucky you were to have such a lovely neighbor when you are just starting out as a housekeeper."

"Yes," sighed the lady of the house wistfully; "that is just what I thought at first, and I suppose I am ungrateful to complain now, but sometimes this paying-back proposition gets on my nerves. Just you try living near a person who has never learned to take a favor gracefully and see how you like it yourself." THE EDITOR.

The Melon Seed Bag

Muskmellon seeds have surprising possibilities for fancy work, and it it so simply done that a child without eyes may become an expert. When you cut a muskmelon, wash the seeds to free them from all pulp, strain through cheesecloth and spread where they will dry quickly. They are then ready for immediate use, or they will serve as well ten years from now.

A convenient wrist bag is made by cutting a circle five inches in diameter from stiff pasteboard or buckram. Cover on both sides with messaline of any color prefered. If for yourself, make it to match the suit



you wish to wear when carrying it; if for an elderly lady, black will be beautiful, and it has the added advantage of harmonizing with any dress. Cut the circles of silk a seam larger than the foundation, turn in seams neatly and overhand the edges together.

Cut another piece of the silk half a yard wide and nine or ten inches deep. Sew the two sides together. Sew the circle into one end of the bottomless bag thus formed, taking up a seam in the inside. Use double thread and take short stitches, for a bag that is continually ripping is not a desirable article. The sides should full slightly upon the circle, else when completed they may look stretched. Turn in an inch hem at the top and make a shirr for passing silk cord through. Leave a space open for this at the seam and one on the opposite side. Use two pieces of the cord, each a very little longer than the width of the bag. Join the ends of each after it is inserted; then, by having the loops come out at either side, the bag is easily opened or closed, and when closed the cords are conveniently slipped over the wrist.

String on a stout double thread, using as small a needle as practicable, three melon seeds, passing the needle through the center of each. Now add an inch length of small beads of any color preferred, though steel will prove a more pleasing contrast than any other kind. Then alternate three seeds with the number of your beads required to make an inch until you have a string a little less than two feet long, ending with seeds.

For the second row pass the needle through the three seeds at the end of the first, add an inch of beads, three seeds, an inch of beads, then pass the needle through the third bead cluster in the first row. This will form a diamond, having a seed group at each angle. Continue in the same way to the end of the row. Measure now and see that your line of beadwork is just the right length to go around the bottom of the bag, as it can be easily lengthened or shortened at this stage. Fasten the ends, using the single triplet of seeds at the point of union.

Continue with other rounds in the same way until you have a strip half as wide as your bag is deep below the shirring. Sew this around the lower half of the sides, and the bag is completed. The soft messaline silk rapidly adapts itself to the varied forms without wrinkling. The seeds have the appearance of carved wood, and, combined with steel beads, they are most charming.

Some prefer to use the melon seeds alone, joining in the same way. If a flat bag is preferred, a neat ball finishing for the bottom is made with two of the bead and seed diamonds, omitting the seeds from the last corner of the second diamond, and passing the needle upward through the three seeds at the other end of the row, adding two or three beads for the pendant. Dainty bags for purse and handkerchief are made much smaller. The sweet girl graduate would be pleased with one of these in white, with steel or gold beads. BESSIE L. PUTNAM.

Choice Fall Recipes

Preserved Watermelon or Citron—Peel the melon and boil until soft; try with fork. To one pound allow one and one-half pounds of sugar; simmer slowly for two hours in this syrup; flavor with lemon. Lift the melon and boil syrup until thick and pour it over; add juice of one lemon to each quart of syrup.

MRS. GILBERT.

Canned Beets—Boil small young beets until tender, peel and slice. Take good cider vinegar and half as much sugar as vinegar. Let come to a boil, drop in beets, heat thoroughly. Can immediately.

MRS. GILBERT.

Spiced Crabapples—Quarter and core crabapples. Boil together for thirty minutes one quart of vinegar, one pint of water and four pounds of sugar and spices tied tightly in a bag. As soon as this boils drop in the prepared crabapples and cook until soft, but do not mash. Drop carefully, so as not to break the pieces, into quart jars and pour the spiced vinegar over them. Especially good with cold meats.

HELEN A. LYMAN.

Cold Catsup—One peck of ripe tomatoes, three green peppers, two onions; chop very fine, let drain in a sack over night, add one-half cup of salt, one-half cup of white mustard seed, two cups of sugar, one talespoonful celery seed. Mix together and pour over the mixture three pints of boiling vinegar, bottle and seal. MRS. GILBERT.

Pickled Plums—Steam in kettle until soft five pounds of plums, pour over them one pint of hot water, then add a pint of good vinegar, three pounds of brown sugar, tablespoonful of cloves, allspice and cinnamon, pinch of cayenne. Cook again twenty minutes, then put in cans.

HELEN A. LYMAN.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6288—Ladies' Dress—This model is one of the popular one-piece designs. It has a blouse with diagonal closing, an open neck and a small collar. It also has a drop shoulder and a long or short sleeve. The four-piece skirt is attached to the blouse and closes in front. Gingham, ratine, messaline, cotton crepe and similar fabrics are suitable for this style. The pattern No. 6288 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5⅝ yards of 36-inch material.

5944—Ladies' Dress—Simplicity and good style are combined to a remarkable degree in this beautiful frock. It closes at the front and may be finished with high or low neck and long or short sleeves. It is made with empire or regulation waistline and the skirt is a four-gored model, having inverted plait or habit back. The pattern 5944 is cut in sizes 32 to 40 inches bust measure. Medium size requires 5⅞ yards of 36-inch material, with 2 yards of insertion.

6296—Ladies' Shirt-Waist—This simple waist is one of the most graceful of today's designs. It has no trimming except the ornamental collar. The closing is in the center front and the sleeves are long or short. This waist can be made of Japanese silk, crepe, voile, challie and other soft fabrics. The waist pattern No. 6296 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material.

6238—Misses' Dress—Young girls will like this stylish dress, with its simple jacket, closed in front and gathered at the waistline, where the hip sections are attached. The plain sleeves are inset and the two-piece skirt is made with raised waistline. Linen, serge, poplin and many other materials can be used in making this dress. The pattern 6238 is cut in sizes 14, 16 and 18 years. Medium size requires 4⅜ yards of 44-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

Address your orders to Pattern Department, Twentieth Century Farmer, Omaha, Neb.

S. C. WHITE LEGHORNS

The greatest of all layers—regular egg machines—Shorewood Strain produced from Lady Mourine and Prince Peerless trap-nested true to Standard. Bred-to-lay Sure-to-pay. Stock and eggs for sale. Orders booked for future delivery. Send 15c for copy, "GOOD POULTRY," our quarterly magazine, 25c a year with 2 months' egg record, each issue practical instruction on the business side of poultry raising, the Shorewood way—write tonight.

Shorewood, Farms Co., Saugatuck, Mich.

To Farmers and Dealers Who Attend the Fair at Fremont, Nebraska, September 8-13, 1913.

DON'T FAIL to see the "GENUINE" and "ORIGINAL" J. I. CASE POWER LIFT ENGINE GANG.

THE J. I. CASE Power Lift Engine Gang will be pulled by the WALLIS TRACTOR and others.

DON'T BUY AN ENGINE GANG UNTIL YOU KNOW THE J. I. CASE : : : :

The maximum of efficiency—the real service and quality plowing which makes farmers who know buy the J. I. Case Plow Works Engine Gang, will be PROVED at this demonstration. The fact that the depth of each J. I. Case Engine Gang bottom can be regulated, assures perfect, uniform furrow depth. And uniform width and depth constitute good plowing.

J. I. Case Plow Works—Racine, Wis.

Your guide to the genuine J. I. CASE is "The Plow in Hand."

There's surely a J. I. Case agency near you. If not, write us.

SAVE ON ENSILAGE CUTTING

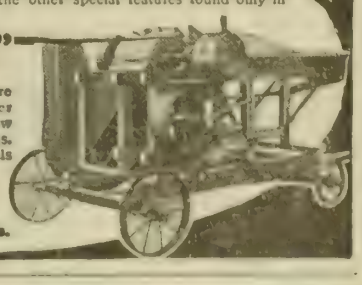
DOLLARS TROUBLE TIME WORRY

The Ensilage Cutter you ought to have is the one that has the strongest built frame, a throat and a blower that never clog, a positive safety device and the other special features found only in

The Light Running
"SILBERZAHN"
ENSILAGE CUTTER

—the cutter that is guaranteed to do more and better work with less power than any other cutter on the market—positively cannot blow up—and is absolutely safe under all conditions. Write today for catalog, prices and details of our liberal Free Trial Offer.

GEHL BROS. MFG. CO.
121 S. Water St.
West Bend, Wis.

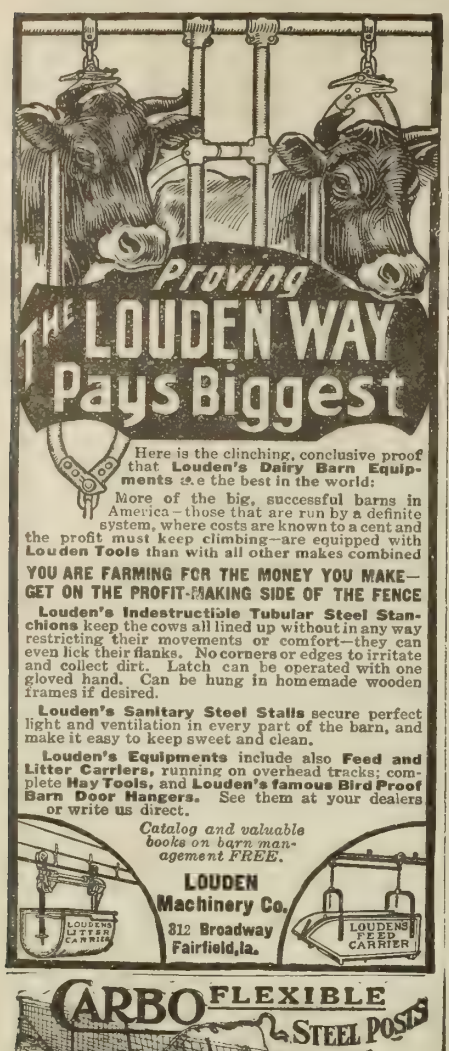


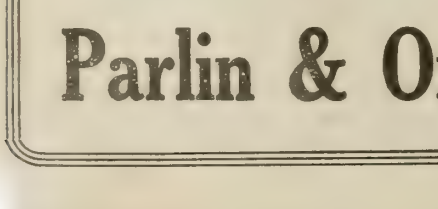
Nebraska State Fair

September 1-5, 1913, Lincoln

Plan now to enjoy this week of education, recreation, festivities, etc. The one big week of the year for Nebraskans. Second largest state fair live stock exhibit in the United States. Special daily attractions, including prize Baby Show, Harness and Running Races, eight acts of Spectacular Vaudeville before the grand stand, Pain's Mammoth Spectacle "Old Mexico 1847."

Send for premium list and program to **W. R. Mellor, Secretary.**





Farm Power Demonstration at Fremont

THE exhibition of mechanical power machinery, as adapted to handling the soil for agricultural production, which will be held at Fremont during the second week of September, will be the largest, most extensive exhibition of its kind ever before afforded to the public. There will be more engines seen in actual operation, more tools for handling the soil to be drawn by these engines, and more appliances for doing the work of plowing, harrowing, pulverizing and seeding at one operation, than have ever before been drawn to the same field. The public, knowing these facts, will be interested to know what kind of arrangements have been made so as to make the exhibition orderly and to afford an opportunity to every visitor to see engines doing just the kind of work that he wishes to see done. Accordingly, the following description of the grounds and methods to be employed is given to the public in order that they may know beforehand just what they may expect to see on arriving at Fremont.

In the first place, it may be stated that the regular program of exercises requires the public demonstration of each entry every afternoon from 1:30 till 4:30 o'clock. A regular program of these regular exercises will be on distribution at Fremont, so that each visitor may know at once just what he may expect to see and precisely when and where he may expect to see it. The machine entered will continue on the field, and it is expected that during the forenoon of each day private exhibitions and demonstrations will be afforded, as the different exhibitors may desire, and as may be requested by various visitors who wish to see at close range any particular kind of work undertaken.

The demonstration field comprises nearly 500 acres, 130 acres of which are virgin sod that has never been stirred, the balance being old ground, has already been in crop, some of it for a longer and some of it for a shorter period.

A share of this immense tract of land is allotted to each exhibitor for demonstration work. Each exhibitor will be confined to the portion of ground allotted to him for his demonstration. The amount of land to be allotted to each of the exhibitors will depend upon the number of his entries. The ground will be assigned pro rata among the exhibitors according to the amount of work that they are equipped to perform. In order to make this fact a little more evident, it may be stated that every exhibitor, as, for example, the Avery Company of Peoria, Ill., will have a certain specified ground assigned to it. Then, if one wishes to see the work of the Avery Company, he will have to go to this particular locality to see it. So with every other company entered for exhibition. There will be no confusion. The program will state precisely where the ground is allotted to each exhibitor, so that no visitor will have any difficulty in locating the exhibit that he wishes to see in operation.

It is not expected that the work for each exhibitor will be continuous; that is, it is not expected that all engines will be at work, all of them during the entire period of exhibition, at the same time. One outfit will work for a while and then stop, and another outfit will begin. According to this plan, the visitors will be able to see one at work after another, and compare the quality of the work done.

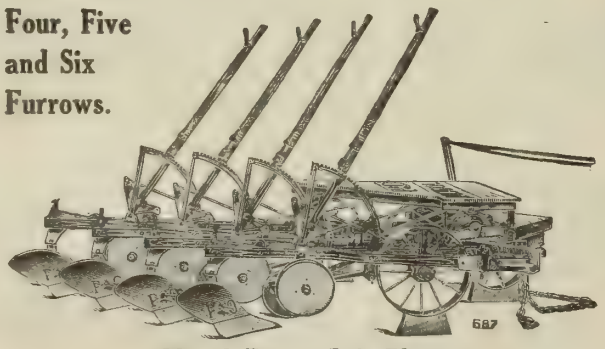
Of course, with the comparatively limited amount of space that is assigned to each visitor, the probability is that if they worked continuously, beginning at 1:30 in the afternoon, some of them might possibly finish their plat of ground the first day. It is intended to have the work extend over the entire period of the exhibition.

The work to be done will consist not only of plowing, but of reducing the soil to a perfect seed bed. It will be extended in some cases so as to include the sowing of the seed. This will mean that some of the outfits, besides the plows, will haul at the same time harrows, pulverizers, disks, rollers and seeders. Thus

P & O

A Triumph in Traction Engine Plows

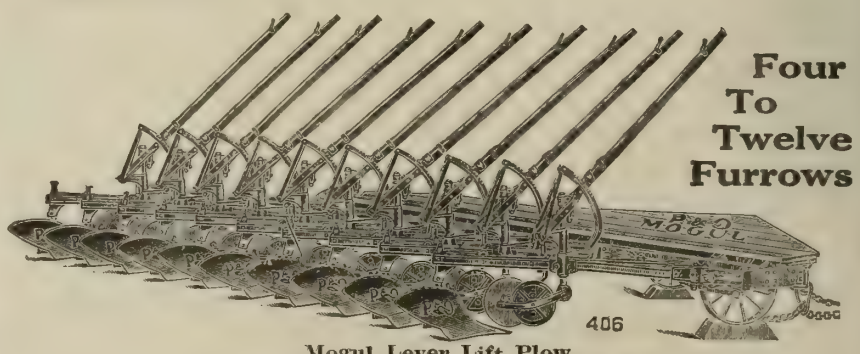
Four, Five and Six Furrows.



Mogul Power Lift Plow.
The Ideal One-Man Outfit.

P & O are pioneers in engine plow building. When plows are built better than they are today, P & O will be the builder.

Four To Twelve Furrows



Mogul Lever Lift Plow.
Will Operate Perfectly in Any Soil.

Don't fail to see them in operation at the Power Show, Fremont, Neb., Sept. 8 to 13.

Parlin & Orendorff Co., Canton, Ill.

Minneapolis, Omaha, St. Louis, Sioux Falls, Dallas, Portland, Kansas City, Denver, Oklahoma City

here will be completed at one operation the entire work of preparing unplowed ground for the harvest.

The International Harvester Company and the Avery Company will each have two or three of their big power trucks at Fremont. These will not only be placed on exhibition and given a chance to demonstrate their general utility, but they will also be used for transporting passengers to and from the exhibition grounds. These will afford a novel and instructive sight to all visitors.

Here follows a list of the various entries, together with the number of engines and kind of implements that each will use. This makes a very attractive and imposing exhibition:

Aultman & Taylor Machinery Company, Mansfield, O.—Two engines, 30-60 H. P.,; Parlin & Orendorff engine gang plows.

Avery Company, Peoria, Ill.—Three engines, 12-25, 20-35, 40-80 H. P.; Avery power lift engine gang plows, 4, 6 and 10 gang sizes.

J. I. Case T. M. Company, Racine, Wis.—Two engines, 20-40 H. P.; six-bottom Case-Sattley engine gang plows.

Emerson-Brantingham Implement Company, Rockford, Ill.—Two engines, Big Four, 20-35, 30-60 H. P.; four and eight-bottom Emerson plows.

Hackney Manufacturing Company, St. Paul, Minn.—Two engines, with attachments for moldboard plow, disk plow, disk harrow, grader, corn sheller, hay baler, feed grinder and ensilage cutter.

Hart-Parr Company, Charles City, Ia.—Three engines, 27-40, 60 H. P.; Hart-Parr "Self-Lift" plows.

Holt Manufacturing Company, Peoria, Ill.—Two engines, 40 and 60 H. P.; Moline engine plow; 28-inch Fetzer combined grain drill and disk harrow; 28-inch Fetzer pulverizer.

International Harvester Company of America, Chicago, Ill.—Three engines, Mogul 15-30 H. P.; Mogul 30-60 H. P.; Titan 45 H. P., with Parlin & Orendorff, Case and Oliver plows.

Kinnard Haines Company, Minneapolis, Minn.—Two Flour City engines; John Deere plows.

Leader Engine Company, Grand Rapids, Mich.—Two Leader engines, 22 H. P.; Spaulding Deep Tilling machine; Moline four-bottom gang.

Minneapolis Steel and Machinery Company, Minneapolis, Minn.—Two engines, Twin City 25 and 40 H. P.; John Deere engine gang plows.

Rumely Products Company, La Porte, Ind.—Two engines, Oil-Pull 15-30 and 30-60 H. P.; five and eight-bottom Rumely gang plows.

Russell & Co., Massillon, O.—One 30-60 H. P.; John Deere plow.

Wallis Tractor Company, Racine, Wis.—One engine, 40 H. P.; ten-bottom Case Plow Work's gang.

Ward Tractor Company, Lincoln, Neb.—One engine, 20 H. P.; three 14-foot bottoms.

"What's barley made of?" This question was asked at the office. The inquirer wanted to know if barley is a combination of wheat, oats and other cereals; also wanted to know if malt barley was the best. He possibly had chewed too much malt.

A kindly heart, a quiet voice, polite words and manners, a hand open to help, attention to little things for the comfort of others, freedom from anger, boasting and patronizing; toward the strong, courage; toward the weak, chivalry; toward all men, fairness. Few men ever see one in a mirror.—Life.

Luther Burbank is said to have added $17,000,000 to the value of the annual potato crop.

JOHN

It will pay farmers for miles away to see the following JOHN DEERE engine gang Plows in operation at the big Power Farming demonstration at Fremont, Neb., September 8th to 13th

JOHN DEERE PONY ENGINE GANG, - 4 and 5 Bottoms
JOHN DEERE LITTLE ENGINE GANG, 4 and 6 Bottoms
JOHN DEERE JR. ENGINE GANG, - - 6 and 8 Bottoms
JOHN DEERE SR. ENGINE GANG, - - 10-12-14 Bottoms
JOHN DEERE BIG ENGINE GANG, - - 8-9-10-11-12
JOHN DEERE ENGINE DISC HARROW, 13-14 Bottoms
JOHN DEERE SOIL PULVERIZER (Dunham)
VAN BRUNT DISC GRAIN DRILL

QUICK DETACHABLE SHARES
USED ON ALL JOHN DEERE PLOWS

DEERE

OMAHA

DON'T BE DISCOURAGED

If you don't find THE Tractor for your purposes at the FREMONT EXHIBIT----INVESTIGATE THE

SANDUSKY TRACTOR

15 Tractive Horse Power—35 Brake Horse Power

On account of rush of business and other engagements we found it impossible to exhibit at Fremont as planned. You can, however, have a private demonstration of the tractor most especially adapted to the requirements of the man on the average size farm. Please note the following

Distinctive Features:

Common Sense Weight	(7,000 pounds), being light enough to keep from injuriously packing your soil, but heavy enough to stay on the ground under a good hard pull.
Small Over-all Dimensions.	Making The Sandusky easy to handle in tight quarters.
Accessability of Working Parts.	Easier to inspect than an automobile.
Motor-Lift Plow Apparatus.	You can raise or lower plows whether moving or standing still.
Three Speed Control.	Ranging from 2 to 5½ miles per hour.
Four Cylinder Motor.	5 inch bore, 6½-inch stroke. Our own special design and build.

Write TODAY for your copy of "POWER ON THE FARM." It tells you all about THE SANDUSKY TRACTOR and contains other information of value to you. IT'S FREE.

J. J. DAUCH, Manufacturer

Water Street **Sandusky, Ohio**

Meeting of Eastern Nebraska Fruit Growers' Association

THE first business session following the organization of the Eastern Nebraska Fruit Growers' Association was held August 14, 1913, at Nebraska City, on the beautiful and picturesque grounds now known in history from one side of the American continent to the other as "Arbor Lodge," the home of one of the most honored and distinguished citizens of Nebraska, J. Sterling Morton, whose life and life's work, from 1855 to the date of his death, were largely devoted to the promotion and building up of the state which he had adopted as his home.

In his opening address, President Pollard said: "No more fitting tribute in honor and commemoration of the name of the departed J. Sterling Morton could be paid than for the present generation of tree growers, horticulturists and fruit specialists to gather in organized session at Arbor Lodge, the old home of the pioneer tree planter, the man above all others on the treeless plains of Nebraska who by precept and example proclaimed the doctrine of tree planting, and who instituted Arbor Day as an everlasting heritage to be passed down through present and future generations."

He commended the attitude of the sons of this distinguished tree planter in their sacred observance in carrying out the will and spirit of their father in preserving and perpetuating Arbor Lodge, a monument to his memory, a guide board to stimulate and direct the horticultural ambitions of generations yet unborn.

Mr. Pollard emphasized the duty of loyalty in members of this association in adhering closely to the rules governing the society in all its business operations. The association, to be effective, must trust to the manager in the preparation and marketing of the fruit. At the outstart there no doubt would be attempts made to take advantage of members to induce them to break away from the association in its system of sales. Higher prices, no doubt, would in some instances be offered by dealers to weaken the faith of members in the ability of the association managers to secure the most advantageous sales. He urged a fair trial this year by all its members and a loyalty that insures success in any co-operative enterprise.

Joy Morton, the present owner and proprietor of Arbor Lodge, spoke very encouragingly of the new association and the progress it has made. He joked a little good-humoredly of his experience in combitions of one kind or another for revenue, and assured the members that he believed they had at last struck the right plan for advertising Nebraska orchard lands and for making money out of the orchard industry.

T. F. Sturgess, editor of the Twentieth Century Farmer, discussed the "Commercial Fruit Show." Mr. Sturgess has had considerable experience in working up exhibitions from the standpoint of the advertising advantage they may exert for the association and the general public. He favored a November show by this association, during the meeting of the Nebraska State Teachers' Association. He emphasized the need of educating the consuming public of the state to the fact that Nebraska orchardists are producing a great surplus of apples above the consuming demand, and yet Nebraska people do not know it. They eat Nebraska apples that have been shipped out in bulk, graded and shipped back and sold to them under another name. They call for western apples because they have been taught by ingenious advertising that western fruit is the best, and really do not know that Nebraska is producing millions of bushels of the best quality of fruit. He also commended the work of the association and urged its members to give the association plan of picking, grading and marketing a fair trial before surrendering to the disorganizing influence of the dealer whose interests are not with the producer.

Manager Marshall, who has been employed by the association, talked in an advisory way of when and how he would take up the work with orchardists who desire his assistance in marketing their fruit. Expert help to grade, pack and handle the crops will be supplied on application. These persons will be held responsible for the quality of the various crops as they come from the orchard into the hands of the sales agent or manager. A very large sale has already been consummated by the association, approximating 100,000 barrels. A demonstration in packing followed the speaking.

This association has introduced the annual picnic as a social feature of the organization.

To Save Blow-Outs

On No-Rim-Cut Tires We Spend $1,500 Daily No Other Tire Maker Does That

This "On-Air Cure,"—done to save blow-outs—costs us $1,500 daily. And no other maker employs it.

It is one of the three features—used in No-Rim-Cut tires alone—which have saved tire users millions of dollars.

It is one of the three reasons why No-Rim-Cut tires far outsell any other.

All these tires are final-vulcanized on air bags, shaped like inner tubes. They are cured under road conditions.

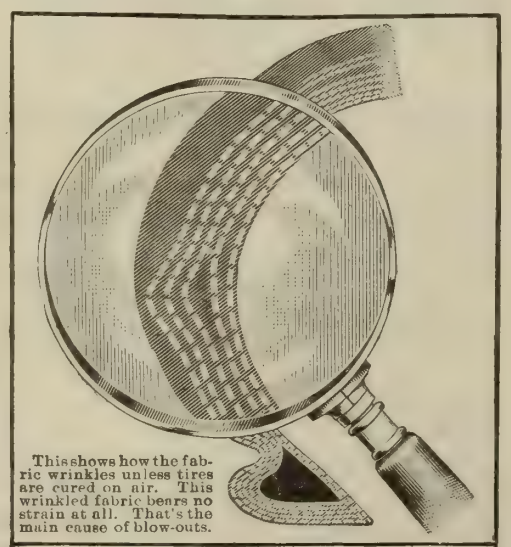
Cured in this way—on elastic air—the fabric doesn't wrinkle. Every inch shares the strain.

All other tires are vulcanized on iron cores alone. The fabric often wrinkles. See the picture. This wrinkled fabric shares no strain, and that leads to countless blow-outs.

Loose Treads

Tread separation near the breaker strip is another costly ruin.

We use for this strip—at the base of the tread—a patent fabric which is woven with hundreds of quarter-inch holes. The tread rubber is forced down through these holes, forming countless rubber rivets. Then the whole tire is vulcanized en masse. In no other tire is this thing done to prevent tread separation.



This shows how the fabric wrinkles unless tires are cured on air. This wrinkled fabric bears no strain at all. That's the main cause of blow-outs.

GOODYEAR AKRON, OHIO

No-Rim-Cut Tires

With or Without Non-Skid Treads

No Rim-Cutting

Then rim-cutting is made impossible by a method which we control.

With clincher tires—the hooked-base tires—rim-cutting ruins almost one tire in three. This is proved by careful statistics gathered by public accountants.

We save all that ruin. And the way we control is the only satisfactory way known to do this.

No Extra Price

In No-Rim-Cut tires you get these three features which no other maker uses. You save blow-outs, save loose treads; and you end rim-cutting completely.

Yet these tires now, because of mammoth output, cost you no extra price. No standard tire made without these features costs less than No-Rim-Cut tires.

That is why No-Rim-Cut tires hold the leadership of Tiredom. No other tire in all the world has nearly so many users.

And you will be one of this army of users when you once make a mileage comparison.

Our dealers are everywhere.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Branches and Agencies in 103 Principal Cities For Sale by All Dealers More Service Stations Than Any Other Tire

We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits

Main Canadian Office, Toronto, Ont.—Canadian Factory, Bowmanville, Ont.

(1337

Timely Items of Interest to Poultry Raisers and Fanciers

(Courtesy Missouri State Board of Agriculture.)

A Missouri Farm Flock

MISSOURI is credited with being the first poultry state in the union; that is, it leads all of the others in the production of poultry. The number of chickens, turkeys, geese and ducks raised on the Missouri farms is enormous. The last census reported the value of fowls on the Missouri farms at $14,573,000, and always the value of poultry is listed smaller than it is actually found to be. The number of eggs laid by this number of poultry representing this value in the year before the last census was taken brought $18,000,000 to their owners.

We quote the Missouri State Board of Agriculture, situated at Columbia, Mo., as to preparing birds for market. Its bulletin on this subject has this to say: "Poultry fattened, killed and marketed by farmers or small producers is usually of poor quality, because the methods in producing are poor. These named could well take hints and make greater profits by studying operations in bulletins given out free by T. G. Wilson, secretary of the Board of Agriculture. Missouri ships much of its poultry to eastern markets, and this poultry is generally handled by men who operate large fattening and killing stations, and who put a good grade of poultry on the market.

"Birds of the type shown herewith make a fine market fowl. They should be pure-bred, because they will be more even in size, shape and color and more profitable. One of the most profitable of the popular farm breeds is the Barred Rock. We all know them as layers, but many do not know that a Barred Rock takes on fat easily and soon. This makes it an ideal fowl for market. Its yellow skin is an added factor in its favor. But never fatten for market birds with crooked breastbone or any deformity. Yellow skin and shanks bring highest price on the market. Broilers run from three-fourths of a pound to two and one-half pounds. Frying sizes range from this last weight on up to over three pounds. Roasters run from four to eight pounds. Old hens should be disposed of in September or October, as, on account of the Jewish holidays, best prices are given."

(Courtesy Mo. State Bd. of Agriculture)

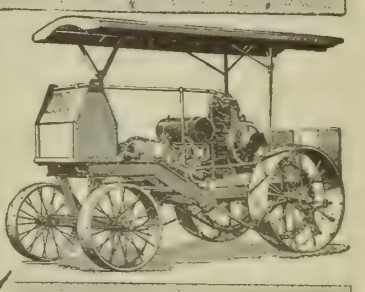
Fine Type of Fowl

Russia has 1,400 acres of tea plantations, and the acreage is increasing constantly.

Wadsworth Light Kerosene Tractors

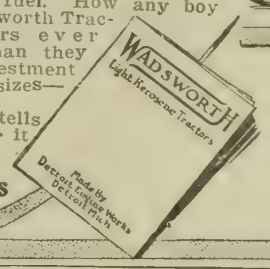
Solve Every Farm Power Problem And Just Look at the Price!

$600 to $990 gives you a Wadsworth light general utility tractor suitable for your farm—large or small. Tested and proved in actual farm work. Will go anywhere horses can and do more work. Light weight. Never gets tired. Eats only when at work. Best and cheapest power for all farm work. Reduces cost by doing more work with less help.



Get the Book of Tractors--FREE

Learn how Wadsworth Tractors operate on kerosene, gasoline or distillate, so you don't have to rely on one fuel. How any boy can operate any Wadsworth Tractor. Handiest tractors ever built; made better than they have to be. A sure investment for any farmer. Six sizes—6 to 18 horse power. Our free booklet No. 1 tells whole story—send for it today.



Detroit Engine Works
DETROIT, MICH.

$600 to $990

The Aultman & Taylor Gas Tractor

A Mechanically Perfect Gas Tractor

They make good everywhere. Every part of the Aultman & Taylor tractor is built with greatest care and skill by men who have a thorough understanding of the requirements of a first class tractor. All our machines are carefully and capably inspected in all processes of manufacture and tested under most severe and rigid tests before offered to the customer. Have won highest honors in every public demonstration ever entered.

SEE OUR EXHIBIT AT FREMONT POWER DEMONSTRATION.

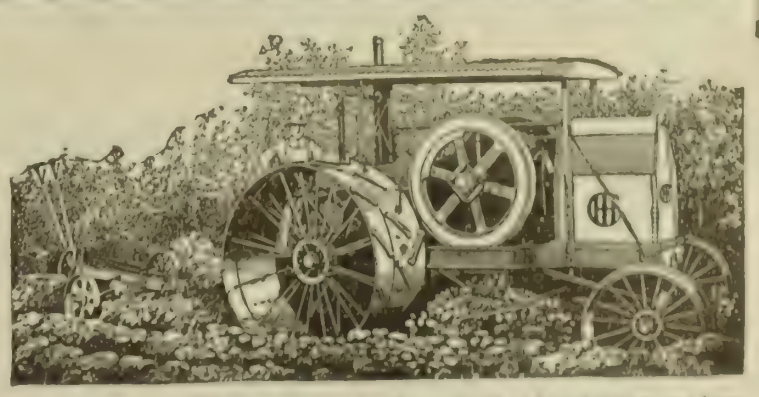
THE AULTMAN & TAYLOR MACHINERY CO., Mansfield, Ohio.

Lice Murder Chicks
check laying, stunt growth, ruin the plumage, torture the hens
PRATTS LICE KILLER
(Powdered) murders lice and so insures greater profits.
25c. 50c. Guaranteed. Pratts 160-page poultry book free by mail

At all dealers, or
PRATT FOOD COMPANY
Philadelphia Chicago

It only takes a line or two to state that you saw it in the Twentieth Century Farmer when corresponding with advertisers on this page, thereby favoring advertiser and publisher

A Long List of Uses



THERE seems to be no limit to what the tractor can do. It is doing new things on farms every season. It appears to live on work and is not to be satisfied. Says a writer in an Indiana farm journal, "Today tractors are being used for practically all of the operations on the farm with the exception of the corn planting and the last two cultivations of the same crop." Then he goes on to tell how one tractor on a 320-acre farm cuts down the number of horses needed from twelve to five.

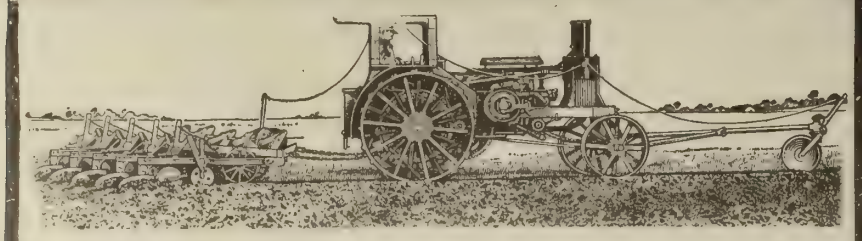
The farmer who today carefully compares tractor-power and costly horse-power, and realizes the gross inefficiency of the horse, buys a tractor. And when he compares tractor records, construction, reputation and backing, he buys an

I H C Oil Tractor

I H C tractors are built to meet all field difficulties, and are planned for endurance, strength, and the elimination of unnecessary weight. Simplicity of mechanism, ease of management, protection of parts from injury, and economy in fuel—every detail of construction and operation receives equal care. The result of building up to I H C standards is to be found on hundreds of farms in the satisfaction of as many I H C tractor owners.

Whatever your needs—whether for plowing, seeding, harvesting, or drawing other field machines, hauling produce, threshing, shredding, grinding feed, sawing wood, etc., whether your farm is large or small—you will find a tractor for your work in the I H C line. I H C oil tractors are made in all approved styles and in 6-12, 7-15, 10-20, 12-25, 15-30, 2-45, and 30-60-horse power sizes. The I H C line also includes all styles of general purpose engines for farm, shop and mill, in sizes from 1 to 50 horse power, operating on low and high grade fuel oils, gas and alcohol. See the I H C local dealer for catalogues and full information or write the

International Harvester Company of America
(Incorporated)
Chicago U S A



See Big Plowing Demonstration Avery "One-Man" Power Plowing Outfit.

Will exhibit at the Fremont, Nebraska, Power Show in actual operation. Show you how you can do your farming cheaper, easier and better.

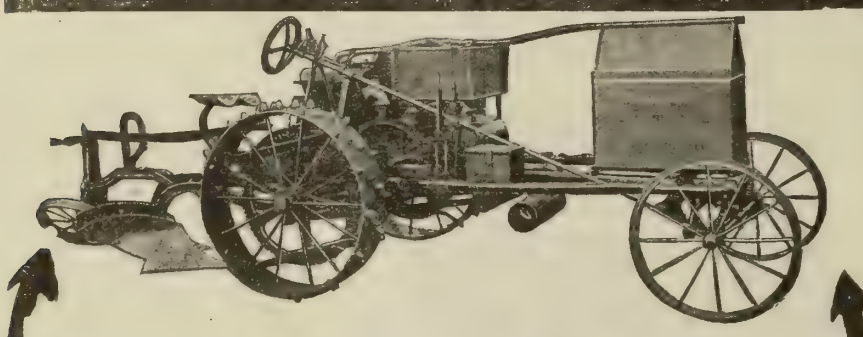
You or Your Boy Can Run This Avery Plow Outfit Alone

New Avery No-Man "Self-Lift" Plow. No plowman needed. Pull a cord to engage a clutch and the plows are raised and lowered by power taken from plow wheels. You don't have to hire an extra man to run the plows. Saves all the hard back breaking work of lifting and lowering the plows by hand levers. The Automatic "Power Lift-Self Drop" Device does all the work.

Avery Tractors are "Light-Weight." Won't pack your ground, don't waste fuel moving useless dead weight, travel over softer ground. Also the simplest tractor built. Easy for anyone to handle and keep in running order. Built in sizes to fit small, medium or large farms.

Learn the Facts about Power Farming with an Avery "One-Man Outfit" Don't miss seeing this actual demonstration at Fremont. Also write for a catalog. Address

AVERY COMPANY, 719 Iowa Street, Peoria, Illinois,
or Branch House, Omaha, Nebraska.



The "Denning" Pug Tractor

Runs on Kerosene, Naphtha, Gasoline or Distillate without changes or preparation.

Always under absolute control, responding instantly to levers.

One man or boy can operate—no other aid necessary.

Plowing equipment has two 14-inch plows which operator can control without changing position. Most economical and satisfactory Machine for Hauling and Road Work.

Has scores of other big points that you should know about. A big value at a low price.

Write Now for Tractor Book—FREE.

Dept. H The Denning Motor Implement Company
CEDAR RAPIDS, IOWA.

USE GERMOZONE

For Bowel Complaint in old or young chickens: Clean up, change feed and give Germozone, a teaspoonful to a quart of drinking water.

For Roup, Colds, watery eyes or nostrils, swelled head, nostrils stopped up, etc., a teaspoonful of Germozone to a glass of warm water. Inject through the nostrils into the head passages. Wash soiled places under the wings with same solution. Give Germozone in the drinking water as for bowel trouble.

For Yellow Canker or diphtheria in mouth or throat of chickens: Remove the canker and apply Germozone right from the bottle. One application generally effects complete cure.

For Regulating Bowels: Give Germozone twice a week as for bowel complaint. It is marvelous how much better chickens will thrive, grow, or produce when bowels are kept regular.

For any Sore, Cut, Wound, Burn, irritation, itching or tenderness of the skin, apply Germozone diluted, one teaspoonful to a glass of water.

For Old Sores, Ulcers, etc., apply Germozone full strength (right from the bottle) once or twice a day.

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21,000 acres of land at 50c per acre, perpetual water rights, on easy terms, easier than paying rent. No droughts, no floods, no cyclones, no part in the U. S. more healthy, no better stock country on earth. Homes that pay for themselves. Splendid markets and big crops of alfalfa, grain and vegetables now growing in the valley. Summer tourist fares (first class) daily, and homeseekers' fares (second class) first and third Tuesdays of each month. Do not let this opportunity pass but write at once for full information to E. H. MORGAN, Sales Mgr., Eden Irrigation and Land Co., Rock Springs, Wyo.

It only takes a line or two to state that you saw it in the Twentieth Century Farmer when corresponding with advertisers on this page, thereby favoring advertiser and publisher

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Size Required for Pit Silo

L. R. J., Inland, Neb.: It will take 200 head of cattle to feed out a silo thirty feet in diameter to insure no loss of feed. I would not advise any ordinary farmer to put one down over twenty feet across and not less than twenty-five feet deep.

Editor's Note—In order that farmers intending to build silos may know what size of silo is best adapted to their use, the following table is printed:

Table showing required acreage and stock feeding capacity for silos of various sizes:

Dimensions.	Capacity in Tons.	Acres to Fill, 15 Tons to Acre.	Cows It Will Keep 6 Months, 40 lbs. Feed Per Day.
10x20	30	3.	8
10x24	36	3.	10
10x28	44	3.	11
10x32	53	3.4	14
10x40	75	4.6	19
12x20	45	3.	11
12x24	55	3.2	13
12x28	66	4.1	15
12x32	84	5.	20
12x40	121	7.3	27
14x20	60	4.2	15
14x22	66	4.5	17
14x24	73	4.7	19
14x28	90	5.6	22
14x32	110	6.7	27
14x40	150	9.2	37
16x24	95	6.2	24
16x28	111	7.2	29
16x32	130	8.7	35
16x40	180	12.	49
18x30	150	10.2	41
18x36	190	13.	50
18x40	229	15.3	62
18x46	277	18.8	77
20x30	185	12.5	50
20x40	279	18.8	77
20x50	382	25.5	104
20x60	500	32.	136

Query from a Renter

D. J. B., Loomis, Neb.: I am a renter. I have corn that may not produce ears, so it will be unfit for picking, and I will have to cut it up. Now, my question is this: Can the landlord claim one-third of the stalks? I have never heard of any land owner claiming from his renter anything but the fruit—corn yield, his one-third. But my landlord claims one-third of the stalks. He did so last year with his renters. Now, if the field produces no ears, would it be lawful to claim from me one-third of the stalks, and get besides the little corn that they may contain, and let me stand for the expense of cutting his share? Furthermore, if doing so would be fair, why does he not claim one-third of the stalks in a good year? It seems unfair to let the land owner demand from a tenant one-third of all, both the stalks and the little corn that they may bear. I also wish to ask: Can I not husk through several places in the field to determine what the corn will produce, and thus judge what is the landlord's share of the whole crop?

Editor's Note—This is purely a question of contract between the landlord and the tenant. Few tenants take the trouble to have all their rights clearly and definitely set forth in a written contract. Whether the landlord can demand the delivery of one-third of the stalks depends upon the terms of the contract that the tenant entered into. It is the business of every tenant before he signs a contract to see that all his rights are protected by it. If the tenant has signed a contract, he is bound by the terms of it. If the contract calls for a delivery of one-third the crop, it means just what it says, and the stalks are a part of the crop. The tenant should safeguard himself in signing future contracts.

Improvised Pit Silo for Bundle Corn

W. D. S., Richfield, Neb.: In view of the drouth affected corn crop, there seems to be much said at the present time about caring for what remains of the crop, such as cutting for fodder and putting into silos. A little bit of actual experience the writer had during the later '80s in the southwestern part of the state may be of value to some farmers.

The silo business was then being brought to the notice of the people, and, being of a rather experimental turn of mind, with no means for the purchase of a silo or a cutter for the corn, I thought to try an experiment on my own account.

We had a dugout in the side of a canyon that was twelve feet square and nine feet deep, with a doorway open from the face of the bank and a roof of brush and prairie hay. We removed the roof, closed the door up so that the banking of dirt could be removed and access be had to the interior later on. We went into a field of late corn with team and corn knife, cutting and loading it onto the rack and hauling it in and packing the whole stalks into this pit as closely as we could, the hired man who was helping making fun of me meanwhile and telling me I had certainly gone crazy and that the stuff would rot.

I piled the corn up some two feet high above the level of the bank so that I could secure the pressure of the covering upon the corn. When all was done I laid three good-sized logs across the corn, then laid over them some poles, and onto these I put some old hay and straw and some old litter from the barn.

The hired man told my neighbors of what I had done, and they had a good deal of sport out of it. Time passed. There was no way of looking into it, and in fact I was about half afraid to look. But along near Christmas time one day I concluded to dig into the thing and see what there was to it. Well, sir, I opened it up. There were the corn stalks; but, say, as black as coal tar and very moist. "Spoiled, by gum," says I to myself.

I pulled some of it out, though it was wedged in pretty tight. It was as limber as a wet rag and the ears could be almost tied into a knot. The cattle were nearby, so I tossed the f - stalks to them, and, to my amazement, they had scarcely gotten a good smell till they began to eat. I pulled out some more and tossed it to them, and they literally fought for it. Well, I just began then to give it to the milch cows alone, and they increased in milk flow right along, and not one single stalk of that whole pit full of corn was wasted, and I was sorry that I did not have five times as much.

Editor's Note — Similar reports from pit silos for bundle corn have been received at this office. Such a method of handling corn fodder is

much better than allowing it to weather in the field. There is more waste with bundle fodder than with cut fodder used in the same way. But bundle silage is better than no silage at all.

Fine Prospect for Potatoes

W. L. M., Gordon, Neb.: We have one of the best potato crops that we have ever had in this country. As far as I can see the outlook is that the yield is going to be the biggest and of the best quality that we have had for years. We have been getting a reasonable amount of rain, and where people have plowed deep and cultivated well they have not suffered so far from lack of moisture. On my own place I have about sixty acres of Irish Cobblers that are looking fine, and so far have not shown any disease of any kind. They yield about 50 per cent more than the Ohios, and we are hoping great things from them for this country. The lecture last winter on deep tilling stirred up a great deal of interest in deep cultivation. We put out three of those plows last spring, one of them on my own place; but, as the season was late, did not get a chance to try it out as a deep tiller. A neighbor plowed several acres with his. A party of us were out there several days ago and went into the field where he had plowed with it, and on examining the soil we found more than three times as much moisture in that ground as we found on other ground right by the side of it that was planted and cultivated exactly like it.

The small grain in this country is not a fair crop. Corn up to date is the best we have ever raised. We have had several good rains lately, which will put the potatoes and corn crop through even if we get no more.

Editor's Note—This is certainly good news from a part of the country that years ago was described as fit only for range cattle. They are making it one of the finest agricultural sections of the state.

Pit Silo Difficulty

J. A. B., Wilbur, Neb.: I have dug a pit silo, but have struck an obstruction that I am not able to overcome myself. I dug it down fourteen feet, and now it is too sandy to plaster. Will some readers that have had experience with the same give advice? Information may be late for this year, as I intend to fill what I have dug, but I should like to go deeper next year.

Editor's Note—Some pit silo men have met with difficulties of this nature, and have got around the difficulties by bricking up the silo. For this purpose, only one tier of brick is used, and these are laid in cement, and then the face of the brick is coated with cement. One man in the state bricked his silo for eight feet from the top, and then left the rest of the dirt all bare, and this method proved satisfactory to him. Advice or suggestions from other readers is desired.

Wheat Yields on University Farm

The wheat on the Nebraska University farm has been harvested. The yields this year are unusually irregular, due chiefly to the drouth, to injuries by the Hessian fly and to soil treatment. The soil treatment has shown marked effects. These three factors, combined with varietal influences, have produced the greatest variations ever before observed on the farm. The yields of wheat varied from eleven bushels to 61.4 bushels per acre, an actual difference of a little over fifty bushels.

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With Power Lift

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The above illustration shows our wonderful **Power Lift** by means of which the operator without leaving his seat on the engine, raises and lowers the Plow any desired amount, simply by pulling one or the other of two cables. The power to operate this device is derived from the land wheel, which is always on solid ground.

This Gang is constructed entirely of steel and malleable—extra heavy wheel beams, truss braced—2-inch high carbon steel axles—wheels with dust proof boxes and hard oilers.

The One-Man Tractor Gang is built in two styles—the Regular and Special Deep Furrow. Both of these styles are furnished with either Plain or Friction Break Beams and both may be equipped with Automatic Power Lift.

This Gang is built in units of four Plows each (which may easily be reduced to three plows), These may be coupled in rigs of 2, 3 or 4-plows, making either a 6, 7, 8, 9, 10, 11 or 12-plow outfit.

This Gang will be exhibited at the plowing demonstration at Fremont, Neb., September 8th to 13th. **Do not fail to see it.**

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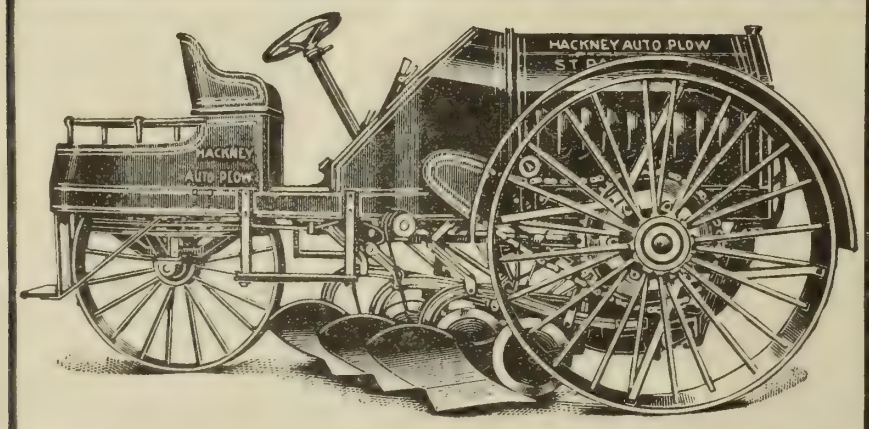

The Hackney Tractor

(The One-Man Outfit)

will be on exhibition and demonstration each day at The Big Farm and Power Demonstration to be held at Fremont, Neb., Sept. 8 to 13, inclusive, in connection with the Four-County Fair.

The exhibit will be made by The Lininger Implement Co., Omaha, Neb., who are general agents for the Hackney Tractor in that territory. Don't fail to see these demonstrations, as their experts propose to show that the "small tractor" is the only practical and economical machine for general farm work.

Hackney Tractors are now owned and being operated by Nebraska farmers, in many parts of the state, whose names we will be pleased to furnish to any prospective purchaser.

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574 Prior Avenue, St. Paul, Minn.

Review of Live Stock Marke

By A. C. Davenport

THE trade has been greatly surprised at the way the market on stockers and feeders has held up in the face of drouth conditions. In years gone by the loss of a corn crop in two or three of the big corn and cattle states was sufficient to bring on a flood of cattle with consequent demoralization of market values. This year, with prices on stocker and feeder cattle generally regarded as dangerously high and with three or four states more or less damaged by drouth, it was only reasonable to expect that experiences in the past might be, in part at least, repeated. On the contrary it would appear that the high water mark of shipments from the dry states has passed and still nothing like demoralization has resulted. To be sure prices were temporarily weakened, especially at Kansas City where the bulk of the dry weather cattle went, but such weakness as was developed was of short duration and prices almost immediately sprang back to their previous high level.

There is only one explanation for this and that is that the country is feeling the general shortage in cattle and that any appearance of a surplus in any one locality is the signal for an onslaught of buyers. That is exactly what took place at Kansas City. No sooner had the word gone out that shipments of stock cattle at that point were abnormally large than buyers and buying orders poured into that market sufficient to take care of all the surplus, and the market, instead of being demoralized, became surprisingly active.

Operators on the market were disappointed that the dry-weather cattle failed to break the market, as they believe that prices of stocker and feeder cattle are higher than the situation would justify. Still they have not entirely given up hope of seeing a lower market when shipments from the range become more liberal. Whether their hopes along this line will be realized or not remains to be seen, but the chances are about even that they may again be disappointed. The fact is, the demand for cattle over the whole country, barring the dry states, is unquestionably in excess of the supply, so that if left to the law of supply and demand there would not seem to be very much prospect of the market breaking, or if it does break, of its remaining down very long. However, the idea that stocker and feeder cattle are too high is being advocated to such an extent that it is possible that the country may come to feel the same way and by holding back from buying, force the market lower. Unless something of this kind takes place and the country becomes more conservative than it has been during the last two or three weeks it is hard to see how prices can be held down much below their present level.

Hogs Show Upward Tendency

It would look very much as if hogs had touched the low point and that the market was once more on the way upward. There has been a great change of sentiment among the trade within the last week. It was not many days ago that the bears were decidedly in the ascendency and bear talk was heard on every side at the big market centers. The bulls, however, have taken renewed courage. It has been apparent during the last few days that packers have really wanted the hogs, and the trade has taken on a more healthy and active tone, while prices have made very considerable advances at the different markets. At present writing operators on the market are indulging in the belief that hogs will not go any lower than at present, or if they do that it will be only a short-lived break. Some are predicting a continuation of the upward movement in values and bets have been made that better than $9 will be paid for hogs on the basis of Omaha before November 1. On the other hand, the more conservative do not expect to see hogs go very much above present figures, but are looking for prices to keep between $8 and $9 during September and possible into October.

It is, of course, a time-honored custom of the packers to break the market before the opening of the winter packing season, November 1, and to keep up this tradition the market should be lower during the latter part of October. However, the strongest bulls will not concede the packers even that much satisfaction but argue that dry weather and the high price of corn has forced so many immature hogs to market, and that the cholera is cutting off so many more, that the supply of hogs for shipping in October will not be large enough to give the packers a chance to break the market. It has, however, been demonstrated a great many times that the packers can, when so disposed, break a market on very small receipts.

Feeder Sheep Dominate

The feeder trade is the dominating influence just at present in the sheep market, the same as it is in the cattle market, and there is considerable resemblance between the two markets. As in the case of cattle, operators on the market generally regard feeder lambs as selling at unreasonably high figures. It is a noteworthy fact that when left to themselves regular operators on the market are not buying, but are advising their friends to wait. In most cases they are willing to pay $6, or a little better for good feeding lambs on the basis of Omaha. In spite of this, however, there have been enough country buyers to keep the receipts cleaned up and to maintain strong prices.

PUBLIC SALE OF OKLAHOMA SCHOOL LANDS

Notice is hereby given that the state of Oklahoma will offer for sale at public auction, at the time and places herein set forth, 560,290 acres of its school lands, as set forth in pamphlet advertising said land for sale.

All lands will be sold at the door of the county court house of the county wherein the land is situated.

Boise City, Cimarron county, 385,376 acres, Sept. 22 to Oct. 10, 1913.

Guymon, Texas county, 182,874 acres, Oct. 13 to Oct. 29, 1913.

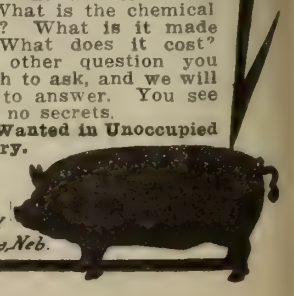
The terms of the sale are 5 per cent of the purchase price cash, at time of sale, and in no event shall the initial payment be less than $50. The balance of the purchase price is divided into forty equal annual payments, with interest at the rate of 5 per cent per annum, payable annually. Prospective buyers will bear in mind that these lands are unimproved, and the lessee has no preference right to purchase. There positively will be no improvements of any kind to be paid for by the purchaser, and a lessee has no more advantage than a non-resident of the state. Also that 1,280 acres or any subdivision thereof of these lands can be bought by one person. A pamphlet containing full and complete description of each tract of land, with the appraisement thereon, to be sold, together with all the laws, rules and regulations, can be had, postage prepaid, upon application to the commissioners of the land office at Oklahoma City, Oklahoma. Address all communications to John R. Williams, secretary, 504 Mercantile Bldg., Oklahoma City, Oklahoma.

GRAIN BELT BRAND

Vegetable Hog Potash

Why wait thirty to ninety days for results. **Grain Belt Brand Vegetable Hog Potash** will put your hogs' appetite on edge in thirty minutes. Add five pounds to one hundred pounds dry weight of grain, and see how much better they clean up their feed. Write and ask us the following questions: What will it do for hogs? What is the chemical analysis? What is it made from? What does it cost? Or any other question you may wish to ask, and we will be glad to answer. You see we have no secrets.

Agents Wanted in Unoccupied Territory.



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TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, September 6, 1913 | Number 665

Put Jack-Screws Under Your Farm

It is the Only Sure Protection Against Excessive Heat and Crop-Destroying Hot Winds

A TRUE STORY WITH A PLAIN MORAL:

Years ago two boys, Harry and Jim, were playmates living on adjoining farms in western Illinois. They grew to manhood and each realizing the impossibility of ever securing clear title to one of the high-priced Illinois farms, decided to seek a location where he might find land within his means.

Harry purchased 640 acres in central Kansas, settled on it and began farming. Jim thought he would look around a little. He had read a good deal and had some theories of his own. He had conceived the notion that it was not lack of rainfall so much as extreme heat that caused crop failures, and he made up his mind to find, if he could, a new country where with rainfall reasonably abundant it did not get too hot during the growing season.

Just at that time the papers were full of the accounts of the efforts of President Roosevelt to compel the ranchmen of southwestern Wyoming to remove their fences surrounding public lands and Jim reasoned that the country must be pretty good else why were the ranchmen fighting so hard to retain possession of it. So he got hold of a Union Pacific folder and found that the altitude of the district which the President and the ranchmen were quarreling over was from 5,000 to 6,000 feet above sea level. He wrote the Western Bureau of the U. S. Agricultural Department and found that while the rainfall was only moderate in quantity, being about 16 inches per annum, approximately three-fourths of it fell during the growing season. This looked good to Jim, but that which surprised and pleased him most was the government report showing that during an unbroken record of more than twenty years the thermometer had never, not for a single day, reached a point making hot winds possible.

Jim hastened west. At Omaha he visited the Land Department of the Union Pacific and was informed as to the proper station to which to buy his ticket. He was directed to a man at that station from whom he could hire a team to drive over the country and was told that some twenty miles from the railroad, in a small territory not occupied by the ranchmen, a Swedish colony had located several years previously.

He visited the Swedish settlement and found that although these people had started almost with nothing they were raising good crops and prospering. He spent several days looking around and bought a small improved ranch on which he settled and began farming the next spring. When Jim moved in there was less than an acre (only a potato patch) of the ranch in cultivation. The ranchman had grown rich raising cattle and from a small start had accumulated a herd of 1,500 head. Jim began turning over the virgin soil. The first season his oats on sod breaking yielded 43 bushels per acre and his flax 13 bushels per acre, selling for $1.40 per bushel.

The next season his spring wheat on land in flax the previous season made over 23 bushels per acre. Each year he has increased his average and has grown profitable crops, including corn, for while the cool nights prevent the maturing of the big varieties grown in the central states, the northern kinds, with shorter stalks, more numerous ears and abundant foliage are successfully grown. Last season oats grown on some of his oldest cultivated land made 75 bushels per acre.

AND HOW ABOUT HARRY? His fortunes, or rather, misfortunes, can best be told by quoting some of the correspondence between him and Jim:

Blank, Kansas, August 15, 1913.

Dear Jim:—

I have your letter of the 10th and am glad to learn that you have raised your usual good crop there. Yes, Kansas is burned up again. The prospects were good in the spring but the hot winds set in just as they have to a greater or less degree every summer since I came here but worse I think than ever before. My crops are a total failure. Cattle are being shipped and driven out as fast as possible as there is no feed here for them.

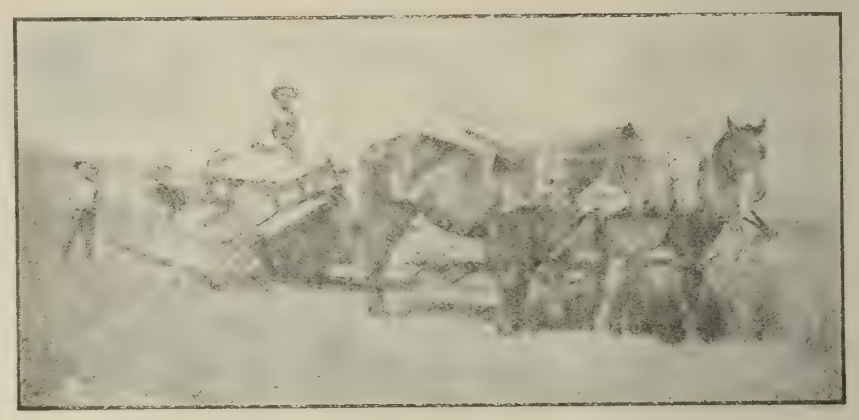
Am glad you sent me the photo of your oat field. I think I would have recognized our old Illinois friend, Charlie Stratton, on the binder if you had not told me who it was. From the looks of his little boy I take it Wyoming is a good place in which to raise boys as well as grain crops.

It surprised me to learn that your hottest day there this season is 92 as we have had it up to 114 here two days and for days and days the thermometer has stood above 100. I am discouraged and ready to quit. I cannot buy elsewhere unless I sell here and that is impossible at present. Have thought of going back to Illinois and renting again but Brother George writes me that he has threshed his oats and they only made 18 bushels per acre, while his corn will not make over 40 per cent of a crop. It will hit him pretty hard as he went in debt for his farm at $150.00 per acre.

Jim, it is a puzzle to me that while I have had either a total failure or only a partial crop here each season you have done well there every year. I have thought until now that it was only accident and you would "get yours" sooner or later but this season seems to settle it.

Now, it is not so very far from here to Egbert and I want you to write me a good, long letter, telling me just as carefully and fully as you can why it is that you are raising crops there every year while I am making a failure here, for you know I was just as good a farmer in Illinois as you were. I hope you will write soon and at length for conditions are desperate here and I do not know which way to turn.

As ever your friend, HARRY.



1913 field of oats on "Jim's" farm near Egbert in the Golden Prairie District of Wyoming. The rainfall here this year as shown by government records has been below normal every month of the growing season and yet we can show you thousands of acres of oats, wheat and other crops just as good as "Jim's."

TO WHICH JIM REPLIED:

Egbert, Wyoming, August 21, 1913.

Dear Harry:—

Yours of 15th at hand. Am busy building a silo so take my stubby pencil in my dirty fingers to say—if, just before the hot winds set in down there, you could have put jack-screws under your farm and raised it up to an altitude of say 5,400 feet above sea level, and as an extra precaution while you were running the jack-screws, could have had your wife and children throw up a range of snow-capped mountains to the southwest, don't you think you would have raised a crop?

Hastily, JIM.

AND HARRY WROTE BACK ON A POSTAL:

Blank, Kansas, August 24, 1913.

Dear Jim:—

Just got yours of the 21st. You could not have explained it better if you had written ten pages. Still horribly hot and dry. Will write a letter in a few days. Yours, HARRY.

AND HERE IS THE MORAL THAT HE WHO RUNS MAY READ: PUT JACK-SCREWS UNDER YOUR FARM.

Of course, you cannot do it literally but you can quickly and easily accomplish the same results by securing a farm under which nature has placed the jack-screws. There may be many places where this condition exists. We know of but one. That is the GOLDEN PRAIRIE DISTRICT of southeastern Wyoming and Jim's farm is right in the heart of it. Jim is only one of hundreds in the Golden Prairie District who in five years have developed from renters on high-priced, hot wind jeopardized land in the central states into prosperous farm owners where nature safeguards them from excessive heat and hot winds by having in the formative ages of the earth PUT JACK-SCREWS UNDER THE LAND.

During the past six years we have sold Golden Prairie lands to hundreds of farmers. They are making good here and you can do likewise. We are owners, not agents. We sell direct, reaching our customers by advertising in high-class farm papers and by those who have dealt with us telling their friends of the virtues of the Golden Prairie and of our fairness and liberality with them.

If you have not as yet received our literature write at once that we may send it to you. The Summer Tourist rates now in effect will enable you to come cheaply, and by coming soon you may see the golden grain in shock and as it comes from the thresher.

We guarantee every representation we make to be true, and upon your filling out and mailing to us the attached coupon, we will send you our signed guarantee by which we agree to refund your railroad fare and $5.00 per day if, on coming you do not find everything as represented.

The sooner you write us, the sooner you will know about the Famous Golden Prairie District, the land of moderate temperatures and big crops.

We sell our lands on ten years' time, or on our Famous Crop Payment Plan, whereby, after making a small down payment, as an evidence of good faith, all the balance of the principal and interest is paid by delivering to us at nearest market one-half the crop raised each year, which is credited at market price until the land is paid for. Prices of unimproved land, $15 to $25 per acre, according to quality and location.

COUPON

The Federal Land and Securities Company, Cheyenne, Wyo.

Gentlemen:—Please send me at once full particulars of the Golden Prairie District, including your signed Guarantee of return of railroad fare and $5.00 per day if I do not find everything as represented.

Name .....

Address .....

T. C. F.

The Federal Land and Securities Company

100 West 17th Street **Cheyenne, Wyoming**

Bright and Breezy

Willing to Help

A somewhat choleric gentleman, while waiting for his train, entered a barber's shop to be shaved. The barber was very deliberate in his movements, and the slow manner in which he applied the lather got upon the shavee's nerves. At last his patience gave way and he roared out:

"Here! For heaven's sake hold the brush still and I'll wiggle my head."

Found by a Foot

Tom Jackson said one morning at breakfast:

"Hang it all! While I was weeding I dropped my Imperial Order of the Roosters pin on the lawn, and I've been looking for it now over half an hour. It's gone for good, I suppose."

That night when Jackson sat down to dinner there was his pin beside his plate.

"Bully for you," said he. "Where did you find it, Martha?"

"I let Tommy go barefooted this afternoon," said Mrs. Jackson quietly.

Do You Know?

Vice President Thomas R. Marshall told one on himself when he was in Indianapolis recently.

"We were attending some sort of a function in a town in North Carolina—Mrs. Marshall and I"—he said.

"There was a convention of railway engineers in progress there. At the railway station we were noticed by the leader of a band of about fifteen engineers and he immediately came across the platform to greet me. I shook hands with all of the men but one, who remained on the other side of the platform.

"Finally the leader of the crowd spied him.

"'Hey, Jim, come over here and shake hands with the vice president,' he said.

"Jim leisurely came over and shook hands.

"Then he turned to his partner.

"What 'd yuh say his name was?' he asked.

"'Marshall,' said the other.

"'Vice president of what?' queried Jim."

Let None Escape

One day a college youth went west and got work on a farm. He wasn't very well informed about farm life, but, as he was willing to work, the farmer hired him. That night the farmer said: "How are you — a pretty good runner, boy?"

The collegian swelled with pride. "I took the prize at college for being the fastest runner."

"Well, then," said the farmer, "you can bring in the sheep."

Two hours later the young man entered, exhausted, his breath coming in short gasps.

"Have any trouble?" asked the farmer, grinning to himself.

"I got the sheep in easy enough," said the youth, "but I had an awful time catching the lambs."

"Why, I haven't any lambs," said the farmer in surprise.

Together they walked to the pen. There were all the sheep—and also five jack-rabbits.—The Pathfinder.

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Week of Power Farming Demonstration

THE TWENTIETH CENTURY FARMER Power Show at Fremont, Neb., next week, September 8 to 13, will be the largest exhibition of power farming machines ever held in America. Forty tractors, including all of the best makes, will plow, disc, harrow and seed 500 acres of stubble and virgin prairie. Following is the program for the week:

MONDAY—Tractor Street Parade. Tractor Men's Banquet by the Fremont Commercial Club.

TUESDAY—Mid-West Implement and Nebraska and Iowa Grain Dealers' Day. Morning, private demonstrations. Afternoon, public demonstrations; 1:30-4:30, watermelon feed furnished by Omaha Implement Dealers.

WEDNESDAY—Ak-Sar-Ben and Omaha Day. Morning, private demonstrations. Afternoon, public demonstrations, 1:30-4:30.

THURSDAY—Live Stock and Lincoln Day. Morning, private demonstrations. Afternoon, public demonstrations, 1:30-4:30; Farmers' Barbecue, 4:30-6:00.

FRIDAY—Iowa and South Dakota Day. Special Sod Plowing demonstrations.

Prattle of the Youngsters

In a Nutshell

"Papa, what's twins?"

"Two children of the same age, of the same parents."

"Why, I thought they was a philopena."

On the Head

"What," asked the Sunday school teacher, "is meant by bearing false witness against one's neighbor?"

"I know," said a little girl, holding her hand high in the air. "It's when nobody did anything and somebody went and told about it."

Foolish Question

Aunt Eliza came up the walk and said to her small nephew:

"Good morning, Willie; is your mother in?"

"Sure she is," replied Willie truculently. "D'you s'pose I'd be workin' in the garden on Saturday morning if she wasn't?"—Ladies' Home Journal.

Her Question

A certain prominent dry goods merchant is also a Sunday school superintendent. Not long since he devoted the last few moments of the weekly session to an impressive elucidation of the parable of the prodigal son, and afterward asked with due solemnity if any one of the "little gleaners" present desired to ask a question. Sissy Jones' hand shot up.

"Very well," he said, designating her with a benevolent finger and a bland smile, "what is it you would like to know, Cecelia?"

"Please, what's the price of them little pink parasols in your show window?"

Cheering the Invalid

They sent Willie to inquire about the condition of a sick neighbor, giving him instructions not to worry the sick man.

Willie returned with a pleased look on his face, as though he had carried out his instructions to the very letter.

"I tell you, mammy, I cheered up Mr. Smith all right. I told him that when he died we was all going to his funeral and that the neighbors had already chipped into buy a wreath for his casket, and I only asked him one question: 'What was his favorite flower?'

"It would be so nice, I told him, to have the wreath made out of them."—National Monthly.

Following Instructions

When 9-year-old Teddy displayed the shining new quarter which Mr. Brown had given him down at the corner store, mother very naturally asked if her little boy had said "Thank you" to father's friend.

No answer.

"Surely you thanked Mr. Brown," she persisted.

Still no answer. Trouble showed on the little face.

"Teddy, listen. You ought to have said, 'Thank you, sir.' Did you?"

No answer yet.

Come here, dear little son. Tell mamma now. Did you thank Mr. Brown for the quarter?"

"I told him 'thank you,' an' he said not to mention it, an' I tried not to."—New York Times.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Educational Idea Prevails at Iowa State Fair

Introduction of the Individual Farm Exhibit is Proving More Popular Than County Exhibits

IOWA'S 1913 State Fair has set an advanced pace for this class of agricultural and live stock expositions. For many years Iowa has been conceded one of the most progressive state fairs in the United States, and its present onward and upward tendency in exhibition interests and industry is only the evidence of the progressive spirit of its people. Iowa planned wisely and well in building the foundation for its State Fair. Its founders were unbiased in their effort to measure the future by the past and provide grounds and plans that would be in accord with the needs of generations yet unborn. Its spacious fair grounds, while ample for present needs, indicate that greater economic use of space must be practiced in future development.

Educational Idea Prevails

Iowa and Iowa's people are in sympathy with its fair. The educational idea prevails, and its exposition interests are closely coupled with its educational institutions and its educational forces. These are made a feature and a part of every department of this great exposition. The dean of the Agricultural College is a member of the State Board of Agriculture, and takes an active part in the fair management. The Agricultural College forces are thus brought into a close relationship to the State Fair. The Agricultural College exhibit is one of the very large and attractive displays. It has its special building, with every feature of rest and comfort, and invites the tired fair visitor to spend a portion of his time in the investigation and study of what the state is doing for agriculture.

The most pronounced feature of the Iowa State Fair management is the tendency to direct every feature of display toward the moral and educational effect upon its patrons. The old-time questionable amusement features that were once thought proper for fair grounds are today refused a place for exhibition.

The improvement in system and arrangement of exhibits in all departments of this fair are very noticeable to the critical fair visitor, who looks upon each recurring exhibition for improvement. It is not an uncommon thing to hear this expression used, after some fair closes, when reference is made of "How was the fair this year?" "Oh, just the same old thing over again; no change."

Rest for the Weary

There have been great changes in the Iowa grounds in making the parked spots more attractive and pleasant for visitors. The new open court in front of the administration building deserves special mention. This is a large, shaded picnic or rest ground, amply provided with seats, where splendid concerts are given at stated hours throughout the day, just for the entertainment of the hundreds of persons who have stopped to rest, on comfortable seats, or on the grass, as thousands prefer as the quickest and easiest way to get rid of "that tired feeling," which most fair visitors experience after a few hours' travel over the fair grounds.

Exhibitors are taking a little more space in some departments, with a view to making a more attractive display, giving more demonstration room and furnishing more rest space for visitors. The encouragement to more attractive display has been enhanced by lengthening the exhibition period to eight days. This fair now commences with a complete program for Friday and Saturday instead of making these preparation days, as formerly. The judging starts in all departments, and a full and complete program is carried out. The fair visitor who arrives on the first or second day will be better entertained and have a better opportunity to see than if he had delayed until the crowd and jam of travel to the fair had commenced. These beginning days are sure to grow in popularity with the people, who are anxious to see the fair untrammeled by such obstacles as are met with where great crowds of people are congregated.

Individual Farm Exhibits

One of the improvements made this year, and which is along the line of educational state fair progress, is the introduction of the individual farm collective exhibit. This classification takes the place of the county collective exhibit, a common feature of display with many state fairs, but one which carries no special educational influence with it. The collective exhibit is purely an exhibition of farm products, demonstrating the skill of the exhibitor or exhibitors. A few persons in each county have become expert exhibitors in this kind of a contest, and the display does not demonstrate any local condition of superiority more than that of exhibition skill. The individual farm exhibit shows to the fair visitor what is possible to produce on the farm by man's own efforts, and stimulates the ambition to try to measure up to the particular farm or man whose basis of production is the exhibit under inspection. The farm name is also an inspiration for the sight-seer to go home and name his farm and build his own monument by his farm's individual products and reputation.

There were nineteen individual farm collective exhibits this year. These nineteen exhibits were each occupying about eight by twelve feet shelf and wall space, making a nicely proportioned display. As variety and decorative feature of exhibits counted in the scoring, as well as quality of products, there was a neatness and beauty of arrangement in these displays that attracted attention and the favorable comment of sight-seers. The feature of general interest was the fact that this stuff had been produced on one farm, and the garden truck patch, grain field, meadow and orchard each contributed its share.

This display was based upon an outlay of $800, to be proportioned as premiums among the contestants according to the score each received from the awarding committee. The score for a complete exhibit was 100 points, and fifty was the score necessary to win a pro rata in the money offered. Thus all farms whose display scored fifty points or more were entitled to their pro rata of the $800, according to this score. Those articles that combine in making up the individual farm collective exhibit are not eligible to enter in the general classification of farm products in other divisions of the fair. It is the purpose of the fair management to add materially to this line of display by creating other classes of interest to the farmer upon similar basis of incentive.

Agricultural Building Center of Interest

The agricultural building, which at present is used to house practically every feature of farm production outside of live stock, has become one of the great centers of interest on the State Fair grounds. It provides space for the fruit display, both fresh fruits and canned fruits, pickles, preserves, etc. The fresh fruit exhibit was an improvement over former years, especially in quantity and variety exhibited.

The showcase plan of exhibit, the putting of as much as possible behind glass where dust and dirt are excluded, and where the handling

(5)

Rest and Music

THE tired fair crowds at Iowa found ample opportunity to rest and enjoy beautiful music. Wide spaces under the trees were filled with benches, where the weary people might sit, while at almost any hour one or another of the excellent bands on the grounds was performing. The picture on the opposite page shows how this privilege was appreciated. The benches and grass spaces were always filled, though there was room enough so that they were never overcrowded. This photograph was taken on Wednesday, the day when the attendance records for the week were broken, and any but generous accommodations would have been uncomfortably crowded. The people of Iowa are fortunate in having an excellently managed fair, where every comfort is provided.

Truth About Silos---Reliable Information

VI---Masonry Silos : Materials for Concrete Silos : Different Kinds of Concrete Silos

A MASONRY silo should be built in such a way that it will carry out the intention of making it a permanent structure. This means, in the first place, that it should be built in strict accordance with mechanical principles. Owing to the weight of the superstructure, it is necessary that a solid foundation be placed beneath it. This should be broad enough and deep enough to sustain the superimposed weight without any possibility of settling. In some very few instances this precaution has not been sufficiently observed to insure stability, and the result has been a settling of the superstructure to one side so that it presented a leaning appearance to all observers. In spite of this leaning, in each case the structure has remained rigid when it had been otherwise properly built, but, being out of plumb, it has prevented the silage from settling properly to insure it against decay.

The circular wall of the superstructure should be strictly perpendicular. This is necessary to insure proper settling of the contents.

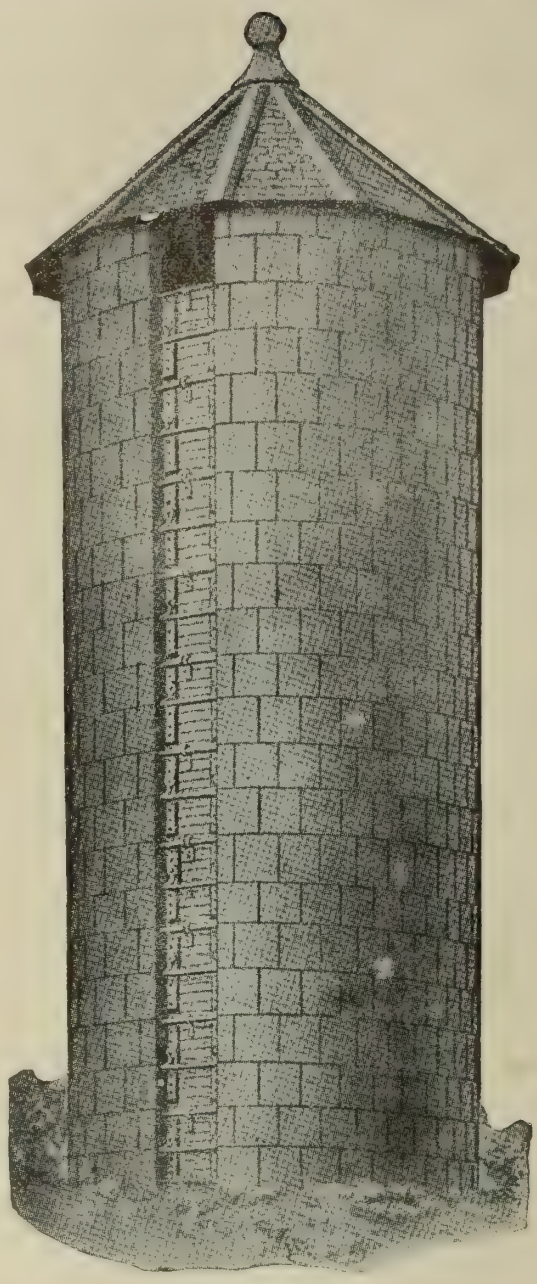
The walls of a masonry silo, of whatever material it is constructed, should be properly and thoroughly reinforced so as to prevent the possibility of cracking or breaking. As an ordinary matter, the material for such a wall, of whatever kind it may be, when laid merely in mortar, does not possess sufficient coherence to hold it strictly in place against the pressure to which it will be subjected. For this reason, proper reinforcement is indispensable.

Should Be Erected by Mechanics

While a great number of instances have come under observation where farmers themselves, without the aid of a mechanic, have erected their own masonry silos, and have succeeded in making a firm, erect, substantial, satisfactory structure, it is probable that not every farmer is well enough equipped to perform this work, unaided, in a satisfactory manner. A masonry silo is intended to be a permanent structure that will serve more than one generation, and for this reason it is best, and in the end most economic, that it be built in the best manner possible. This will require the services of a mechanic skilled in that kind of work. The extra expense of the employment of such a mechanic will be more than met by the increased utility and permanence that he gives to the structure. Unless a farmer is himself mechanic enough to build the right kind of a superstructure, it will be best for him to employ a competent mechanic to do the work.

Proper Materials for a Concrete Silo

Concrete is a mixture of Portland cement, sand, and gravel or broken rock. Each of these materials must be of the right kind, and be used in the proper proportionate amount. The binding capacity of Portland cement depends upon the material of which it is composed, and upon the fineness to which this material is reduced in the process of manufacture. In nearly all cases, the Portland cement that is offered upon the market today is composed of the right materials, so that the purchaser need have no trouble on this account. But not all Portland cement upon the market today has the same degree of fineness. The best Portland cement obtainable is of such a fineness that from 85 to 87 per cent of it will pass through a screen that has 200 meshes to the inch. This will leave from 13 to 15 per cent that will not pass through such a screen. When studied carefully through a glass, such coarse particles in the cement have the appearance of slag or cinders, and are practically so much waste material. Any cement 70 per cent of which will pass through such a screen, is satisfactory for all ordinary uses. The large factories, with up-to-date machinery, are able uniformly to produce Portland cement of the highest quality. But there are in various localities small plants that, on account of not being equipped with proper modern machinery, produce a Portland cement of too poor a quality to merit general use in silo construction. Such inferior cement is placed upon the market practically at the same price that the best quality of cement commands. If only 40 per cent of such inferior cement will pass through a 200-mesh screen, it leaves the balance of 60 per cent in the form of waste material, which makes the remaining 40 per cent of too high a price to be commercially profitable. The user should bear this fact in mind—that, other things being equal, the finer the cement, uniformly the better is its quality, and the more desirable it is in all forms of cement construction.



A Vitrified Clay Tile Silo

Best Kind of Sand to Use

The sand to be used with this best quality of cement should be clean sand, that is, sand that is free from any mixture of clay or earthy materials. It should not be too coarse. A moderately fine sand is better for cement construction than coarse sand. It should be what is known as sharp or gritty sand. Any sand that contains clay or earthy material, is too coarse, or lacks sharp edges, is undesirable for cement construction, because it will not make as good binding material.

Some builders of concrete silos, in addition to cement or sand, use gravel or broken rock as material for concrete wall. While such use of gravel and broken rock cheapens the cost of construction to a certain extent, it cannot, as a general rule, be said to add permanence or strength to the wall. Its use possibly should not be recommended, except in cases where it may be had at little expense, and where the cost of sand of the proper quality is high.

Proportions of Each to Be Used

The relative amount of cement and sand to be used as material for a concrete wall will depend to a certain extent upon the fineness of the sand. It will take more cement properly to join the greater number of particles in fine sand than will be required in coarser sand. The builder, however, should not be afraid of using too much cement. Some cement merchants, in order to induce a greater use of cement, recommend the use of too little; in this way cheapening construction at the expense of stability. The proper proportion for the best concrete wall for a silo, with sand of the ordinary quality found throughout this territory, is one part of the best Portland cement to four parts of sand; while, if gravel or broken rock is used in addition, many builders have built a satisfactory structure by using one part of cement, three of sand and five of broken rock or gravel. It stands to reason, however, that such a wall will not have the strength and the durability of a wall composed exclusively of sand and cement. It is permissable only on the ground that such construction costs less than the other.

Mixing the Materials

The cement and the sand should be thoroughly mixed while dry. The object is to surround each particle of sand with a thin coating of cement. It is for this reason that the finer the cement, other things being equal, the more valuable it is for the purpose. If the cement is not thoroughly mixed, so that each particle of sand is surrounded by a thin coating of cement, there will be places in the structure that lack proper binding material, and consequently on this account will be unable to resist pressure. One may not overdo this matter of mixing. Right here is where the concrete maker fails at the outset. In case gravel is used or broken rock, this should be added after the dry sand and the dry cement have been thoroughly mixed, and all three materials should be so thoroughly mixed that both sand and gravel receive an adequate coating of binding material.

(CONTINUED ON PAGE NINETEEN)

Two Cement Block Silos in Nebraska with a Herd of Pure Bred Holstein Cows

Some Timely Facts About Hog Cholera

Prevalence of the Disease Warrants Further Discussion of the Subject

WHILE hog cholera was so alarmingly prevalent throughout the Missouri valley during the last season, it was freely prophesied by many scientific investigators that this year would see a wide and devastating prevalence of the disease. The fears expressed last year seem in a fair way to become truth for the present season. It is necessary that every owner of hogs should have at his disposal all information possible with reference to the disease so that he may take whatever measures are available to protect himself.

Cholera Probably Blood Infection

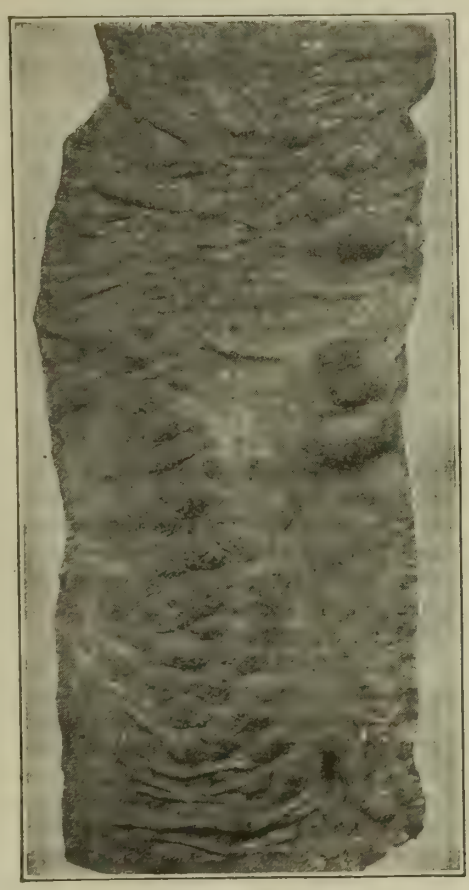
The specific cause of hog cholera has not yet been discovered. From the manner in which the disease develops, and from the way in which it runs its course, it is concluded that it is caused by some noxious germ. The manner in which the infection is transmitted from one animal to another, or from one location to another, seems to establish this hypothesis. But the germ that causes the disease—if it be caused by a germ, as it probably is—has never yet been discovered. It is so small that it will pass without obstruction through the finest porcelain filter. Scientific men have accordingly called the cause of the disease a filterable virus, because no filter has been discovered that will isolate it, and no miscroscope is powerful enough to reveal it to human vision. A "filterable virus" is nothing new. The cause of measles and scarlet fever in human beings, of swamp fever in horses, and of foot-and-mouth disease in cattle, is each known as a filterable virus. In the case of neither of these diseases has the specific germ that is supposed to cause the disease been either discovered or isolated. From the manner in which the disease acts, from the way that it distributes its lesions in the bodies of its victims, in such a way that no two cases are exactly alike, it is concluded by scientific men that the disease is originally a blood infection. This diseased blood causes lesions in the different organs of the body, and the difference in the location of these lesions at first gave rise to the opinion that there were as many different diseases as there were different locations of lesions.

Attacks Most Susceptible Organs

The truth seems to be, however, that this infected blood in the hog causes lesions in the organs that are easiest to attack and most susceptible to disease. A hog may have strong lungs, a strong heart, strong kidneys, strong liver, and still have the vitality of the digestive tract impaired. In this case, the lesions would be found principally along the course of the digestive tract.

Lesions in the Digestive Tract

If for any reason the digestive tract of a hog has been weakened, its vitality lessened, its vigor impaired, the probability is that the characteristic lesions of hog cholera will make their first appearance there. Anything that tends to lower the vitality and vigor of the digestive tract for this reason should be carefully avoided. Too much corn to young hogs before they have developed sufficient maturity of the digestive tract to enable them easily to digest it, and other errors in feeding, produce an acid fermented condition of the digestive tract, which weakens it and makes it susceptible to the characteristic lesions of hog cholera, promoted by the infected blood. Any deranged condition of the digestive tract makes it a natural habitat for the development of intestinal parasites. These intestinal parasites irritate the inner surface of the mucus membrane that interlines the entire digestive tract. The irritation starts a low form of inflammation, and the functional activity and vigor of the whole digestive process is impaired. This makes the digestive tract of the hog especially susceptible to the characteristic lesions of hog cholera.



1—Inner Lining of Large Intestine, Showing Characteristic Ulcers

3—Inner Lining of Intestine, Showing Inflammation and Hemorrhages

2—Intestines Showing Hemorrhages. (A line has been drawn around the lymph gland in the center, which is much swollen and very dark in color.

4—Kidneys Having the So-called "Turkey-Egg" Appearance. Note Minute Hemorrhages on Surface.

Different Lesions Illustrated

The illustrations that accompany this article are taken from extension bulletin No. 37 of the Agricultural College of the University of Minnesota. They will serve amply to illustrate what is here to be said about the various hog cholera lesions. The footnote under each is sufficient explanation to enable any reader to arrive at a full understanding of them. The first, second and third illustrations show the characteristic intestinal lesions of hog cholera. Let this be borne in mind—that the hog whose intestinal tract is kept in the most tonic condition is less susceptible than any other hog to these intestinal lesions. With the aid of these illustrations, any farmer should be able to determine from a post-mortem whether his hog was suffering from what might be called the intestinal form of hog cholera.

If the lungs of a hog are in an irritated, weakened, diseased condition while the digestive tract is relatively stronger, the probability is that this infected blood will produce lung lesions. The prevalence of lung lesions in outbreaks of hog cholera has led certain scientific men to diagnose the disease that acts in this way as something entirely different from regular hog cholera, and many of them have given to this form of the disease a distinctive name such as "swine plague" or "infectious pneumonia." It is, however, to be noted that in all cases where the experiment has been tried the infectious blood from a hog suffering from this so-called "swine plague" or "infectious pneumonia," when injected into a healthy hog, has produced characteristic hog cholera in the hog receiving the injection.

The lesson to be taught by these lung lesions is simple. Everything that will tend to irritate or weaken the function or impair the vitality of the lungs should be avoided. It has been said that more hogs die throughout this territory from diseases superinduced by breathing dust than from any other cause. This may seem to be a rather broad statement, and is, perhaps, somewhat exaggerated. The fact, however, remains that breathing dust does irritate the lungs, clogging the air passages with filth and dirt, and impairs the functional activity of those organs. Obviously, then, the wise course for every owner of hogs is to handle his hogs in such a way that they will be compelled to breathe as little dust as possible.

Should Not Be Fed on the Ground

Hogs that are fed upon the ground in dry weather are obliged to take into their lungs an immense quantity of dust. There have been plenty of instances where a post-mortem has shown the air passages of the lungs clogged and filled with dirt and mud, which has produced irritation and weakened functions throughout the entire organ. This might be avoided by feeding in troughs that are kept damp, and thoroughly cleaned, and constructed in such a way that the hog cannot root food out of them onto the ground. Another reason for such feeding is found in the fact that it is by no means sanitary to compel a hog to pick out his feed from all sorts of infected and filthy matter upon the ground.

Lung Worms

Certain internal parasites have been found which inhabit the air passages of the lungs and cause irritation. A satisfactory method of getting rid of these is not at present at the disposal of the average farmer. A hard, peculiar, racking cough betrays the presence of these parasites, and when the presence is sus-

(CONTINUED ON PAGE NINETEEN)

THE TWENTIETH CENTURY FARMER

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A correspondent of Wallace's Farmer heartily endorses the pit silo.

San Francisco consumed nearly three-quarters of a million tons of coal in 1912.

A cement floor in a corncrib or in a granary is everlasting. It has the added advantage of being vermin proof.

The combined production of anthracite and bituminous coal in Pennsylvania increased in value over that of the previous year $25,455,873, or 7.9 per cent.

People interested in getting good roads should remember that the building of the road is only a part of the work; that to make the road permanent it must be kept in constant repair, and this means a large item in the expense of up-keep.

Animals may be protected in large measure against these biting flies by applying lightly but thoroughly the following composition: One gallon fish oil, two ounces oil of pine tar, two ounces oil of pennyroyal and one-half pint of kerosene. All of the ingredients should be thoroughly mixed.

The tenth annual convention of the Nebraska Farmers' Co-operative Grain and Live Stock Association will be held in Omaha, at the Hotel Rome, December 17, 18 and 19. It promises to be the largest and most significant meeting the association has ever held. Some vital problems will come before the convention, problems that the association is attempting to solve.

Drouth-Stricken Districts

It is unfortunate for the entire population of the United States that some of our largest and usually most successful producing districts have, during the past few weeks, been singled out by fate for the crop destroying influence of heat and protracted dry weather. The destruction of the immature crops has caused a damage resulting in some sections to almost a total failure. These are the mysterious and practically unaccountable features that follow in the course of human events and need not be charged up to any local influence, as next year may direct the blighting influence upon some other section of country whose agricultural successes and achievements have in the past been the envy of the world.

The southwest Missouri valley district has been most severely hit, because of its extensive corn crop acreage which has unfortunately been caught in its most tender and sensitive condition for injury. The effect of a big corn crop at this time over the entire corn belt district would mean much in cheapening the living expense of the whole people. Big crops of all kinds promise more business, and more business means more labor, and these two conditions promise better times and better living for the people. Crop damage hurts the public interests just to the extent of the damage received.

The loss of a corn crop will very definitely influence against the feeding of stock for the fat market, a feature of grain disposition that has become so closely interwoven into the business and feeding operations of the western farmer as to be recognized as a part of the farm routine in the growing and marketing of crops. The rough feed produced on the farm is recognized as a waste, to a large extent, when there is not corn to feed with it to the fattening animals.

The very active demand for cattle of all kinds has been influenced by the prospect of a big crop of all feeds, including corn. Corn is the key crop, so to speak, of the whole crop proposition of the western country. With a big corn crop, all things seem possible; without it, there is nothing possible in the true sense of agricultural and live stock achievements completed and finished for the market. The small grain and early hay crops are generally up to the average, except in the districts where the dry weather set in early and retarded growth before the ripening period.

The grass crop, both hay and pasture grasses, has been greatly cut down in yield in many sections of the Missouri valley. Native hay in Nebraska and Kansas is an all-summer crop, the harvesting commencing in July and continuing well into September, especially when the frost period does not damage the quality. July drouth shortens and materially injures tht upland native hay crop. Alfalfa is the greatest drouth resister of any of the hay grasses, and will immediately revive and product a good growth when interferred with by hot, dry weather. The alfalfa crops of the first and second cuttings on the west side of the Missouri have been satisfactory. The third crop will be light and the fourth is yet an unknown quantity, depending entirely upon the moisture or the lack of it.

Duty of Town and Country

This is an age of organization, a time when co-operative interests may be made truly co-operative, a period of business activity. Community interests well organized, bound together by the bonds of mutual friendship and business relationship, such as should exist between man and his neighbor, are the basis of prosperity, and, if existing in any community of intelligent people, will bring as a reward happiness, contentment, wealth, honor and the independence of its citizenship. This is a text that should be studied by everyone on the farm and in the country town, engaged in any line of lawful business in which his fellow-man may be directly or indirectly interested.

Man should be, and is, interested in every legitimate business carried on in his neighborhood, town or village. By a community of interests are we all made better citizens and more resourceful as a people. Then why not organize an association in which all the people of the neighborhood can take an interest and a part in helping to carry out its objects and purposes for the betterment of all? Every town shoud join with the farmes of its community in perfecting such an organiation.

The farmer is interested in the prosperity and business success of his neighbor in the town that he patronizes in his purchases for the farm supplies, and where he buys his repairs and machinery to prosecute his farming operations. There should be a closer bond of business interests between the farmer on the farm and the merchant, banker and mechanic in the country town. The town and the country surrounding the town should be on the closest co-operative basis in all matters whereby they can become of mutual advantage to each other. The more business development in the neighboring town, the more the lands of the country 'round about increase in value. There is a mutual interest that exists between farmer and merchant or mechanic that in a sense is irresistible. The one is unconsciously helping the other.

What shall the organization be? It can be called a "Harvest Home Association," a "Farmers' and Citizens' Improvement Club," of the town where its people do their business in trading, postoffice, etc. It can be a live stock and agricultural association and hold a little community fair once a year, and be made to develop until it becomes of county importance. This is one of the very best plans for creating a county fair spirit where no county fair exists.

Stable flies, those that bite instead of just tickle, are said to be carriers of disease. They are said to breed more extensively in rotted straw, especially oat straw, than in any other material. Farmers had better look out for their straw piles.

When the hog serum plant at Ames is finished, it will have a capacity of 400,000 c. c. per week.

An Explanation

Two or three times within the last year farmers have had bad luck in having their hogs immunized against cholera by the use of hog cholera serum. Last winter a resident of Nebraska preferred a claim against the state for the value of his hogs that had died as the result of septicaemia after having been inoculated with hog cholera serum for the purpose of immunizing them against hog cholera. Two or three instances have been reported where septicaemia or some kindred disease has followed immunization with fatal results.

Septicaemia is the result of an infection by a specific germ. That this germ was not present in the serum that was used is proved by the fact that not all hogs that received the serum were affected with septicaemia. Had the serum itself contained the germs of septicaemia, all hogs would have suffered from that disease. The only way in which to explain the outbreak of septicaemia under such conditions is through the probability that the premises in which the hogs were confined were infected with the specific germ of septicaemia. The hogs lying upon the ground were infected through the wound or puncture made by the instrument used in injecting the serum. This is not only possible, but in the highest degree probable.

The operator in each case was an experienced man and was careful to use proper antiseptic precaution. The fault cannot be laid at his door. The premises undoubtedly were infected, and the hogs took the infection from the premises through the wound.

In order to be perfectly safe, it would be a wise precaution for every owner of hogs to transfer them to a new and fresh inclosure at the time of immunization. This would protect them from such infection.

The Horse Plague

Will there be a recurrence of the horse plague of last year, which resulted in the death of thousands of horses in Kansas, Nebraska and Missouri? This is a question that is now causing some inquiry in Kansas, where horses are reported dying with disease symptoms very similar to those of a year ago. Stafford, Kan., is the locality, and Dr. W. J. Wallace is the veterinarian in charge of the diseased animals. It is quite important that very close attention be given over this entire district that suffered loss last year, in order that fatal results be guarded off if possible.

The same mysterious cause is liable to recur. Its former fatal effect was quite generally charged up to the pastures. A study of this disease should be taken up where left off last year to see if a more accurate definition cannot be had in the interest of the guarding off of this dreaded horse fatality.

A fruit grower in Ohio, who has a peach orchard of eighty-five acres, containing 7,000 trees, kept off the frost last spring by the use of orchard heaters. The result was the saving of 4,000 bushels of first-grade fruit for the market.

Pasture Land Values

The value of the pasture lands is much greater than most land owners have been in the habit of crediting up to these acres. Every farmer should keep an account with his pasture fields for one season and see just how many cattle and horses each pasture inclosure will accommodate for the pasture season; then estimate it by the acre and find what it has really produced per acre in pasture value per season. At the same time estimate the land used for meadow, the amount of hay produced per acre and what it costs.

It is just beginning to dawn upon the minds of some of the land owners that there is a very important money consideration in grass lands, or lands commonly termed pasture lands. There is and has been, however, a very wide difference in the producing ability of these grass lands. The poorest land on the western farm has usually been left for pasture, possibly without any consideration as to the pasture value. In addition to being kept cropped off bare all the year by overstocking, these grass lands have never had the advantage of anything put back in way of tame grass seeds or fertilizers, except the droppings of the grazing animals. In fact, the lands devoted to pasture have not been taken into account in the crop estimates of the farm.

There is not enough attention paid to the building up of good pastures to make them productive to the highest degree. The fact that the pasture is used to feed the stock of the farm through six or seven months of the year, from the first of May to the first of November, is evidence of its importance and its value. The pasture furnishes half of all the living of the farm animals throughout the year without any harvesting expenses, cultivation or labor. It produces beef faster and cheaper than any other process yet discovered; it produces the best and cheapest milk in the largest quantity.

The making of pastures has not received the attention that it should. The meadow, when it commences to deteriorate, when it ceases to be of value for hay, is then good enough for pasture. The run-out meadow on most farms becomes the cow pasture. Of course, blue-grass and white clover, two recognized pasture grasses, are often sown. Why not use some of the larger hay grasses, and thus grow more grass, more feed per acre to be pastured off by the live stock of the farm at less expense? More pasture, more silo feeds, will be the practice on most farms within the next few years.

Hogging Down Corn

Hogging down corn is said by some people to be the most practicable way of handling corn and hogs. If by practical is meant the way involving the least labor, the statement is probably true. But it is uneconomic just the same. Advocates of this method say not a bushel will be wasted by the method. If by this is meant that all the corn will be eaten by the hogs, it is true. But there is enormous waste just the same.

A hog will eat more food than it can use. Whatever of what it eats it cannot use is wasted. It is worse than wasted. Whenever a hog eats more than it uses, the excretory organs become congested and overworked in order to get rid of the material that it cannot use. More than this, part of the energy derived from what it does use is used up in getting rid of what it cannot use.

No hog should be fed all it can eat. It should be fed what it can use, and no more. To feed more is waste. More than this: eating more than can be used lowers the vitality and the resisting power of the hog and makes it susceptible to disease.

Hogging down corn is a lazy man's device, and lazy men's devices are generally uneconomic and wasteful.

Feed for Drouth Cattle

Who will feed the cattle? This is getting to be a question frequently asked by those interested in the cattle industry, the meat suppliers and producers of corn outside the drouth injured sections. It is reasonably certain that there will be more cattle than usual fed this season outside the regular corn and cattle-feeding districts. The opportunity to buy cattle that have been involuntarily forced upon the market, owing to lack of pasture and feed to keep them, has stirred up a disposition among farmers on the outskirts of the drouth-damaged districts to become feeders, to the extent of their feed supply. Thus prospects for higher-priced beef have determined many who have not been feeders to make the venture, even on the prospect of high prices for corn and hay.

The disposition of the cattle of the country that must be shipped out of the dry districts is a matter that will adjust itself, though in too many instances necessitating great loss because of the expediency of moving them. There is just the same condition of shortage in cattle throughout the country that there was before the drouth developed, and there is room for these cattle in sections where there is plenty of feed and a very great shortage of cattle. It is not exactly because there is no room for the cattle that they are being forced out of the dry districts, and in many instances sacrificed on overstocked markets. It is the bringing together of the farmer with plenty of feed and the cattle offered for sale.

The cattle forced out are largely breeding cattle and stock cattle suited for farm conditions, and should be held in the country for future use. The cattle suited for feeders will certainly be sought by the farmer and feeder who has the hay and corn to feed and fatten them. The silo will be employed quite extensively in providing feed for many cattle that will be prepared for the slaughter. Hay-fed and silage-fed cattle will comprise a feeding industry more general in use this fall than in the past.

The outside or foreign competition in meat supply does not present an alarming aspect, such as to give the cattle feeder any special concern. The meat product of this country will be needed at home, and every indication now points toward higher rather than lower prices.

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THE CURTIS PUBLISHING COMPANY
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Educational Idea Prevails at Iowa Fair

(CONTINUED FROM PAGE FIVE.)

by anxious, inquisitive visitors is prevented, is being looked upon with great favor by the Iowa State Fair management. All fine textile exhibits, painted china, bread and cake, pickles, preserve, etc., are being provided with glass cases for exhibition. The threshed grain is exhibited under glass, in galvanized iron boxes, and thus kept free from dirt and handling. The arrangement of the exhibition tables and cases throughout this building accommodate large crowds and lessen congestion in crowded isles.

Poultry and Game Exhibit

The poultry industry, especially the farm poultry, is receiving a great deal of careful study and experimentation in view of developing the highest practical condition for profit in poultry growing. The dressing of fowls for market and for economical home use, where the fowl was stripped from the bones, leaving its skeleton entirely bare of flesh and yet retaining the meat in one unbroken piece to roll up and bake or roast without the least particle of bone to contend with, was one of the features of poultry demonstration work that was taught each day at the poultry department. There were 2,100 fowls on exhibition, representing every breed and variety produced in this country.

The game exhibit at the Iowa State Fair is one of the very attractive and novel displays, and is interesting both to the farmer and the hunter. The State Board of Agriculture has set aside and properly fenced twenty-two acres of rough, hilly timber land on the southeast corner of the State Fair grounds for the propagation of game, especially quail and pheasant of the varieties best suited for stocking up the brush and timber districts. This enterprise becomes a part of the State Fair exhibit. Thousands of visitors travel to this remote corner of the grounds to see the foreign birds and novelties in breed and style of pheasant, quail, duck, goose, etc., that are kept within the confines of the twenty-two acres devoted to this purpose.

Many farmers have their applications in for a few of these birds in order to raise them on their own farms as insect destroyers. Fifteen hundred young birds have been raised this summer from this colony, and these will be distributed this fall over the state where there are brush and timber for their protection. As they multiply there will be seasons that the hunters will be permitted to slaughter them unmolested. Large cement basins, with running water, are built in the deep gulches and ravines to provide the water fowls with congenial surroundings.

The Beef Cattle Show

Beef cattle have been bringing high prices the last year. Many breeders had sold so low that they had not enough young stuff on hand to make a full show herd, and consequently stayed at home. Hot weather has made it bad to fit cattle, and an unusually backward, wet spring made a very busy set of farmers during the early summer. Consequently, there were many who did not show. Quality of exhibits was good in most cases.

Aberdeen-Angus put up the best show they have ever had. Classes ranged from ten to twenty entries each. Quality and fitting were superb. The herds of McHenry, Battles, Binnie, Miller and Escher vied for chief honors.

Herefords were not so numerous as usually. Des Moines generally gathers a goodly number of white faces in her arena, but not so this year. Cudahy's aged bull, Fairfax 16th, which went around the circuit undefeated last year, was set down for grand champion, and that honor was allotted to the extremely smooth Harris bull, Repeater 7th. This calf was sired by Repeater of show-yard fame several years back. He was first as senior yearling and junior champion.

Galloways were not so numerous as usual, either. Straub's strong herd from Nebraska was detained at home as a result of the season's tornado and drouth. Charles Escher judged the small number present in his customary capable manner.

Shorthorns started extremely weak in aged classes, but there were large classes of younger animals and much excellent quality displayed. Sultan Mina was first in a class of three aged bulls and was later made grand champion. Saunders won first in senior calves on a double-bred Cumberland's Last. This chap was a roan of September birth and weighed 1,050 pounds. His immense scale, coupled with his goodness all over, made him an outstanding winner. He was later made junior champion and Iowa grand champion.

Female classes were larger than most bull classes. Harding and Saunders vied for chief honors here, and the former succeeded in getting the championships. Most breeders and feeders prefer the roan color. It is interesting to note the number of animals of each color in a large show such as Des Moines. For instance, in the majority of classes there were more roans than all the other colors put together. White has of recent years had the ban lifted from it in Shorthorn circles, and some of the best winners are of this color. In fact, Harding's Village Flower, which won the grand championship after winning in the junior yearling class, was a snow white.

Percheron Horses

The French draft horse has been transplanted, and now we must call him the American draft horse. At Des Moines we might even call him the Iowa draft horse, for Iowa exhibitors were certainly in evidence. The most gratifying feature of the show was the fact that the home grown colt could win from the imported one. The breeders who had grown their colts properly had them just as large for their age as the ones direct from France. Save for the undocked tails of those bred in the states, it would, indeed, be hard to discriminate between the two kinds as they appeared in their classes.

One often hears the objection raised to prize winning horses that they will never be heard from in the breeding herd. Many colts are undoubtedly crowded to such an extent as to impair their breeding qualities. However, just because a horse has been a champion at some big show is no indication that he will never become famous as a producer. The Percherons on display this year offered good evidence of this. A glance at the pedigrees of the prize winners would show in most instances that the sires have been show horses. For instance, of the first four Carnot colts shown in the various classes, ranging from mature horses down, there were two which won first, one which secured third and another fourth prize. These were won in large classes where the competition was keen. Likewise the produce of Calypso and other sires of equal showyard honors were consistent winners.

In aged stallions, Jeun, a Carnot colt owned by Fox of Genoa, Neb., secured the blue. He is a black of great breadth with ample bone, well set limbs and the best of feet. Samuel Bell of Ohio, who did the awarding, counted him as good a type as his sire.

In 3-year-olds Dunhams caught first and second on very large, heavy-boned colts which were but recently imported, while Nelson of Iowa secured third on a Carnot colt imported last year. He resembled his sire in being extremely blocky and heavily muscled.

In 2-year-olds there were eighteen entries. McMillan caught the blue on a Romeo colt named Matador, which won third a year ago in the futurity. Two Carnots were placed over him then and these were not exhibited this year This colt carries a perfect top line, being short and strongly coupled. He might carry a trifle more length to his hind ankles, but he was easily the top of the classes shown.

Mare classes were large. Small exhibitors filled most of the classes. It looks good to see a farmer buy a team of pure bred mares, but it looks better to see him return to the fair several years later with a bunch of large, growthy colts from these mares.

Shire Horses

The English cart horse failed to make the showing made by the Belgians and Percherons. While quality was good, numbers were lacking. Alex Gilbraith judged these, and his work was very good and well accepted. While he is a Clydesdale man, yet he adheres to the correct Shire pattern when judging Shires. He sought the long ankled horse with no tendency to side bones, and also gave quality of limbs considerable preference. Truman's farm made a large showing. Their 11-year-old mare, Tatton Aurora, proved to be quite a drawing card. She was a strong winner at British shows prior to her recent importation. Her English weight was recorded at 2,490 pounds, although she was scarcely over 2,400 pounds as she appeared at Des Moines. Even so, she is a veritable monster. Her width, depth and length are such as one seldom sees in a drafter of any breed. She came from the Boro-Fen farm of Mr. Griffin, which is on the Wash in eastern England, and on his low-lying meadows there grows a grass which produces Shires of immense scale.

Belgian Horses

Iowa farmers seem to like a horse with a good middle. They have found that this kind is always fat and ever in demand by the city horse buyer. From the interest centered in the judging of the Belgian horses, one would infer that these possess characteristics which make them popular with the average farmer. Irrespective of faults, it must be admitted that of the large display of Belgians on hand, there were very few which lacked in depth of body. We would like them better if they carried their backs straighter and were not so meaty in their hocks, but as a breed they surely are splendid in heart and body girth. As among the Percherons, the bulk of the entries were from Iowa farms. In numbers, this breed exceeded any on the grounds. The largest class was the 2-year-old fillies. There were twenty-one led out for this. Prof. Kennedy judged quickly and satisfactorily. His speed received many comments from the ringside. The type of winner seemed quite consistent, he adhering to the qualities of ample scale and muscle.

The experienced horseman readily recognizes a Belgian by his type of body, head and legs and even by the shortly-docked tail. An amateur might be sadly deceived, however, were he to use color as a means of distinguishing a horse of this breed. A dark iron-gray colt shown in the yearling class looked much like a Percheron. Several coal-blacks

(CONTINUED ON PAGE TWELVE)

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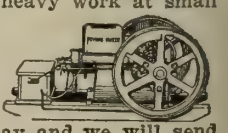

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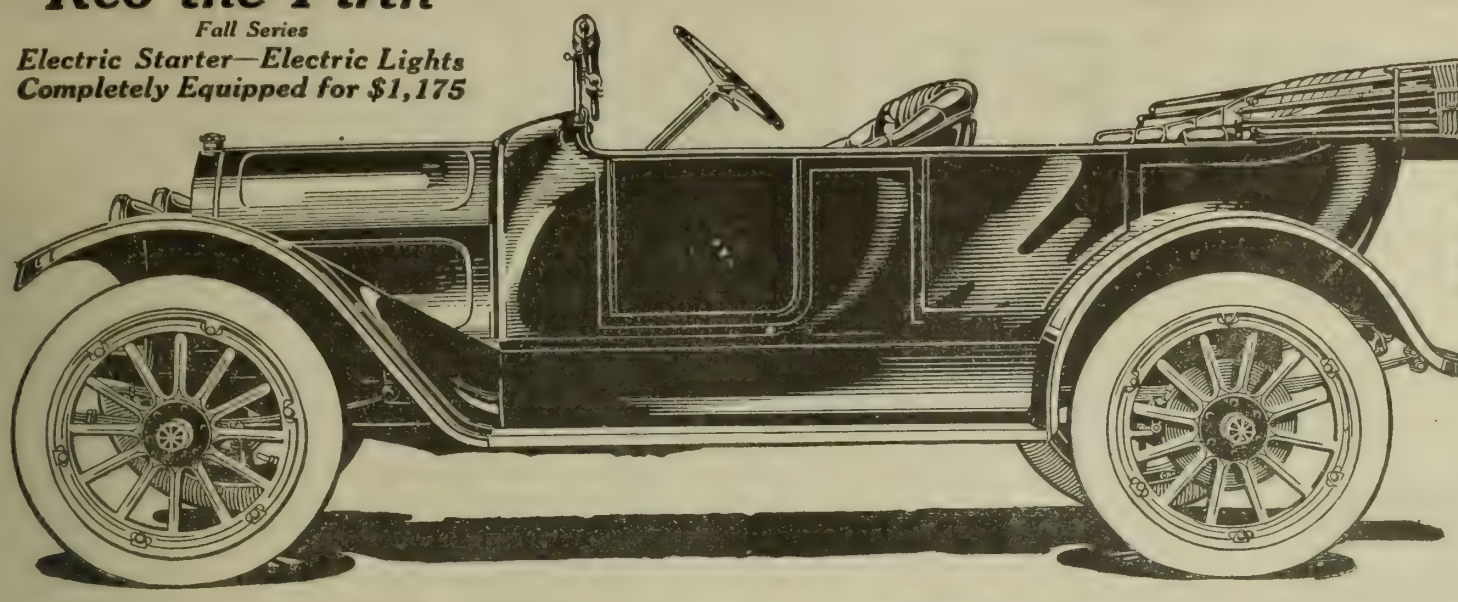

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The car is over-tired. We use 15 roller bearings and 190 drop forgings. The carburetor is doubly heated.

All the extremes, all the costly precautions which made this car famous are here. All the tests and inspections—all the margins of safety—all the utter exactness. This car is built for low cost of upkeep, and to run year after year as well as it runs when new.

Now with all these unique features, with all these improvements, we quote you a saving of $220. That's the result of three years' concentration on a single model. Such a car at such a price would be otherwise impossible.

Look where you will, you will not at this price—nor anywhere near it—find a car you would think of preferring.

We have dealers in a thousand towns. Go see this new model and ask when you can get one. Also write for our catalog with full specifications, details and comparisons.

R. M. Owen & Co. General Sales Agents for Reo Motor Car Co., Lansing, Mich.

Canadian Price, $1,575. Factory, St. Catharines, Ont.

OLIVER
Tractor Gang Plow

The Oliver Engine Gang Plow

ARE you in the market for a Tractor Gang Plow? If you are, you will be interested in the new features on the OLIVER. We call your particular attention to the new bail construction. This gives uniform width and depth of furrow and prevents spreading of bases and beams. The user can have a more accurate center line of draft with the Oliver than any other make of the same size and number of bases.

The individual lever and gauge wheel gives an even depth of furrow. Users like the great flexibility and ease of handling.

In fact, the Oliver combines all the known features that make for success when the user is confronted with tough hard work. Insist on getting the Oliver with your Traction outfit.

Write for full information.

Oliver Chilled Plow Works

GENERAL OFFICE: SOUTH BEND, IND.

Works at South Bend, Ind., and Hamilton, Ont., Canada.

Branches in All Principal Cities.

Educational Idea Prevails at Iowa Fair

(CONTINUED FROM PAGE TEN)

were also to be seen. Likewise there were bays with white trimmings and these could almost be mistaken for the light feathered American bred Shires. The breed colors most in evidence were the blue and red roans, the sorrel, chestnut, bay and brown.

In the aged stallion class a blue roan of Lefebure's caught the blue ribbon. He was almost first and champion a year ago. The sensation of the show appeared in the red roan 3-year-old, Farceur, from the Crownover stables. He looked as near a perfect draft horse as the Belgian breed has ever produced. He shows a large amount of quality in limbs, his cannon bones being as clean and flat as a Clydes and his hind legs carrying that placement which makes him a powerful mover.

The growing popularity of this breed is ever noticeable. Their extreme massiveness, limbs free from excessive hair and disposition free from meanness make attributes which the average man appreciates.

Futurity Contests

Several years ago a futurity contests for yearling draft colts was in augurated. Breeders enter their pure bred colts of both sexes when they are weanlings. The judging is done at the Iowa fair each fall when these colts are yearlings past. Prizes amounting to large sums, besides trophies, are given. The first prize in several breeds receives over $200. A committee of three does the awarding in each breed. These contests have worked wonders among American draft horse breeders. Such prizes give an incentive not only to breed the best, but to feed and care for them as well. This year there were many entries in each breed, and the contest was at a high pitch upon Tuesday while the judging was going on.

Morgan Horses

The little historic Morgan may yet come into his own. The Iowa people persist in offering premiums for this once famous strain of light horses, and each year witnesses a goodly number of them on hand. This year there was a large display, there being twelve aged stallions, and the other classes were proportionately large. Needless to say, there was a wide variance in the types of the entries. In the mature stallions there were blocky little 1100-pound individuals and there were rangy coachers weighing upwards of 1,400 pounds. Two years ago a Hackney breeder did the judging. He picked for action, irrespective of other qualifications aside from quality.

Last year George Rommell of the United States department of animal industry pinned the ribbons. His work in breeding Morgans at the Vermont experiment farm gave him a type to work for. The breeders were satisfied that he was adhering to what they called a correct type. This, in spite of the fact that he placed a stallion first in the aged class which the year before had won nothing, showing against the same horses. This year J. O. Williams, the government horse breeder at Fort Collins, Colo., did the judging. It is indeed a pleasure to say that he picked consistently for the same type that Mr. Rommell did. Pessimists who last year said there was no Morgan type because the judge did not pick the same each year, were compelled to withdraw their grievance. But few boys have been reared on the farm the last century who have not received an early appreciation of Morgan horses from some wiry little animal which their fathers proclaimed to be of Morgan stock.

Mule Show

Missouri has always claimed chief honors in the breeding of hybrids. If one can judge by the exhibits of Iowa-raised donks at Des Moines there will be keen competition between the two states for this honor in the future. Just imagine a 7-year-old brown mare mule weighing 1,900 pounds! Another white mule weighing 1,650 pounds secured championship honors over all the grounds. This animal was pronounced the best mule ever displayed at Des Moines by the judge, W. A. Dobson. His legs were as clean and qualitated as those of a thoroughbred. His white hoofs stood squarely under him and in size compared favorably with those of a medium sized draft horse. Another extra good mule was an iron gray 18-months-old colt which weighed 1,150 pounds. He was framy, heavy-boned, large jointed and incidentally well eared. There were many others of merit of which Iowa might well be proud.

The stock show was almost entirely an Iowa affair. Very few exhibitors came from without the state and those that did found ample competition by the local people. It was surely commendable that so strong a showing could be made by Iowa-owned stock, and even more so when we consider that these animals were nearly all raised in the state. Years ago it was thought that America could not compete with Europe in producing draft horses. Today we see Iowa bred colts at the fair winning prize after prize from imported stock. The same holds true with cattle and sheep. The fair does well to offer special premiums for Iowa owned stock, as by so doing it adds incentive to the local man to come forth with his best.

Purebred Registered
HOLSTEIN CATTLE

In the production of milk and butter the larger the cow the larger the profit, other things being equal. The principle has been established through the investigations of government experts and is generally recognized.

When a cow's milking days are over, size is still an important factor. The big Holstein-Friesian, weighing anywhere from 1,000 to 1,800 pounds with her clean white fat well distributed through her muscular system, proves a most profitable dairy beef animal.

Send for FREE Illustrated Descriptive Booklet.

Holstein-Friesian Asso., F. L. Houghton, Sec'y.
Box 179, Brattleboro, Vt.

Build a reinforced concrete tank in one day with *Lock-Form*, which is reinforcement and form in one

CONCRETE TANK

No cracks, no rust, less cost than any other tank made.
FREE—How you can build Tanks and Silos.
The Edwards Metal Structures Co.
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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

The Flicker on the Fence

Between the songs and silences of the
flicker on the fence,
Tapping his old-fashioned tune full of
meanin' and of sense,
I fall into a musin' spell, sometimes,
of other days,
When things was mostly different, least-
wise in many ways;
And I have a lonesome feelin' and a
longin' for these times,
Which somehow fits exactly with the
yellowhammer's chimes.
There's a kind of grace hangs over them
—the days of other years—
That makes a-sighin' for them next best
to sheddin' tears.

I'd like to see the cradlers go a-wadin'
through the grain,
With sleeves rolled up and 'spenders
off and sweatin' like the rain.
It's an old man's foolish notion, but I'd
like right well to hear
The sound of scythes a-whettin' ring out
so sharp and clear,
And see the men a-sittin' down to eat
their forenoon snack
Of doughnuts, an' to freshen up on
home-made applejack.
There was hurryin' then, and hayin', and
harvestin' those days
Was somethin' like, but good old times,
they very seldom stays.

Now the reaper, like some circus, comes
a-prancin' in the lot,
With its airs and fancy findin's, and like
enough as not
Before it's time for dinner—no odds how
hot the sun—
That machine will turn its tail and quit,
and harvestin' is done.
There's no bushin' of the cradlers, no
snack at 9 o'clock,
For first you know the thing is done
and wheat is in the shock.
I listen to the clangin' till I ain't got
any sense,
And the only thing old-fashioned is the
flicker on the fence.

The boys are off to college, girls paintin'
chinaware
Or playin' the piano or "outin'" off
somewhere;
And I feel so kind of lonesome with the
new things all about;
I am like a tallow candle, a-waitin' to
be snuffed out.
I look around to find a sign that I ain't
lost my sense,
And get my bearnings when I hear the
flicker on the fence.

—S. M. McManus.

The Flicker

The rotten stumps and hollow trees about your farm are almost sure to be inhabited by a woodpecker, which most of us call the flicker, although he has a number of other names—yellowhammer, ant-bird, highholder, golden-winged woodpecker and others. Most of you know the flicker by one name or another, as he is common all over the country east of the Rocky mountains, from the gulf to Canada, and he stays all winter except in the very northern states.

The flicker is a large bird, almost as large as a pigeon, with a very long, sharp bill and a speckled, yellow breast, with a black crescent across his chest. By these things you may always know him, but some of his other markings differ in different parts of the country. He may have a red spot on his head and be yellow under the tail and wings, with a white rump, or he may be red under the tail and wings, with red cheek patches and no red spot on his head, but he is a flicker either way.

You will find him working his way up a tree or post, digging for worm eggs hidden in the bark, or hopping about in the garden picking up ants or bugs. He likes choke cherries, too, and other wild berries, but he is not much inclined to bother with our cultivated fruit, which he probably considers tasteless The flicker is ofen confused with the yellow-bellied sapsucker, a woodpecker which girdles the trees and sometimes kills them, but he should not be. He is a great deal larger than the sapsucker and is a

very valuable bird, doing a lot of good and little, if any, harm.

Flickers lay from four to seven eggs in a clutch, and if anything happens to those eggs they lay some more. One pair, whose eggs were removed as fast as they were laid, made a record of seventy-one eggs in seventy-three days. They need to raise a lot of little birds or we would soon have no flickers, as their large size, bright coloring and trusting disposition make them easy victims of thoughtless boys, who have been destroying them and stealing their eggs for generations past.

The voice of the flicker is most unpleasant, but he has more sense than some birds, and people, and keeps still, attending strictly to business, a good deal of the time. The little ones in the nest make a sound like the buzzing of bees, a fact that has probably saved many a flicker's life by scaring thieves and other intruders away. THE EDITOR.

(Prize Story)

A Trip to Kansas City

By Velma Cook, Aged 12, Garden City, Kan.

One day last spring mother, sister and myself started for a visit to see the sights in Kansas City, Mo., and Kansas. We were detained one night by a wreck, but we arrived in Kansas City the next day at the large Union depot.

Then we took a street car and arrived at my cousin's just in time to help can their excellent peaches and large, red, tame plums. And they didn't taste like shipped-in fruit.

The next day my cousin took us in a street car to see the sights. We saw many large buildings and the ten-cent store, where they sell ice cream cones three for a nickel. We then changed cars and crossed the viaduct, which is one and one-quarter miles long. After crossing that we passed several pretty streets and across the Missouri river, and saw men fishing, and some small steamers and several large boats, and crossed many other bridges.

Then we went home anl rested a couple of days, and then we went to see the parks—two large ones and several small ones. The first one was the Electric park, and we took our dinners and stayed all day. We saw many pretty scenes and some ostriches—some were hitched to carts—and ostrich eggs as large as a person's head, and worth $25. The park gets its name from the electric lights, resembling different objects. We went on the scenic railway, which was lots of fun, and on many other things.

Another day we went to Swope park. The entrance of the park was very pretty, with several large stone blocks or posts, with moss, ferns and flowers growing on the sides. There were beautiful play grounds, flowers and many animals and birds.

(Honorable Mention)

A Queer Home

By Ruth L. McKenney, Aged 14, Palmer, Neb.

A month or so ago I set one of those box traps—family mouse traps, they call them—in an old cupboard, where we keep empty fruit jars. For a while it worked all right, and I caught several mice. Then the mice learned how to pull down the tin door and get out, and I would find the bait gone and no mice, so I quit looking at it, but just left it there.

A few days ago I went to get the trap to set in another place and see if it would catch a mouse. I had not looked at it for a long time, and I was very much surprised when, on opening it, I found it occupied. A mouse, having gotten in and found the way to open it and get out, had decided that it would make a nice home, and there I found a nest with six soft, furry, pretty little baby mice in it.

Additional Stories

Helen Panowicz, Burwell, Neb.; Everett Van Horn, North Loup, Neb.; Esther Cover, Cozad, Neb.; Marie Tomsik, Verdigre, Neb.

Picture Contest No. 5

You are each expected to write a four-line verse about this picture The two children writing the best verses will each receive a book as a prize. Write plainly, in ink, giving your name, address and age, and send the verse to Picture Contest Editor, Twentieth Century Farmer, Omaha.

All verses must be received at this office on or before September 13. Awards in Picture Contest No. 5 will be announced in the issue of September 27.

LIGHT BREAKS IN

Thoughtful Farmer Learns About Coffee

Many people exist in a more or less hazy condition and it often takes years before they realize that tea and coffee are often the cause of the cloudiness, and that there is a simple way to let the light break in.

A worthy farmer had such an experience and tells about it in a letter. He says:

"For about forty years I have had indigestion and stomach trouble in various forms. During the last twenty-five years I would not more than get over one spell of bilious colic until another would be upon me.

"The best doctors I could get and all the medicines I could buy only gave me temporary relief.

"Change of climate was tried without results. I could not sleep nights, had rheumatism and my heart would palpitate at times so that it seemed it would jump out of my body.

"I came to the conclusion that there was no relief for me and that I was about wound up, when I saw a Postum advertisement. I had always been a coffee drinker, and got an idea from the ad. that maybe coffee was the cause of my trouble.

"I began to use Postum instead of coffee and in less than three weeks I felt like a new man. The rheumatism left me, and I have never had a spell of bilious colic since.

"My appetite is good, my digestion never was better and I can do more work than before for forty years.

"I haven't tasted coffee since I began with Postum. My wife makes it according to directions and I relish it as well as I ever did coffee, and I was certainly a slave to coffee."

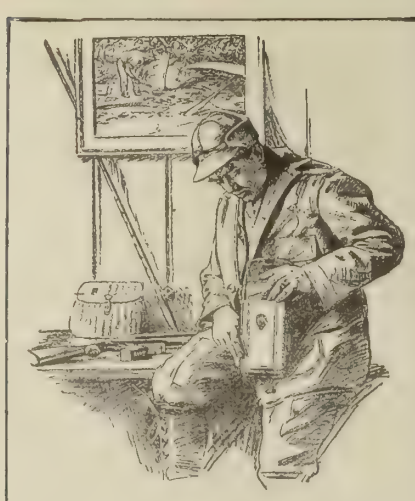
Name given by Postum Co., Battle Creek, Mich. Write for copy of the little book, "The Road to Wellville."

Postum comes in two forms:

Regular Postum—must be well boiled.

Instant Postum is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water and, with the addition of cream and sugar, makes a delicious beverage instantly.

"There's a reason" for Postum.



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Illustrated catalogue at your dealers, or by mail. Free.

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BUY GARLAND STOVES AND RANGES BUY

The World's Best

LARGEST MAKERS HEATING AND COOKING APPLIANCES IN THE WORLD

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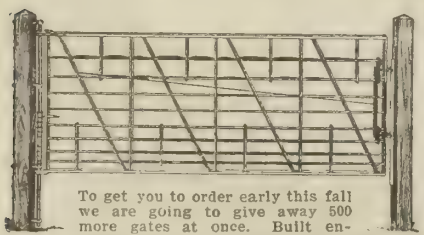


To get you to order early this fall we are going to give away 500 more gates at once. Built entirely of Channel Steel, and filled with steel rods. Stronger than any three others. PRICE IS RIGHT. (See this gate at Iowa, Neb. and Minn. State fairs.) Address

C. L. GADE, 118 Main St., Iowa Falls, Ia.

Running Water

in House and Barn at even temperature Winter or Summer at Small Cost.

Send Postal for New Water Supply Plan. It will bring you 100 pictures of it in actual use. Do it Now.

Aermotor Co., 1144 S. Campbell Av., Chicago
Aermotor Co., 2d and Madison Streets, Oakland, Cal.

SWEET CLOVER Seed for Fall sowing, price and circular how to grow it, "Free." John A. Sheehan, Falmouth, Ky. R. 4.

Of Interest to Our Women Readers

Fate

Two shall be born the whole wide world apart,
And speak in different tongues, and and have no thought
Each of the other's being, and no heed;
And they, o'er unknown seas, to unknown lands,
Shall cross, escaping wreck, defying death;
And all unconsciously shape every act
And bend each wandering step to this one end—
That one day, out of darkness, they shall meet
And read life's meaning in each other's eyes.
And two shall walk some narrow way of life
So nearly side by side, that should one turn
Ever so little space to left or right,
They needs must stand acknowledged face to face;
And yet, with wistful eyes that never meet,
With quaking hands that never clasp and lips
Calling in vain to ears that never hear,
They seek each other all their weary days,
And die unsatisfied—and this is Fate.

—Susan Marr Spalding.

Our Home Chat

"Mother used to make a kind of rice pudding," a man said to me the other day, "that I wish I could get now. When I was a boy I used to watch her make it often. She took about three quarts of milk in a big pan and put in three tablespoons of rice and a lot of raisins and some salt. Then she set the pan in the oven and heated it slowly for a long time. When she took it out of the oven it was a solid mass like custard, and the grains of rice were all swelled, but perfectly separate. We used to have half milk and half cream, with grated nutmeg in it, to eat on the pudding, and we children all loved it. I wonder why they don't make such things today?"

This sounds like an easy recipe. Do any of you know how to make this rice pudding?

Regarding Women's Clothes

The newspapers and magazines seem to be much exercised about the present styles in women's clothes. Recently one of the papers came out with the statement that many women were doing without suits this year rather than buy the outrageous styles the ready-made clothing firms were turning out. This was most evidently written by a man whose wife had been "working" him for a tailor-made suit. It is easy to buy extreme styles if one is so foolish as to want them, but it is just as easy to buy sensible clothes. The narrow skirts are the most sensible things women have worn in many a day, but they may be made so narrow as to be ridiculous. Any ready-made clothing house carries suits with skirts made wide enough so that one may take a good, long step, but so cut that they have style. The clothing firms know that there are enough sensible women to make it pay to manufacture sensible styles, and they always carry such styles, as well as the more extreme things which the foolish women buy.

THE EDITOR.

When Your Boy Starts to School

When your little boy first starts to school, with his slate and dinner pail, there will be a lump in your throat that will be hard to swallow. You will realize then that he is fast growing away from the baby age. At night when he returns you will notice the proud tilt to his curly head. He is much inclined to be independent now. If you can keep his confidence at this time and through the years to come, all will be well; otherwise you will have many anxious moments.

At first the little fellow comes home with all his troubles and pleasures. If you listen and advise him, he will continue to place his confidence in you. Now, someone says, "Tattling should not be encouraged." There is a vast difference between telling of his own joys and sorrows and telling the faults of his playmates. One should never encourage a child to tell other children's faults. Then someone says, "Let a child fight his own battles." That is as it should be, but good advice will certainly help our boy to fight life's battles, and how are we to advise him if we do not know his difficulties? And who can tell them better than the boy himself? Teach the boy to be thoughtful and reasonable. It is the unreasonable, unruly child who causes all the trouble.

A healthy, natural child will fight for his rights, and I think he should be encouraged to do so. Right here the mother can help so much. Tell the little fellow the unmanliness of being a bully. Teach him to be respectful to his teachers and kind to those younger than himself.

The main thing during the school days of your child is to keep his confidence at all costs, for then, and then only, will you be able to guide him aright.

MRS. T. A. M'CULLO.

Nebraska.

Ideals in Women

While at a social gathering the other afternoon I heard two young women talking of the various duties of housekeeping, and one said: "I see you darn the socks and stockings. I won't do that. I just love fancy work, but I hate to darn, and I let them wear their stockings as long as they can and when they get too bad I burn them up." "But," said the other one, "they go so much faster where the holes are left from the first. When they are small it takes only a short time to mend them, and they are so much more comfortable.' The first voice then said, "Oh, I can darn nicely; I often do it in my fancy work, but it is so pokey to mend stockings!"

The other said: "I know it seems dull work sometimes, but I do not want the children to feel that the work necessary for their comfort is to be slighted, and if I do it, they will think they can do their little tasks in a careless way or neglect them as they see fit, and I could hardly reprove them if I set them the example of untidiness and neglect of duties. I feel that it is only right to mend to a reasonable amount, as our clothing bill would be so much larger if I did not. You know, we have our place nearly paid for and I am glad to know I have helped to do it. I am trying to teach Minnie to sew, for I do not want her to be as helpless as a girl I heard talking the other day. She said that she could not sew, did not know how to use a thimble, and she was in high school. What will she do when she gets away from her mother? Her mother says that she was made to sew when she was just a little girl and used to cry until her eyes could not see the stitches, but her mother made her learn, and she is glad she can do it now. She will never make a child do things so hateful, for she can never forget how she felt. That mother does not reason right, it seems to me, as she would see that the discipline she got as a child is what makes her the efficient woman she is now. Will she be willing to have her girl drift through life with little ability to meet the cares and responsibilities, or must she learn it all after she has assumed the duties of a home of her own? Have we a right to shirk from giving the children the training they need?"

Another young woman said: "Mrs. M. is my ideal of a woman; she dresses stylishly and with care, and is up-to-date on all questions you may mention. She is quite an artist, can play and sing enough to be helpful in our meetings and talks easily and well on any subject almost that comes before us."

I glanced at the young woman's mother, a dear elderly woman, white-haired, ruddy-faced, a figure too stout to be elegant, but motherliness and kindness and gentle, womanly sweetness radiates from her as light from the sun. She has reared a family of twelve children, all above the average in intelligence. Her daughters are good musicians, as well as educated in books and homemaking lore. Her sons are men of business and Christian men. In my mind I compared the life of the two women. Mrs. M. has always had the money to dress and travel, has but two children, and her life has held much of leisure time to devote to herself and her accomplishments, and, while we all admire her, I wondered if, in the summing up of the life of each, Mrs. T. had not had as high ideals and worked them out in the training of those children. The many long, weary hours of labor have left little time for personal care or adornment or the little niceties of dress; but the strong, yet gentle, spirit has been cultivated until it is written in indelible lines, to be read by anyone who meets her. To me she seems an ideal of the really best in life.

MRS. ADAH E. ERWIN.

Oklahoma.

Marshmallow Delights

One-half cup of sugar.

One teaspoonful of sweet, thick cream.

One-half cup of sweet milk.

One well beaten egg.

Sprinkling of salt and nutmeg.

One rounding teaspoonful of baking powder.

Enough flour to make rather stiff batter.

Into this batter drop marshmallows; coat each thickly and fry golden brown in deep, hot fat, as for doughnuts. DAISY CANNON.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6240—Girls' Dress—This dainty frock is made to slip on over the head; it has no other opening. The neck is trimmed with a wide collar and there is a very deep yoke, if desired. The sleeves may be long or short and the inner shield at the neck used or omitted. The dress pattern No. 6240 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 3 yards of 36-inch material, with ⅞ yard of 27-inch contrasting goods.

6194—Ladies' Two-Piece Skirt — This skirt can be made with either the empire or regulation waistline, the empire waist being better for part of a costume and normal waistline preferred for separate skirts to be worn with odd waists. This skirt may be made of all woolen materials, such as serge or of faille. The pattern 6194 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2⅞ yards of 36-inch material.

6301 — Child's One-Piece Dress — This style is in one piece, and under it are bloomers attached to an underwaist. A wide band is placed low down on the body for effect, but it can be omitted when it interferes with comfort. These dresses are made of gingham, duck or serge. The dress pattern No. 6301 is cut in sizes 2, 4, 6 and 8 years. Medium size requires 3 yards of 27 or 36-inch material, with ⅜ yard of 36-inch lining for underwaist.

6196—Ladies' Balkan Blouse—The front and back are both plain and the very slight fullness is gathered at the lower edge and drawn into a band. The neck of this blouse is open and a small collar and revers mark the outline. The sleeves may be full length or cut at the elbow and finished there with a turn-back cuff. Cheviot, linen and pique are all suitable materials for a blouse of this character. The pattern 6196 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material.

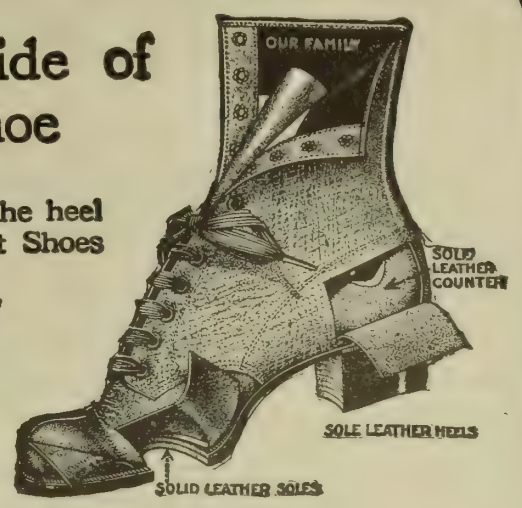
6253—Ladies' Dress—This simple dress consists of a plain blouse, with ornamental front closing, wide collar and long or short sleeves, joined to a four-gored skirt, which also has an ornamental outline to the front seam, where the closing is placed. The pattern 6253 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5 yards of 36-inch material.

10-10-27—Comb and Brush Case—Such a case is a necessity for the woman who travels. White or tan linen is suggested, and the embroidery may be done in white or colors.

The Inside of a Shoe

The Star on the heel means Honest Shoes

Go to the "Star Brand" dealer and see this Cut Shoe



The Inside of a Shoe

It is a lamentable fact that 90% of all shoes sold for less than $4.00 contain substitutes for leather in the heels, counters and soles. You pay pure leather prices for this shoddy.

Pure shoe Legislation is pending in Congress and many different States. We heartily endorse it, because the rights of 100 million people are greater than those of a few hundred manufacturers.

The "Star Brand" dealer has one of the "Our Family" shoes cut up so you can see just how it is made. The uppers are made of the finest Box Calf or Velour Leather. The heels, counters and soles are of genuine sole leather. No substitutes for leather are ever used.

Go and see the "Our Family" and other "Star Brand" shoes. Then cut up an old shoe that has failed to give satisfactory service and note the vast difference in construction and material used. You will then know why "Star Brand Shoes Are Better."

You can get "Our Family" shoes for Men, Boys and Youths at $2.00 to $3.50; also for Women, Misses and Children at $1.50 to $2.75. You will find it is the best every-day shoe you have ever worn.

The "Our Family" and other "Star Brand" shoes are sold by 20,000 good merchants. Look up the "Star Brand" dealer in your section.

"Star Brand Shoes Are Better"

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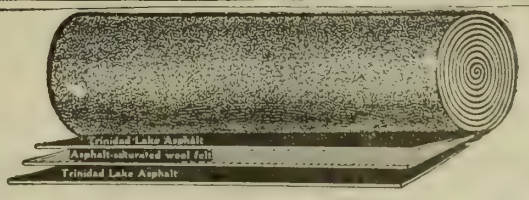

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The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do just as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection. Always mention the Twentieth Century Farmer when writing advertisers.

An Impression of W. J. Bryan

By Frank G. Carpenter

WASHINGTON, Aug. 30. — I want to give you an impression of Mr. W. J. Bryan, not of Mr. Bryan, the premier of this administration, who is to steer our ship of state over the turbulent seas of international diplomacy, nor of Mr. Bryan, the silver-tongued lecturer, who sways his audiences by his rounded periods and melodious voice, nor of Mr. Bryan, the politician, the blessed and the damned of two great political parties; but rather of William J. Bryan, the man, away from the department, away from the platform, outside his editorial sanctum, face to face—and, I might almost say, heart to heart—in his own home. I have known Mr. Bryan casually for many years. I met him when he first came to congress, at the age of 30, now almost a quarter of a century ago. I sat beside him as a fellow newspaper correspondent six years later at the St. Louis convention, where McKinley was nominated, and was astounded two weeks later to see him nominated as the democratic candidate for the presidency, at the close of that wonderful speech which ended with the now historic phrase: "You shall not press down upon the brow of labor this crown of thorns. You shall not crucify mankind upon a cross of gold."

Bryan signing the seventeenth amendment to the constitution for the direct election of senators. Mrs. Bryan at the right. Senator Borah in the rear of Secretary Bryan. Senators George Tucker and W. W. Rucker at the left, with pens. (Photo by Kleindinst).

Neither Halo Nor Hoofs

I have had many glimpses of Mr. Bryan since then, and, looker-on in Vienna as I am, I have never been able to regard him as the saint and only possible savior of his country, in which light he is viewed by many of his party, nor as possessing the hoofs and horns of our national destruction so graphically cartooned by the artists of the opposition. At times he has seemed to be a demagogue, at other times an honest patriot, but always he has been interesting. So much in the way of my preconceptions.

***

And now for the impression. It is merely that of an evening spent with Mr. Bryan alone in his little den of a library at Calumet place. The secretary of state lives a mile and a half away from the White House, on the heights which overlook Washington, lying as it does in a little basin on the banks of the Potomac. His house is the stone mansion bought as a speculation by John Sherman, sold by him to John A. Logan for $20,000 and remodeled by the latter and his wife as a comfortable home. It stands right on the edge of a bluff, with the capitol, the monument, the silvery river and the emerald hills of Virginia plainly in view. It has a long porch, opening out from a hall so wide that a hay wagon could be driven through without grazing the paper. On each side of this hall are parlors carpeted with oriental rugs and furnished with old mahogany, while upon the walls and scattered here and there about the rooms are curios gathered by Mr. and Mrs. Bryan from the four corners of the world.

In Mr. Bryan's Den

Passing through the parlors at the right, you reach the den of the secretary, a little library at the back of the house, in which, before a walnut desk about three feet wide and five feet long, he does much of his literary work. The library is hung with portraits of Washington, Jefferson, Jackson and Lincoln. It is walled with books, and it has easy chairs, upholstered in morocco, in one of which the secretary sat in comfortable negligee as he chatted with me. He was dressed in black, with a coat of silk poplin and an unbuttoned vest, which showed a wide expanse of white shirt. His manners were as easy as his clothes and his personal magnetism was such that I came to the interview tired and went away rested and fresh as a daisy. Indeed, this was to me one of the remarkable features of the evening. I had had a long and hard day in my library, and had been compelled to do another big newspaper interview when I received the information that

Mr. Bryan would see me. I was mentally so fatigued that I wanted to postpone the appointment, but dared not risk doing so. Nevertheless, that tired feeling seemed to disappear almost as soon as I shook hands with Mr. Bryan, and after two hours' conversation I came away a new man.

The interview was not one of cut-and dried questions and answers. It was not an interview at all, but rather a running chat about this thing and that, drifting from Dan to Beersheba as the stream of talk flowed. I did not care to discuss the tariff, foreign questions, nor the new schemes of the administration for banks and what not; for everyone knows how the secretary of state stands as to them. I preferred to talk of things personal, moral and ethical, rather than political. And so I brought up such matters as education, oratory, character building and getting on in the world. We chatted of travel in many countries, and of strange religions, and of Christianity as the best of the lot. I wanted to know something about the Bryans, and about Mr. Bryan himself, and how he came to be what he is. He was a little chary in discussing such matters. Nevertheless, I got him to talking and he gave me much in the present of a little biography—or, I might say, autobiography—for it was written by Mrs. Bryan, with whom Mr. Bryan is one. I will let his words and her manuscript unite in giving some bits of the story.

His Boyhood Home

The secretary told me he was the fourth of nine children; that he was born in Salem, Ill., where his father came in a wagon from the foot of the Blue Ridge mountains, not far from Culpepper, Va. The Bryans were comparatively poor, and his father worked on the farm and taught school while he was getting his own education. He graduated at McKendree college and was a member of the legislature and a judge before he made an unsuccessful campaign for congress in 1872. The elder Bryan was thrifty, and he owned something like 600 acres of Illinois land. He believed in education, and the boy had excellent schooling. His mother taught him to read, and his first speeches were made standing on the kitchen table, where he spoke the lessons she made him commit to memory. She brought the boy up in the way he should go. He was only 14 when he joined the church, and he has been a good Presbyterian from that day to this. Some of his lectures are excellent sermons, and "had he been called," he would have been greater as a preacher, I venture, than he has been as a political orator.

Value of Education

A part of our conversation related to education. Mr. Bryan took an academic course at college and studied the classics. He thinks his study of Latin and Greek was of great benefit to him, and he says that the mental discipline he received from geometry has helped him in his public debates and argumentative work. I can also see how his talent as an orator has been developed and refined by his taste for poetry and good literature. He has always had his book loves and favorite poems. Among the latter are those of William Cullen Bryant, with whom he first became acquainted through a prize copy of the poems which he received for making the best oration in a competitive contest while he was a junior. He thought so much of this book that he gave it to Mrs. Bryan when he was courting her. One of the poems in it which he liked best is the "Ode to a Water Fowl," one verse of which he quoted during our conversation. This verse is:

He who from zone to zone
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone,
Will lead my steps aright.

Another of his favorite verses along the line of human duty is of similar character. This is from a poem written by the Rev. F. S. Browning. It reads:

I do not know
Where falls the seed that I have tried to sow
With greatest care;
But I shall know
The meaning of each waiting hour below
Sometime, somewhere.

Along this line of thought comes a remark which Mr. Bryan made when I asked as to his work, and whether the demon of worry ever kept him awake at night. He replied:

"I do not worry. I do the best I can and leave the results to the future. I don't believe in basing one's decision on the possible results. The only question to be considered is as to whether the act is right or not. If it is right, it should be performed irrespective of results. Besides, you cannot prophesy as to results. It is more important that you should do the right than that you should regard the consequences. God has given everyone the ability to know the right, and I believe he should act according to that ability and leave the results to take care of themselves. The man who does that need not worry."

"Is it ever right to do wrong?"

"No. It is not right to do wrong. The man who comes to such a conclusion must be measuring the consequences, and that, as I have said, you cannot do."

"Is that not a good principle to build a life or a nation on?"

"I believe it is the right principle," said Mr. Bryan. "No principle is fit for the building of a life that is not fit for the building of a nation. There is no rule of ethics that applies to individuals that should not apply to nations as well."

"But that is not the general idea of diplomacy, Mr. Bryan?"

"I think it is the right idea. Diplomacy and the right should be synonymous."

"But, Mr. Bryan, a good many people think differently. They believe that diplomacy and lying are synonymous."

"I do not agree with that at all. That definition degrades diplomacy to the level of baseness. The right policy and the honest policy plainly stated is the best diplomatic policy."

Honesty in Politics

"Then you believe in honest politics?"

"There is no other kind of poli-

(CONTINUED ON PAGE TWENTY-ONE)

WE wish each of our friends and subscribers to consider this a personal invitation to be present at the

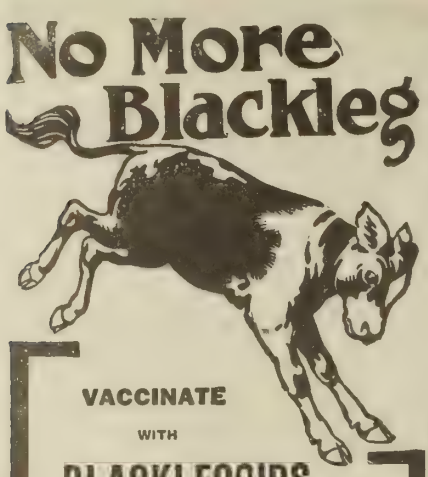
Twentieth Century Farmer

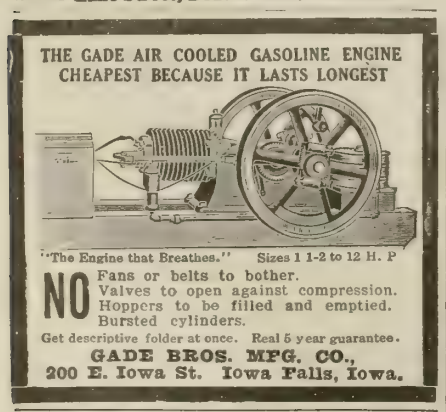
Power Show

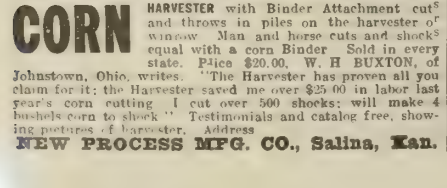
Fremont, Neb., September 8-13

Ample means of conveyance have been arranged to carry the crowds to and from the Demonstration Field, one mile from town. A mammoth headquarters tent is located in the center of the field, equipped with information bureau, telephone, check room, resting rooms, etc. Refreshments may be procured on the grounds. Mornings will be devoted to private demonstrations by appointment, and afternoons to elaborate public demonstrations of plowing, discing, harrowing, pulverizing and seeding. Free watermelon feed on Tuesday; immense farmers' barbecue on Thursday.

This will be the largest and most educational power demonstration ever held in America. Forty tractors with varied equipment will be in operation. Bring the whole family and spend at least one day at the Power Show and the big agricultural fair in Fremont.







Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

From the Tile Silo Men

To the Editor of the Twentieth Century Farmer: Your issue of August 2 received. We are glad to see that you are exposing one of the rankest farces in the way of a patent trust that was ever tried to be put across. The undersigned has some information in this line that will be of some interest to you.

About a year ago the tile silo manufacturers of Iowa, manufacturing curved and radius cut silo tile of recognized quality, organized themselves together in this state for the purpose of protecting themselves against the many threats made by licensees of the Harder patent, or United States Silo company, and so that the farmer could be guaranteed against loss from infringement through any of these companies. In order to secure good evidence, a man who was thoroughly acquainted with the situation was secured, and after several months of travel actually secured two door frames which had been used in silos which were continuous in nature, both of which were made and used prior by some years to the securing of the Harder patent.

Since the Harder patentees have learned of this material which we have secured there have been no threats made, and, since there have been no suits ever brought against any tile silo, anyone can have good reason to believe that they know their patent amounts to nothing.

Knocking only advertises what is good, and the Iowa silo, as designed and advocated by the agricultural department at Ames as being the cheapest and best silo for the average western farmer, has never failed in any way to meet everything that could be expected of a good silo. The cost completed is no greater in the average case than a fir silo costs completed, and, while any silo is a good silo and will readily pay for itself, we all have reason to believe that a good tile silo will outlast them all. We know the tile silo will keep silage perfectly if put into the silo correctly.

We can see no reason why any company should pay any royalties to the United States company. Anyone that would use the method that they use should lose all the respect of the farmer. Anyone operating under their license should declare themselves independent.

I am writing today to each one of our members asking them to support you with anything they can. You have started a good thing, and you will lose nothing by it in the long run. Do not hesitate to call on me for any information you may think I have at my disposal. Yours for permanent construction,

H. R. STRAIGHT,
Secretary Iowa Tile Manufacturers' Association.

Loans

Minatare, Neb.: We, the undersigned, earnestly desire to subscribe to the proposition for the government to lend money directly to the producer at a low rate of interest, as proposed:

John Wood, William S. Fleming, M. A. Fleming, R. A. Cawley, L. L. Cawley, W. H. Kennedy, W. E. Kent, E. D. Kent, Lloyd Dunn, Richard Kent, Ralph Kent, A. Kennedy, H. J. Wood, A. E. Lamar, I. Douglas, J. W. Cogan, A. Rondfelt, W. Dalton, Robert Adair, D. E. Taylor, T. B. Catlett, F. Ingwerson, J. W. Hickenbottom, M. B. Hickenbottom, Harry H. Hickenbottom, H. W. Crume, R. E. Crume, Mrs. Sadie Crume, A. T. Smith, W. H. Rockwell, C. Catlett, J. R. Campbell, J. Ray, Raymond Smith, James Baxter, John Baxter, P. Thompson, H. N. Wood, W. S. Wood, E. Chatman, M. Kennedy, M. A. Kennedy, E. Baker, C. E. Brackman, M. E. Baxter, E. Brackman, H. Catlett, F. Snyder, C. Snyder, J. O. Rathbun, H. Kisler, C. Nichols, J. Goff.

Editor's Note—No other evidence is needed to show that this matter of loans for agricultural development is exciting great interest among the farmers. Let the agitation go on. Any agitation which is earnestly conducted, no matter how or by whom it is promoted, in this day and age of the world will always result in good to the people at large. This is a question that cannot be kept down, and the sooner the matter is taken thoroughly in hand the better for the American people and the better for the development of American agriculture.

On August 5 Oklahoma will vote on a state plan for loaning money to the farmers. If that plan succeeds there, it will be adopted by other states. Of course, it will meet there and elsewhere the united opposition of the banking interests, but that will prove no bar to its success if its supporters are thoroughly and devotedly in earnest.

Pit Silo Practicable

J. C. P., Red Oak, Ia.: Please send me the address of L. R. J., Inland, Neb., or publish his plan for getting the dirt and ensilage out of the silo. I think that his plan is the most practical, as well as the most durable. It is also the cheapest silo I have yet heard of. He wrote the article on the pit silo in the Readers' Exchange in the August 16 issue of your paper. Your paper is O. K.

Editor's Answer—This correspondent has received an answer to his inquiry by mail. His communication is printed to show how favorably the pit silo impresses readers in general.

Cutting Second Crop of Clover

L., Inman, Neb.: Will it hurt clover to take the second crop off the field? We have heard that it should be left on. Would appreciate it if you would let us know what you think about it.

Editor's Answer—There are many things to be taken into account before giving a definite answer to such a question. If the soil is heavy enough so that it will not blow when the cutting is removed, if the season is such that sufficient third growth may be made to form adequate mulch for the field to protect it during the winter and to catch and hold the rainfall and the snow, and if it should be cut early enough to allow the growth of enough of a third crop to accomplish this purpose, by all means cut it. It is taken for granted that reference is had to medium red clover. In regions of adequate rainall and proper latitude it is customary to use the first cutting for hay and the second cutting for seed.

It should also be borne in mind that common red clover is a biennial, and, unless it is permitted to re-seed itself, it accomplishes the cycle of its growth in two years and then dies.

Galvanized Steel Granaries

C. J., Gretna, Neb.: Being a subscriber of your paper, I thought I would write and see if you could tell me how grain keeps in galvanized tin. I have got a granary eight feet in diameter and eight feet high.

Editor's Note—The correspondent evidently refers to the galvanized sheet steel granaries that are now often used by the farmer. Whether grain keeps well in one of these or not, depends on its construction. Some farmers with certain makes of this kind of granary have had trouble from heat, and some from accumulating dampness in the grain. Some of these granaries are so constructed as to furnish an escape for the moisture, and in such it is said that the grain keeps in first-class condition. It depends on how the granary is made whether it will safely keep grain.

Suggestion for Cattle Feeders

C. M. S., Colo.: I note in a recent issue of your paper the "Fable of the Steer," which is of interest to show one reason of the high cost of living. The question naturally arises to the bystander why this steer wandered from Colorado to Oklahoma, Chicago and Iowa. The government, in view of the shortage of beef supply, is issuing bulletins advising the corn-belt feeders to raise their own stockers, and eliminate the uncertainty of the supply and the expense of the middleman. But why raise calves on $150 land while the west can supply cheap lands, nutritious grasses, mild winters, for this very purpose. Will not the long-headed farmers of the feeder district cout out the three commissions involved in the "fabled steer's" wanderings, and buy some of the cheap tracts of Colorado, organize on a co-operative basis, and, under efficient management, raise their own supply of breed suited to their demand, and deliver them in the feeding district, with the elimination of the expense and uncertainty of the present condition? Eastern Colorado can today furnish tracts of 3,000 to 5,000 acres of rich, level, well-grassed prairie land, suited for dairying and stock raising at a round profit. Is this not worth considering in the face of the present condition.

Pit Silo Endorsed

F. W. K., Holdrege, Neb.: My pit silo is constructed with a shed-covered runway. The silo is 36x16 feet, the upper part being constructed of cement blocks. The doorway is continuous. Silage is thrown into a carrier below, which travels on a wire track to feed-bunks, and is then dropped where wanted. The silo pit is cemented on earth, and the job is perfect.

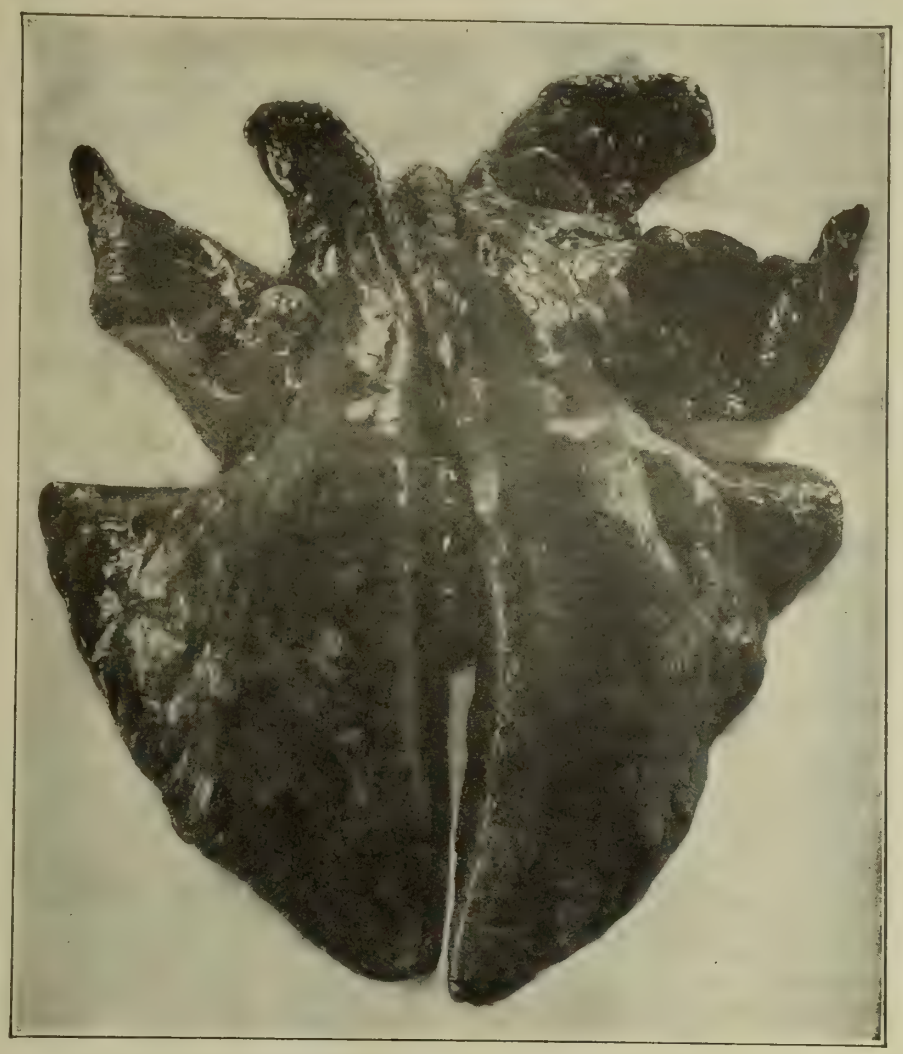
We consider our arrangement ideal. Our cattle have the silage from about thirty-five acres of corn, making about 160 tons. As supplemental feed, they had straw.

On our sale day, January 20, they were simply beauties, slick and in full bloom. They sold unreasonably high, bringing, I feel sure, an easy $10 per head over what they would have brought on same breed in a dry state. I certainly am well pleased with the silo, and, where the bank of a canyon can be used, would have no other. In fact, I favor the pit silo even on level ground.

Some Timely Facts About Hog Cholera

(CONTINUED FROM PAGE SEVEN.)

pected, a competent veterinarian should be summoned at once. The accompanying picture shows characteristic lung lesions.



5—Lungs Showing Hog Cholera Lesions. Note Dark Areas in Upper Tips

Farmer to Protect Himself

All that any farmer can do in the way of protecting his herd against infection from hog cholera is to take such care of his hogs as to keep them in the most highly resistant, tonic condition. Too many people think that an animal that is exposed to disease must of necessity take it. They hold to this notion in spite of the fact that they can count in their own experience numerous cases of human beings who have been exposed to infectious disease and yet have remained immune. The fact is, a hog that is kept in a highly resistant tonic condition is by this means enabled to resist the invasion of almost any except the most virulent types of infection. The farmer should give his special attention to developing in his hogs, through his care of them, the greatest possible capacity for resisting the infection. This is all that he personally can do. When this fails, or when he fears that it may fail, the only possible course open to him to protect himself against loss is through immunization by means of hog cholera serum. This serum, when properly used, in the proper amount, is absolute protection in 95 per cent of the cases against loss from the disease. Let the farmer do his part in protecting his hogs, and then, in addition, let him invoke the aid to be derived from the proper use of hog cholera serum, and these awful losses from hog cholera will become things of the past.

Truth About Silos---Reliable Information

(CONTINUED FROM PAGE SIX)

After the dry materials are thoroughly mixed, water should be added in order that crystallization of these materials may take place and form them into a solid rock-like structure. There are two methods of mixing concrete, which are known as the wet and the dry method. The dry method is ordinarily used in making concrete blocks for commercial purposes. The concrete mixture is used with only a slight degree of moisture in order to facilitate the rapid making of blocks. Under what is called the dry process, the materials are tamped into a mould firmly enough so that when the mould is removed the blocks will stand without crumbling and may be removed to a curing shed, and the same machinery used for making other blocks. To use a wet mixture would require keeping the cement block in the mould for a length of time sufficient to enable it to set firmly enough so that it might be removed from the mould without danger of breaking. But the dry process does not make as strong concrete as the wet process. The strongest concrete possible is made when sufficient water is used so that the mixture may be poured. This permits a uniform and complete crystallization of the entire mass, and as firm and lasting a product as is possible to make from these materials. Any mixture of concrete that fails to use sufficient water to insure this full degree of crystallization, correspondingly weakens the structure. The proper use of such materials may require a little longer time in building, but the greater strength and firmness secured in this way more than compensates.

Results of Improper Mixing

Where there is failure to use a sufficient amount of cement with the other materials, where the mixing is not properly and thoroughly done, where there is failure to use sufficient water to produce thorough crystallization, a brittle, spongy, often fragile product is the result, which will always be for all purposes unfit. Concrete made in such a way will, like open porous brick, absorb nearly its own weight in water. It may be soaked in water and easily broken, and sometimes picked to pieces by hand; whereas, if the materials are properly mixed in the proper proportions, it makes a firm, non-absorbing, resistant wall. When properly made, concrete is less porous, and, as a result, less absorbent, than any of the various kinds of wood from which silos are made.

If a concrete wall ever fails to answer fully to the demands made upon it, it will be for the sole reason that improper materials were used in improper proportions, in an improper way. When rightly used, such materials make the most lasting and the firmest construction that is known. This process of crystallization is progressive. It goes on year after year. Nobody can tell when it is completed. For this reason, every year adds additional strength and permanency to the concrete wall.

In certain parts of the country they are beginning a war of extermination against the large white grub, which is the larvae of what is known as the June beetle. Two methods are employed. One consists in late fall plowing; that is, fall plowing just before winter starts in. This throws the larvae out of their winter bed, exposes them to the elements, and kills most of them. The other method employed is to prevent the breeding of the larvae by capturing the parent beetles. The plan adopted for this is to put some water in a common washtub; pour on a little kerosene oil so as to furnish a film of oil over the water, and then suspend a lighted lantern just above the water in the tub. The beetles are attracted by the light, strike the lantern, fall into the water, and are killed by the oil.

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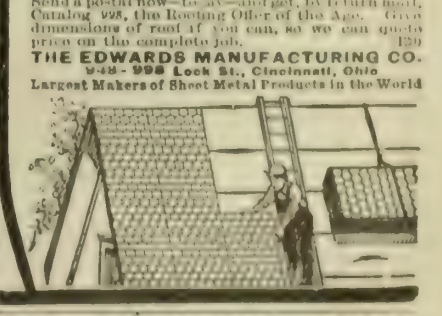

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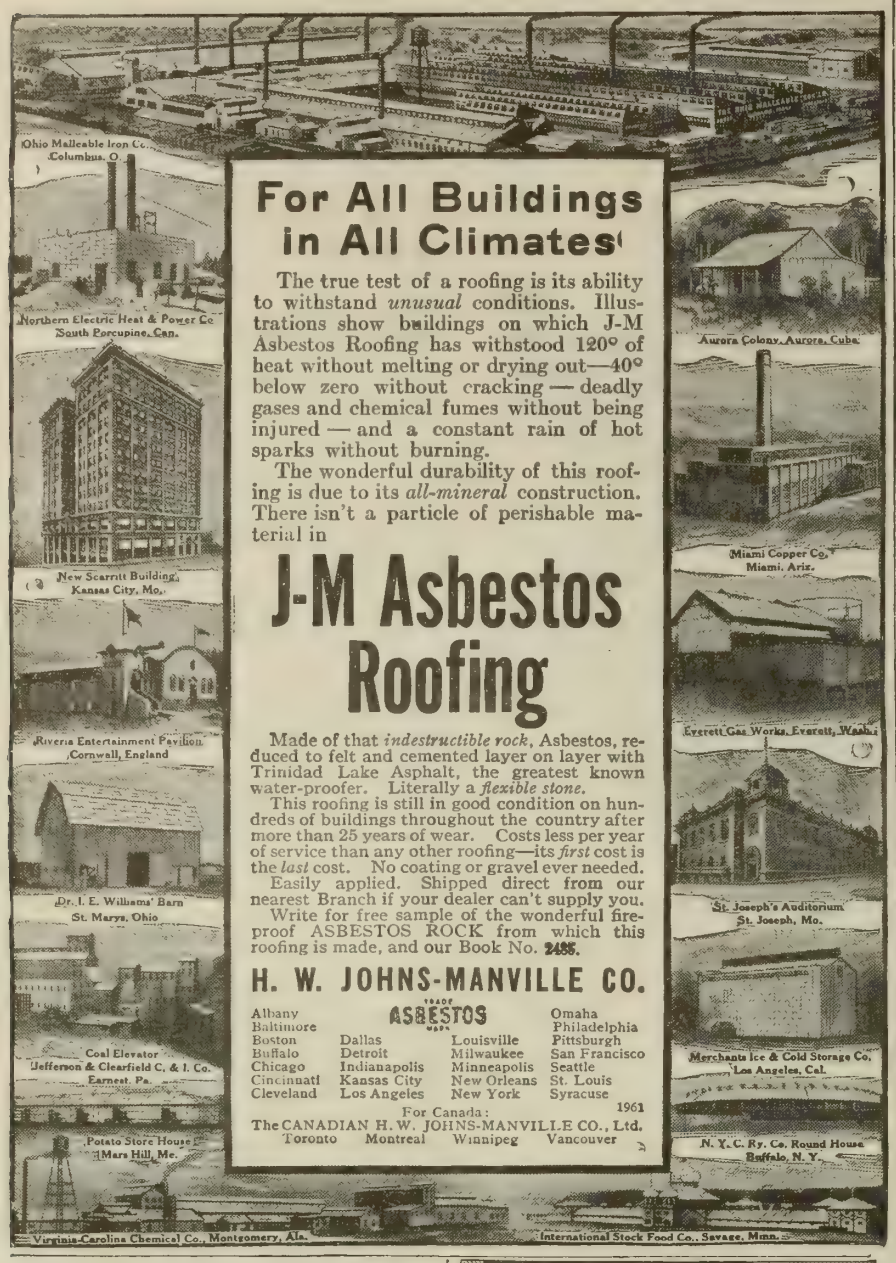

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Think of it! A wonderful soil, an unfailing water supply and a splendid market.

Can you afford not to look into this condition very carefully? You can rent an improved farm there, or you can buy irrigated land from the Government.

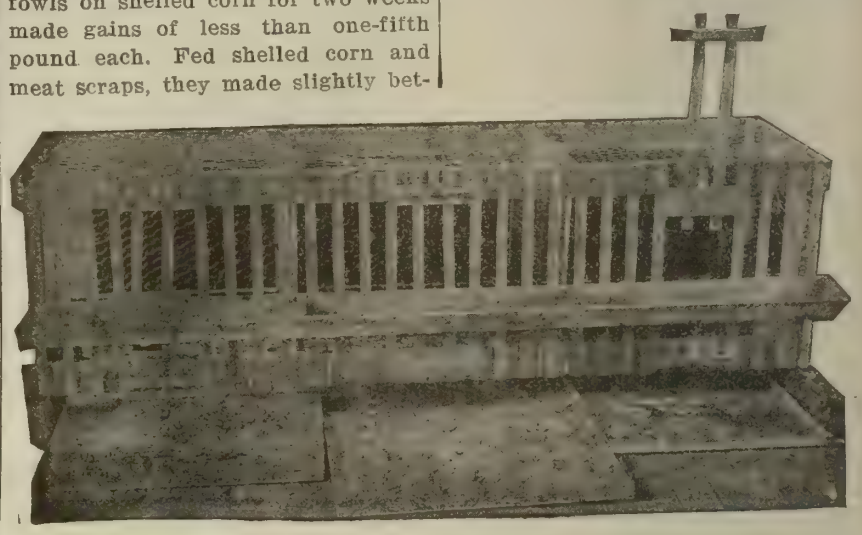
I will tell you just what to do to get some of this land, send you maps, pictures and description of the country, and tell you how to join one of my parties at an extra low railway fare, to go and see for yourself. Write today. D. Clem Deaver, Immigration Agent, C. B. & Q. R. R., Room 350, 1004 Farnam St., Omaha, Neb.

Timely Items of Interest to Poultry Raisers and Fanciers

THE farmer's chicken fattening crate is made of one-by-two-inch material, top, back and ends covered with inch mesh poultry netting. The bottom is made of inch mesh-woven netting, wire No. 9. The droppings pass through this floor and into pans set below. This makes it sanitary and easily cleaned. The front is made of lath, two inches apart. The feeding trough runs full length of pen in front. This pen is six feet long, twenty inches wide and twenty inches high, and divided into three pens.

Fattening

To use whole grain in fattening gives poor results. At the Pennsylvania experiment station range-fed fowls on shelled corn for two weeks made gains of less than one-fifth pound each. Fed shelled corn and meat scraps, they made slightly better gains. Wheat added, caused a slight falling back. Birds fed cornmeal and meat scraps, moistened, made a gain of two-fifths pound each, and on cornmeal, moistened with buttermilk, a gain of one-half pound each. But if crate-fatted on this last ration, gained one pound each. Whole grain, it was proved, did not fatten young chickens; it simply kept them growing, that was all. But the market demands fattened chicks. One good mixture of meals, made thin with buttermilk, is to this proportion: Twenty-four pounds of bolted corn meal, six pounds of wheat middlings, four pounds of pea meal, or finely ground hulled oats. The finer the meal the quicker the fattening process. Food must be stirred thin and never allowed to ferment.



(Courtesy of Missouri State Board of Agriculture)

Chicken Fattening Crate

Bleaching Show Birds

The state and county fairs are at hand as I write this, and then soon will come the winter poultry show. At every one of these will certainly arise hard feelings due altogether to the bleaching of white or parti-colored fowls. To illustrate, I heard a woman at a fair, in front of a White Wyandotte rooster whose cage carried a blue ribbon, say:

"I've a finer marked young rooster of this breed at home, better in every way except color. He has some yellow tinge in his feathers." I did not tell her, but I knew the blue ribbon bird had been bleached into his pearly whiteness. Had it not been for a certain acid, he might have shown a creamier tint than the one owned by that woman. Suppose she had competed, and because of this demand for pure white by the rules, her better bird had been outclassed? Can't you see the injustice done her because the rules allow bleaching? In the first place, it is nearly impossible to get a pure white bird. Invariably the strongest and best marked in other ways will show a little brassiness when young. As a rule, the older they get the whiter they get. This demand for a certain kind of white should be thrown out, and bleaching looked upon as something as mean as touching up black feathers with black paint, and out-of-color red feathers with red paint. The poultry exhibitor who bleaches his white fowls and thus takes premiums from parties who show white birds on points of general excellence should be banished from the show. Of course, he will not be until ruling is made that way. You cannot trust some things to honor and natural fair play; it will not work at all.

Poultry Hints

For indigestion there is nothing better than a gill of linseed meal in the feed of ten hens.

Be careful of lime and insect powders as dusters of little chicks. Vermin powder will often blind the chick you dust, and inflame the eyes afterward. Dust in the feathers of the mother hen will do the same thing, and chicks scratching in limed grounds have come away digging at their eyes, which next inflame, stick together, and the chick acts miserable and cannot eat for several days after with any satisfaction.

Bone meal for the growing chicks is a help to strength that few give heed to. Notice the big legs of chicks fed heavily on muscle-forming foods to which is added each day some bone meal. More often than not, leg weakness in the growing chicks, a weakness that leads to disaster, is caused by heavy feeding, and the chick's body growing faster than the leg bones; the legs weaken and often become paralyzed. Bone meal would have staved this off.

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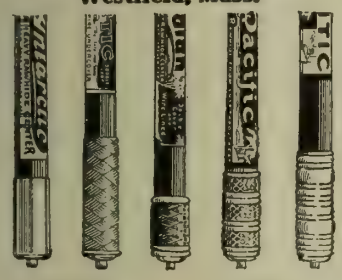

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Notice is hereby given that the state of Oklahoma will offer for sale at public auction, at the time and places herein set forth, 560,290 acres of its school lands, as set forth in pamphlet advertising said land for sale.

All lands will be sold at the door of the county court house of the county wherein the land is situated.

Boise City, Cimarron county, 385,376 acres, Sept. 22 to Oct. 10, 1913.

Guymon, Texas county, 182,874 acres, Oct. 13 to Oct. 29, 1913.

The terms of the sale are 5 per cent of the purchase price cash, at time of sale, and in no event shall the initial payment be less than $50. The balance of the purchase price is divided into forty equal annual payments, with interest at the rate of 5 per cent per annum, payable annually. Prospective buyers will bear in mind that these lands are unimproved, and the lessee has no preference right to purchase. There positively will be no improvements of any kind to be paid for by the purchaser, and a lessee has no more advantage than a non-resident of the state. Also that 1,280 acres or any subdivision thereof of these lands can be bought by one person. A pamphlet containing full and complete description of each tract of land, with the appraisement thereon, to be sold, together with all the laws, rules and regulations, can be had, postage prepaid, upon application to the commissioners of the land office at Oklahoma City, Oklahoma. Address all communications to John R. Williams, secretary, 501 Mercantile Bldg., Oklahoma City, Oklahoma.

An Impression of W. J. Bryan

(CONTINUED FROM PAGE SEVENTEEN.)

tics that last," said Mr. Bryan. "Morality is the only foundation for the building of a man or a nation. I made a speech along that line Flag day. The subject was brought up by the man who spoke before me. He made rather a humorous reference to my idea of friendship versus the battleship, and rather challenged the doctrine I had set forth in regard to it. In my reply I showed that history was strewn with the wrecks of nations which had proclaimed their immortality when they were at the zenith of their power, and that no amount of physical force could maintain any nation if it were corrupt morally. I closed by calling attention to the scene of Christ before Pilate, saying that Pilate represented the great force of that day, and the greatest government on earth, and that he was then apparently victorious. The unarmed Nazarene apparently submitted to him, but from that time the Roman power waned. In a few centuries its legions were gone and its arm became paralyzed, whereas the power of the right, that of the Nazarine, grew, and it has been growing to this day. It is said somewhere that you can build your capitols as high as the sky, but if they rest upon injustice, the pulse of a woman will beat them down. I do not believe in a mad rivalry with the old world in the building of battleships. I do not think that the only way to preserve peace is to make ready for a war that we may never have. That is a barbarous doctrine. It is brutal and unchristian. It belongs to the darkness and not to the dawn."

How He Talks

I despair of giving you the impression that Mr. Bryan's conversation makes upon one with whom he talks face to face. His countenance is like a benediction, and his voice is so mellow and sweet. The sentences come forth so beautifully rounded that they make you think of a copper-plate engraving. At one point in the conversation I involuntarily said:

"You certainly can say things beautifully."

"I do not ike that word 'beautiful'," replied Mr. Bryan. "I would rather have you , .y that I speak forcibly and clearly. I think clearness of statement is the most important thing to oratory, and it is that at which I have always aimed and tried to attain. I remember of making a speech upon the tariff, now more than twenty years ago, at the close of which a man came up and said: 'Mr. Bryan, I have been anxious to hear you. You are not as eloquent as I had expected, but you made that subject as clear as it could be made.' At the same meeting another man said: 'Why, a man could understand that speech if he could not read or write.' I consider those two remarks a greater compliment than any I could have had as to elegance of diction."

"I have been told that you have made $50,000 a year by your lectures?"

"That is not true. I have received a great deal, but not so much as that. I would say, however, that I have made more speeches for nothing than I have for pay. I do not receive pay for political speeches, and my Sunday speeches, except at Chautauquas, are free. I do not think that money-making is the chief end of man."

"But, Mr. Bryan, do you think one man can earn $50,000 a year?"

"Yes. And in this I am not speaking of myself, but I do think that we have many men who have earned more than $50,000 during every year of their working lives. A man can benefit earn what his services are worth to society, although in many cases he does not collect it. Take Thomas Jefferson. The service he rendered the world was worth more than $10,000,000 a year, although during the last days he was so poor he had to sell his library to congress and his friends got up a lottery to aid him in paying his debts. Abraham Lincoln earned more than $[illegible] a year, and so did George Washington and many others."

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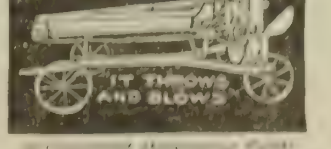

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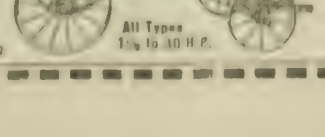

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Review of Live Stock Market

By A. C. Davenport

THE live stock market is very interesting these days, interesting not only because of current happenings, but also because of the possibilities of the future. It makes little difference which branch of the trade may be under consideration, cattle, hogs and sheep are all equally interesting, and their future equally puzzling. Everyone knows, and the trade is pretty well agreed as to what ought to happen, but there are so many ifs connected with it that no one knows whether "what ought to be" will actually come to pass.

The cattle market last week from a seller's standpoint was in a fairly satisfactory condition. Receipts at the beginning of the week were large at all points, while Kansas City was literally flooded with cattle from the dried-out pastures of Kansas and Oklahoma. With such large receipts, consisting principally of stock cattle and feeders, the Kansas City market slumped badly and all other markets followed along the same line, so that prices were everywhere sharply lower. This was exactly what the bears had predicted the previous week, but the only trouble with the prediction was that while it came true it did not continue that way, receipts later in the week decreasing rapidly while the break in the market was just as speedily recovered. In other words the market jumped back, and at the close of the week prices were just about on a level with the close of the previous week. Thus heavy receipts failed to bring buyers the relief that they were hoping for, all because the country was so hungry for stocker and feeder cattle that buyers rushed to the big market centers from far and near and speedily absorbed the offerings.

The bears in the cattle trade are still confident that the time will come when receipts will prove large enough, or when the more eager buyers in the country will be satisfied, so that feeding cattle can drop down to a point more nearly in line with the market on beef. It remains to be seen whether they are right in this assumption or whether beef will advance and in that way equalize prices. The future of the beef market is really just as much of a problem as the future of the feeder market, although one does not hear it discussed with such frequency at market centers. While the country is crazy to buy feeding cattle, it is a noteworthy fact that the kind of cattle most in demand are such as are suitable for roughing through the winter on cornstalks, while the demand for the heavier cattle suitable to go on feed early in the fall is limited. Putting two and two together, a good many observers are beginning to wonder if there will not be a great scarcity of cornfed beef the coming winter and spring. In this case it would be possible for beef to sell at figures that would justify the present high prices.

Hogs High and Market Steady

Hogs have been fluctuating back and forth within rather narrow bounds, showing sharp advances for a few days, and then sudden declines, but without any great or permanent change in either direction. Prevailing prices are high and sellers are generally well pleased with the market. It is in fact a bull market, even if no further advances are made, and the country would unquestionably be well pleased should prices continue where they now are. Sentiment among traders as to the future of the market is considerably divided, but the bulls are undoubtedly in the majority. They are, as a matter of course, basing their predictions of a strong market in the future upon the prospective high price of corn and the prevalence of cholera in the big hog producing states. The bears, on the other hand, are predicting an early run of light hogs from the dry states, where there is not sufficient feed to bring spring pigs to full maturity. They also are going on the theory that the high price of corn and the prevailing high price of hogs will induce many farmers to ship their pigs while they are still light in weight. They incline to the belief that these premature shipments, from the dry states, at least, ought to begin in the near future. If the expected heavy shipments should arrive on schedule time the bears believe that lower prices must ensue. The bulls, however, contend that if the country ships prematurely it may mean lower prices while such marketing is under way, but that it also will mean a shortage later on and consequently higher prices.

Feeder Sheep and Lamb Market Firm

A few more buyers for feeder lambs have been coming to market every day than there have been lambs, and as a result the market on all kinds of feeder sheep and lambs has been very firm throughout the season to date. The trade has been expecting every week that as the range season was advancing receipts would increase more rapidly than the buyers, but thus far the buyers have been the more numerous. At the same time the supply of fat lambs and sheep has been disappointingly small, and as the consuming price has been good, prices on all kinds have been strong. Just at present writing there is a prospect of larger receipts to come, and the bears once more are expecting a slump in prices. While it may not materialize just at present, there is a general feeling that the market must break before the season is very far advanced. The high price of corn and the consequent absence from the market of many old-time feeders must have a depressing influence upon prices, but then comes the question of the new feeders, of the men who have never fed before, but who want to try a few this year. Will there be a sufficient number of these latter gentlemen to maintain the market? Most operators incline to the belief that there will not be, but no one knows.

Live Stock Notes

Poland-China Males for Sale

Owing to adverse crop conditions, Thomas F. Walker & Son of Alexandria, Neb., have decided not to hold their sale on October 17, but will offer their males at private sale. They have the best lot of boars they have ever raised, many of them weighing around the 200-pound mark at this time. These boars are sired by Blue Valley Orange by Big Orange, and Blue Valley. These boars are both splendid breeders and there are boars here that are good enough to head any herd in the country. We will have more to say regarding these boars in a further issue. In the meantime write for further particulars, mentioning this paper.

International Live Stock Show

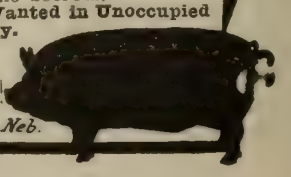
We are in receipt of advance copy of premium list of the International Live Stock Exposition at Chicago. The classifications are really more liberal than they have been in the past. This is particularly true of the draft horses in harness on page 129 and the classes covering ponies on 132 and 133. Our readers should also be interested in the futurity classes for Clydesdales, Percherons, Belgians and Shire horses. These are only a few of the attractions to be found in this advance list. These booklets are now ready for distribution and may be had for the asking by addressing B. H. Heide, secretary, Union Stock Yards, Chicago.

GRAIN BELT BRAND
Vegetable Hog Potash

Why wait thirty to ninety days for results. **Grain Belt Brand Vegetable Hog Potash** will put your hogs' appetite on edge in thirty minutes. Add five pounds to one hundred pounds dry weight of grain, and see how much better they clean up their feed. Write and ask us the following questions: What will it do for hogs? What is the chemical analysis? What is it made from? What does it cost? Or any other question you may wish to ask, and we will be glad to answer. You see we have no secrets.

Agents Wanted in Unoccupied Territory.

UNION STOCK YARDS COMPANY
South Omaha, Neb.



TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, September 13, 1913 | Number 666

Put Jack-Screws Under Your Farm

It is the Only Sure Protection Against Excessive Heat and Crop-Destroying Hot Winds

A TRUE STORY WITH A PLAIN MORAL:

Years ago two boys, Harry and Jim, were playmates living on adjoining farms in western Illinois. They grew to manhood and each realizing the impossibility of ever securing clear title to one of the high-priced Illinois farms, decided to seek a location where he might find land within his means.

Harry purchased 640 acres in central Kansas, settled on it and began farming. Jim thought he would look around a little. He had read a good deal and had some theories of his own. He had conceived the notion that it was not lack of rainfall so much as extreme heat, that caused crop failures, and he made up his mind to find, if he could, a new country where with rainfall reasonably abundant it did not get too hot during the growing season.

Just at that time the papers were full of the accounts of the efforts of President Roosevelt to compel the ranchmen of southeastern Wyoming to remove their fences surrounding public lands and Jim reasoned that the country must be pretty good else why were the ranchmen fighting so hard to retain possession of it. So he got hold of a Union Pacific folder and found that the altitude of the district which the President and the ranchmen were quarreling over was from 5,000 to 6,000 feet above sea level. He wrote the Weather Bureau of the U. S. Agricultural Department and found that while the rainfall was only moderate in quantity, being about 16 inches per annum, approximately three-fourths of it fell during the growing season. This looked good to Jim, but that which surprised and pleased him most was the government report showing that during an unbroken record of more than twenty years the thermometer had never, not for a single day, reached a point making hot winds possible.

Jim hastened west. At Omaha he visited the Land Department of the Union Pacific and was informed as to the proper station to which to buy his ticket. He was directed to a man at that station from whom he could hire a team to drive over the country and was told that some twenty miles from the railroad, in a small territory not occupied by the ranchmen, a Swedish colony had located several years previously.

He visited the Swedish settlement and found that although these people had started almost with nothing they were raising good crops and prospering. He spent several days looking around and bought a small improved ranch on which he settled and began farming the next spring. When Jim moved in there was less than an acre (only a potato patch) of the ranch in cultivation. The ranchman had grown rich raising cattle and from a small start had accumulated a herd of 1,500 head. Jim began turning over the virgin soil. The first season his oats on sod breaking yielded 43 bushels per acre and his flax 13 bushels per acre, selling for $1.40 per bushel.

The next season his spring wheat on land in flax the previous season made over 23 bushels per acre. Each year he has increased his acreage and has grown profitable crops, including corn, for while the cool nights prevent the maturing of the big varieties grown in the central states, the northern kinds, with shorter stalks, more numerous ears and abundant foliage are successfully grown. Last season oats grown on some of his oldest cultivated land made 75 bushels per acre.

AND HOW ABOUT HARRY? His fortunes, or rather, misfortunes, can best be told by quoting some of the correspondence between him and Jim:

Blank, Kansas, August 15, 1913.

Dear Jim:—

I have your letter of the 10th and am glad to learn that you have raised your usual good crop there. Yes. Kansas is burned up again. The prospects were good in the spring but the hot winds set in just as they have to a greater or less degree every summer since I came here but worse I think than ever before. My crops are a total failure. Cattle are being shipped and driven out as fast as possible as there is no feed here for them.

Am glad you sent me the photo of your oat field. I think I would have recognized our old Illinois friend, Charlie Stratton, on the binder if you had not told me who it was. From the looks of his little boy I take it Wyoming is a good place in which to raise boys as well as grain crops.

It surprised me to learn that your hottest day there this season is 92 as we have had it up to 114 here two days and for days and days the thermometer has stood above 100. I am discouraged and ready to quit. I cannot buy elsewhere unless I sell here and that is impossible at present. Have thought of going back to Illinois and renting again but Brother George writes me that he has threshed his oats and they only made 18 bushels per acre, while his corn will not make over 40 per cent of a crop. It will hit him pretty hard as he went in debt for his farm at $150.00 per acre.

Jim, it is a puzzle to me that while I have had either a total failure or only a partial crop here each season you have done well there every year. I have thought until now that it was only accident and you would "get yours" sooner or later but this season seems to settle it.

Now, it is not so very far from here to Egbert and I want you to write me a good, long letter, telling me just as carefully and fully as you can why it is that you are raising crops there every year while I am making a failure here, for you know I was just as good a farmer in Illinois as you were. I hope you will write soon and at length for conditions are desperate here and I do not know which way to turn.

As ever your friend, HARRY.

1913 field of oats on "Jim's" farm near Egbert in the Golden Prairie District of Wyoming. The rainfall here this year as shown by government records has been below normal every month of the growing season and yet we can show you thousands of acres of oats, wheat and other crops just as good as "Jim's."

TO WHICH JIM REPLIED:

Egbert, Wyoming, August 21, 1913.

Dear Harry:—

Yours of 15th at hand. Am busy building a silo so take my stubby pencil in my dirty fingers to say—if, just before the hot winds set in down there, you could have put jack-screws under your farm and raised it up to an altitude of say 5,400 feet above sea level, and as an extra precaution while you were running the jack-screws, could have had your wife and children throw up a range of snow-capped mountains to the southwest, don't you think you would have raised a crop?

Hastily, JIM.

AND HARRY WROTE BACK ON A POSTAL:

Blank, Kansas, August 24, 1913.

Dear Jim:—

Just got yours of the 21st. You could not have explained it better if you had written ten pages. Still horribly hot and dry. Will write a letter in a few days. Yours, HARRY.

AND HERE IS THE MORAL THAT HE WHO RUNS MAY READ: PUT JACK-SCREWS UNDER YOUR FARM.

Of course, you cannot do it literally but you can quickly and easily accomplish the same results by securing a farm under which nature has placed the jack-screws. There may be many places where this condition exists. We know of but one. That is the GOLDEN PRAIRIE DISTRICT of southeastern Wyoming and Jim's farm is right in the heart of it. Jim is only one of hundreds in the Golden Prairie District who in five years have developed from renters on high-priced, hot wind jeopardized land in the central states into prosperous farm owners where nature safeguards them from excessive heat and hot winds by having in the formative ages of the earth PUT JACK-SCREWS UNDER THE LAND.

During the past six years we have sold Golden Prairie lands to hundreds of farmers. They are making good here and you can do likewise. We are owners, not agents. We sell direct, reaching our customers by advertising in high-class farm papers and by those who have dealt with us telling their friends of the virtues of the Golden Prairie and of our fairness and liberality with them.

If you have not as yet received our literature write at once that we may send it to you. The Summer Tourist rates now in effect will enable you to come cheaply, and by coming soon you may see the golden grain in shock and as it comes from the thresher.

We guarantee every representation we make to be true, and upon your filling out and mailing to us the attached coupon, we will send you our signed guarantee by which we agree to refund your railroad fare and $5.00 per day if, on coming you do not find everything as represented.

The sooner you write us, the sooner you will know about the Famous Golden Prairie District, the land of moderate temperatures and big crops.

We sell our lands on ten years' time, or on our Famous Crop Payment Plan, whereby, after making a small down payment, as an evidence of good faith, all the balance of the principal and interest is paid by delivering to us at nearest market one-half the crop raised each year, which is credited at market price until the land is paid for. Prices of unimproved land, $15 to $25 per acre, according to quality and location.

COUPON

The Federal Land and Securities Company, Cheyenne, Wyo.

Gentlemen:—Please send me at once full particulars of the Golden Prairie District, including your signed Guarantee of return of railroad fare and $5.00 per day if I do not find everything as represented.

Name .....

Address .....

T. C. P.

The Federal Land and Securities Company

100 West 17th Street Cheyenne, Wyoming

Bright and Breezy

Some Skirt!

Gracious! That skirt is so tight I can plainly see what you have in your pocket."

"But I have no pocket."

"Then what is that lump?"

"Oh, that's a mosquito bite."

Unwholesome Melon

A physician was called to the country a few days ago to see a sick child. He found the little boy doubled over with cramps and in an alarming condition.

"What has the little boy been eating?" asked the physician.

"Why, nothing at all to speak of," the mother replied. "Of course, this morning, before I knowed it, he et several green apples. Then he come into breakfast an' I give the poor little feller some watermelon, cucumbers, milk and some mushmelon. I kindo' think I ort'nt t' have give him that watermelon."

Wanted it Right

A traveling salesman died suddenly and was taken to his home in the west. His relatives telephoned the nearest florist, some miles distant, to make a wreath—the ribbon should be extra wide, with the inscription "Rest in Peace" on both sides, and, if there was room, "We Shall Meet in Heaven."

The florist was away, and his new assistant handled the job. It was a startling floral piece which turned up at the funeral. The ribbon was extra wide and bore the inscription:

"Rest in Peace on Both Sides, and if There is Room We Shall Meet in Heaven."—Lippincott's.

He Wanted to Be There

Tony came over from the old country and obtained employment in America as a section hand. Some time afterward he went to his foreman and said: "Boss, I like haf vacation."

"Why, Tony, you don't need a vacation," answered the boss.

"Yes, boss, I like haf vacation," repeated Tony.

"What do you want with a vacation? If I give it to you, Tony, you will go over to the old country, blow all your money and then come back broke. You had better stay here."

"I like haf vacation, boss," stolidly repeated Tony. "I'm going to get married, and I'd kinda like to be there."—Everybody's Magazine.

Remarkable Tumble

The Yankee tourist was in great form. His tales of the terrible scenes he had witnessed raised his hearer's hair. Then the quiet little Englishman spoke.

"Saw a man once," he said slowly, "fall off the top window-sill of a building twenty stories high. Never hurt him a bit—just annoyed, that was all."

"Nonsense!" they cried, and would have jeered him to scorn.

"Fact!" said the little man. "Up there he was cleaning the window, and he fell right off!"

"That's rot!" exclaimed the man from the States. "Tell me how he did it!"

"Well, you see," drawled the quiet one, "it was rather lucky for him—but he happened to fall inside."

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Reprint of Silo Articles

THE series of articles that are entitled "Truth About Silos" is completed in this issue of the Twentieth Century Farmer. The demand for these articles has been unprecedented. Editions of the paper containing them were soon exhausted. There has been a widespread demand for these articles, and, in answer to this demand, the completed series will be published at once in pamphlet form. A copy of this pamphlet will be mailed to silo manufacturers, creameries and all persons industrially interested in silos. Any subscriber that wishes to receive a copy of the pamphlet may have one mailed to him upon his forwarding to the office a 2 cent stamp, to cover postage.

This paper has already received assurances of the great good that has been done to silo users by the publication of these articles. It is earnestly hoped that the republication in pamphlet form will continue the good work already so auspiciously begun.

Prattle of the Youngsters

An Awful Strain

"Remember, Arthur, you are the son of a gentleman. Try to behave like one for just one day."

"All right, mother, but it will spoil the whole day for me."—Life

What Did He Wear?

Jimmie giggled when the teacher read the story of the Roman who swam across the Tiber three times before breakfast.

"You do not doubt a trained swimmer could do that, do you, James?"

"No, sir," answered Jimmie, "but I wondered why he didn't make it four and get back to the side his clothes were on."

Cleaning Poor Kitty

Small Harvey, aged 2½ years, had been told to scrape his shoes before entering the house, so they would be clean. One day he brought his kitty onto the porch, and his mamma told him he must leave the kitty out of doors.

"Oh, no, mamma. Kitty is clean!"

"How do you know kitty is clean?"

"Oh, Harvey scraped her!"—A Subscriber.

Latest in Teeth

The admiration entertained by a Trenton boy for his uncle includes all the latter's attributes and even possessions which the uncle himself is not wont to deem desirable.

"Uncle," said the lad one day after he had been studying his uncle in laughing conversation with his father, "I don't care much for plain teeth like mine. I wish I had some copper-toed ones like yours."

No Time for Play

Ten-year-old William came home one day in a regrettable state of disorder and a somewhat bruised face.

"Oh, Willie! Willie!" exclaimed his mother, shocked and grieved. "You have disobeyed me again! How often have I told you not to play with that naughty Johnson boy?"

"Mamma," said William, in utter disgust at this feminine reprimand, "do I look as if I had been playing with anybody?" — Youth's Companion.

Training the Dog

"Hey! What are ye doing there?"

Little Arthur was caught. He was up the pear tree, his pockets full of luscious fruit, while below stood a bull terrier, trying wildly and frantically to reach him.

And the owner of tree and dog had just come upon the scene.

"What d'ye want up my pear tree, young feller?" asked the farmer again, in gruff and angry tones.

"P-p-please, sir, I-I trying to teach your d-d-dog to stand on his h-h-hind legs!"

His Vacation

Eugene was going for a week's motor trip with his father.

"Have you everything you need?" inquired his mother. "You'd better let me look at your bag."

"Everything in it," replied the boy, who was very anxious to be off. "Every single thing I need."

"Have you taken your brush and comb?" queried his mother.

"Brush and comb!" cried Eugene indignantly. "Why, mother, I thought I was going on a vacation!"—Everybody's.

Milking Time---"Everybody Works But Father"

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Nebraskans Are Loyal to the State Fair

Good Attendance with Thermometer at 100 Degrees---Exhibitors Deserve Great Credit for Splendid Showing

IN SPITE of adverse weather conditions, Nebraska's annual State Fair was a success this year. A prolonged drouth over the section of the state in which Lincoln is situated cut down the corn crop, turned the roads to beds of dust many inches deep and discouraged many of the farmers in that immediate vicinity who ordinarily go to the fair rejoicing over the prospect of a fifty-bushel corn crop. Notwithstanding the intense heat, the dirt and the local drouth, a very fair-sized crowd was present, and the exhibits were surprisingly good. In 1912 there was a record-breaking crowd. The 1913 crowd was naturally far short of the preceding year, but they were good-natured and appreciative of the difficulties under which the fair was held.

The State Fair is growing. New buildings of ponderous dimensions and artistic beauty are springing up where canvas tents and weather-beaten shacks formerly existed. The grounds are being enlarged and tracts of land are being added on all sides. The machines, which formerely kept up a constant whirr in the high spot near the center of the grounds, have been relegated to a recently acquired wheat field on the east, where the noise and smoke do not annoy those not interested, and these were surrounded by crowds of absorbed people all day and every day.

Departments Show Good Growth

The horse judging, formerly done in a small pavilion near the tracks, is now done in the large arena in the Coliseum, which was crowded to the limit on several occasions this year. The automobiles were first shown in tents, then in the old horse-judging arena, and now they are so numerous that the large machinery hall will hardly hold them all. One more step, and agricultural and horticultural halls will be vacated and the new structure on the southeast corner of the grounds, now nearing completion, will be brimming over with the best of fruits, grains and vegetables, such as but few states can boast of producing. This structure would have been ready this year but for a delay in the arrival of material. Not only are the good buildings increasing in number, but where people formerly walked in mud and dust they now patter over the smoothest of flagstone walks.

The State Fair is a big enterprise. It must grow steadily and not by leaps and bounds. Some people criticize it for not changing from year to year. It is not a circus, nor a vaudeville show. It is a display of products grown within the state. There is a marked change each year for those who go there for a real purpose. The live stock, grains, fruits, vegetables, machinery, in fact everything, is different if you look carefully and observe closely. There were numerous features this year which were entirely new. Among them was the State Fair school, which enrolled over ninety boys from the various counties of the state. These boys were encamped on the grounds, where they attended lectures, did class work and learned military routine and discipline, under the guidance of Prof. Pugsley and E. Von Forell. These boys will have good cause to look back upon this week of pleasure and profit for years to come

Better Babies Show

The better babies show was an innovation of unquestionable merit. Some 600 cherubs were critically examined by the physicians who so generously gave their services for the good of the cause. A corner of the new agricultural hall was used, and the doorways and windows were crowded by the spectators who desired to watch this most interesting performance. Mrs. M. E. Vance, the manager of the better babies' department, deserves great credit for the smoothness with which this new departure was cared for. The only possible criticism would be that better opportunity for spectators be provided next year, as everybody wants to see the babies.

The display in agricultural hall was surprisingly good. There were twenty collective county exhibits. Douglas county won in the eastern division, with Pawnee a close second. Pawnee county has not had rain since spring, and most of the exhibits came from the farm of Martin Arnold, who has irrigated his crops steadily, using a gasoline engine and pumping the water from a depth of thirty-five feet. In the central division, Kearney county took first. Like Pawnee county, Kearney has been very dry, and no doubt the exhibits shown were obtained in much the same manner. In the western division there were eleven counties, as western Nebraska has had plenty of rain this year in most localities. Brown was first, with Red Willow second and Frontier third. This county exhibit idea was superceded at Iowa this year by individual farm exhibits. There were quite a number of farms competing, and the championship was won by a woman. This idea will no doubt prevail over the county exhibit idea in all states before very long, as the county collections represent professional skill of exhibitors and are not as educational as an exhibit showing what can be done on a single farm.

In the dairy building Prof. Frandsen of the state farm had a very attractive and instructive exhibit. The record cow, Katy Gerben, formed part of this display. She stood calmly in the air current of a large electric fan, and one might have thought her still making butter records to view her splendid type and large, well proportioned udder. A demonstration of the value of good milk cows was given by showing piles of food consumed and butter produced by two similar looking cows, one cow making a nice profit, while the other showed a loss on the ledger. The Beatrice Creamery company had a butter lion and lady, while another creamery furnished the crowd free buttermilk.

The Nebraska National Guard, under Adjutant General Hall, policed the grounds, and did good work. This was a great improvement over the entirely inadequate policing the fair has had for so many years past. The young men in uniform were everywhere, and were courteous, intelligent and in every way satisfactory.

A Top-Notch Horse Show

The horse show, both in draft and light class, was considered the best yet seen at a Nebraska State Fair. The only department which showed any falling off from previous years were the Shetland ponies, the exhibit of these being made up entirely from the herd of W. J. Thompson, Dorchester, Neb. Numbers were not only unusually large in the other departments, but the quality was of uniformly high degree. The show was purely a Nebraska affair, Nebraska breeders and importers making up the entire display. The judging was started Monday noon and proceeded until Thursday evening. Many small displays were made by Nebraska breeders. Quite a number of these constituted a team of pure-bred mares which the exhibitor had owned for a number of years and their offspring. All judging was done by H. J. Gramlich, Lincoln, Neb. The sensational class of the entire show were the 2-year-old Percheron stallions, which were shown Monday afternoon. There were twenty-two leadouts, and they were, without question, the best class ever seen at the Nebraska State Fair.

Percherons

Evidently the Percheron is the favorite draft horse of the Nebraska farmer, if we may judge by the number of the various breeds displayed at this year's State Fair. Quality reigned supreme throughout most of the offerings of this breed. In the aged class the Carnot colt Jean, owned by Fox of Genoa, was placed first and later made grand champion. This was a powerful built black, standing on a clean-cut set of limbs, with the best of feet. Kerr secured second on the big sorrel Andain, a horse of great masculinity, but scarcely so compactly made as the winner of the blue. In 3-year-olds, Rhea Bros. secured first on a very typy black. This colt can scarcely be faulted from a draft horse standpoint, but might have moved with a trifle more life than he displayed in the ring. The 2-year-old stallion class contained twenty-four entries, and was considered by all who saw it the best string of horses ever displayed at Lincoln. There were about as many imported colts as home-breds, and quality, together with size, was uniformly good. The five entries of Watt Bros. succeeded in placing three in the money. These colts had just landed from Europe, and, together with being thin, were a trifle bruised up. The first-prize colt was Libretto, a black of ample scale, splendid type of body and the best of feet and limbs. His hocks were a trifle bruised from shipping, and some thought for this reason he might have gone lower in class. However, he was easily outstanding winner in

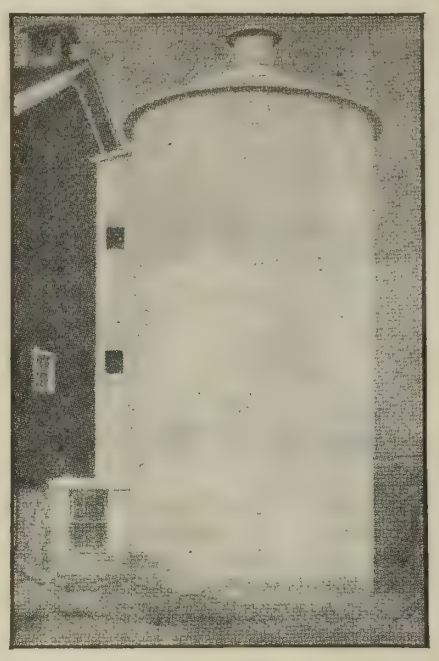
CONTINUED ON PAGE TWENTY-ONE)

Truth About Silos---Reliable Information

VII—Various Kinds of Concrete Silos—Circumstances Under Which Each Kind is to Be Recommended

WHAT kind of concrete silo should be recommended for use in any particular instance will depend largely upon local conditions. In some places the materials for such a silo are so expensive as to make certain kinds of cement silos almost prohibitive in price. There are certain localities in which as high as 7½ cents a hundred must be paid for sand and 12½ cents be paid for broken rock. Under these circumstances, the cost of the materials make a concrete silo very expensive. In other localities, where sand and gravel are easily accessible, and may be had at a low price, this objection to the building of a concrete silo is entirely done away with. The farmer that intends to build must find what the materials for his building are likely to cost him before determining what kind of a building he will erect.

Monolithic Concrete Silo, Built by a Farmer. The Form Shows at the Top



Finished Concrete Silo, with Concrete Roof, Built by Contractor

The Monolithic Concrete Silo

Monolithic is a word derived from two Greek words, and means literally "single stone." It is made by pouring a concrete mixture into a mold, which, after the contents have thoroughly set, is raised, and the process repeated. When built in this way, when the silo is completed it consists of a single homogeneous structure, and has received the name monolithic on this account. Where the materials for the construction of such a silo are not too expensive, a structure of this nature is probably the most permanent and lasting silo that can be built. Certain advocates of other kinds of concrete silos have urged the objection that such a silo, owing to unequal expansion and contraction under heat and cold, is liable to crack and break. The objection is not a valid objection. There are plenty of instances of construction of solid concrete much thicker than that employed in the walls of a monolithic silo that have successfully withstood any tendency to break or crack under the influence of either heat or cold. Scientific men have tested the matter out, and have learned that the steel that is used in reinforcing such a wall has the same co-efficient of expansion as concrete, and expands and contracts equally with the concrete wall itself, and so prevents the possibility of any damage arising from any such source.

In the building of such a silo, forms are necessary into which the concrete material is to be poured. There are certain firms that manufacture such forms of steel or other material for silos of any description or size, and these may be purchased in the general market. Very many silos of this pattern, however, have been built, using home-made forms, which have proved satisfactory and inexpensive. After the forms are in place and have been filled, sufficient time is allowed to elapse for the contents of the form to set thoroughly. The forms are then raised and the process repeated. This is continued until the silo reaches the desired height.

The University of Wisconsin is attempting to promote co-operative community building of concrete silos. The engineering department furnishes forms for the purpose, and charges $10 each where three silos are to be built, $9 each where four silos are to be built, and $8 each where five silos are to be built. The engineering departments of other agricultural schools might well adopt this suggestion. It would materially assist in the erection of concrete silos.

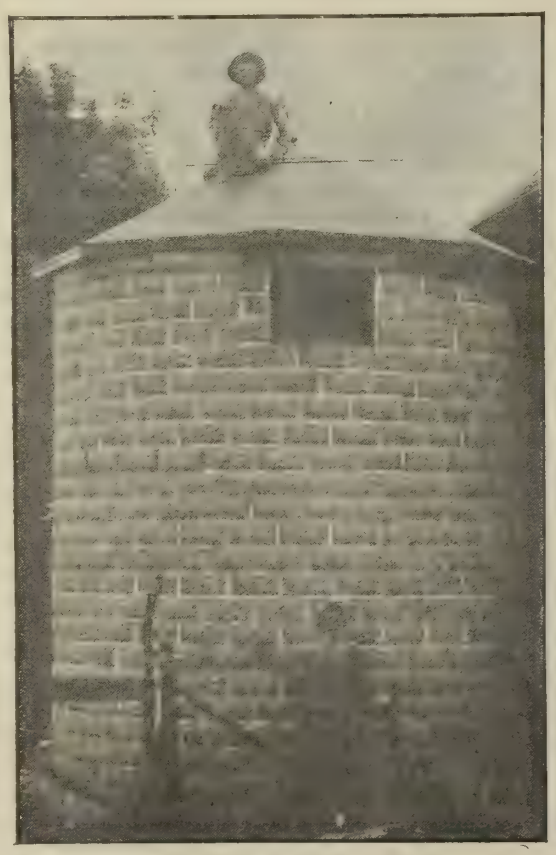
Proper Reinforcing

Every such silo should be properly and securely reinforced. If the silo forms are three feet wide, then the best reinforcing will consist of heavy woven-wire fencing three feet six inches in width. This should be set midway between the walls of the form, and should be held in position while the concrete is being poured. The reinforcing being wider than the form, it may be lapped where one tier joins the other. This will prevent raising and will give added strength to the structure.

The Door Frames

Before the work begins, the door frames should be made ready for use. In case a continuous door is used, at regular intervals, reinforcing rods should pass across the door frame, and the ends of these should have heads like a bolt or burr, which when buried in the concrete will continue the strength of the reinforcement across the door opening. Then the forms may be placed both outside and inside of the door frame, and the cement poured so as to set to the door frame closely.

In case a continuous opening is not desired, and it is preferred that doors be set at certain stated intervals, with a solid concrete wall between, the frames, at the proper elevation, should be placed inside the moulds, should be held in position in the manner already stated, and the concrete poured about them. The woven-wire reinforcing then could be continuous about the silo in the spaces above and below the door frames.



Cement Block Silo, Built by a Farmer

The Roof

When the silo is completed, the roof should be put on. This may be made of solid reinforced concrete, or it may be of wood, or of any other material. If made in the latter way, the plate upon which the roof rests should be held in position by bolts, the heads of which are buried in the concrete, thus hoding them firmly in position.

The monolithic concrete silo is probably the most enduring structure known in silo manufacture. When it is finished, the expense account is complete. There will never be any expense for repairs, or for rebuilding, or for burning, or for any other reason. The walls, if the concrete is properly made, will not absorb moisture so as to damage the contents of the silo. It will be a building for succeeding generations. The first cost is the only one, and in the end it will probably prove to be as economical, even more so, than any other kind of silo construction.

Skilled Mechanics Should Be Employed

In a structure intended for permanence like this, if possible, skilled mechanics should be employed. Some farmers have been successful in building their own silos. One photograph of such a farmer-built silo is shown herewith. The other picture is a concrete silo built by a contractor. If the farmer is a careful mechanic, he will be able to do this work without the aid of a professional mechanic. In building it will be impossible to raise the wall of the silo any more than the one width of the silo form in any one day. It will require what is left of the day and all of the night for sufficient hardening of the contents of the form to permit its being raised in order to put on another lift. A mechanic who can work only three or four hours a day on such a job would prove to be quite expensive help.

The Concrete Block Silo

This form of silo cannot be recommended for general use unless the blocks of which it is composed are properly made. Commercial blocks are very frequently made by using too little cement in order to cheapen the manufacture, and are made by the dry process in order to permit hastening of the work. Where too little cement is used, and where the dry process is employed, the cement block does not have the stability that it should have for concrete construction. In some parts of the country there are being organized co-operative cement block factories, owned by the farmers themselves, and operated by an expert in cement work, in which cement blocks of any quality desired may be made. When the blocks are properly made, they make a permanent structure of improved, artistic appearance. In some localities this form of structure is less expensive than the monolithic form, and, if it is properly done, answers the purpose almost as

(CONTINUED ON PAGE TWENTY.)

Utilizing Water Power in Prairie States

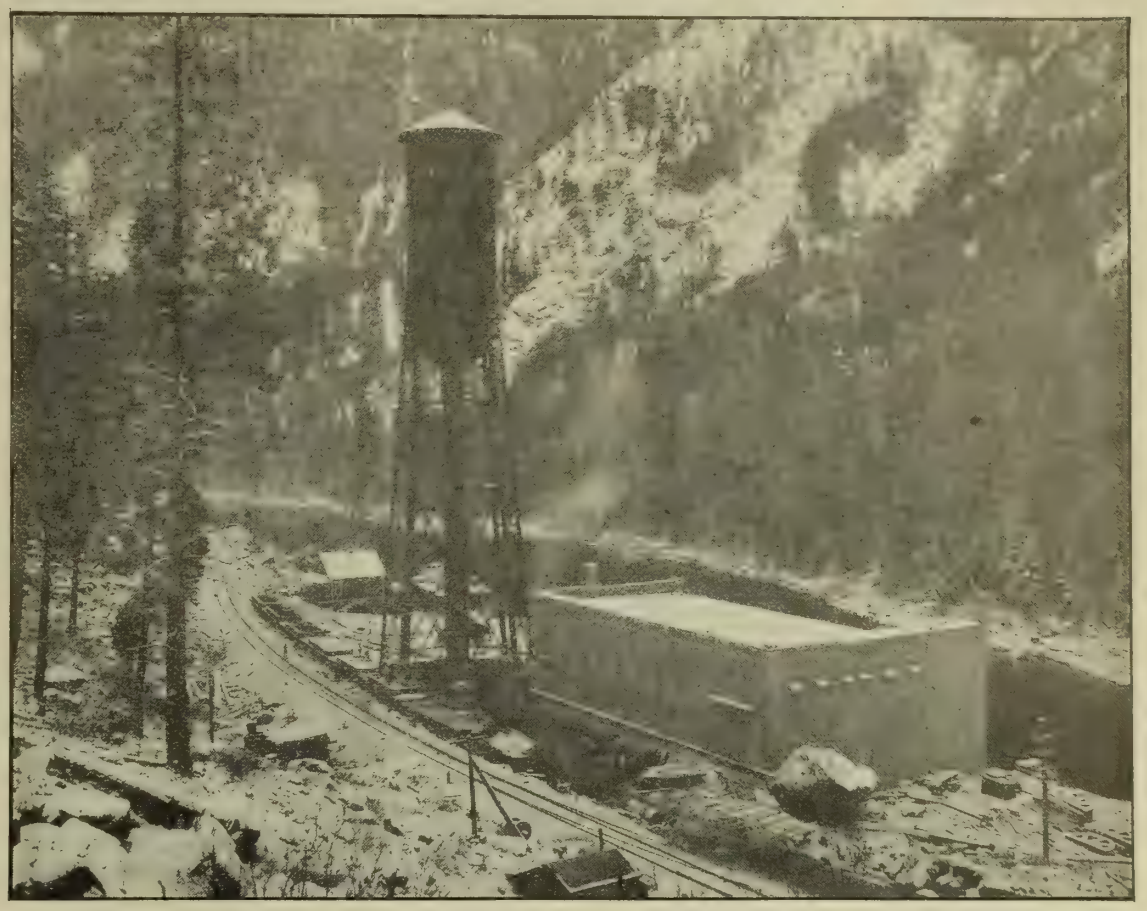
Sufficient Mechanical Energy Going to Waste to Furnish All Power Needed in Kansas and Nebraska

NEBRASKA and Kansas are regarded as prairie states. They have never been taken very much into account when considering the different localities that furnish available water power. Yet, even in these prairie states, it is estimated that there is sufficient mechanical energy going to waste in the streams to furnish all the light, all the heat and all the mechanical energy that is required in these states. Several projects have already been instituted on a small scale for utilizing this wasting power, but the water power as a whole of the states is still going to waste.

In order to utilize this power to the fullest degree, the old methods for deriving power from water must be abandoned. The old water wheel, with its mill pond and its mill race, are inadequate to meet modern demands economically The mill race had to be constructed practically on a level, and the water of the mill dam from the mill pond conveyed through this race to the water wheel, and the only power derived from it was from the weight of the unconfined water.

Modern Penstock Construction

The modern construction taking the place of this outworn method is known as the penstock construction. The penstock is a tube built either of wood or steel, or any other adequate material, which conveys the water from the basin or pond in which it is collected any distance and to any lower level, and delivers it at a power house. It delivers to the wheel not only all the power that a mill race would deliver in which the water is confined, but it delivers in addition the power derived from the weight of the confined water throughout the entire length of the penstock. It also avoids unnecessary loss of force in the water by friction that was so great under the old system. To illustrate, take the La Prele project in Wyoming. The dam is 114 feet high, built across a canyon which has a very rapid descent toward the Platte river. The penstock is built of wood, and conducts the water more than half a mile down the canyon to a much lower level, and there delivers it to the wheels in the power house.



Power House with Surge Tank, the Latter Acting as a Governor on the Supply of Water to the Wheels. A Winter Scene

A Railroad Uses Water Power

At Leavenworth, on the eastern slope of the Cascade range, there is a similar method of penstock construction for utilizing water power which delivers sufficient electricity to operate the trains of the Great Northern railway through the Cascade tunnel. This method of construction makes it possible to utilize most of the water power in the prairie states. The time will come when the people will see to it that the enormous waste of natural power shall be arrested and converted to proper use.

The Use of the Surge Tank

Where the water is conveyed to some distance and to a much lower level by the penstock, some method had to be devised for equalizing the pressure and rendering it constant so that the speed of the wheels might not vary to too great an extent for profitable use. For this purpose the surge tank is used. It acts as a governor upon the flow of the water and gives to the wheels a uniform speed. It arrests sudden changes in the velocity of the water in the penstock. If there are several wheels at the power house, each of them derives its water through a cut-off valve in the penstock. When one of these cut-off valves is closed the inertia of the rushing water is not at once arrested, and causes the speed of the remaining wheels to be increased rather than to be decreased. But the surge tank, by taking up this extra power, relieves the extra pressure, and thus acts as a governor upon the remaining wheels. As an illustration of how this penstock construction may be made available, the following facts may be of interest. It is said that the artesian wells near Beaver Crossing in the Blue valley, in Nebraska, derive their water, through a sandy stratum in the soil, from the Platte river, not many miles distant. If a penstock should be laid from the Platte river to the bottom of the Blue valley, it would there deliver an enormous amount of mechanical energy equivalent to many thousands of horsepower. So in all parts of the state the water of our flowing streams might be delivered through a penstock to lower levels, and generate power which, when converted into electricity, might be delivered over a distance of many miles, and furnish light, heat and mechanical energy at comparatively slight expense.

It is to be hoped that this source of wealth — for power is wealth, only in another form — may in the near future be fully utilized wherever it is available.

Power House with Eight Wheels, Which Derives Its Water from a Penstock that Leads Down the Mountain Side at Leavenworth, on the Great Northern Railway

THE TWENTIETH CENTURY FARMER

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

This paper would like to hear from farmers in the drouth district with reference to what lessons this drouth season has taught them. Experience is a dear teacher, but the best teacher on earth.

Select seed corn now in the field. In no other way can the corn grower know the heredity of the corn that he plants. Like produces like. Begin to grow corn in accordance with the laws of heredity.

Last spring a certain Nebraska farmer ridiculed the use of serum as a protection for hogs. Within the last few months he has lost $1,000 through hogs dying from cholera. Then he was ready to use it on all that remained.

An Iowa farmer jacks up the hind wheels of his automobile, puts a rubber belt on one of the wheels, and uses automobile power to run a buzz-saw. It seems that an automobile is good for something besides speed on the road.

It is not necessary that all think alike. But it is necessary that all be honest in their thinking. And then, no matter how forcible they may be in their expressions, some good will come out of the interchange of thought.

The Omaha Board of Education has adopted as a text book "Sixty Lessons in Farming" for use in the schools. It might be well for the common schools and the high schools of the country to examine the book with a view to adoption. Education in matters relating to agriculture is to be a feature of our educational methods in the near future.

Tree Growing on the Farm

The importance of more trees on the farm is well understood by the great majority of land owners over the prairie states. The lack of shade in pasture fields, and in fact the general barrenness as to shade on most farms, is getting to be more of a question for the thoughtful consideration of the farmer as each year's experience and observation presents its appeals to reason and good judgment. The value of the trees already grown on the prairie farm is a matter of considerable consequence as to fuel or timber. There are some farms in all old communities where the original homesteader was thoughtful enough to plant tree lines or small groves of cottonwoods. These have been supplying both fuel and timber for use on the farm.

The present-day farmer is more interested in getting a crop out of the soil than in growing trees for the next generation. The tree improvement on the farm may be made of almost immediate value or enhancement of value in the sale of the farm. A few nice, thrifty shade trees extending around the farm borders distinctly attract the attention of the traveler through the country. It is a mark of neatness and thrift that at once appeals favorably to the eye. This kind of improvement is not expensive, yet it is a good neighborhood advertisement.

As the supply of timber in the country fades from view, there is an appreciation of what it means. There is not the disposition to plant groves as formerly. The old tree claim law, though abused and taken advantage of, has many nice ten-acre groves to its credit throughout the western states that are a mark of honor to the memory of this law that, even though abused in occasional instances, served a good purpose.

Tree planting on the farm should be well planned and always for some definite purpose of farm improvement. It is a good business investment to plant groves for the growing of post timber. This is one of the investments that may be made in view of reaping the reward in this world and while the planter is still on earth to enjoy the fruit of his efforts and labors. Small groves may be planted in the least desirable places for other kinds of crops. There is no better means of employing the waste spots than in growing trees.

Every farm should have a hog lot, and every hog lot should be well provided with shade, as there is nothing that will afford the hog more relief in warm, sunshiny weather than the shade of a closely planted grove. There is no place that retains the coolness in the damp ground like the closely planted grove. There is a great difference in trees used for farm shade and decorative purposes. When planting trees to be distributed about the farm for effect, plant those of naturally symmetrical form. A shapely tree, with a thick, heavy foliage is always an attraction.

Whoever heard of a man or woman that carelessly passed a sugar or hardwood maple tree, or a buckeye tree standing alone where it had the advantage of exhibiting its shapely figure and finely dressed form, with its dense, green foliage, that did not admire it, and take occasion for expressing this admiration. It is just as well to select the beautiful when one is planting for effect, for the value the tree is capable of exerting on the admiration of the landscape viewer.

Increased Cattle in Nebraska

The assessor's returns for April 1, 1913, showed an increase of approximately half a million cattle in Nebraska over the enumeration of 1912, according to state statistical reports. This seemed very startling news to some persons. They very naturally thought from the drift of live stock gossip that cattle were scarce everywhere and getting scarcer. Cattle were scarce in Nebraska one year ago, and no one knew this better than the cattle-grower, the western Nebraska cattle man, the farmer of the central and eastern part of the state who had from year to year been giving some attention to the cattle business.

These observing people commenced about a year ago, and especially last fall, to buy a few cattle. They bought at South Omaha and shipped out to their farms carloads of cows, heifers, yearlings, light steers and calves. It was the general belief that cattle of all kinds would be much higher this summer; besides, the gain in growth and the calf increase from the cows would make it a safe buying proposition. This proved true.

These buyers all had a surplus of cheap feed—hay, straw, fodder and pasture—that would not make them anything unless consumed, and this, with their faith that there was in reality a very positive shortage in cattle, prompted them to stock up, not heavily, but gradually, all over the state. The calf increase of last year was quite generally held, and this came into the enumeration of the present year. Cattle owners did not sell very close last fall. The tendency was to keep all they could winter safely, and this system of conservation produced the results that are now surprising the people.

This fall will see another similar performance with cattle growers. They will keep all they can and trade steer calves for heifer calves, because many want to increase their breeding stock without investing any more money than they now have in their small herds. This is an old-time, back-east practice with the man of a few cattle, the farmer and the renter. The heifer calf soon grows into a cow, but the steer calf costs too much to keep until he is of beef size; besides, he is a sort of nuisance, always in the way, though in the steer herd he is all right.

Nebraska is increasing in cattle, and will each year for some time to come, and the demand indicates a more liberal supply. There will be lots of feed in Nebraska for the wintering of more stock cattle than it now contains, and, as the heavier cattle go to the feed yards through the autumn, more breeding cattle and yearlings will go onto the farms and ranches.

Breeding Cholera Resistance

For a number of years the breeders of the country bred exclusively for fat production. In this way they succeeded in breeding most of the vigorous constitution out of hogs. They got what they bred for—a round, barrel body, with spindle legs and a finely chiselled head, with artistic ears. But they also got what they did not intend—a weakened heart, flabby muscles, and a general lack of bodily vigor.

A few years ago the danger to be expected from such breeding caused a change of front among the breeders, and now they are breeding to the big, bony, coarser type.

But this process has not yet gone far enough to correct the evils bred for so many years into preceding generations of hogs. We must carry this work further. It is not of much use to breed a hog for early maturity and the production of fat unless he is going to live long enough to be placed profitably upon the market. The first requisite in a hog is that he should have natural vigor enough to carry him safely through the vicissitudes to which he will be exposed until time for marketing arrives. A Georgia wind-splitter alive at marketing time is worth ever so much more than a dead hog, even though the dead hog has quality enough to fit him for the show ring. We must have first hogs that will live. When this is secured, we may work for quality. An old breeder says: "I prefer to have a breeding hog so strong, vigorous, muscular and active that he can jump a seven-rail fence. I want him bony instead of small-boned, coarse rather than fine, with stamina to spare."

Resistance to disease, not absolute resistance to all disease, but resistance to the milder forms of infection, may be secured through proper breeding. Let us drop the notion of securing hogs such as the breeders show in their illustrated advertising, and begin to breed hogs with inherent power to resist disease. The course, growthy, bony, muscular type filled to overflowing with physical vigor—such hogs are less liable to disease, will resist the milder forms of infection, and will succumb only to the more virulent forms.

Such hogs may not mature quite as rapidly, may not be as soon ready for the market, but they are more likely to live than the other type, and in the end will bring the owner more money.

The time is near at hand when hog growers must select their breeding stock. Let them bear this matter in mind. Let them breed hogs that will live rather than hogs that will make a good showing and then die. A live hog, even if a poor type, is worth ever so much more than a dozen dead hogs of the finest type imaginable.

No one should postpone too long the immunization of his shoats and mature hogs against cholera. Cholera is again this season widespread in its ravages. It is better to lock the door before the horse is stolen rather than to wait until after the damage is done.

The High Cost of Living

There are many elements that contribute to the present high cost of living. After eliminating what might be called the various accidental causes that contribute to increase the cost of living, there remains to be considered a fundamental cause that must be seriously recognized.

In the last analysis, the relation between supply and demand of any commodity determines relatively the price of it. In the last analysis, the world's supply of food and clothing comes from the soil. To limit production and thereby limit supply naturally raises the price of the products of the soil.

Here is the significant fact: In America today the number of consumers of soil products is increasing much more rapidly than the number of producers. This fact increases the demand for soil products, while relatively it lessens the supply. The result is an increase in the price of soil products.

Economic laws may be suspended in operation for a while, may be hindered in operation, but in the end they are certain to work out their destiny. No temporary, artificial, commercial or industrial regulation will be sufficient permanently to suspend their operation. As long as the consuming public continues to increase, and the producing public continues relatively to decrease, the price of soil products must continue to rise. It will so continue to rise until the price of soil products becomes high enough to attract to production a sufficient number of people more nearly to equalize supply with demand. When this equalization takes place, or as soon as it begins to have effect, the price of soil products will fall. The price of soil products in the future will be determined with relative absoluteness by this relation in numbers between the producing and the consuming public.

Farmers' National Congress

The next session of the Farmers' National Congress will be held at Plano, Ill., September 23 to 26. A fine grove has been set aside, and it is proposed to entertain the congress there, something on the Chautauqua plan, in tents. The city of Plano itself cannot furnish entertainment to a very large number of people, and so this camping-out plan has been adopted.

The Farmers' National Congress has been having a hard road to travel. In the first place, it was organized and operated, not by farmers themselves, but by near-farmers, men with political and other axes to grind. It has not yet progressed far enough to come into the undisputed and absolute control of the farmers themselves. Many attempts have been made, some of them with more or less success, to use the Farmers' Congress for the promotion of private or corporate ends.

It is unfortunate for the reputation of the congress that it should sell its meeting place to the highest bidder, or, in other words, that it should look for bids from different localities for the privilege of entertaining the congress. It is doubly unfortunate that it should accept a bid from the city of Plano, which was offered by the management of the Plano Independent Harvester company, a management that has become thoroughly discredited, and has now been driven into retirement. Reorganization has been effected in the company, but there is a growing suspicion that this reorganization is simply the continuation of the old influences under a new name.

It is suspected that the reorganized Plano Independent Harvester company is seeking more to promote the interests of Plano and Plano citizens than the interests of the farmers. It is said in some quarters that the purpose of the reorganization is to protect Plano real estate from a vicious slump in price. The suspicion that the reorganiation is a continuation of the old influences under a new name is strengthened by the fact that the statement issued by the new president is not as full and frank a statement of the conditions as the public had a right to expect. This suspicion is further strengthened by the statement issued regarding the coming meeting of the congress that the Plano Independent Harvester company is "owned, managed and operated upon a co-operative profit-sharing plan by the farmers of the United States, and has made wonderful strides of growth in its six years of existence."

This is a rather rank statement to make in view of the history and present standing of that company. It does not reflect special credit upon the Farmers' Congress that such a statement should appear in its literature.

The Hog Wallow

The hog wallow is a good thing if it is used in the right way. It may be made bad through misuse.

It is best not to be too finicky or too scientific about the hog wallow. Too many theorists see only the bad side of the mismanaged hog wallow, and condemn it without thinking of the benefits that might be derived from it if it were properly used.

The only bad thing about a hog wallow is that unless it is properly cared for it may become filthy, unsanitary, a breeding place for innumerable disease germs. But this condition may be easily prevented by the use of proper disinfectants. When properly disinfected and kept in a properly disinfected state, a hog wallow contains nothing but clean, healthful, refreshing, cool mud, one of Mother Nature's best means for reducing animal heat. Keep the hog wallow disinfected by the use of crude carbolic acid, or any other effective and harmless disinfectant, and the hog wallow will be worth many times its cost.

It affords the hogs a chance to reduce the temperature of their bodies, to protect themselves against flies, and when properly used will keep them free from body lice. A little crude petroleum poured upon the surface of the hog wallow at intervals will accomplish this last mentioned result.

If all hog growers during the excessive heat of the present season had had the right kind of a hog wallow to which their hogs might have had recourse, such a wallow would have paid for itself many times in the improved condition of the hogs.

100,000 Girls Belong to One Club Yet Few Know About It

The girls have a gold and diamond badge: every girl in the club makes money: some make over a thousand dollars a year. And yet, broadly speaking, few know about this club: the happiest, brightest and most prosperous club of alert girls anywhere in America perhaps.

Where is this club? It is attached to *The Ladies' Home Journal:* a part of the personal service that is back of the magazine, and has made it, as some one said: "not a publication but an institution."

The club is called simply "The Girls' Club." Its motto is as unique as anything about it: "With One Idea: to Make Money." It has a girl manager at the head of it, and every year she writes to and keeps in direct touch with these 100,000 girls.

Unique, isn't it? Good to know about it, if you are a girl, or have a girl.

Each month the club has a regular column in *The Ladies' Home Journal.*

If you are a girl, young or old, and are interested in this club's "One Idea," send a letter of inquiry to

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With old-type tires—with clincher tires—rim-cutting ruins almost one tire in three. That is proved by careful statistics.

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We add to our tire cost $1,500 per day to give the "On-Air-Cure" to No-Rim-Cut tires. We final-cure them on air bags shaped like inner tubes — under actual road conditions.

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Because of these extras, No-Rim-Cut tires used to cost one-fifth more than other standard tires. Yet they saved so much that hundreds of thousands paid the price to get them. They became the world's favorite tires.

Now our mammoth output has brought the cost down. Today you can buy them just as low as any standard tire.

Tires with these features cost no more than tires which lack them. Why not get these savings?

Our dealers are everywhere.

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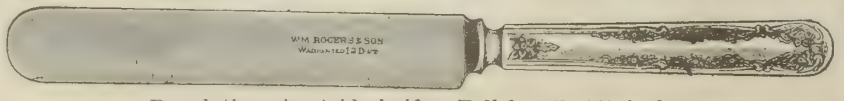

Regulation size table knife. Full length 9½ inches.

That you may obtain a complete set of Wm. Rogers & Sons' Silverware, The Twentieth Century Farmer has added knives to its great offer. Spoons and forks of this pattern have been offered before. (You can still get them.) Start now with the knives. Send 20 cents for each fork and knife and 10 cents for each spoon.

COUPON.
Please send my knife to

Name.....

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Enclosed find 20 cents to pay for postage and packing.

If you wish a spoon send 10 cents and address.

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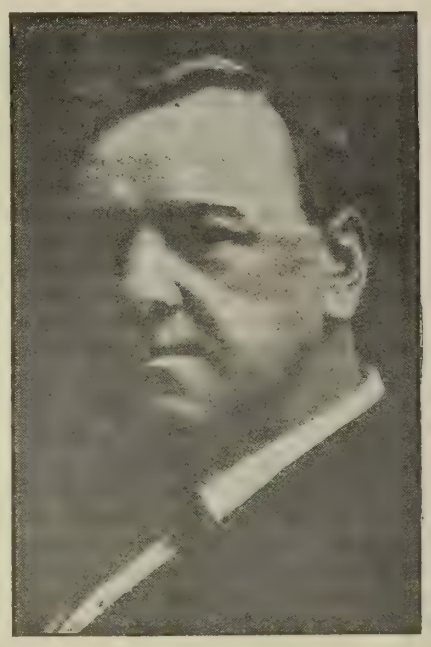
Twentieth Century Farmer
OMAHA.

Your Secretary of the Navy

By Frank G. Carpenter

WASHINGTON, Sept. 6—I want to make you acquainted with your secretary of the navy. I do not mean President Wilson's secretary, nor the democratic party's secretary, but the man who represents you and me as the head of our Navy department. He is your servant and my servant, the servant of all the people, and we ought to know what kind of man we have in our employ.

You have all read that his name



Secretary of the Navy Daniels

is Josephus Daniels; that he comes from North Carolina; that he has been bred and born a newspaper man, and that his career has been that of a Jeffersonian democrat. All that was published when he came into office. I want to take you behind the appointment papers and give you a glimpse or so at Josephus Daniels, the man. How does he look? How does he talk? What kind of soul is that which animates his six feet of human clay?

I say six feet. I have not measured the secretary of the navy with a tape line, but as he stood before me today in his office in the department building he seemed a big man. He has broad shoulders and a well set head. He stands straight on his pins, and, unlike the typical tar, he does not roll or wobble as he walks. Your secretary is a good looking man. I do not mean handsome. He is rather the reverse of that. Indeed, he might be called plain. But he is good looking, just as Abraham Lincoln was good looking. He looks clean and his closest friends tell me he is clean, body and soul. His blue eyes are bright, his dark complexion clear and his language is pure and free from slang. He is a man of simple tastes and healthy tastes. He is a family man, and a picture of his wife and four boys stands before him on his desk as he grinds away at his government job. He is devoted to his mother. His father died when he was 3 years old, and his mother, who is now fast approaching 80, has been both father and mother to him all these years. The relations between the two are the closest. He writes to her almost daily, and the letters she gets are the only ones he pens with his own hand. He is a lover of his wife, and I feel safe in saying she is the better half of his soul. He is a man of many friends. When his newspaper plant burned down at Raleigh a month or so ago men came in by the hundreds and paid subscriptions in advance for ten years to come to help him out. He is not a rich man and has never been a lover of money. But at that time he said he felt like the richest man of all the world, for he was "a millionaire in friends."

Rough on Red Tape

It is the human side of your secretary of the navy that makes him the despair of his clerks. When he came into the department he slashed the red tape at one fell blow, and newspaper men, congressmen or the every-day citizen can get at the secretary and have all the time needed for their business. All Mr. Daniels asks is that he be closeted with his bureau chiefs from 2 to 4 o'clock in the afternoon. The most of his time before then is spent in receiving callers, and it is only after that time that he gives his personal mail any attention.

Nevertheless, he does an enormous amount of business. It is said that Napoleon could dictate to four sten-

(Photo Taken at Naval Training Station, San Francisco)
Sham Battle—How Men Are Prepared for War

ographers on four different subjects at the same time and keep them all busy. The secretary seems able to carry on two trains of thought in the same way. He is often talking while signing his mail. He is a swift reader, and his eye grabs a page at a glance. Nevertheless, he knows just what he is signing, and he will often stop and order corrections or have the letter changed or laid away for some future time. He is an even-minded man. He does not worry and he sleeps well of nights.

About the Tribe of Daniels

My talk with Secretary Daniels covered a wide range. He told me much about the navy and his plans for elevating the men and bringing the service closer to the people. In response to my questions, he talked also of himself, and I will write of that first.

I asked him to tell something about the Daniels family, and where it came from. He replied:

"The name Daniels is Welsh, and the most of my family came from Wales. They emigrated to this country at an early date and settled in North Carolina, where my father was a farmer. My father began his life on a farm; then he took a notion he would like to be a shipbuilder, and he went into a shipyard and learned the trade. It is rather strange that I also should be connected with ships after these many years.'

"I have been told that your father died when you were young?"

"Yes; I was only 3 years old at the time. That was in 1865, and the south was almost bankrupt on account of the war. My father left comparatively nothing, and my mother had to support the family, consisting of herself and three little boys. My mother is a very extraordinary woman," continued the secretary. "In those hard times she succeeded not only in making our own living, but she gave a fairly good education to her three children. At first she kept a milinery store; then she made dresses, and after a time she became postmistress of the town where we lived. Of course, I helped; had to work hard, and I think I was fortunate. It is better for a boy to be born poor than to be born rich."

Tribute to His State

"Had your mother any ambition make you a statesman?"

"No, I think not. She is a pious woman, and her only ambition was that I should be a good man. She once hoped that I might become a preacher, but my bent seemed to be the newspaper, and I strove toward that profession. I think I have done better as a newspaper man than I could have done as a preacher."

"But you believe in religion, do you not?"

"Most assuredly I do. I believe in the Bible and everything in it from cover to cover. I think more people believe that than is usually supposed, and I venture quite as many would go to the stake today as they did when they burned the first Christians. It is hard to realize the influence of the Christian religion. It has touched all of the nations and has made them better. It has affected all of the people. Many men who do not believe in religion give to hospitals and other charities. They have been touched by Christianity without knowing it."

"Do you believe the whole world will be Christian some day?"

"Yes, although I doubt whether I shall live to see it. I believe that in time all of the nations will come to see the light. But God's ways are not our ways. It may be slow, but it will come to pass."

"I understand that you are greatly interested in the Young Men's Christian Association?"

"Yes, that organization has been doing much good. It has a great missionary influence, not only in the United States, but in other countries. I want to see it introduced on shipboard and more fully at all naval training stations. I have been talking with the officers of the Young Men's Christian Association about that."

Work of Pious Mother

"Take your native state, Secretary Daniels. What kind of a place is North Carolina to be born in? Suppose you had to be born again, where would you choose?"

"I would take the same place. I like North Carolina. It is the most democratic state in America. It lies, as you know, between Virginia and South Carolina, and they used to say that it was a valley of humility between two mountains of conceit. Another story relates to the North Carolinian who went to New York, and was there asked where he came from. He replied: 'North Carolina.' 'But,' said the New Yorker, 'I've never heard of that state; where is it?' The North Carolinian replied: 'I will bound it. Virginia lies at the north of it and South Carolina lies at the south of it, and to tell the truth, stranger, between so much lying on both sides of it the rest of the world hears but little of our truth-loving state.'"

Boost for the South

"You are an editor, an adviser of the people, Mr. Daniels. Horace Greeley, another great editor, advisd the young man of his day to go west. What would you say?"

"Go south! The south is the west of today. Lands are cheaper there than they are in the west, and that is the coming part of the United States. If you have any doubt as to the part of the south, I would say go to North Carolina. Our people there and kindly and humble. They still live, to some extent, the simple life. Besides, as Bancroft said of them, they are free and independent and

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will not support any government but one of their own creation."

"But, Mr. Secretary, can one live the simple life today?"

"Yes; I believe the nation is too extravagant and that prices are too high. Nevertheless, one can live on a dollar a day if he has to. I know I could. Almost anyone can earn the necessities of today. We all want to live too high, and prices have gone up accordingly."

"Is it so in the south?"

"Yes. The cost of the necessities has risen and our people also demand luxuries which no one thought of having in the days of my boyhood."

His Newspaper Career

"Tell me something about your career as an editor."

"There is not much to say," replied the secretary. "I can't remember when I did not desire to be a newspaper man. I used to hang around the office of our village paper when I was quite a small boy, and at the age of 15 I started an amateur journal called the Cornucopia. Two years later my mother mortgaged her house for $700 to buy for me a third interest in the little weekly of the town where we lived, and shortly after that I was able to buy out the other two-thirds and own the whole paper. From then on I had many ups and downs, but I finally bought the Raleigh News and Observer. It was sold at auction for $10,000, and I got it, with the aid of a friend. It was hard sledding at first, but after that we made it pay well."

"Do you find that your career as a newspaper man has fitted you for your present position?"

"It seems to me that the newspaper is a good training for almost any position. A newspaper man comes into contact with all kinds of people. He learns human nature and how to handle it, and people are much alike the world over. They have not changed greatly since Adam. This Navy department is a big thing, but, after all, it is something like a newspaper establishment. Just before I left Raleigh one of my friends said to me at a dinner: 'How can you be secretary of the navy? You cannot sail a ship nor shoot a gun. I replied that I was the editor of a newspaper, although I could not run a printing press nor a linotype. It is the same in this department. One does not have to know every detail in order to direct it. When I came in I did not know a living soul. I did not know my aids nor the heads of the bureaus, but I found that they were men just like those whom I had known in North Carolina. The most of them were patriotic; nearly all were fine-spirited, and all seemed to love the service like the love of God. The machine is a good one, and I have not seen reason to make many changes in it."

Just a Big Job

"But the job is big, is it not, Mr. Secretary?"

"Yes; it is a pretty big job for the editor of a country newspaper. We have about 50,000 men in the navy, and we are now spending something like $150,000,000 a year. Yesterday we gave out a contract for the building of a battleship, which will cost $7,000,000, and we have others which have cost that much or more. Seven million dollars would buy all the newspapers of North Carolina, and then some, but we are spending that much on one battleship."

"But you do not have to handle the money yourself?"

"No. The most of the appropriations are fixed by congress. The officers and sailors are paid by congress, and that is so of our clerical force. The regular streams through which the money flows have their source in the house and senate, and are directed by them. Of course, the money for repairing the ships goes through our hands. That is a large sum, and we have to decide how it shall be spent."

"Have you enough money to run the navy?"

"We have plenty for the various departments. We have not as much as we would like for building new ships and we could use more in the navy yards. That navy yard problem is a vital one, and I hope we can make a better solution of it than we have now."

Schools in the Navy

"I am much interested in your plan of turning battleships into schools for the men," said I. "Is it practical?"

"Perfectly so. I see no reason why every sailor and every marine should not receive a good education aboard ship. I hope to make it so that every man who enlists in the navy will have a chance to learn a trade or profession. There is no reason why he should not be an electrician, an engineer, or have almost any other practical trade. While I was at Newport the other day I looked over the records of the training station there. I found that only nine of the students had been to college before they were admitted, and that ninety had gone to the high schools, while 156 had had little education to speak of. Now we have on every vessel a corps of young officers who are graduates of the Naval Academy, and we can establish a school on every ship and have these officers do the teaching. The men will be taught reading, writing and arithmetic, as well as grammar and the other fundamentals, and those who wish it can go higher and learn a trade."

Will Help the Service

"Will that be a good thing for the service?"

"In almost every way, yes," was the reply. "It will be good for the men and good for the officers. Within two years after a man has left Annapolis he begins to forget what he has learned there. This will make him continue his studies and he will have the advantage, as it were, of a post-graduate course.

"Besides," continued Secretary Daniels, "I think our officers need more training after they have left the academy. I want more of them to go to the naval college to learn strategy and to plan out the possible warfare of the future. When I visited that institution the other day I found that there were about as many men in the faculty as there were in the school. It is my idea that every officer should spend some time at that college, and that he should not be allowed to command a ship unless he has gone through a course there."

"What do they do at the Naval College?" I asked.

"They study the principles and plans of naval warfare. They make suppositious campaigns and plan what would be the course of the navy in case the battleships were located at certain points and it was necessary to move at once upon another nation with whom we might have war. They do for the navy the same as the War College at Washington does for the army. All of the great nations have such colleges and make such plans."

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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

The Lonely Girl

A sad little girl sat under a tree.
"I'm so lonely, so lonely, so lonely!" sighed she.
"Oh why won't somebody play with me?"
But no one came but a green froggie.
"Doncher grump, doncher grump, doncher grump!" said he.

The sad little girl sat under the tree.
"But what shall I do to be gay?" sighed she.
"I wish somebody would please tell me!"
And no one did—but a bumblebee.
"Be bizzee, be bizzee, be bizzee!" said he.

—The Metropolitan.

The Editor's Corner

Summer has almost gone. Most of the birds have flown away, and they lost their sweet songs long ago, before the hot August days set in Many of them have also lost their brilliant plumage. Still, we are going on to tell you about the different kinds, and hope you will be interested enough in your bird friends to save these stories and pictures and study them well so that you will recognize all the different birds when they return in the spring.

There was a man in our office a few days ago who told us that his children had a "bird guide" and that they had learned to recognize all the different kinds of birds through this. These guides are splendid things to have. They have pictures of the birds in colors and short descriptions of the birds and their songs. A good one may be purchased for 75 cents. If you care enough for the birds to ask your father to get you one of these guides, you will spend many pleasant and profitable hours with it during this winter, and again in the spring, when the birds begin to return. If you cannot find one of these books in your neighboring town, write to us, and we will be glad to tell you where to secure one.

THE EDITOR.

(Prize Story)

How Dandy Saved His Life

By Ytole Norris, Aged 15, Belleville, Kan.

"Carl!" called Mr. Brown sharply. "I can't stand that rooster any longer. He crows every morning and wakes the whole house. I work late and need sleep, and, besides, he is getting too large to sleep in the house and you are too old to play with a rooster and be called Buster Brown. After this you are Master Carl Brown, and Nora will fry Dandy for dinner tomorrow. Do you understand?"

Carl said nothing, but when the chug, chug of the auto could be heard no longer he arose from his seat on the porch to look for his much-loved pet. He found him in the back yard scratching among the flower beds.

"Oh, Dandy!" he cried, trying to keep back the tears he could have shed, but 8-year-old boys should not cry, so, taking his pet under his arm, he said, "We might as well go and tell Nora."

Nora was in the kitchen. After hearing the boy's story, she brandished a big spoon and said, "You get out of here, you two, for it's me place I'll be losing before I'll cook Master Brown's pet."

Poor Buster went to bed early that night and let Dandy roost on

School's Begun

the foot of his bed. How long he had slept he did not know, but suddenly Dandy started up a loud crow. He opened his eyes. Dandy sent out a prolonged crow. Buster heard his father at the door. "Blame that pesky rooster!" he said, but stopped, for the room was flooded with light.

"The garage is on fire!" he cried, and dashed down the hall.

The auto was saved, and other things that were kept in the garage. Dandy, seeing the light, had welcomed it with his crows, thinking it was morning. Mr. Brown assures him a long and happy life for his service.

"He is just like a fire alarm," he declares. "Do you think I would part with him?"

(Honorable Mention)

A Young Mother

By John Will Carsten, Aged 12, Brunswick, Mo.

Last spring mamma gave me a pet chicken. I called it "Quail." She was a Leghorn chicken, just the color of a quail. When she was about half grown I got some more small chicks and put them in the same box at night, and in less than a week she would cluck to them like on old hen. Thus she mothered them all summer. Some people would not believe it until they saw it. Not many chickens would do that.

The Tenement Children

By Albert Pauline Barrett, Aged 12, Hartford, Ark.

Mr. Morgan laid aside his daily paper and turned to his wife with a look of genuine happiness on his face and said: "Dear, I have looked the paper over and am unable to find a single instance of death from heat prostration in the cities, or one mention of suffering from privations of any nature among any of the people of the cities, but, on the other hand, I find that the tenement districts, which were formerly the abode of the lower class, have been transformed into beautiful homes with shade trees, grass plots and flowers. Lovely parks for children's play grounds and splendidly equipped schools dot these districts at convenient distances; magnificent driveways are here and there, and instead of the Humane Aid Society attempting to send a few favored children away to the country for a rest and a breath of pure air, while the great majority swelter and suffer through the dreary hot season, there is no longer any Humane Aid Society, and little girls with golden locks and curly-headed boys no longer speak language that shocks the aesthetic. Their training seems perfect since surrounded with a new environment. The home, the playground, the schools, the opera, the parks, churches, electric fans, telephones, pictures and music, light, ventilation and the many other beauties the world affords, once unknown to tenement children, have wrought such a change in their lives that there is no lower class now, but one class—a useful class of mankind and God's children as he intended them."

Note—The above story is evidently an answer to the story called "The Tenement Children" which won the prize in our issue of August 2. The picture drawn in this story is that of an ideal city, which, unfortunately, does not exist. Perhaps it will some time, but in the meantime the little poor children, this summer especially, have been suffering intensely from heat. The person who takes a little child into the country for a few days of comfort and plenty has done a good deed.

Additional Stories

Elly Woods, Alliance, Neb.; Clarence Olsen, Wausa, Neb.

THE DOCTOR'S GIFT
Food Worth Its Weight in Gold

We usually expect the doctor to put us on some kind of penance and give us bitter medicines.

A Penn. doctor brought a patient something entirely different, and the results are truly interesting.

"Two years ago," writes this patient, "I was a frequent victim of acute indigestion and biliousness, being allowed to eat very few things. One day our family doctor brought me a small package, saying he had found something for me to eat.

"He said it was a food called Grape-Nuts, and even as its golden color might suggest, it was worth its weight in gold. I was sick and tired, trying one thing after another, to no avail, but consented to try this new food.

"Well! It surpassed my doctor's fondest anticipation, and every day since then I have blessed the good doctor and the inventor of Grape-Nuts.

"I noticed improvement a once, and in a month's time my former spells of indigestion had disappeared. In two months I felt like a new man. My mind was much clearer and keener, my body took on the vitality of youth, and this condition has continued."

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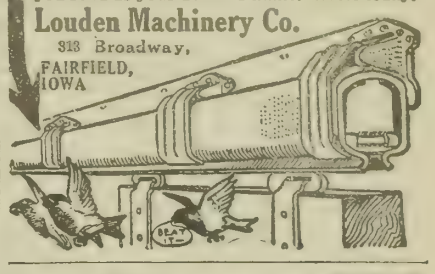

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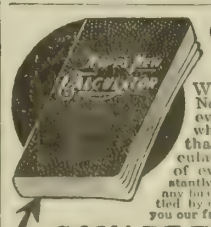

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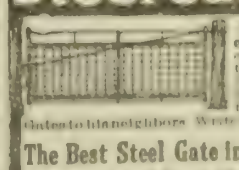

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Of Interest to Our Women Readers

For Love's Sake

Sometimes I am tempted to murmur
That life is flitting away,
With only a round of trifles
Filling each busy day;
Dusting nooks and corners,
Making the house look fair,
And patiently taking on me
The burden of woman's care.

Comforting childish sorrows,
And charming the childish heart
With the simple song and story
Told with a mother's art;
Setting the dear home table,
And clearing the meal away,
And going on little errands
In the twilight of the day.

One day is like another—
Sewing and piecing well
Little jackets and trousers,
So neatly that none can tell
Where are the seams and joinings.
Ah, the seamy side of life
Is kept out of sight by the magic
Of many a mother and wife!

And oft when ready to murmur
That life is flitting away,
With the self-same round of duties
Filling each busy day,
It comes to my spirit sweetly
With the grace of a thought divine:
"You are living, toiling, for love's sake,
And the loving should never repine.

"You are guiding the little footsteps
In the way they ought to walk;
You are dropping a word for Jesus
In the midst of your household talk—
Living your life for love's sake,
Till the homely cares grow sweet,
And sacred the self-denial
That is laid at the Master's feet."

—Margaret E. Sangster.

Our Home Chat

Recently a number of intelligent, wide-awake men got into a discussion on something in which men are supposed to have no interest, and which is generally considered entirely outside of their sphere—the bringing up of the American girl. Some of these men were married and had daughters, some were unmarried, and some were married but had no daughters. However, they all agreed that the American mother was teaching her girls to despise the simpler household tasks, and also the arts of cooking and home managing, and in so doing was making a grave mistake.

"The girls I know," said one young man, "are generally charming and well educated, but they have all been brought up with the idea of being rich men's wives. They don't realize this themselves, perhaps, and would marry a poor man if they loved him, but if they did they would keep their husbands poor men all their lives, for they don't know how to manage the home."

"The fault," said an elderly man, "is not with the girls, poor things, but with their mothers. There are so few mothers who seem to realize the dignity of their share of the family life. They look upon household tasks as menial and try to protect their daughters from them instead of showing them how much a woman can contribute toward her husband's prosperity and advancement in life by the successful management of his home."

"A man cannot afford to marry now until he has reached middle age and prosperity," was the verdict of a second bachelor. "If he does, he is likely to reach his middle age without prosperity."

Were these men correct? They were all agreed, and they were all intelligent men. Had they discovered the reason, as they thought they had, for the high cost of living, race suicide, feminine unrest, with its millitant suffragists and other present-day evils? They were sure of it.

A number of letters to very much the same effect have been coming in to this department of late. One of them we are publishing in this issue. Read Mrs. Owen's letter and see if it does not coincide with experiences of your own. These experiences are little straws which show where the wind is. We should be glad to hear from any of our readers who are interested in this matter, which seems to us to be one of great importance. THE EDITOR.

Does This Apply to You?

Can your girl cook? Can she bake a good loaf of bread? Can she prepare and serve an ordinary meal without assistance? Not a tin-can and paper-bag, ready-to-serve meal, but one requiring the preparation and cooking of meat, vegetables and cereals? Can she make a good glass of jelly and can a jar of fruit? Any mother who has a daughter who has reached the age of 14 years should be able to answer these questions in the affirmative.

At the close of service one Sunday not long since, I was asked by an acquaintance to accompany her home for dinner. I accepted the invitation. When we reached the house we found her daughter of 13 years comfortably ensconced in a quiet corner reading. Mrs. B., who keeps no maid, hurriedly changed her apparel and began preparations for the meal. Not once did Gertrude proffer assistance, and only once did her mother request it, when she very ungraciously went on an errand to the cellar. There was quite a little to do, as it was the harvest season and the men had stayed over Sunday. After dinner the daughter returned to her book and Mrs. B. and I washed the dishes. Who was to blame for this child's attitude but the mother?

Another instance of negligence in this direction was recently brought to my attention when a young woman of 19, who had applied for work in a neighbor's kitchen, failed to make good. Her meals were never on time and what she did finally dish up was uninviting and poorly cooked. As she was unable to bake light bread, the family was obliged to eat the baker's product or subsist on soggy biscuits. The result was that she was soon hunting another position, whereas, if she had proved capable, she might have stayed on indefinitely.

Kansas. MYRTLE S. OWEN.

Vacation Notes

My vacation was over. I had had such a lovely time, had enjoyed every moment, as only women do whose vacations are few and far between. I was now returning to my home and my work with as much eagerness and anticipation as I had left it a few days before. In the car beside me sat a young woman with a 2-month-old babe in her arms, going back to visit her old home for the first time since she had left it, a bride, scarce a year before. To while away the time and amuse my traveling companion, I studied the other passengers and reported to her the results of my investigation.

A family came in and took a seat on the opposite side of the car. There were father, mother and three small children, evidently a well-to-do family of the great middle class. They were all well dressed and the children were spick and span, but the mother looked tired out; her hair was somewhat blown and her hat slightly awry, and I knew that scant and hurried had been the minutes she had been able to give to herself. The father went to the end of the car for some water. The youngest, a big obstreperous boy of 3 or 4 years, pulled and hauled on his mother's hand and was bound to follow. When the father returned he handed the glass of water to his wife, picked up the baby and sat him down hard in the seat. The baby cast a sidelong glance at his father's face and concluded to remain where he was, for the present at least. The father took down a pasteboard box from the rack, took from it a sugar-coated cake and gave it as a peace offering to his son.

I said to my companion: "They have been visiting, and when she gets those children home and into their every-day clothes and turned loose in their own yard, she will not want to go visiting again until they are grown up."

A young woman, scarcely more than a girl, entered the car, followed by a man, evidently her father, carrying a young babe. When she was seated he placed the infant in her arms, kissed her tenderly and left the car. "She has had her visit," I said, "and is now going back to the young husband, who is impatiently awaiting her return."

The train stopped. Some gathered up their belongings and left their seats, which were soon filled by others. The scene was changed. A man of about 45, laden with valises, walked down the aisle, looking to right and left for seats. He was followed by two young ladies and a boy of perhaps 16. The girls were dressed in deep mourning. It was at once apparent to me that they had been to bury their mother. She was the one missing from the family group, and back in the old home there was a family lot where lay some loved one, perhaps a son, who had died years before, and, in accordance with her wish, they had brought her back and laid her beside her boy.

The train was running fast, and I was counting the time between the telegraph poles, when a man came through the car from the back. He had stopped to shake hands with someone he knew, when a woman and her daughter, sitting in the seat ahead of me, caught sight of him. They both sprang to their feet, exclaiming, "Where did you come from?" and threw themselves into his arms. He crowded down into the seat with them and they all laughed and cried together. It took a little longer to find the solution for this, but at last it came. The mother and daughter had been absent a good while, perhaps for the mother's health, for she looked delicate. He

(CONTINUED ON PAGE NINETEEN.)

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Before you decide on any range go to the nearest *Majestic* dealer—there's one in nearly every county in 40 states—and let him show you the perfect *Majestic* oven.

Because the *Majestic* is put together with *rivets* so that all joints and seams remain absolutely air-tight always—because the body is lined with guaranteed *pure asbestos board*, covered with an iron grate—*you can see it*—you are sure of an even, *dependable* baking heat with *half* the fuel required in ordinary ranges.

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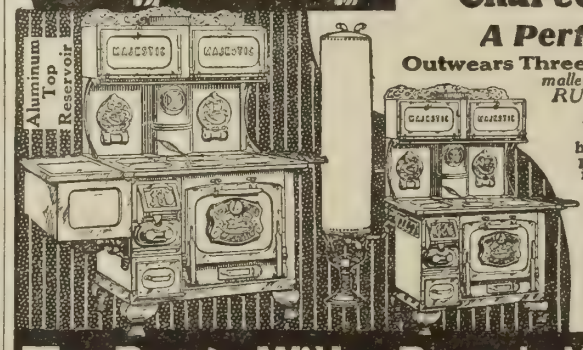

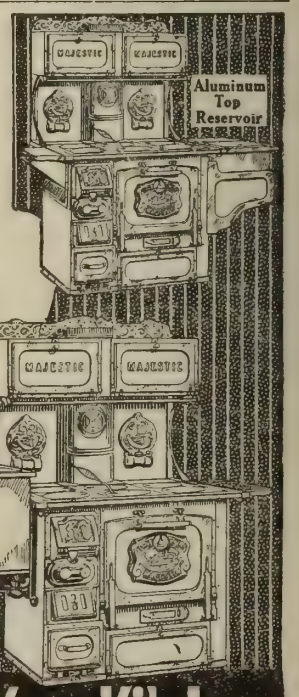

The Range With a Reputation—It Should Be In Your Kitchen

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6124—Ladies' Skirt—Here is a stylish skirt model and one very easy to make. The garment is cut in four gores and closes at the left side of the front. It may have dart or gathers at the side and empire or regulation waistline. The skirt is nice for separate wear or for costume development. The pattern 6124 is cut in sizes 22 to 30 inches waist measure. Medium size will require 2⅝ yards of 44-inch material.

6231—Boys' Russian Suit—We have yet to find an improvement on the Russian suit for little boys. This design shows a plain, straight blouse section, with sleeves very slightly gathered at the shoulder and wrist and with the neck cut round and trimmed with an applied band, which also extends down the front. With this blouse small knickerbocker trousers are worn. The suit pattern No. 6231 is cut in sizes 2, 4 and 6 years. Medium size requires 2¾ yards of 36-inch material, with ⅞ yard of 27-inch contrasting fabric to trim as shown.

6218—Ladies' Four-Gore Skirt This is a good model for part of a costume or for use with separate waists. It may have the normal waist or the high style of finish. It has four gores, with a tab extension at the knee in front and a wide panel effect in the back. It is here that the closing is placed. Serge, cheviot, satin, silk, linen, eponge and the like may be used for a skirt of this design. The skirt pattern No. 6218 is cut in sizes 22 to 30 inches waist measure. Medium size requires 4⅜ yards of 36-inch material. Width of skirt at lower edge, 2¾ yards.

6187—In Simple Style—The model illustrated has the fashionable drop shoulder and also a very handsome collar, extending amost to the belt in the back. The closing of both waist and skirt is in front and the three-piece skirt may be made with regulation waistline or in empire effect. The dress pattern No. 6187 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4¾ yards of 44-inch material.

6188—Ladies' Dressing Sacque—A most comfortable garment for all seasons is the dressing sacque. This model is very plain, with just a few gathers at the waistline, where a peplum is attached. The neck is round and finished with a collar; the sleeves may be full length or elbow length. Challis, printed crepe, cashmere, flannel and the like are used for these garments. The pattern 6188 is cut in sizes 34 to 42 inches bust measure. Medium size requires 7¼ yards of 36-inch material.

13-1-20 Carriage Pillow.—This pattern for a single border of flowers and leaves and dots across the top of the pillow, and all the design, with the exception of a few eyelets, is worked in French embroidery, with fine, white, cotton floss.

11-9-14—Embroidered Four-in-Hand Tie—Batiste Linen is most suitable for the embroidered four-in-hand tie. The figures should be slightly padded and then worked in satin stitch.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

Address your orders to Pattern Department, Twentieth Century Farmer, Omaha, Neb.

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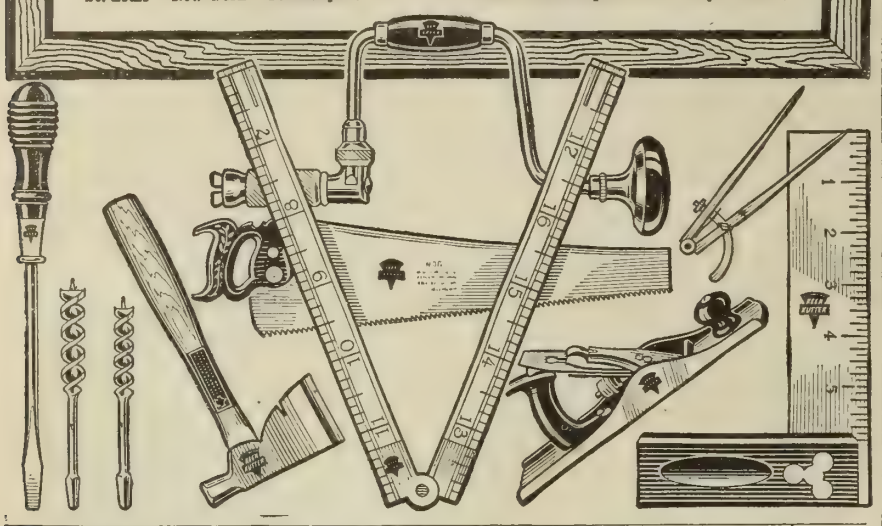

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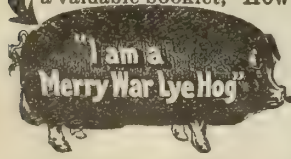

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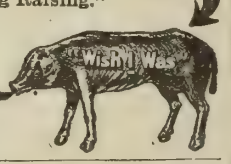

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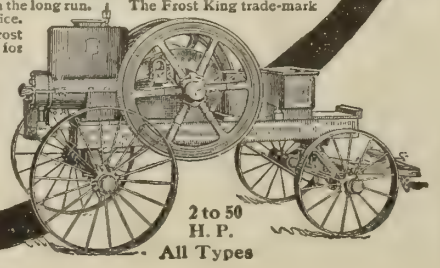

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Timely Items of Interest to Poultry Raisers and Fanciers

THE usual methods of killing poultry are unsanitary even the method of killing the birds when suspended by the legs is unsanitary, because there is no means of collecting the blood by the methods now prevalent. The writer, B. V. Mitchell of Cornell University, uses a blood can. As cleanliness is important in the dressing of poultry, to have the blood flung broadcast as the chicken dies leaves anything but sanitary quarters. We give in brief Mr. Mitchell's method of killing.

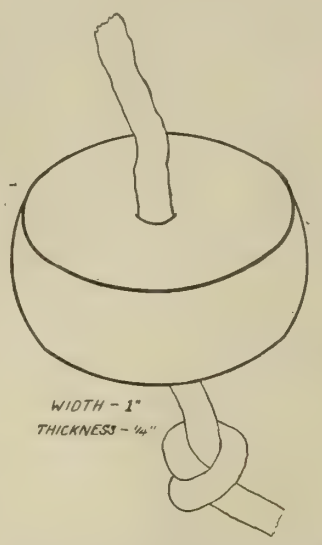


DIAGRAM SHOWING HOW WOOD IS FASTENED ON STRING.

The birds are starved for twenty-four hours, but given all the water they can drink to flush out waste feed and improve the meat and appearance. A heavy cord is fastened to a beam of wood; a round block of wood is fastened, as in diagram, to lower end of cord. This block holds and fastens the bird securely. When the bird is dead it is slipped off. A hook of steel wire is soldered in the can one and a half inches from the top, and this fastens the can to the fowl's head. The hook is sharpened to a point to easily catch into the head. The can is weighted with lead. The bird is killed after hanging up by taking the head in the left hand, the thumb and forefinger held at the sides of its head, not the back, as that stops bleeding. The cut is made by way of the mouth to the left side of the neck, and a downward diagonal cut severs the two main blood vessels of the throat. Then the knife is drawn in a way to pierce the brain about the center of the head a little back of the eyes. This causes the feathers to loosen, and the plucking is an easy matter. Birds are killed in this manner whether to be dry picked or scalded. Dry-picked fowls make the best showing on the market.

Marketing Poultry Products

In order to market poultry products to the best advantage we must get away from selling to the huxster at the back door, or taking them to town and trading for groceries or other commodities. The producer never receives so much as he should selling in this way. No matter how carefully he handles his poultry produce, he receives no more than the man who sells eggs and birds of poor quality. The prices are arranged in such sales on the basis of the poorest product. This condition prevails throughout the land. There are markets in the different cities and towns where people are willing to pay a premium in order to get good poultry and eggs. In order to get a good price, there must be

(Courtesy of Missouri State Board of Agriculture)
Scalded and Dry-Picked Birds

Method of Draining

enough of the article to be worth while, and also to have the quality running even or nearly so all the time. In some sections of the country poultry producers have overcome this last difficulty by forming an organization to market their poultry produce together. They have set rules as to how these products are to be handled, and one of their members is appointed to look after the marketing. For this he gets a commission. The shipments go regularly into a central point, so shipments can be made as often as it is possible to make them. By this method producers take better care of their products and in turn receive better prices.

Changes in Standard Breds

The committee on the standard revision of poultry met in August at Indianapolis, Ind. Here are a few of the five or six hundred changes they want made in the standard:

The symmetry of a fowl is to cut no figure in the scale of points. The color of baby chicks and color of eggs are to accompany the standard description of breeds. This is all right.

Frizzlie chickens and buff turkeys are to cease to be standard. Why, I'd like to know?

Cochin hens are to drop a pound in weight—from nine and a half they are to fall to eight and a half. This is good, as it was something of a task to make some of the best adult specimens weigh so much.

A falling of three pounds in weight for Brahmas and Cochins as a disqualification was to be in some way dropped.

The weight of the Rhode Island Red was increased one-half pound. The Rhode Island as a name is to be dropped and the breed called either the Single or Rose-Comb Red. The Orpington legs are to be lengthened. As it inclines to grow long legs for its stately body, this change will give the ribbon to many an otherwise discard because it did not sit close to the ground.

Anconas and Leghorns now must come in by weight. Before this no weights were given. These are to be the standard weights: Cock, five and one-half pounds; hen, four and one-half pounds; cockerel, four and one-half pounds; pullet, three and one-half pounds.

The White Indian Runner duck is to be made standard. Changes were made in the standard for the Bronze and Borboun Red turkey.

A Gouty Condition

A Subscriber, New Mexico: What ails my turkeys? They grow nicely until near 2 months old, then their knees begin to twist out and their toes to turn up. Some seem to have large knees. Some are now past walking. They are growing rapidly and seem well except this condition—gout or whatever it can be. They have slept in a box in a warm house much of the time, but now sleep in the open, under the hens. They are fed clabber cheese, maize, wheat, bran, sour milk. Tell me what to do.

Answer—For such a condition one must look to several reasons. Some poultry keepers would immediately say, "You have bred from badly run-down stock, which will show itself in weak and enlarged bones." Others, again, would say, "You are feeding too heavily; you are pushing the poults to an extra amount of muscle at the expense of the slower developing bones, and the bones become diseased." But I must answer that, while both factors may be present, helping the trouble, it does not have to be so to bring about this condition. A very damp, cold floor might bring on this gout. Cement floors have been known to, but as surely would a too hot and dry floor or ground, and in this last there would be much twisting of the toes. Again, should sores also appear on the feet, I would look about for some poisonous weed growing where they run. Loco or any plant akin to it will poison feet and legs. The cure is to change condition. To this might be added the use of baking soda in drink or mash—half teaspoonful to each pint of drink. Where it has been caused by a dry heat, turning them into wet, cool grounds has stopped the disease.

Pertinent Poultry Paragraphs

A martin house built near the poulry houses, or on poultry grounds, is thought by some old-fashioned poultry keepers to be one of the best safeguards against chicken-hawks. The black martin is preferred as a builder about the yards. Martins despise hawks and make them stay at a distance.

***

A veteran poultryman says: Keep an old—or new, if you prefer—pair of overshoes somewhere nearby the poultry yard to wear when working therein and thereabout. He says: "There is an immense lot of filth about a poultry yard, and you do not know what kind of germs you may be bringing into the house on your shoe soles, as chickens have been known to suffer with every disease, similar to the human family. Never come into the house with shoe soles dirty from tramping over the chicken yard. Keep poultry yard overshoes."

***

Some poultry medical hints by the veteran eastern poultryman, M. Boyer, are as follows:

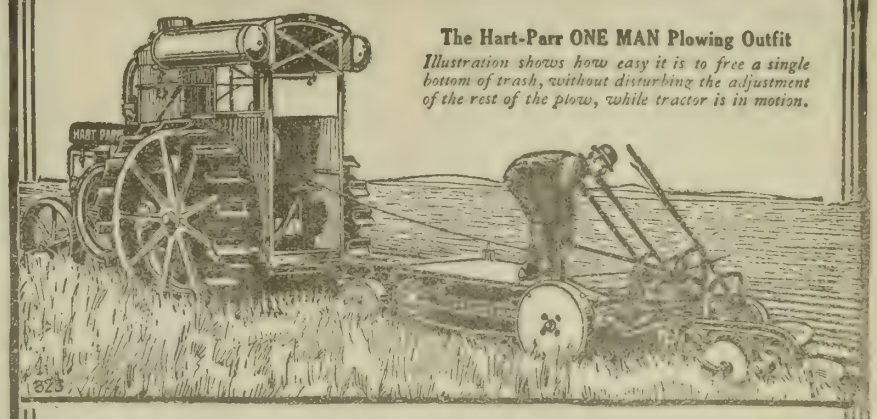
Try pouring warm coffee down the throat of a crop-bound fowl two or three times. Give very little feed until it is relieved.

For sour crop, add half a teaspoonful of soda to each quart of drinking water..

For leg weakness, put ten drops of nux vomica in each quart of drinking water.

For limber neck, a pill of asafetida the size of a pea. For slight diarrhea, a few drops of camphor and fine, powdered charcoal in the mash.

In cases of constipation, ten drops of sulphate of magnesia to each pint of drinking water. For colds, one grain of quinine every night for a week. For catarrh, put four drops of aconite to each half pint of drinking water. Use glycerine for sore eyes, and coal tar until it wears off for scaley leg. IDA M. SHEPLER.



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Shrewd business farmers are using Hart-Parr Oil Tractors more and more for motive power, especially during the plowing season. A few years back the horse was king; today the Hart-Parr reigns supreme. This difference in farming methods reflects itself in the tractor farmer's increased bank account, when he finally markets his crop. Fall plowing with a 27 B. H. P.

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Write today for catalog, special circulars describing the little Hart-Parr "27" and "Self Lift" plow, and ask for literature on power farming costs

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97

More About Germozone

I know a man who bought a profitable poultry farm with two thousand healthy, laying hens and lost sixteen hundred of them within three months. I know another man who bought a 2,500 hen farm, producing regularly 100 dozen eggs a day, and within sixty days his egg production had dropped to 8 dozen per day and over 200 hens had died.

It's easy to keep a healthy hen healthy and it's easy to keep a laying hen laying, but it's ruinous to wait until they become sick or until they quit laying before taking precautions.

On both of the above mentioned farms the conditions had been [illegible] Germozone [illegible] twice a week in the drinking water and Lee's Egg Maker dry in the feed. [illegible] did not believe in feeding medicine to healthy chickens" and had been [illegible] realizing that the previous owners had put in many years in finding out exactly what gave the best results.

One cannot well disinfect the floors, yards, and [illegible] of Germozone in the drinking water, produces an [illegible] and plan of mouth, throat, crop and bowels. Germozone is the best remedy for Roup, Colds, Swelled Head, Chicken Pox, Bowel Complaint, Cholera, etc.

On our own farm, we would as soon think of omitting food as to omit the Germozone water all day on Wednesdays and Sundays.

LARGE 12 OZ BOTTLES 50c. NEW SIZE, ONE GAL. CANS FOR LARGE CONSUMERS AT $3.00 EACH, EQUAL TO ELEVEN BOTTLES. (Express paid for $3.00.) Sold by more than 10,000 dealers in the United States.

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FARM FENCE
11½ cts. a rod
for 26 in. high fence; 17 1-4c. a rod for 47 inch high stock fence; 28 1-2c a rod for a 58 inch heavy poultry fence. Sold direct to the farmer on 30 Days Free Trial. Special barb wire 80 rod spool, $1.55. Catalog free.
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BOX 10 MORTON, ILLINOIS.

98 cents
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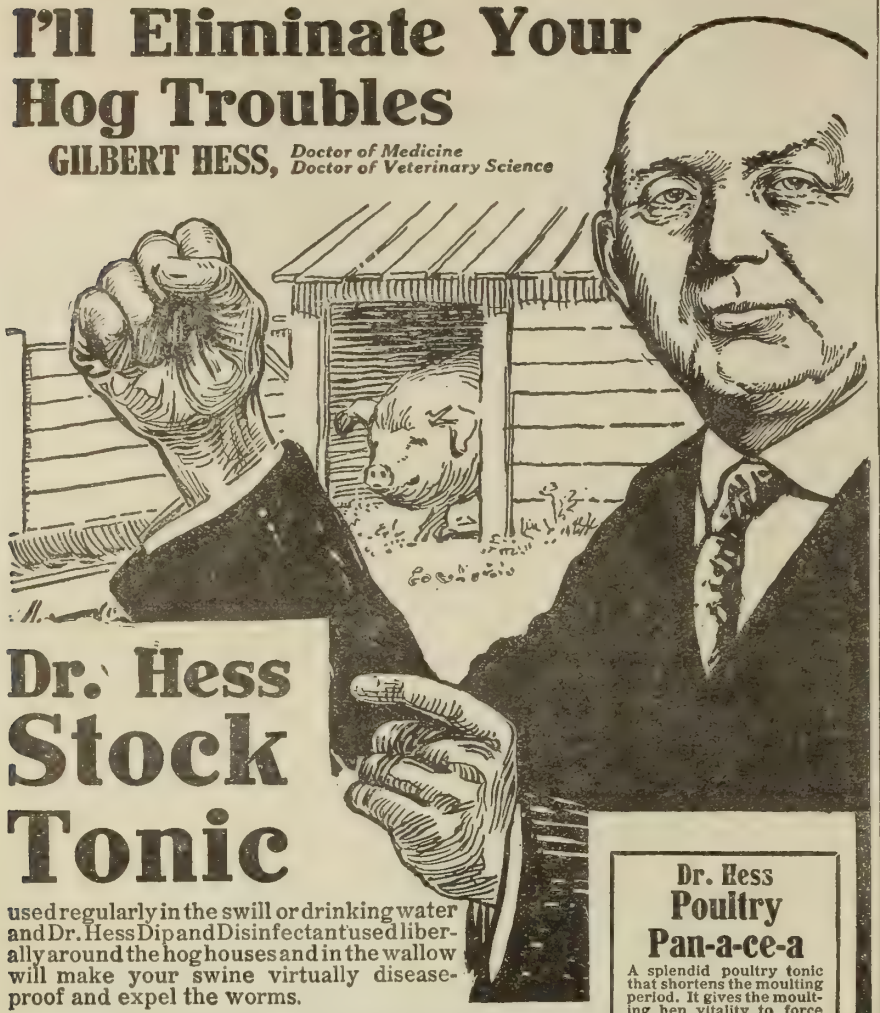
Guaranteed 5 Years
[illegible] ONLY 98 CENTS. [illegible]
R. E. CHALMERS & CO., 538 So. Dearborn St., CHICAGO.

I'll Eliminate Your Hog Troubles

GILBERT HESS, *Doctor of Medicine, Doctor of Veterinary Science*



Dr. Hess Stock Tonic

used regularly in the swill or drinking water and Dr. Hess Dip and Disinfectant used liberally around the hog houses and in the wallow will make your swine virtually disease-proof and expel the worms.

Remember, the vigorous, well-developed, clean-kept hog is able to stand the ravages of these diseases far better than the weak, unthrifty animal. It is "the survival of the fittest" when hog disease is rampant.

In Dr. Hess Stock Tonic I have put every ingredient which my 25 years' experience as a veterinary scientist and doctor of medicine tells me a hog requires to keep healthy, thrifty and free from worms.

Heed this—a fattening hog that is not given tonics and laxatives is liable to come to trouble through overfeeding and a clogged system, just the same as a human being would suffer who ate a thanksgiving dinner three times a day without laxatives. Dr. Hess Stock Tonic contains the tonics and laxatives essential to heavy-fed animals.

I Absolutely Guarantee

that Dr. Hess Stock Tonic will make your stock healthy, thrifty, free from disease and free from worms. If it does not pay you and pay you well, I have authorized your dealer to refund your money. Never sold by peddlers. I save the peddlers' salary, the up-keep of wagon and team and give you the benefit, which these prices prove: 25-lb. pail $1.60; 100-lb. sack $5.00. Smaller packages as low as 50c (except in Canada, the far West and the South).

Manufactured by

DR. HESS & CLARK, Ashland, Ohio

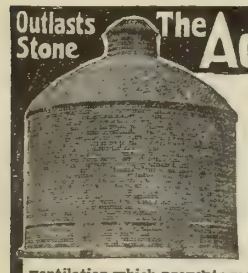
Dr. Hess Poultry Pan-a-ce-a

A splendid poultry tonic that shortens the moulting period. It gives the moulting hen vitality to force out the old quills, grow new feathers and get back on the job laying eggs all winter. It tones up the dormant egg organs and makes hens lay. Also helps chicks grow. Economical to use—a penny's worth is enough for 30 fowl per day. 1¼ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50. Except in Canada and the far West. Guaranteed.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks and dust bath. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy sifting-top cans, 1 lb. 25c, 3 lbs. 60c. Except in Canada and the far West. I guarantee it.

Outlasts Stone



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Or Refund Money

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Dr. Holland Company, Boston, Mass.

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Our Rural Schools

Our fathers planned well when they laid the foundations of the free public school, open to all until they reached the age of maturity. Inadvertently their plan has been perverted. Even the rural districts were blind to the effect of the centralizing of the free public schools in the towns, and let it go on, unchallenged. Slowly we are awakening to the fact that all roads to learning lead through the town high schools, and require four long years of the child's life, between the ages of 13 and 18, to pass up through these grades.

With the eighth grade certificates in their hands, the youth ponder at the forks of the road; the one road turns back to the land and to the home life which they are yet too young to leave: the other leads up toward the highest halls of learning.

Every prize and ingenious inducement known to the mind of man urges the child to take this road. Sign-boards and pennants point out the way; hope, inspiration and expectation urge them on; voices of the muse whisper invitations, and, lured on by the siren's songs of the pleasures that are said always to linger along the way, many leave the shelter of home, and take the road that "leads to fame and fortune." Few who take this road ever return to the land of their birth. Though many paths fall away from this highway, they lead away, ever away from the farm.

What of those who turn back on the home road, to the home duties and to the labor of tilling the soil? They have looked for a time at the rainbow of promise, and drank at the spring of knowledge. These would gladly go up to the great university of learning if they might only reach it by way of the home school. With the eighth-grade certificates in their hand, they knock at the door of that school and beg for one more year's instruction, and their very childhood joins in their pleading. Then they turn back, Hope imprisoned, and Toil alone set free. Is this their reward for going "back to the land?" No, this is the penalty. Not only are the doors of the home school closed against them, but all the colleges and universities refuse them admittance. The eighth-grade diploma unlocks only the door of the high school in the town.

We make a lane from the pasture to the clover field, and then wonder why the stock will not remain in the pasture. We make the high schools in the towns and cities a lane leading from the rural schools, and then wonder why people will leave the farm. By way of the town, we may become teachers or preachers, doctors or lawyers, men of business or men of science, men of learning and of culture; we may sit in the high places of state. All this is before us if we will only leave the farm. If we stay on the farm, neither we nor our children may either teach or preach, or occupy positions of learning. We shall be governed by commissioners and deputy commissioners, watched by wardens and deputy wardens, looked after by inspectors and subinspectors, inoculated and promoted; all by men and women whose lives and education are foreign to ours, and in whose learning we may have no part except it be to receive some of it in a scattered and ineffective way. We are coming to a day of "carpet-bag" education. We pay to be taught, but may not hope to teach; we pay to be governed, but may not hope to govern. This, and more, is the penalty we pay for being faithful to the land. This is the price we pay who stay on the farm. We shall have crowded cities and deserted farms. On the farm we shall have children crying for the learning that will make life worth living; in the cities children crying for bread that they may only live.

There is a remedy for all this. Establish schools of learning out on the land, within reach of the homes. Do this and you will satisfy the hungry mind; do this and you will check the wanderlust that is fast breaking up the country homes; do this and the social, economic and educational balance will be restored, and the whole country prosper as never before. W. H. CAMPBELL.

Clarks, Neb.

Editor's Note—The communication raises a very serious question. It presents for consideration the most serious educational problem that now confronts the leaders in education. It is high time that this matter were taken out and pressed to solution.

It is an unquestioned fact that the trend of education has been, and continues to a certain degree, to be away from the farm. The reasons for this are forcibly stated in the communication. If our farm population is to be maintained, something must be done to keep the boys and girls of the farm upon the farm.

Perhaps one of the agencies that might help to accomplish this would be the establishment of consolidated rural schools, not as substitutes for our present rural school system, but as educational agencies in addition to our present rural school system.

One trouble with our present rural school educational system is that the work done in the rural school is not thorough enough. If consolidated rural schools were established, schools in which a number of school districts might join, then the work in the district school might be limited to the lower grades, and in this way more time be devoted to them and more thorough work be done, and then the work of the upper grades in each component district might be done in the consolidated rural school. The work of this consolidated rural school might be carried far enough to include the work that is at present done in the town high school.

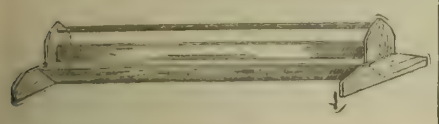
This seems to offer a practical method for overcoming, at least in part, the vicious tendency complained of in this communication.

It is high time that something were done to correct the evils of the present educational system. Perhaps this suggestion might point the way toward a proper solution of the problem.

Chicken Watering Trough

R. O., Malvern, Ia.: Here is a rough sketch of a chicken water trough which I am sending you. I designed it and made it last spring, and have found it practical so far as a sanitary drinking trough for grown and half-grown chickens. Its construction is very simple. Take two ordinary boards, 6x1x42 inches. Place the same at right angles and nail together. To the ends of these nail boards about 17 inches long. Now you have an ordinary trough. Take two boards, each 12 inches long, saw the corners off from

one end of each board to fit the inside of the trough in a upright position. Nail one at each end through end pieces and from the bottom. Fit in a 2x1x40-inch board, allowing the lower edge to be level with the top edge of the trough,



and nail it at the middle and from the outside of the upright pieces. This forms a partition and prevents chickens from standing on the edge of the trough while drinking. The roller may be 1¼ inches thick and ¼ inch shorter than the partition. This may be fastened by driving a 10d nail at each end through holes at the top of the upright pieces. The roller keeps chickens from alighting on the partition. The top corners should be trimmed off from all short pieces before putting together. This prevents its easy tipping and adds neatness.

Nebraska State Fair Inquiry

H. D., Nebraska: In regard to our State Fair, if I am rightly informed, it is not a state fair at all, but a private graft. From the best information I can get, the city of Lincoln donated the land for the present site of the fair grounds. The taxpayers built all the buildings, and expended a great amount of money on the grounds. I am informed that the money collected by the State Fair is disbursed by private individuals, of which the secretary is the "king bee." The last time I attended the so-called fair I paid 50 cents to get in, and $1 for a front seat in the grandstand. They had boys selling red lemonade at 10 cents a glass. The grounds were pretty well covered with fake shows, and some of these were pretty "rocky." Crippled beggars were very conspicuous on the grounds, and I was told they paid for the privilege of begging on the grounds. Pickpockets were reported everywhere. In fact, the whole show looked to be a scheme to get as much money out of the people as possible. I went to the bureau of information to get a place to sleep, and I received the information that it would cost me $1.50 to get a bed at a private house. This also looked to me like an organized graft. We had to pay to get onto the fair grounds, and had to pay 5 cents to get off, as the railroads had a gate and the street cars a gate. We could not find any other place to get off the grounds. There were many eating stands, though we could not find any place on the grounds where a good meal could be had for the money paid. The so-called State Fair may be a great educational enterprise, but those who enter in pay well for their education. I cannot see where the taxpayers come in. Therefore I wish you would let me, and the other readers of the Farmer, know if this is a state fair or a private graft.

Editor's Note—It is a state fair in the sense that the state furnishes a great deal of money for its support, and in the sense that it is used partly for the purpose of exhibiting the products of the state. It is a private affair as far as collecting and disbursing the money received for entries, concessions, entrance fees and from all the other sources except from the state itself. Over this collection and disbursement the state has no authority whatever.

The manner in which the concessions have been handled, and the character of many of the entertainments admitted under the concessions, are a disgrace to the state.

There is a place where one can get off the grounds without paying for the privilege. It is at the main entrance gate. The 5 cents paid at the railroad and street car gates is not for the purpose of getting off the ground, but fare from the fair grounds to the city.

There is a side to the fair management which warrants the criticism that it uses the name of the state for the purpose of getting a larger income to spend in any way that a self-perpetuating organization may see fit.

Inquiry About Mellor Methods

C. J. Q., Miller, Neb.: I wish you would answer fully all about the State Fair. Have the managers ever turned any money into the state treasury? I understand the New York State Fair turns $25,000 each year into the state treasury there. I wish to call your attention further to the stallion inspection report, of which this man Mellor seems to be the chief push. The last annual report shows they collected $39,234, and expended $23,190.63, leaving a balance of $16,043.37. Just ask Mr. Mellor what became of that money. Just look at the expense account for salaries of the clerks—$4,333.33. This stallion inspection is all a graft, as I see it. I wish you would go after this man, drive him out of the state house, and make him earn an honest living for once in his life.

Editor's Note—The courts decided that the original stallion inspection law was illegal, because it created a new state commission, which is contrary to the state constitution. That matter has now been changed, and the present stallion inspection law is all right. Honest dealers in horses have nothing to fear from it. It is intended to protect purchasers of horses for breeding purposes against dishonest dealers. All of the money received under the law, except what is paid out for expenses, is returned to the state treasury. Under the operations of the law that has now been declared illegal, the law to which the correspondent refers, Mellor engaged all of the clerks, hired whom he pleased, and paid what salaries he pleased. In this matter he did not see fit to consult with the only other member of the stallion inspection board then within the state. It is the opinion of this paper that all necessary clerical work might have been done at one-third of the expense actually incurred in this matter.

There was some hardship experienced in putting the new law into effect. This is always to be expected with a new law of this description. There was some difficulty with the inspectors, some difficulty with the horse owners, and no one seemed to know exactly what his rights were under the circumstances. The work was done as fairly and as creditably to the state as might reasonably be expected. All good horsemen should sustain and respect a good stallion inspection law like the one we have at present.

The State Fair Board has never turned any money into the treasury that the state did not require it to return. It has managed what it received from the state in such a way that nothing has been left to return. It pays the state nothing for the concessions it gets from the state.

In the midst of all the agitation over reform in currency laws keep this fact in mind: The farmers are bound to have lower rates of interest. The agitation now under way will certainly bring about this result. The bankers, if they are wise, will "take time by the forelock" in this matter.

Vacation Notes

(CONTINUED FROM PAGE FOURTEEN.)

was expecting them on this train and had come down the road a station or two to meet them. At the next stop they all got off, and as I saw them walk away, one on either side of him, I thought, "What a good man that must be to be so loved by those two women!"

Oh, the pathos with which human life is filled! Joys and sorrows are intermingled. How tender we should be toward our fellow travelers through life, and how ready with help and sympathy and love.

MRS. ELLEN C. FOUNTAIN.

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These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our **triple-galvanized, high-carbon steel**

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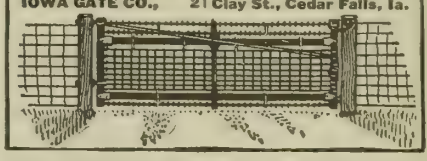
The filling of this serviceable and ornamental gate is extra close diamond mesh. Gate has strong frame, patent latch, etc. Comes in all sizes; plain and fancy tops.

Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

IOWA GATE CO., 21 Clay St., Cedar Falls, Ia.



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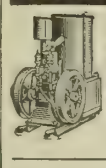

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THOMAS A. EDISON, the wizard of inventors, says, "The horse is the poorest motor ever built." When you stop to think of it, the horse is about the most costly and wasteful thing at work for a farmer. At best his working time averages only about six hours a day, eighteen hours he rests, yet he eats all year round, working or idle. He eats ten pounds for every hour he works. One acre out of every five plowed goes to feed the horse. The best horse may get sick; when, besides losing his work, you have veterinary bills to pay. When he dies, you have a heavy loss. Since McCormick built his first binder, the tendency of all farming has been away from slow man- and horse-power and toward time- and money-saving machines. Thus far, wherever an

I H C Oil Tractor

has been set to work on a farm, no machine has taken the place of so many horses, or done so much laborious work with so large a saving of time and money. I H C tractors have revolutionized farming. If the owner desires, his tractor will plow nearly as much in a day of twenty-four hours as a team of horses plows in a month. There is efficiency for you!

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It will be to your advantage to get acquainted with the I H C tractor. See the local dealer, and write for facts, figures and information to the

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EASY AND SAFE TO USE
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is used and recommended by farmers, horsemen and veterinarians. Sold by druggists everywhere, $1.00 a bottle, 6 for $5.00. Get a copy of "A Treatise on the Horse" at your druggists, or write

Dr. B. J. Kendall Co.
Enosburg Falls, Vt. 18

Truth About Silos---Reliable Information

(CONTINUED FROM PAGE SIX)

well. If the cement blocks are made in proper proportions and in the proper way, they will not absorb moisture to the extent of damaging the silage. Some manufacturers of other forms of cement silos claim to have discovered a water-proofing material which can be applied to cement, preventing the absorption of moisture. It should be stated, however, that people who have had experience in such matters assert that no satisfactory water-proofing has yet been discovered, and anyone that places any dependence upon such water-proofing material will be disappointed.

Hy-Rib Concrete Silo at the State Farm, Lincoln, Neb.

Proper Reinforcement

In the top of each cement block should be left a groove for the purpose of receiving the steel reinforcement. This should consist of the best steel wire, not less than No. 8 in size, and it would be better, although costing a little more, to use one-fourth-inch steel wire for this purpose. The ends of the reinforcing material should be secured in such a way that there will be no possibility of the reinforcement slipping under a strain.

What has already been said with reference to the door frames on a monolithic silo applies equally well to the door frames in a cement block silo. A picture is shown herewith of a cement block silo which was erected by a farmer on his own farm, and the picture speaks for itself. One dairyman in the Missouri valley, who deals exclusively in pure-bred Holstein cattle, has two cement block silos on his place, and states that if he were to build again he should use no other kind of material. When properly reinforced, a cement block silo is a permanent structure. It cannot be said to be quite as rigid as a monolithic silo, but it is rigid enough and enduring enough to permit its being called a permanent structure.

The Hy-Rib Silo

There have been a number of satisfactory silos built of this pattern. They are built by setting up a steel sheet of hy-rib construction, and this sheet is plastered within and without with concrete, to which a certain proportion of ordinary building lime has been added, and also an amount of fiber, in order to facilitate the putting on of the plaster wall. The cost of a hy-rib silo is perhaps a little less than the cost of a monolithic silo, or of a cement block silo. It cannot be said to be of as permanent a character or capable of resisting so great a strain. It is infinitely to be preferred to wood as material, and, under certain circumstances, where material for the other forms of concrete silo is too expensive, this form of silo may be found advantageous. There is such a silo on the state farm at Lincoln, Neb., a picture of which is shown herewith.

The Cement Stave Silo

Certain manufacturers are recommending the use of cement stave silos. The staves are made thirty inches long, ten inches wide and two and a half inches thick, with one edge concave and the other edge convex, so that the convex portion fits into the concave portion for a joint. There are certain claims made by the cement stave manufacturers which cannot be said to give confidence in that form of construction. The claims that they make for the advantages derived from their water-proofing are extravagant to say the least. Each tier of staves is held firmly in place by a five-eighths-inch steel hoop, so that the hoops must be placed thirty inches apart for the entire length of the silo. It is impossible to see how, with this form of construction, a permanently, air-tight joint may be secured between the staves. Mechanics will admit that the cement stave silo is much to be preferred to the wood stave silo, because the material of which it is composed is better and does not have the defects that are inherent in the material of wood stave silos.

Here are stated the principal facts that every builder of silos should know in determining what kind of a cement silo is best for him to erect. This paper will be very glad to answer further questions with reference to this matter, and to furnish any information that may be desired. If the information is not immediately at hand, it will be secured from men who are experts in their line, and men who are thoroughly reliable in everything that they may say.

Lice Taking Onion Crop

Report comes from Colorado that lice are taking the onion crop, and from all indications the yield will be short in some fields.

O.I.C. Flying Swede

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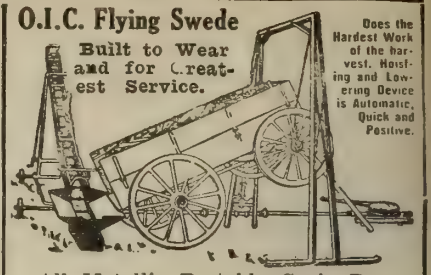

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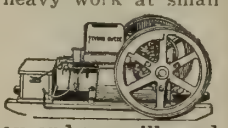

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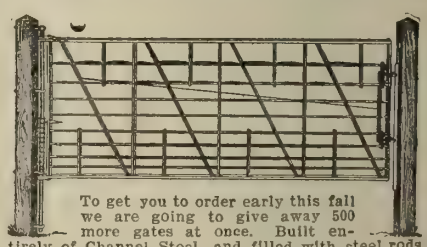

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Nebraskans Are Loyal to the State Fair

(CONTINUED FROM PAGE FIVE.)

every other respect, and the judge chanced his recovery from the effects of shipping. Second prize was a black Lordinaire, much the same pattern as the first, with the exception that he was scarcely as large. The roan colt Logician, from the same stables was third. He was the weightiest of the three, with splendid lines and a remarkable depth of body, but lacked the masculinity about the head and neck of the first two and was scarcely so good in his limbs. The green colt Lessener was placed fourth. He gave promise of making the largest horse in the class, but did not show up with the three placed above him in action and smoothness. Rhea Bros. were fifth on a very neatly termed, heavy-boned bay horse named The Victor. Younger classes were all well filled, Bone of Boone showing some very good colts that stood well up to the money in these classes. The aged mare class contained thirteen entries and was counted the strongest class seen at Lincoln for several years. Image, a beautiful dark gray, owned by McFarland, was placed first over the 2,200-pound Bonavida shown by Zachry. The Zachry mare possessed more bone and more scale, but lacked somewhat in Percheron type and femininity as compared with the gray. The gray mare was later made senior champion mare, while Madame, the first prize in an exceptionally strong string of yearlings, was made junior champion. This latter mare was imported as a weanling and later purchased by Bone. There were ten entries in both yearling and 2-year-old classes, and practically all the entries have been bred in this state.

The Belgians

A very good display of Belgian stallions constituted the showing made by this breed. The strongest class was the 2-year-olds. There were eight entries in this, all of them imported recently, with the exception of one. This horse was owned by Wolf and went to the top of the class over a bay owned by the same firm which had just landed from Europe. Russell caught third on a big bay, while Wolf caught fourth.

Shires

This breed was noticeable for uniformly good, heavy-boned, high-class set of entries. Zachry of Merna won the championship with Smeaton Aristocrat. Watson, Woods Bros. & Kelly showed some very good entries that stood well up in the winnings.

Other Breeds

The largest display of standard-bred horses seen in recent years at Lincoln; the strongest class constituted the aged stallions, there being seven entries in this. There were no coach horses on the grounds. The Thompson Shetland ponies succeeded in winning the admiration of all, especially the younger generation. The driving of the ponies on Thursday afternoon drew a large crowd to the Coliseum. Much applause was given the driver of the six-pony team for the skillful manner in which he handled them.

Cattle Show

The beef end of the cattle department showed the effects of an unfavorable season more than any other live stock department. Entries were lacking in most breeds as compared with last year. Quality was good, however, and the show should not be too severely criticised, for many a herdsman gave up his job of fitting on account of the extreme heat and the shortage of pasture in some districts.

Too much credit can not be given to E. R. Danielson, superintendent of cattle. Mr. Danielson has been connected with the cattle show either as superintendent or assistant superintendent since 1905, and has done more than any other one man to bring the show up to its present high standard.

The dairy stock made a better display than the beef breeds. A large herd of Guernseys came over from Iowa. Iowana farms of Davenport, Ia., brought a large string of Holsteins and gave the Nebraska herds a warm competition. Several large herds of choice Jerseys made a creditable showing for this breed. Prof. A. L. Haecker judged all dairy cattle.

Red Polls were represented by the single small herd of Haussler Bros., from Holbrook, as against five full herds shown a year ago. Two herds of Galloways made a light showing for this breed, and the quality of winners showed the absence of the Straub entries from Avoca.

Polled Durhams were present with several herds of splendid quality. The champion cow in this breed, Lady Craven, from the Indiana herd of J. H. Miller, made a most excellent appearance beside the other beef breed champions when lined up for the Stock Yards cup on Thursday. Achenbach Bros. of Kansas showed a finely fitted herd, indicating that they, at least have feed in Kansas, even if there is no moisture down there. Prof. Bliss of the University farm judged the foregoing breeds in a highly acceptable manner.

Shorthorns

Iowa, Illinois, Kansas and Indiana all came to Lincoln with herds of this breed, and still the exhibit was considerably below the normal in point of number. Several of the Nebraska breeders were absent and the Wisconsin contingent sidetracked to the Minnesota fair. George White of Emerson, Ia., officiated. While his type was not always consistent, yet his awards were, in the main, well received. Rees' Whitehall Rose Dale easily headed the aged bulls. He is showing in much more bloom than a year ago. His 2,600 pounds are well carried and for a bull of his size he is truly smooth. He was made grand champion, but later lost in the Stock Yards cup to the smooth and highly fitted Hereford champion.

In the aged cow class, Violet Goods again came to her own. Two years ago Rees succeeded in winning the interbreed cup with this splendid heifer, while last year her unevenness left her down the line in class. In the younger classes the Shallenberger entries made a creditable showing, as usual. His white calf, Scotch Mint, stood third in senior calves, and many thought he should have been higher. His true lines and, smooth, wide top are hard to get around.

Retzlaff Bros. of Bennett, Neb., showed a string of utility cattle. Their winnings were strong wherever they entered, although some of their calves lacked the fitting which the larger breeders had given theirs. Owen Kane of Wisner, Neb., secured junior champion heifer on Isabella, winner in the junior yearlings. His junior bull calf, Dale Clarion, secured junior championship.

Herefords

The Herefords were the only beef breed which held up to normal numbers. Classes were large and competition keen. Robert D. Mousel, in his usual deliberate manner, lined them up to the satisfaction of all, and very favorable comments were to be heard upon his work. The Harris herd from Missouri came in strong on the high money. Their senior yearling bull, Repeater 7th, was made grand champion, and later was winner of the stock yards' trophy for best beef bull on the grounds. His smoothness and fitting could not be faulted. At 22 months of age he weighs 1,100 pounds, and, judging from his type, one might surmise that he would never reach an extremely heavy weight. Miss Repeater 14th won in the junior yearling heifer class and received junior and grand championship and later came within one of getting the interbreed cup from the cows. Violet Goods. In Nebraska classes, C. E. Green of Genoa stepped forward and pulled down leading honors with his well fitted entries.

Aberdeen Angus

The doddies were represented by four herds and put up some [illegible] Honors were pretty well divided. A. C. Binder caught grand champion bull on Kilomen a winner at many fairs. Charlie Escher caught both the female championships, securing the senior on his aged cow, Blackbird Perfection 2d, and the junior on his junior calf, Blue Blood Lady 3d. She is a remarkable youngster and Judge White even counted her worthy of grand honors over the aged cow. Harrison & Harrison of Indianola, Neb., showed their herd in nice shape, considering the drouth in their section, and the string of ribbons which they secured testifies as to their winnings.

A Great Swine Show

That Nebraska has taken front rank as a hog producing state was exemplified at the Nebraska state fair. The general opinion seemed to be that, on account of adverse weather and crop conditions, the show at Nebraska would not be up to the usual standard. However, by the time the show was ready to open it was found that every pen was full, and there was a display of swine on the grounds that far excelled any previous show in the state. There were 1,556 head on exhibition, divided among the various herds as follows: Duroc-Jerseys, 750; Poland-Chinas, 395; Chester Whites, 211; Hampshires, 136; Berkshires, 35, and Mulefoots, 29.

The quality and finish of the hogs exhibited from start to finish was especially good. The splendid showing made this year and the evident willingness of the breeders, particularly of Nebraska, to do all in their power to make this the leading show of the country, should impress on the members of the Board of Agriculture that better facilities should be provided for them in the way of permanent barns and a show pavilion in keeping with the rest of the fair. The swine industry in Nebraska has reached a point where it has a right to demand more attention.

Considerable dissatisfaction was experienced among the breeders this year on account of the ruling that only one-half the prize money should be paid in classes where there was no competition. They claim, and rightly, too, that when a breeder goes to the trouble and expense of fitting an animal for a particular class, he is not to blame if there is no competition and should receive the full amount of the prize money offered for the winner in this particular class.

In this connection, we also believe that the premium list should be revised so as to conform to those of other states, and also that cash prizes should be given in the championship classes instead of ribbons, such as are given unde the present rules. The greatest effort of the breeder is put forth to produce an animal that will go out and win championships in its class, and we believe he should receive more substantial remuneration for his labor.

The board of managers are to be commended for their selection of E. Z. Russell as superintendent of the swine this year. His years of experience as a breeder and showman give him exceptional qualifications. He was the right man in the right place, and was responsible, in a large measure, for the success of the show.

Berkshires

The number of Berkshires exhibited this year was considerably short of what it has been for several years past. J. P. Schenzinger of Nora, Neb., and Iowana farms were the only exhibitors. The quality of the animals shown was, however, very good.

Duroc-Jerseys

In speaking of the Duroc-Jersey show, almost every one spoke of it as being the greatest show of the year. Seven herds and fifty head were on exhibition and, notwithstanding adverse crop conditions and the intense heat of the summer, they were the greatest lot of hogs ever shown here. The classes were strong and large. In the aged boar class [illegible] and [illegible] shown and the judge could [illegible] placed the ribbon on any one of a number of the top ones and not been far wrong. However first place went to Waltmeyer Bros. of Iowa on Prime Model a boar with wonderful scale and depth and lots of quality. This firm was a consistent winner through the show. The first prize junior yearling boar was made grand champion of the show.

Clarence Wallace of Wisner, Neb., won first place in the aged sow class on Fancy Advance 2d. This great sow was also made grand champion by the judge later on in the show. She is a daughter of his great herd boar, Wallace's Wonder.

Poland-Chinas

The Poland China show at Nebraska has come to be recognized as largely a big type show and carries with it a uniformity of type such as is found in hardly any other show in the country. More good, big, smooth hogs with quality and finish were in evidence than ever before. First prize in the aged boar class went to Big Orphan, owned by Tim Neuhofel of Central City, Neb. This boar weighs over 1,000 pounds and carries a wonderful lot of quality for a boar of his size. J. T. R. Nash and son of Minden, Neb., also showed a great boar, Big Hercules, winner of second place in the aged boar class. W. A. Lingford of Dannebrog, Neb., captured grand champion in the sow class on Marie. She was also first in class, junior champion and champion bred by exhibitor. J. C. Meese, the veteran showman of Ord, Neb., came out with a great herd and made consistent winnings all through. He won first on senior yearling sow, first on aged herd, first on young herd and first on herd bred by exhibitor, as well as many minor prizes. Harry Dodds of Florence, Neb., won first on the aged sow, Big Mary. This was a class where it took a good one to win. T. A. Shattuck of Hastings, Neb., judged the Polands and his decisions were fair and impartial all the way through.

Following Poland-China breeders exhibited: Thompson Bros., Indianola, Neb.; Harry Dodds, Florence, Neb.; C. H. Powers, Auora, Neb.; J. C. Meese, Ord, Neb.; Harry Seltz, De Soto, Neb.; F. O. Copper, Milford, Neb.; Phil Dawson, Endicott, Neb.; L. P. Fuller, Bethany, Neb.; D. Molde, Waco, Neb.; W. A. Lingford, Dannebrog, Neb.; Frazier Bros., Waco, Neb.; M. Shivers, Knoxville, Ia.; Frank Freeouf, Wilber, Neb.; Frank Hoagland, Glenville, Neb.; C. W. Francisco, Indianola, Neb.; Charles A. Lewis, Beatrice, Neb.; B. E. Ridgley, Pickrell, Neb.; D. C. Lonergan, Florence, Neb.; John Ketcrer, Bethany, Neb.; G. A. Kissinger, Milford, Neb.; Henry Luckey, Lincoln, Neb.; H. O. Williamson, Herman, Neb.; John Harold, Lewiston, Neb.; O. J. McCullough, Clarks, Neb.; J. T. R. Nash, Minden, Neb.; W. E. Willey, Ste le City, Neb.; H. C. McGath, Foster, Neb.; James Hutchinson, Elgin, Neb.; W. B. Cooper, Milford, Neb.; C. S. Newberry, Pethany, Neb., Lloyd S. Taylor, Steele City, Neb.; Tim Neuhorol, Central City, Neb.; J. W. Wharton, Lincoln, Neb.; F. P. Riggs, Archer, Neb.; William Armstrong, Blair, Neb.; Beall & Jackson, Roca, Neb.; W. E. Epley, Diller, Neb.

Chester Whites

The Chester White show was a plum good one. Some of the features that were strongly noticeable were the splendid scale they carried and the quality that went with it. Nebraska was strongly represented in the various classes, there being only two exhibitors outside the state.

The following Chester White breeders exhibited: J. E. Burton, Maywood, Neb.; T. E. Kent, Walnut, Ia.; Vandeslice Bros., Cheney, Neb.; S. T. Harrison, University Place, Neb.; J. D. Clepicka, Wilber, Neb.; Amos Turner, Wilber, Neb.; George Gleb, Waco, Neb.; I. E. Brown, Dow City, Ia.; H. L. Bade, Friend, Neb.; Charles H. Mossay, Friend, Neb.; John Edmund, Princeton, Neb.; Gilmore & Son, Fairbury, Neb.

Hampshires

[illegible] year's Hampshire show was the largest ever held at that fair. The excellent quality of the exhibits and the large increase in number is evidence of the fact that the demand for this breed of hogs is rapidly increasing. A noticeable feature was the fact that only one herd was present from outside the state.

The following breeders exhibited: W. [illegible], Indianola, Neb.; Fuller [illegible], Bethany, Neb.; [illegible], Valparaiso, Neb.; C. S. Brott, Lincoln, Neb.; H. Castner, Seward, Neb.; J. E. Mansur, Lloyd, Neb.; Dr. Mason, Geneva, Neb.

[illegible] of Hampshires [illegible] The end of all things on the square is not that we placed prize the most cows or sheep to the pen. More attention should be given to the boys, the youth, the school and to community interest in general [illegible] Breed Leading Hereford

Review of Live Stock Market

By A. C. Davenport

THE statisticians of the live stock trade have been very busy during the last week compiling and digesting figures showing the movement of live stock during the month of August and for the eight months of the year to date. While figures generally make dry reading, those bearing on the live stock trade are of special interest to both buyers and sellers of stock at the present time. The continued dry weather and the decreased yield of corn constitute such an element of uncertainty in the trade that every fact or figure that can be depended upon to throw any light on the subject is eagerly sought out.

Taking the six largest markets of the country as representative of the cattle trade, it will be found that, with the single exception of Kansas City, they all showed more or less decrease in receipts during August. Kansas City received 74,345 cattle more than for the corresponding month of last year, which was sufficient to wipe out all the loss at other selling points and still leave an excess of 24,963 head. In other words, the 711,755 head of cattle received during August at the six points was larger than last year by 24,963. These figures, if they mean anything, at all, mean that there was a shortage in cattle ready for market, as shown by the decreased receipts at the five points. The enormous increase in the Kansas City run was the direct result of the drouth extending from southern Nebraska through Oklahoma and eastward into Missouri.

Another series of figures shows that the six big markets have received for the eight months of the year 4,469,000 cattle, a gain of 119,000 head over the corresponding months of last year, but a decrease of over half a million head as compared with 1911. At first thought an increase in receipts might seem to contradict the popular belief that there is a cattle shortage in the country, but those familiar with conditions at the big market centers understand full well that such increase is due to the great effort that has been made to secure surplus cattle from all sections of the country, from localities that in previous years have done little or no shipping to market. In other words, the increased receipts have been brought about under the stimulous of high prices, and instead of being indicative of liberal supplies in the country, are really making the shortage just that much worse, as must become apparent another season.

The abnormal run of dry weather cattle at Kansas City contained a very large percentage of stockers and feeders, the output of that kind of cattle for the month amounting to about 4,600 cars. The distribution of these cattle is a matter of great interest. Kansas only bought 320 cars, against 518 last year; Missouri 868, against 817; Iowa 1,594, against 243, and Illinois 1,053, against 612. In other words, the two states, Illinois and Iowa, where the corn crop is good, have been taking advantage of the drouth west of the Missouri river to stock up again with cattle. It was the demand from these two states that enabled the burned-out farmers of the west to dispose of their stock at extremely high prices, instead of their being forced to sell on a demoralized market. It was this demand that queered a good many of the market prophets, who were expecting that feeders would sell very much lower, consequent upon the drouth and enforced shipment of stock.

Bears Still Confident

While the bears in the cattle trade have been wrong thus far in most of their predictions, they have not yet lost hope, and are still firm in the belief that prospective high-priced corn must force the market on feeders downward. They contend now, the same as they have for the last six weeks or more, that prices on such cattle are entirely too high; in fact, most of them say a dollar higher than they should be. They figure that the more eager buyers must t their fill before long, and that as they drop out of the market the more conservative buyers are bound to force prices downward. They do not limit their predictions to feeders alone, but advance the argument that it is the feeder demand that has held up the market on all kinds of grass cattle and that fat westerns will break when feeders break. As to corn-feds, the supply is so light that they ought not to be influenced to any great extent, but still it is hardly possible for grass beef to decline very much without hurting the market on corn-feds.

A feature of the trade in cattle is the active demand for stockers and breeding stock that prevails not only in the west but to an unusual degree in the east. Advices from eastern Canada report heavy purchases of cattle on the part of buyers from Buffalo and as far east as Boston. Eastern scarcity is forcing even the killers over to Canada in a search of veal and beef.

The country buyer will undoubtedly be the controlling influence in the cattle market for some little time to come. If he continues to absorb everything offered in the way of stockers, feeders and breeding stock, the same as he has during the last six weeks, it will be very hard work for the bears to force the market downward to any great extent.

Falling Off in Sheep and Lambs

The run of sheep and lambs during August proved rather disappointing, there being a falling off in arrivals at the six large markets of 95,900 head. Only one market, Omaha, showed a gain, the increase at that point amounting to 10,000 head. The market on fat stuff, although showing some weakness of late, has been satisfactory, while the feeder market, from the buyers' standpoint at least, has been very high. Buyers ever since the beginning of the range season have been talking that feeder lambs were a dollar or more per hundred higher than they ought to be, but their ideas have apparently had little influence upon the market. The country east of the Missouri river has been hungry for feeders, and has kept the supply so well cleaned up that strong prices have ruled. The bears are still talking about cheaper lambs, some of them professing to believe that they will, before the season is over, be able to buy feeder lambs below $6 on the basis of Omaha. As noted above in the case of cattle, the country buyer is the man who really holds the key to the situation, and it will be hard work to break the market so long as he stands up to the rack and takes everything coming the way he has done thus far.

Hog Market Still a Problem

Hogs constitute the great problem of the live stock market. Sentiment is still divided, there being about as many bulls as bears, and no two of them exactly agreeing on any proposition. There are features connected with the market that look bullish, such as the general prevalence of disease and the high price of corn. On the other hand, the receipts, which showed a gain during the month of August of almost 300,000 head at the six markets, were decidedly bearish, not only because of the increase over last year, but more especially because of their being so much larger than packers had figured on. As a matter of course, the total receipts for the eight months of the year show the loss of over a million head, but that loss took place largely during the early part of the year and has already been discounted. The way conditions are at present, every man must do his own guessing, and one man's guess is about as likely to prove true as another's.

Gasoline Engines

The gasoline engine is one of the topics discussed by the experts on the recent Washington State College-Northern Pacific demonstration train.

Here are a few sentences from the advice given:

When you buy a gasoline engine, remember that a cheap one fills the bill about the same as a cheap jackknife. See that the cylinders are perfectly smooth. See that the piston rings fit tightly. The bearings should be rather large. The parts should be well machined where they join. In the gasoline engine for the farm generally, we use the make-and-break spark device, and the hit-and-miss governor. It is generally preferable to have a governor of a type using a collar on the crank shaft for moving the lever that holds the exhaust valve open in case the governor is acting. Either an air-cooled, a water-cooled, or oil-cooled engine is satisfactory for small types of engines. But the air-cooled engine should never be larger than about six horsepower per cylinder. In the water-cooled type there are three types of cooling devices. One is the gravity system; another the pumping system, and the circulating or "hopper-cooled" system. The hopper system sometimes gives trouble where the engine is used continually for long periods. The gravity system requires a greater volume of water, but is more satisfactory. The pumping system seems to be the most satisfactory of the water-cooled type. The objection to the water-cooled engine is that it sometimes freezes and breaks the water-jacket in case the farmer neglects to drain out the water. Also there is some trouble with lime accumulating in the water-jacket. The oil-cooled engine has given very good satisfaction in both cold and warm weather, when there is sufficient radiating surface to get rid of the heat taken up by the oil.—Spokesman-Review.

Iowa Swine Show Not So Large This Year

The swine show at Des Moines this year was not as large as usual. The number exhibited during the last few years has been around 3,000 head. Less than half that number was on the grounds this year. This situation is traceable directly to a ruling which was put into effect governing this year's show, which required that every hog exhibited should be vaccinated with the single treatment for hog cholera within thirty days of the time of coming onto the fair grounds. This ruling was made by the Iowa State Sanitary Board. As the time for opening the fair approached it was seen that this would not be a success. Two weeks prior to the opening of the fair the order was rescinded, but too late to have any effect in attracting the desired number of herds of swine. Officials of the fair were very much chagrined at this condition, and promise that other conditions will prevail next year. The above, coupled with the fact that there is a prevalence of swine plague now scattered over a large part of the state, is responsible for the cutting of the number of swine exhibited by 50 per cent.

The Iowa State Fair management has certainly provided every facility necessary for the care of swine breeders and their exhibits, and it is to be hoped that the conditions that prevailed this year will not exist again.

The classes, in the main, were fairly good in point of quality. In the Duroc-Jerseys. A. J. Lovejoy tied the ribbons and gave general satisfaction. The senior champion boar, Big Wonder, owned by O. R. Stevens of Rippey, Ia., was made grand champion. This boar is a Nerbaska product, being bred by Stewart & Son of Kennard, Neb. The grand championship on sow went to Waltmeyer Bros. of Melbourne, Ia.

In the Poland-Chinas, the tendency of the judge was to give preference to the medium type. As Iowa breeders are pronouncedly in favor of the big-type Poland-Chinas, these decisions were not as well received as they might otherwise have been. The exhibits in the other breeds were very good, especially in the Chester Whites and Hampshires.

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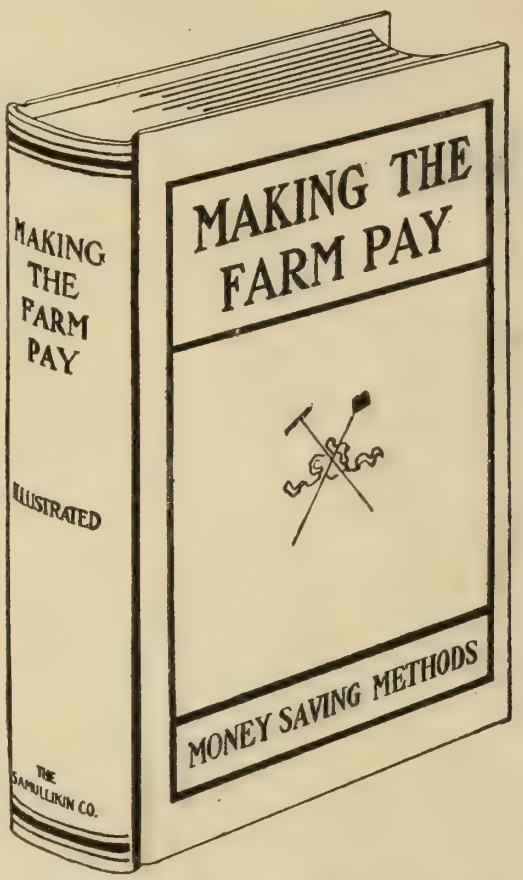

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Bright and Breezy

They Were Surprised

"Jinks, who has just returned from a year's globe-trotting, is very wroth at the local paper."

"Why?"

"Oh, the editor wrote a column article about him, which he claims ended, 'His many friends were surprised that he is unchanged,' but the compositor left the 'c' out of 'unchanged.'"

One for the K. C.

"I presume, my good fellow, you're a laborer?" said a barrister to a plainly dressed witness at the police court.

"You're right; I am a workman, sir," replied the witness, who was a civil engineer.

"Familiar with the use of the pick, shovel and spade, I presume?"

"To some extent. Those are not the principal instruments of my trade, though."

"Perhaps you will condescend to enlighten me as to your principal instruments?"

"It is hardly whorth while; you don't understand their nature or use."

"Probably not; but I insist on knowing what they are."

"Brains!"—Pearson's Weekly.

Chinese Solomon

A district magistrate of Shanghai had brought before him a man charged with stealing a table. The man denied the charge, alleging that he was so feeble from ill health that it was impossible for him to commit such a crime.

The magistrate listened gravely to the tale, and professed his sympathy and sorrow for the poor man.

"Go home," he said, "and get cured, and, as you are very poor, take that bag, which contains a number of copper coins, as a present from me."

The prisoner made obeisance threw the heavy bag over his shoulder and departed. He had not gone far before he was arrested and taken back, and found guilty, the magistrate remarking that a man who could carry a heavy sack could easily take a table.

An Artist in Silence

J. Pierpont Morgan was always a silent man, and he would sometimes champion the silent with a story.

"Old John Bates, an upholsterer," so the story began, "was renowned for his silence. People who had been his customers for a generation had, many of them, never heard a word from him except: 'Good morning. Five dollars. Thank you. Good day.' Old John, in fact, cultivated silence as a genius cultivates his art.

"A patron one day said to John:

" 'What's the best kind of mattress?'

" 'Hair,' was the reply.

"The patron, some twenty years later, had occasion to buy another mattress, and again he asked:

" 'What's the best kind, John?'

" 'Cotton.'

" 'Cotton!' the patron cried. 'Why, you told me twenty years ago that hair was the best.'

"The old man gave a quaint sigh.

" 'Talking has always been my ruin,' he said."

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The Fremont Tractor Show

THE exhibition of mechanical power in its adaptation to farm uses that was held during the second week of this month at Fremont, Neb., was the most notable o its kind, and will prove to be the most far reaching in its effect, of any similar show that was ever held. The success of the exhibit transcended the fondest hopes of the promoters.

The Twentieth Century Farmer promoted the show, and the credit for whatever good was promoted by this means is due to this paper.

In the issue of October 1 will appear a full, detailed, illustrated account of this greatest of all tractor shows. This account might be given earlier, but as the account will be in a certain sense official and final, being confined exclusively to the columns of this paper, it has been thought best to delay the report until the matter might be given final and authoritative consideration. Watch the issue of October 1.

Prattle of the Youngsters

Modern

"Mamma's good little boy want a slice of bread and—"

"Oh, mother, cut out that sort of thing. I'm nearly 4 years old."

An Expert

Tommy—I think I am better at eating than I am at studying.

Mamma—Why do you think that, Tommy?

Tommy—Why, because I often miss my lessons, but I never miss my meals.

A Logical Decision

Billy, aged 5, had often heard his parents talk of the time required to digest certain articles of food. One night, wishing to defer his bedtime, he asked: "Mother, may I sit up half an hour longer to decide my supper?"—Pictorial Review.

Damaged Goods

"What do you think?" a little boy asked a playmate. "The doctor's brought a baby to our house. Isn't it horrid?"

"Rotten! Can't you get him to take it back?"

"No; it's too late. We've used it four days."

Going Him One Better

A boy in a rude village school in Maine was called up by the master to be ferruled. "Hold out your hand!" was the command, and out went the right hand.

"John," said the master, in a reproving tone, looking at the dirty little paw, "if you show me a dirtier hand in all this school, I'll let you off."

The lad quickly thrust out the other hand.

As Every Capitalist Knows

Thomas W. Lamont, one of the Morgan partners, showed early in life his appreciation of the evanescence of money. He was about 10 years old, and lived in Saugerties, when, by a half day's arduous labor, he earned a nickel. He held it in his fat little palm and sighed as he said:

"I want to spend a penny of that, but, oh, dear—"

"Why don't you do it?" asked his brother.

"Why, haven't you noticed that when you break a big piece of money the rest of it goes like the dickens?"—New York Evening Post.

Allan Knew

The teacher in a country school always tried to make the lessons as interesting as possible.

"Now, children," she said, "let me see what you remember about the animal kingdom and the domestic animals that belong to it. You have named all the domestic animals but one. Who can tell what that one is?"

There was no reply.

"What!" exclaimed the boy. "Does no one know?" It has bristly hair, likes the dirt and is fond of getting into the mud."

A small boy at the end of the class raised a timid hand.

"Well, Allan?" said teacher.

"Please, ma'am," said the little boy reflectively, "it's me."—Lippincott's.

Feeding the Chickens for Mother

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Farmer Putnam Makes Trip on Silo Train

Combines Humor with Common Sense Advice in Telling Experiences of Lecturers and Railroad Officials

DEAR EDITOR — Don't you pay no attention to them fellers that tells you Oklahoma is busted ag'in, because they had a dry summer. Goodness knows it's been dry enough down there, but somehow them Oklahoma farmers has got more back of 'em now and they kin stand a dry spell better than they used to. It used to be so down there that when it quit raining fur a month or two them Oklahoma farmers would hitch their hosses to the prairie schooner and skip out fur Texas or parts unknown. This summer they are able to grin and bear it, because corn ain't their only crop nowadays.

They had a wheat crop that run 80 per cent of the usual yield; their alfalfa made two good cuttings and in some places, on good bottom land, four or five cuttings. The wheat was better millin' quality then usual, bein' fine, big, fat berry that the millers like and they're payin' the farmers a premium fur this wheat. Then, kaffir corn done well in most parts of the state, even where it's been awful dry. They tell me that Oklahoma will have enough feed to take care of all its stock through the winter and maybe some kaffir to ship out. Corn done well in the bottoms, but I guess, take it the state over, it will make only about a third of a crop.

Of course the farmers can't afford to stand many losses of their corn crop, but so long as they has other irons in the fire, it means that they won't have to go to the poorhouse or raise money by mortgaging the farm.

Indian Farmers at Watonga, Okl., Hearing Silo Lectures by Government and Railroad Experts

"Farmers Got Busy Diggin' "

I been travelin' around down in Oklahoma with the Rock Island silo train. This was run just at the right time to make the farmers what ain't got no silos yet, put one in or up. Most of 'em, especially in western Oklahoma, is puttin' 'em in—that is, in the ground. The professors told 'em that if they wasn't bothered with surface water and had good soil, not sandy, they could just as well dig a hole in the ground, plaster it up with cement plaster and then put a roof over it and it would keep their fodder as nice as in a $300 concrete or stave silo. Of course, they told 'em, where a man could afford a first class permanent high silo, he ought to have one, but that it was foolish fur a small farmer, who didn't have more then fifty dollars to spend, not to dig a pit and keep his fodder in that fur winter use. After the train passed through western Kansas and Oklahoma the farmers got busy diggin', so's they could git some late kaffir or milo put away fur their stock. It was most too late to save the corn except in some few places, but them farmers what knows their business uses a shredder and cuts up their fodder that way. You can't save a whole cornfield with one or two silos anyway, but you kin keep enough of that corn in fine shape so that your cattle will have something that tastes good when the storms come in January.

Cows Like a Mixed Diet

Silage is a desert fur cattle, just like marmalade or strawberry preserves fur us humans, but more nourishin'. You take a first class milk cow, fur example, and if she has to stick to bran and corn chop with alfalfa every day in the year, she gits durn tired of it. Her disposition has got a lot to do with the milk flow. If she gits tired of her feed and begins to grumble to her neighbors about the way the farmer is treatin' her, pretty soon the milk veins gits clogged up and refuses to act and then the milk check begins to git slim. This ought to wake up Mr. Farmer and show him that cows is like humans—they both like a mixed diet, with a little dessert for every meal, and specially something nice and green and juicy in winter. That's where silage comes in fine, payin' fur itself by keeping bossie feelin' like she's being treated like a queen, and then the milk keeps coming, and milk means money.

It's about the same with steers and other stock. They all like silage when they can't git green pasture.

Like One of Them Mirror Shows.

You'd think I was one of them lecturers myself, the way I'm givin' advice here, but I got so much of it on the train that I have to blow off a little.

I never seen a better combination of subjects then they had on the train while it was in Oklahoma. In front, on five flat cars, was all kinds of models of silos, includin' the pit silo, which was a hole in the ground, plastered up like a cistern, and put in a box. Farmers all wanted to take a look into the hole. It was like one of them mirror side shows, what they have at some county fairs and the Nebraska "Educational" state fair, where a farmer pays 10 cents, gits up on a platform and looks down into a well, lined with mirrors. What he sees there ain't fur me to say, because if Josephine—that's my wife—knowed that I'd ever been to one of them kind of side shows, there'd be trouble to home. Anyhow it ain't no great moral educational show and it ain't nothin' like a pit silo, so nuff said.

Well, at the rear end of our train they had a car with a canvass roof over it, where they showed all kinds of home canning outfits. While the men was learnin' about canning feed fur stock at the front end, the wimmin was learnin' about canning tomatoes and things at the rear.

Prof. T. M. Jeffords, state organizer of Girls' Canning clubs fur Oklahoma, was doin' the most of the talkin', ably assisted by his wife, who is some talker herself, bein' like most of her kind in that respect. Them Jeffordses is fine people and 'peared quite tuk up with me, because I was from Missouri and they used to live in Arkansaw. They're plain kind of folks, and what made a hit with the farm wimmin was that they showed how to make a home washtub, without a bottom. The canning outfits was in full running order all of the time and at every station the Jeffordses and their assistants would show the people how to pare fruit and vegetables, how to cook 'em, and how to seal up the cans. This was bein' done so that the waste of peaches and tomatoes that is allowed to rot on the ground every year in Oklahoma, would be saved.

Cut Out the Tomato Soup

This canning business got kind of hard on us that was travelin' with the train. All the stuff canned was brought back to the eatin' car and we had to git away with it. Our menu every day had tomato soup, scalloped tomatoes, stewed tomatoes, tomato omelet and tomatoes on it, and finally I bucked. I told Prof. Cottrell, who was bossin' the train, that I felt like a barrel of ketchup, and if he didn't give us a chance of diet, I'd quit writin' up his trains. This brought him to time and the next day he had the eatin' car conductor cut out the tomato soup.

We had a feller named Daniels on the train. He was from Fort Collins, Colo. That's where I graduated in the farmer's short course one winter, and I knowed Daniels up there. He's a peach winder and he talked pit silo till he was

Truth About Silos---Reliable Information

VIII---The Hollow Tile Silo; The Material, Its Strength, Its Durability and Its Cost

(Courtesy Michigan Farmer)
A Tile Silo in Illinois After a Tornado that Destroyed Buildings and Carried the Roof of the Barn More than Half a Mile

Tile Silo that Withstood a Tornado at Seward, Neb., Which Destroyed a Wood Silo and Other Buildings

THE hollow tile silo is made from a clay product of something the same nature as brick. They are rectangular in shape. They are left hollow in the process of manufacture because that form of construction gives them greater strength, and for the added reason that the hollow tile, with a dead air space, is a better protection against cold. These tile come already fitted for laying. It is claimed for the hollow tile style of construction that an expert mechanic is not needed in building them; that the blocks are made exactly fitted to the circular size required for the silo, and that any ordinary brick layer is all that is required. It said that the blocks are fitted so accurately that it is the next thing to impossible to put them into the wall in the wrong way or to get them out of place.

Vitrified Hollow Tile

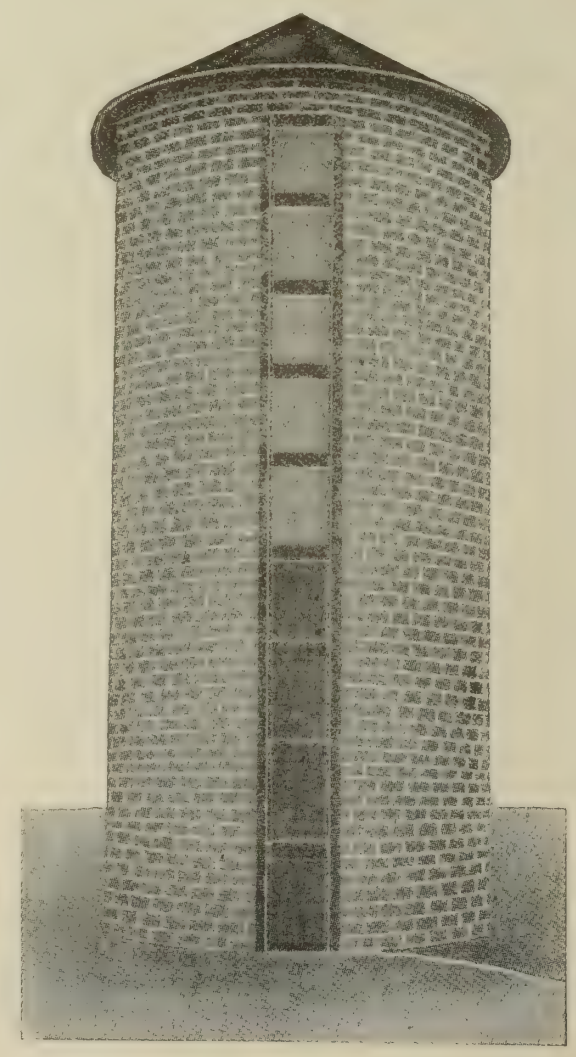
The best hollow tile for silo purposes are vitrified hollow tile. These are made of fire clay and submitted to an intense heat, which vitrifies them, makes them very hard and gives them a glazed surface, which makes them impenetrable to moisture. They are capable of resisting enormous pressure, and form one of the strongest building materials known. Vitrified tile cannot be made from ordinary clay. Tile made from ordinary clay will melt down under the intense heat to which vitrified tile is subjected in the course of manufacture. There is any amount of hollow tile made from ordinary brick clay on the market; but this cannot be recommended for silo construction when taken alone. It will absorb moisture, is easily broken or crushed by pressure that would have no effect upon vitrified material. If one should undertake to build a silo of this soft tile, it would be necessary to plaster it both within and without with cement in order to exclude the moisture. Even when this is done, the wall would be lacking in strength, owing to the nature of the material from which it was made, and would be liable to crumble piece by piece. The vitrified tile is made from fire clay, which will take an intense heat necessary in the process of vitrification.

Inspection of Material Necessary

It is an exceedingly difficult matter to manufacture vitrified tile that shall have a uniform quality. Slight differences in the composition of the material from which the tile are made, slight differences in the degree of heat to which they are subjected in the vitrification process, make differences in the quality of the finished material. The finished tile should be practically impervious to water, should be as hard as granite, and capable of resisting an enormous crushing pressure. Farmers building silos of this material should carefully inspect it to be sure no inferior material enters into the construction. The Iowa Agricultural College recommends that suspected material be soaked in water for forty-eight hours. Then, if the water has notably increased the weight of the tile, it is sure proof that the quality is poor, and that the material should be rejected. Such a test as this would, of course, exclude from consideration any soft or non-vitrified tile. A vitrified tile of the right quality should be able to sustain a crushing weight of seventy-five tons to the square foot, and should show no cracking and no bad results if when heated to a white heat it be dropped suddenly into water. Material that will stand these tests is enduring material for any kind of construction.

Should Be Fully Reinforced

Manufacturers of vitrified hollow tile for silo construction leave a channel in the tile for receiving steel reinforcement. The nature of the reinforcement differs with different manufacturers. One manufacturer may use a light steel band, which goes about the silo and fastens to the door jambs on each side of the door. Another manufacturer may use a quarter-inch round steel rod for this purpose. Others use steel wire of still smaller size Since every tile contains the channel for receiving the reinforcement, each layer of tile is reinforced throughout the entire structure with steel. This makes the spreading or breaking of the walls practically impossible. There is no danger whatever from expansion or contraction under heat and cold because the coefficient of expansion of the brick tile and steel reinforcing are practically identical. After the reinforcing steel is in its place, the channel is filled with the best cement mortar in which the superimposed tile are laid. This makes a very permanent and strong construction.



Vitrified Tile Silo with Channel Steel Door Frames

Are Practically Indestructible

It stands to reason that a structure built of fire-proof material cannot be damaged by fire. The only way in which it might be possibly damaged would be by lateral pressure from high winds or from some other cause. That such silos will resist strong, lateral pressure, has been proved over and over again. On the 23d of last March the city of Galva, Ill., was visited by a destructive tornado. It is a coincidence that it occurred on the same day and practically at the same hour as the tornado that worked such havoc in eastern Nebraska. A farmer directly in the path of the tornado owned a large barn adjacent to which were other smaller buildings, a grove of trees, and immediately adjoining the barn was a vitrified hollow tile silo. The tornado demolished the small buildings, destroyed the grove, took the roof off the immense barn and carried a part of it for more than a half mile, but it left the silo intact and undamaged. A picture of the premises after the tornado had passed is shown herewith.

Later in the season a destructive tornado did much damage in the vicinity of Seward, Neb. On the Tipton farm, east of Seward, were farm buildings and two silos, one of them a wood stave silo, the other a vitrified tile silo. The buildings were wrecked, some of them utterly demolished; the wood stave silo was completely destroyed, but the tile silo passed through the storm without suffering any damage except the loss of a part of the wooden chute attached to it. A picture of this silo, with the surroundings, is shown in connection with this article. It would be a difficult matter to find material or method of construction

that would more successfully resist the fury of a tornado.

There are in general two methods of door construction with the vitrified tile silo. In one method there is a jamb block of vitrified tile with shoulders fitted for the purpose of receiving the door jamb. With the use of the jamb block, the door jamb runs continuously from top to bottom, and is held firmly in place. The shoulders for receiving the jamb piece being on the outside, will resist the pressure from the silage within. In the other style of construction, a channeled steel door frame is used, into which the vitrified tile are set imbedded in cement mortar. Either construction is good.

As with all masonry silos, a firm foundation is necessary in order to prevent settling. The ground should be excavated to sufficient depth to prevent the possibility of a settling of the foundation, and then the foundation may be built of concrete, or, if preferred, of vitrified hollow tile, laid so that the foundation wall will have a double thickness. In some sections of the country the materials for concrete are so difficult to obtain, and so expensive, that the vitrified tile will be found more economic for the construction of the foundation. The builder of the silo will take all these things into account to determine what kind of material he shall use.

Except where the materials for concrete are easily accessible and comparatively inexpensive, the vitrified tile silo will cost less than any form of concrete silo. The builder of a silo, as soon as he has determined the size of the silo that he wishes to build, will be informed by the manufacturers of vitrified tile as to the number of tile necessary for construction, and these will be sold at a price which lays them down at the purchaser's nearest railroad station. All that will be needed then will be cement and sand enough to make the mortar in which the tile lays, and an ordinary bricklayer to do the work. It is a difficult matter, with this question of original cost eliminated, to decide which is the better form of construction—the monolithic, concrete silo, the cement block silo, with cement blocks properly made, or the improved vitrified tile silo. Either of them is infinitely to be preferred to a wood silo, and either of them will answer fully to all demands that the silo owner may make upon them. It becomes, then, a question merely of expense or of predilection which form of construction anyone shall choose.

Volunteers Do Road Making in Missouri

Impossible to Estimate the Value to State of the Two Road Making Days Inaugurated by Governor Majors

Road Boss Riley Stamp, Assisted by Farmers, Florists, Merchants, Lawyers and a Newspaper Reporter

Blanche and Gladys Stamp, Aged 13 and 16, and Their Mother, Who Has Just Brought Their Dinner

By Edgar White

IN COMPLIANCE with Governor E. W. Major's proclamation of July 21 for everybody in Missouri to get out and work the public roads August 20 and 21, an "army" of between 250,000 and 300,000 responded. It is figured the state is a million dollars richer on good roads by the work of these volunteers.

The notice was almost too short for thorough organization, yet a great deal of systematic work was done. County courts reechoed the governor's proclamation and many of them offered substantial prizes to those districts showing the best work for the two days. There are good road clubs in nearly every community. These worked with the county court in providing material for concrete culverts and in mapping out certain bad places in roads for the special attention of the volunteer workers.

Thousands of places on the highways that were dangerous to travel the morning of the 20th were entirely out of the way before nightfall of the 21st.

The governor thoughtfully suggested to the women of the farms that they might share in the glory by providing fried chicken, roast beef, potatoes and garden truck generally, cookies, pies and doughnuts for the toilers, and they eagerly flew to the task, because the women of Missouri are the real backbone of the good roads movement.

Some women donned sunbonnets and went out on the highways with axes and grubbing hoes and made full hands in hewing down sprouts, weeds and other disfigurements alongside the roads.

Bankers, doctors, preachers, merchants, lawyers, farmers and editors worked like a band of brothers at the big job, gathering handsful of blisters and sore spots and a beautiful tan. The only thing antagonistic to the governor's road bee was the weather. Both days the mercury nearly all over the state was above 100, and the sun shot down arrows of heat. But the volunteers did not falter. They seemed to feel the same pride of accomplishment that a soldier does when he goes to war. So enthused did they become that they immediately began clamoring for another good roads matinee next year, when, they say, an army of twice as many will go out.

Many interesting signs were displayed on office and store doors. One on a lawyer's door in Macon, Mo., read this way:

"Out Working on the Roads. Why Aren't You?"

Banks closed and employes were told to shoulder a shovel or something and go out.

The governor couldn't have struck a more popular scheme. The papers, regardless of party, backed him up loyally, creating such a wave of enthusiasm for good roads that the indifferent man became a suspicious character. The governor himself, by way of example, went out and fooled with all sorts of road machines. His attorney general, John T. Barker, was sent to his home in La Plata to set a good example there.

In addition to the enormous value of the work done all over the state, the news went forth to the world that old Missouri had at last aligned herself in the good roads column. This will have strengthening effect on land and property of all kinds, because it was not so very long ago when the commonwealth seemed a bit behind on the matter of roads.

Some of the jobs set for "road day" could not be finished in the time limit, but the volunteers cheerfully kept on till the work was completed. This was particularly the case in much of the concrete bridge and culvert work. Some of the gangs on the Hannibal and St. Joseph cross-state highway gave ten or twelve days to the work, and not a man received or expected a cent of pay.

It would be impossible to estimate the net results of the work in dollars and cents. The impetus given the good roads movement is probably where the greatest future value lies. Communities everywhere are organizing and raising money to keep the work going right ahead. These organizations include farmers and the men of the town. There has been developed a wonderful spirit of fraternity between the two classes. Good roads are one great thing they have in common. It is said many of the country people didn't believe the city folks would get out and do real work, but they were mistaken. When they saw the tenderfoot army coming out in motors at 6:30 a. m. and asking to be directed to their work by a country road boss, they extended the glad hand, and right then and there the so-called barriers between town and country were handsomely "burned away."

Governor Major is so well pleased with the recognition given his state road working campaign that he is trying to get other governors to follow his example.

"Just think what tremendous value it would add to the nation if every state proclaimed two road-working days, and everybody got busy on the job," he said.

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

Begin to give the colts and the calves a small grain ration. No one has a right to expect big, generous live stock unless he is a big, generous feeder.

Deep fall plowing—deep that is deep, from twelve to fourteen inches—done at this time of the year, insures whoever does it in this way against drouth next season.

It is very gratifying to note that the position that the Twentieth Century Farmer has taken with reference to silo matters is so nearly uniformly endorsed by the agricultural press of the country, and by the agricultural colleges as well.

Why ship grain to market? It will save freight to market the finished product. Feed the grain to the live stock. In this way the feeder will keep his fertility on his farm instead of sending it out to the big markets ultimately to be washed through the sewers of big cities into the ocean where it will be forever lost.

Every potato grower should pay particular attention to the selection of his seed for next year's crop. He should remember that potatoes as well as animals are subject to the laws of heredity, and make his selection accordingly. The seed should be separately stored. It is better to send it to a cold storage house and have it kept in absolute darkness with the right degree of humidity in the air, and a temperature of 32 to 34 degrees, and under no circumstances should it be stored with the general crop.

Seed Corn Selection

Elsewhere in this issue is published the proclamation of the governor of Nebraska asking that the week beginning September 22 be set aside as seed corn week, and the selection of seed for next year's crop be made during that week. This is a very important matter, for reasons stated in the governor's proclamation, and should meet with prompt response from all farmers having corn adapted to seed purposes.

Practically all of the states of the corn belt have adopted a certain week as seed corn week.

The importance of the proper selection of seed corn cannot be overestimated. Some of the reasons are fully stated in the governor's proclamation. There is an added reason that should be specially emphasized:

Plants are as much subject to the laws of heredity as animals. The number of ears borne to each stalk, the height from the ground at which the stalk shall set its ears, the capacity of the stalk to produce and mature good ears, its general thriftiness, and vigor in vegetable growth, can be determined only by selection in the field. In selecting seed corn the application of the laws of heredity should be borne constantly in mind. It is the character of the stalk that determines the quality of the corn. And seed should be selected with this end in view. For this reason selection in the field is imperative.

In many parts of the Missouri valley seed corn will be scarce next year. This places an added obligation upon all who have corn that will be fit for seed to make a selection far beyond their needs, as there will be a great demand for home-grown seed of the right quality and right heredity.

Every corn grower should make special effort to secure this kind of seed in this way.

Professor of Agriculture

The professor of agriculture has become a staple commodity in the educational markets of the country. There are getting to be many sources of employment in which the trained agriculturist can be used to advantage in the operation of business interests aside from the profession of teacher or instructor in the agricultural college. The extension department of the agricultural college has made it possible for the trained agriculturist to find employment without seeking it.

The co-operative tendency that is being developed along every line of agricultural industry is rapidly opening up the way for a more thorough and comprehensive knowledge of farm and crop work. The farm supervisor or farm instructor for the county farm organization that is now so common in many states has given employment to many agricultural instructors. The position of foreman, or farm manager, of large farms and ranches has given opportunity for the agricultural college man to become profitably employed.

There is also a demand for the agricultural college professor, the man of more than ordinary ability and training, the man who as president, dean or head of the state agricultural college has made for himself a record and reputation as a leader in the promotion of agriculture in the state; the man who, through his ingenuity and suggestive talent, has been the means of promoting things and accomplishing things that are in advance of the common, follow-behind professor.

It is a fact that the western colleges have developed more good, progressive, serviceable instructors in their agricultural colleges than those in any other part of the country. Possibly the great agricultural and live stock oportunities of the western states have afforded them better advantages for proficiency in the practical features of study and investigation, in preparing them for service as instructors. At all events, they are in demand, and the higher salary gets them usually.

The college professor, like all other classes of labor, has his capital for investment wrapped up in his knowledge of how to do a certain line of things, and it is business for him to sell this to the highest bidder, on the best possible terms that can be obtained. This ambition is all right, and we are pleased to see so many ambitious young men of the west who are able to distinguish themselves by their superior ability, and thereby attract the attention of other states, through their colleges and large corporation interests, where better positions and larger salaries are offered and obtained.

The way to keep the best men for service is to pay the college professor what he is worth. He is worth what the market will pay for him. What would be the result in any feature of agricultural production if the manager would adopt the practice of disposing of the choice and retaining the culls, the inferior, the least desirable. This is exactly what the agricultural colleges of some states are doing. There is a demand for the best of everything in these times of money, progress and prosperity.

The commercial industries of the country, the large corporations and combinations of capitalists in the handling of lands, railroads, and agricultural interests, directly or indirectly, find it to their advantage to employ agricultural experts. They do not seek the boy or young man just fresh from the agricultural college; they have commenced making inroads upon the fields of agricultural instruction and agricultural work by starting at the other end; they commence at the top and get the best obtainable by offering attractive salaries. This basis of argument is fascinating; it is convincing; it is effective. What man would not feel flattered when offered double his present salary to take a position no harder to fill than the one he is occupying?

As in illustration of this present course of action on the part of business enterprise, we cite our readers to a few worthy examples: Prof. H. M. Cottrell, Prof. P. G. Holden, Prof. H. K. Watters, the latter having recently been offered a salary of $12,000, double his present salary in the Kansas Agricultural college.

Save the Fodder Now

The urgency now is to save the corn fodder, whether your crop has been seriously damaged by the hot weather and drouth or not. The corn fodder in its green state is too valuable a feed to be lost sight of because of the fact that you have hay enough to winter your stock. Hay will be bringing a good price before another crop is produced. Where the corn can be cut and shocked before frost comes, or before it is dried and damaged too much from the influence of the hot winds, it will make an excellent feed, especially when cured properly in the shock, then run through the feed cutter or ensilage cutter. This can be done as the fodder is demanded during the winter feeding season. In preparing a few weeks' supply at each cutting, or where there is plenty of barn space for storage, it may be cut and piled, if dry, without much danger from heating. Every farmer should have a power feed cutter, or an interest in one with his neighbor, so as to be able to prepare his corn fodder into the best form of feed.

The main thing now is to get all the silage space filled that you may possibly need; then cut and shock, so as to have the balance of your fodder in good shape to feed out to the stock in the winter. The green-cut fodder will mature the ears that it has produced and will make a very appetizing quality of feed just as fodder. But if run through the feed cutter it practically all becomes serviceable as feed, and will be taken by horses, cattle or sheep, and they will do remarkably well on it with a very light allowance of grain. Most farmers fully understand this. They only need to be reminded of it and prompted to save the better classes of commercial feeds, which may be sold in the market if there proves to be a surplus. This the economical use of the green-cut fodder will almost guarantee.

Grading and Packing Apples

The importance of educating the farmer in the marketing of his apple crop is practically as important as the knowledge of how to grow the crop. The time has arrived that the orchardist must understand the latest and most approved methods of picking, grading, boxing and barreling the apple crop if he is to get the best results. Apples are now sold in the market for just what they prove to be worth when opened up. The established system now adopted among fruit growers and fruit dealers means protection in condition and quality of the fruit handled.

In order to make this trade reliable and the product of the orchard bring the most money, it has been found that a system of grading, governing size and quality of the fruit must be observed, and that all boxes, barrels or packages must be guaranteed by a stamp plainly indicating this, with the name and address of the producer. This pilots the package on its trip from the orchard to the consumer or retailer, passing often through many hands.

The Iowa Agricultural College has put a train on the road that will cover the state, so far as possible,

spending several weeks lecturing to the people on apple culture, storage, sales methods and teaching how to pick, grade, pack and sell the crop. There will be five expert packers on this train, who will give demonstrations at each stop made. This excursion over the orchard districts will not only instruct the apple growers how to handle their fruits for the market, but will give them ideas of the co-operative advantage in concentration at storage points in order to have their fruit always within reach of the buyer when the demand is the greatest. As has been said, one man may produce, but another may be best fitted and situated to sell and get the best price that the market commands. Associations of fruit growers have learned that an expert sales agent is a profitable man to employ.

Vocational Training for Boys

The idea of introducing into the public schools of the cities a course of vocational training whereby the boy who cannot afford a complete college course, and the boy who is not disposed to stick to the high school until he has finished its course, can be fitted to take up some of the trades with some assurance of success, is gaining support from the best educators of the country. Many boys would be better off with a course of vocational training than a high school or a college education. The field for the mechanic and high-class laborer is a big one, and needs recruits from the better class of boys.

There are too many boys led off into positions that are of a temporary character, merely because they are not fitted for any occupation when they leave school, and have not had the importance of vocational training taught them and impressed upon them as a part of the school work. It will not hurt any boy to take a course in the manual training department of the high school. The use of tools often helps the boy to decide on what he naturally inclines to interest himself in doing. It can result in no disadvantage, and if he is interested in mechanical affairs, architectural drawing, etc., he is only opening up to his aspirations an ambition to get into line with some industry that is congenial to his tastes and natural ability.

The public schools of city and country will in the future move forward in supplying the boy and girl with a more complete education for practical purposes. There is too much time squandered on impractical studies for the best results of the boys and girls who have their own way to make through life. The other class can afford to be weighted down with the studies that fit into a college course. The boy has had but little presented to him of commercial value when he quits the eighth grade or the high school. This does not give him much in way of resources to go on. He is a creature of chance largely. He is not fitted for much of anything, and must develop slowly unless extraordinary opportunities chance to come in his way.

Too much cannot be done in the way of introducing vocational training into the public schools. Every state should discuss this subject and advance in its support by providing the means.

Cull a Little Closer

There is only one way of acquiring quality in your herd, and that is in culling out the tail-enders and retaining the choice specimens, those that correspond with your ideas of quality. If this course be pursued in any pure-bred herd, it will require only a few generations of animals until you will have something very desirable, something that will attract the attention of any good judge.

One of the very common sources of failure in building up a herd is in selling off the top and retaining the culls in the belief that you have the same blood in the less desirable ones and that they are just as likely to produce good stock as the fancy specimens. They may be equal in appearance and from the same sire perhaps, and the dams from the same sire, etc., tracing away back three of four generations in practically the same blood lines, and seemingly on a level as far as breeding is concerned, but one is far superior as an individual. Right here is where many breeders put too much stress upon blood, or rather put too little stress on the individuality of the animal. The individuality or type feature of the animal is a quality that all breeders are striving for, and just because an animal is a Shorthorn, Hereford, Galloway or Angus is no reason to suppose that he will produce what you want. You have your type, kind and character of animal in your mind, and you do not want anything else, and when you get an animal of the desired type, what do you want to do with it? Sell it to the first fellow that comes along and offers you a good price, and then take your chances of producing another? No, not if you desire to attain a reputation as a breeder. Keep it, and produce more, especially if it chances to be a female.

The system of culling out and culling closely is the only course to pursue in breeding up in quality, and if you cannot do this you might as well give up the breeding proposition, and not help to produce scrubs. Scrub full-bloods are more dangerous to the live stock industry than scrub grades, because they are more likely to be retained as breeders and thus help to discredit their own breed. It matters not what the basis of breeding is, the purpose should be toward improvement in quality. The improvement of grade herds is a commendable work, and the grade breeder of ambition and courage in his work is only a little behind his brother thoroughbred breeder. Cull out and cull closely, is the motto to be adopted by the breeder of all kinds of stock.

It is an economic crime to kill a calf that might grow into a beef animal. The person that eats veal comes under the legal head "accessory after the fact" as regards this crime. Any person that cannot deny himself the gustatory pleasure derived from eating veal in the interests of greater beef production should be condemned to a vegetable dietary.

78,000 Women Wrote Us About Their Clothes the Last 12 Months

Their own clothes and their children's clothes: all kind of questions: the new styles, the new materials: how to make over clothes: how to get the most out of little: what to do with what they had.

A whole staff of clothes authorities answers these letters: not in type or in the magazine, but by mail, quickly, directly and personally.

And every branch of clothes has its own editor: There is a Home Dressmaking Editor: a Millinery Editor: a Style Editor: a Children's Clothes Editor: a Needlework Editor, and so on, each an authority in her line.

This is what has made *The Ladies' Home Journal* such a power among its readers: the wonderful personal mail service of individual help behind it. To thousands of women it has become an institution.

Not a penny's charge is there for this complete service. It all goes to you, free, as a reader of, or a subscriber to, the magazine. A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

THE CURTIS PUBLISHING COMPANY
INDEPENDENCE SQUARE
PHILADELPHIA, PENNSYLVANIA

Minnesota Holds Successful State Fair

THIS fair has acquired the reputation of being called "The Big State Fair," and has justly merited this distinction from its very large attendance and fair grounds, both of which are important factors in the present-day big state fair. Minnesota is not big in these two qualities alone; it is big in its state fair equipment, in its buildings and accommodations to properly house and take care of an exhibit on its fair grounds.

The advantages of an amply provided exhibition grounds can never be appreciated, not even by fair managers and fair superintendents, until they have once experienced these conditions and come in actual contact with the facilities to install the exhibits properly and afford the visitors in large numbers abundance of room to see and study them. This is the crowning feature in the Minnesota State Fair. This is where the wisdom of its State Fair managers is plainly portrayed in their planning and building. Minnesota's State Fair grounds have been acquired at great expense. There has been a liberality in the state appropriations for buildings and equipment that no doubt at the time seemed extravagant, but now shows wisdom, a building for future generations to use and enjoy.

The large maintenance expense of taking care of these grounds is abundantly rewarded by its beauty and grandeur during the week of the fair, when hundreds of thousands of the people of the state gather to view and enjoy the beautiful floral decorations that are to be found along its sidewalks and parked spaces throughout the grounds. The large buildings have been erected to satisfy future needs. Their substantial structure means permanency, and this causes extraordinary effort to fill the buildings. Increased state fair sentiment has made Minnesota a great exhibition people, and the pride and interest taken in the fair shows for itself in every department.

Horticultural and Floral Exhibit

The horticultural building was one of the great attractions on the fair grounds and was crowded with curious visitors admiring the great display of fruits and beautiful floral exhibits. The apple show was a specialty. It was what many fruit specialists from other states called "a hummer." If this expression conveys the idea of a display hard to beat, seldom equaled, even in a mid-winter apple show, then it was really and truly "a hummer"—the first commercial exhibit of apples that we ever witnessed at a state fair. Boxed displays extended over a shelf and wall space of more than 2,000 square feet.

Besides this, the individual table show, or plate show, was one of the largest ever made at a state fair. The box exhibit was mainly by fruit growers' associations, and contained in varieties Greening, Dutchess, Oldenburg, Wealthy, Hebernal and Wolf River. The Wealthy is a great apple in Minnesota and shows a color and quality that makes visitors apple hungry. The premiums offered for fruit aggregate $2,000. Minnesota convinced the thousands of strangers who visited this department of the fair that fruits in great variety can be produced, the equal of any state.

The county collective display in agricultural hall was considered about equal to the best ever held in this department. There were thirty-eight counties represented, and a rather creditable exhibit was made. There was also a general classified display of vegetables. The individual farm exhibit carries the true educational incentive with it and is destined to supersede the old-time county collective contests now observed by many state fairs.

Dairy Display Well Housed

Why is it that the state fairs generally have small dairy exhibits, small apiarian displays, small educational and school exhibits? Because they have narrowed down the ambitions of their citizens interested in these classes of enterprise to a small space for their exhibits—a little corner, often, in some building whose main feature of display is possibly not in harmony with these departments.

The largest building on any state fair grounds, entirely devoted to the dairy industry and its products complete, from buttermilk to the finest quality of butter and cheese, is that of the Minnesota State Fair. This building is 140x150 feet floor measurement, and was full of farm dairy exhibition products and appliances for carrying on the manufacture of butter and cheese. Practically every cream separator now offered in the market was on exhibition. Tons of butter, in attractive forms and packages, were on display. The total prizes awarded for dairy products of the farm was $1,550. One thousand dollars of this was for butter alone. The prizes were awarded on the basis of the scoring system. The judging is all completed the first day of the fair in order to give fair visitors the educational benefits of the awards.

Minnesota is not especially a strong honey-producing state, but its State Fair grounds are equipped with possibly the largest and best apiarian building of any state in the union, a building approximately 75x150 feet. This building was filled from one end to the other with as fine a commercial display of honey and apiarian supplies as any expert could desire to see. There were power honey extractors in operation, where the one machine takes the frame of honey as it comes from the hive and extracts the honey from it, separates all cappings of wax, runs the honey through a piped heating process and deposits it into bottles, jars or large shipping casks. The cappings and waste from the combs are manufactured into commercial beeswax, a highly profitable commodity.

Large Live Stock Exhibits

The live stock departments were full, barn space all occupied. There was a very large display of horses, especially of the draft classes. Many breeders and importers from other states were present with exhibition and sales stock. In cattle there was a show not only of numbers, but quality, that is seldom found at a state fair. Minnesota is reputed to be in excellent feed condition to handle thousands more cattle than it possesses. This has helped to stimulate an increased demand for more pure-bred herds, and this sentiment is divided between the beef breeds and dairy breeds. Thus there is an advertising incentive to call attention of the Minnesota farmer at this time to the location of the best herds of cattle in the country.

T. J. Wornell, a well known breeder of Missouri, judged the Shorthorn classes, and again demonstrated his ability to be able to find the best animals in the various classes and to be pronounced in his decisions. A reversal of his decision, however, was made when a barren cow, Mabel Marshall, of the W. W. Brown herd of Amenia, N. D., was placed at the head of the class of aged cows. Dales Gift, a beautiful roan of the Carpenter & Carpenter herd, was given second place, and Roan Queen of Smith & White's herd, St. Cloud, Minn., last year's peerless leader in the Shorthorn showing of America, third. A protest soon followed, with the statement that Mabel Marshall had never produced a calf, and the decision was changed, excluding her from the contest. This brought her defeated associates up in the order placed by Mr. Wornell. As barren cows are barred from competition, it is very unfortunate that exhibitors present them, and force a public reversal of decision.

The dairy sentiment is very strong in Minnesota, and many fine herds of the various breeds were exhibited. The Holsteins, Guernseys and Jerseys were especially strong classes. The interest manifest about the show ring and barns where these breeds were exhibited, and the interest in the dairy building, was a key to the sentiment in milk production. The sheep department was full, there being breeders exhibiting from many states, representing all the country from Ohio on the east to Wyoming on the west. The swine department had also a good representative display in breeds and quality. The same could be said of the poultry. A very nicely balanced live stock exhibit tells the story.

Interesting Display of Tractors

An exhibition of tractors (not a plowing contest) showed thousands of interested farmers and land owners how to get their plowing done cheaply and in a hurry. There were a dozen or more tractors giving plowing exhibitions in a large area of smooth farm land adjoining the State Fair grounds. Everybody seemed satisfied, and the general expression was, "They are all able to do the work; one can scarcely make a choice." The exhibition was so satisfactory that many sales no doubt were made, and many have the tractor seed down in their brain soil and will be ready by next spring to send in their orders. The machinery department was the big feature of this fair when crowds of interested people and the space occupied are considered. Thousands of men and women thronged this division of the grounds all through the day and all week, seeing and inquiring. It was a display that no one could see in a week, except by walking straight through.

The baby show, as it is usually termed, was one of the new features at this fair. This department was in charge of Dr. Frederick Kuhlman, psychologist at the State School for the Feeble-Minded. He instituted at the State Fair the modified Binet-Simon system for testing the mental development of children. By various means he attempted to measure the mental faculties of the child from 1 to 3 years old by offering them pleasant and unpleasant things to eat and drink, by talking and amusing them, etc. The Binet-Simon system was developed five years ago by two Frenchmen, whose names are used to designate this system. It was first used in deter-

GROWING STRONGER
Apparently, with Advancing Age

"At the age of 50 years I collapsed from excessive coffee drinking," writes a man in Mo. "For four years I shambled about with the aid of crutches or cane, most of the time unable to dress myself without help.

"My feet were greatly swollen, my right arm was shrunken and twisted inward; the fingers of my right hand were clenched and could not be extended except with great effort and pain. Nothing seemed to give me more than temporary relief.

"Now, during all this time, and for about 30 years previously, I drank daily an average of 6 cups of strong coffee—rarely missing a meal.

"My wife at last took my case into her own hands and bought some Postum. She made it according to directions, and I liked it fully as well as the best high-grade coffee.

Improvement set in at once. In about 6 months I began to work a little, and in less than a year I was very much better, improving rapidly from day to day. I am now in far better health than most men of my years and apparently growing stronger with advancing age.

"I am busy every day at some kind of work and am able to keep up with the procession without a cane. The arm and hand that were almost useless now keep far ahead in rapidity of movement and beauty of penmanship."

Name given by Postum Co., Battle Creek, Mich. Write for copy of the little book, "The Road to Wellville."

Postum comes in two forms:

Regular Postum—must be well boiled.

Instant Postum is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water, and, with the addition of cream and sugar, makes a delicious beverage **instantly.**

"There's a reason" for Postum.

mining the mental alertness of persons much older than the infant class. Five to 15 years old was the age to which it was usually confined. It is only recently that it has been applied to the infant class at the baby show.

Two years ago, at the Iowa State Fair baby show, it was first applied to occasions of this kind. It is now, in 1913, used in possibly a score or more state fair baby shows. Dr. Kuhlman has had a wide experience in this work, making more than 2,000 tests. In addition to the mental tests the babies are given physical and health tests, in which the skin, muscles and organs are examined. A large corps of physicians and surgeons were in attendance assisting the doctor in his work.

Ninety-one farmer boys, representing this number of counties, were present, and, under the supervision of Dean Woods of the Agricultural College, listened to talks given by Governor Eberhardt and other prominent citizens of the state. These boys were made a part of the fair by ushering at the grandstand, live stock pavilion and other places where large crowds congregated. They were the busiest officials on the fair grounds and the best informed as to the location of buildings on the grounds.

There were scores of educational exhibits in the various buildings conducted by woman's clubs and associations of local and state importance. The State Agricultural College and University had their exhibits distributed about the grounds, teaching forestry and instructing in soils and the mineral wealth of the state. The startling information given out in the mineral department that Minnesota mined 62 per cent of all the iron ore produced in the United States in 1912 set people to thinking of this state from the viewpoint of a mineral wealth producer.

South Dakota's Best State Fair

THE South Dakota State Fair held at Huron September 8 to 13 was conceded to be the most successful yet held within the state. Favorable weather aided in securing a large attendance. On Wednesday and Thursday record crowds were in attendance, upwards of 40,000 people being on the grounds each of these days. On Thursday over 1,100 automobiles passed the gate. Such a number of cars not only gives proof of the popularity of the state fair but also of the prosperity of the state's agricultural interests.

Exhibits in all departments were large and quality was surprisingly good. Apples and other fruit of size and merit were fully equal to those displayed at Nebraska the week previous. While the corn was scarcely of so large a type as grown in Nebraska, yet the exhibits were made up of well-matured, shapely ears, such as would weigh out well to the acre. A large collection of pheasants, ducks, geese and other game birds formed a mecca for visitors' attention. They were confined in a large park, in the middle of which was a beautiful lake.

Despite drouth in some parts of Dakota, the people who attended the fair were free spenders. An unusually large number of side shows, merry-go-rounds and other such attractions received a constant patronage. Concessionaires seemed to know ahead that Dakotaites were there with the goods, and talk had it that the majority of the concessions from both the Minnesota and Nebraska fairs were there.

Buildings and Accommodations.

The Fair association has recently purchased fifty additional acres and already has a splendid machinery hall and dairy building erected upon this tract. While the buildings on the Huron grounds are not as large as those of older state fairs, yet they are well arranged and artistically designed and the lighting facilities in them are such that all exhibits can easily be seen.

Huron is a rather small town to hold so large an event as the South Dakota state fair. It is hard for a burg of 7,000 to find suitable accommodations for 40,000 extra people. Yet this was accomplished reasonably well. The Commercial club secured a list of all available rooms and did its best to keep the price of them reasonable. Eating houses were sadly overtaxed, however, and visitors were inclined to feel the same way after visiting any of them.

Good Showing of Horses

The live stock department was indeed praiseworthy. Many horses and cattle came direct from the Minnesota fair. Others came from the Nebraska fair, while South Dakota sent forth an unusually fine showing of its own stock. The South Dakota-owned horses formed a string reaching two-thirds of the way around the half mile track in the parade on Thursday afternoon. A splendid showing of Percherons featured the horse department. There were considerably over 100 of this breed there, and classes averaged from eight to twelve entries each. Eleven yearling fillies proved to be the sensation of the show. They were an extremely smooth, typey bunch with uniformly good breed character. Quite a large display of Belgians were on the grounds. Eight aged stallions formed the largest class of these. Charles Irvine of Ankeny, Ia., secured both championships. Two exhibitors were on the grounds with Suffolk Punches of good type and scale. There was one aged stallion weighing 2,100 pounds. There were also two herds of Clydesdales, both containing animals of exceptional quality. One exhibitor of Shires, two of Shetlands, four of trotters and one of Coach horses constituted the bulk of the offerings. H. J. Gramlich of Lincoln, Neb., judged all horses.

Cattle Display Satisfactory

The cattle show was considered the best ever put on at Huron. Shorthorn classes were large and quality good. The Saunders entries from Manilla, Ia., made good in their usual manner. South Dakota herds were represented largely and many choice individuals were led out. Prof. F. R. Smith of Minnesota judged Shorthorns in his usual highly capable manner. Charles Escher, jr., of Botna, Ia., judged the Hereford and Angus cattle. Classes were quite large in both of these breeds. One herd of Missouri Doddies was entered. A good showing of Holsteins, representing three states, made up the dairy cattle show. Wilson Rowe of Waterloo, Ia., judged all hogs. While this show was not as large as usual, due to the prevalence of cholera and drouth in many sections, yet there was a worthy display. Durocs, Polands and Berkshires formed the show.

Credit is due President W. S. Hill and the other managers for the capable manner in which they handled all the problems of the big fair. Everything went off smoothly and everybody seemed satisfied.

A good deal of the talk about currency stringency caused in moving the crop to market is buncombe. Intended principally to serve the interests of the big financiers. If farmers that sell their grain leave the money in the bank and do their business through checks exclusively, most of this money stringency would disappear. A farmer's check, with a deposit in the bank to make it good, makes an elastic currency, as well as the check of the government. More than 96 per cent of the business of the country is done, not in cash or currency, but in tokens of credit, and of these tokens of credit a certified check is as good as any.

Nebraska Seed Corn Week

THE experiences of successful farmers and the results of tests made by experiment stations show conclusively that proper selection and care of native-grown seed corn always results in seed of strong germinating and high yielding power.

It is especially important that we should use care this year because sections of our state have been visited by a severe drouth, which will leave some farmers without seed. In most of these sections, however, there are those who can save sufficient seed for many of their neighbors. If they fail to do so, these neighbors will be required to send away for seed. A test made at the Nebraska Experiment Station shows that seed from other states has averaged 6.2 bushels less per acre than native-grown seed.

Stalks of corn which have withstood the severe conditions of the season and still produce ears show great vitality. Seed from such stalks should be the very best. Nature has helped this year in eliminating the weak plants, and we should use every effort to save our seed from the winners in the battle of the survival of the fittest.

If it is impossible to secure seed in the immediate neighborhood, the farmer should go no further from home than is absolutely necessary. It is always better to secure seed from the north than from the south. For these reasons it is urged that the farmers in the more favored sections of our state carefully save a large amount of seed.

Where it is impossible to secure good seed of this year's crop, it may be possible to locate some of last year's corn. If the germinating power of old corn is good, it will ordinarily give better results than seed brought from a distance.

If these precautions are observed, it will not be necessary for any Nebraska farmer to go far from home for seed, and thus the yield of corn for next year will not be decreased because of imported seed, but will be increased because of careful selection.

Our Experiment Station at Lincoln will be glad to send bulletins on "Selection and Care of Seed Corn" to all inquirers.

With these things in mind, I urge the early and careful selection of seed corn, and designate the week beginning September 22, 1913, as "Seed Corn Week." Its general observance will insure a sufficient amount of native-grown seed for our 1914 crop.

Given under my hand and the great seal of the state of Nebraska this, the 9th day of September, 1913.

JOHN H. MOREHEAD, Governor.

Suppose We Give You $25 —That's practically what we do. $5 or $25 or $30 or $40 different sums depending on which Kalamazoo Stove you buy. You keep the dealer's profit. You get your stove direct from the Kalamazoo factory. It's shipped the day your order comes. You try it for 30 days *free*—and if you keep it you can still send it back any time within a year if you're dissatisfied with its work. We pay freight charges.

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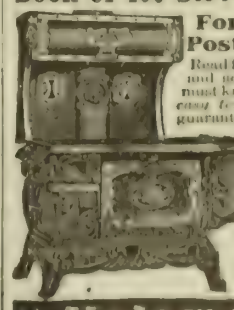

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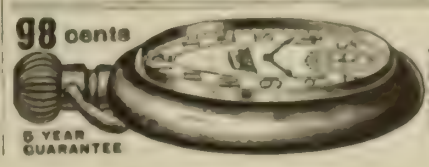

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What Might Have Been.

Words by BARTLEY C. COSTELLO
Writer of "My Love I Dare Not Tell," etc.

Music by J. S. NATHAN
Composer of "Senora," "My Cavalier," etc.

Andante moderato

f

What might have been! Oh! sad, sweet
I saw a boat drift out to

p

thought; When mem-'ry's gates are o-pened wide, What wist-ful long - ing in my heart, to turn back
sea, And watched it wend its aim-less way, I pit - ied it, for just like me, 'twill drift a -

mf

time's re - lent-less tide; To kiss your lips of cher - ry red, To smooth your hair of gold - en
long from day to day; Un-cared for, with no guid - ing hand to steer where wel - come bea-cons

mf

sheen; I won-der if you too, like I, Sigh ev - er for what might have been.
gleam, Too late to turn back to the past, Too late now for what might have been.

CHORUS

What might have been! I dream of, sleep - ing, walk - ing, How sad the day when doubt first came be -

mf

tween; And oh! my heart is sigh-ing, ach - ing, break - ing, And vain - ly long-ing for what might have been.

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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

The Scarlet Tanager

A flame went flitting through the wood;
The neighboring birds all understood
There was marvel of their kind,
And silent was each feathered throat
To catch the brilliant stranger's note,
And folded every songster's wing
To hide its sober coloring.

Against the tender green outlined,
He bore himself with splendid ease,
As though alone among the trees,
A glory passed from bough to bough—
The maple was in blossom now,
And then the oak, remembering
The crimson hint it gave in spring,
And every tree its branches swayed
And offered its inviting shade.
Where'er a bough detained him long,
A slender, silver thread of song
Was lightly, merrily unspun.
From early dawn till day was done
The vision flitted to and fro.
At last the wood was all alone;
But e're the restless flame had flown,
He left a secret with each bough,
And in the fall, where one is now,
A thousand tanagers will glow.
—Mary Augusta Mason.

When Lowell wrote his beautiful poem about spring in which he said,

"The little bird sits at his door in the sun,
A' tilt like a blossom among the leaves,"

he surely had in mind the scarlet tanager. At that time there were almost as many tanagers about as there are robins now, but so many ladies have worn their poor little bright colored bodies as hat trimmings that there are not many of them left.

The tanager is a tropical bird, which comes to us in the late spring and stays until October. When the tanager comes, the male bird is a brilliant red with black wings and tail, and the female is a greenish yellow. Their song is soft and sweet. Later in the year the little gentleman bird begins to lose his lovely coat in patches and gets all rough and spotted for a while, and in the latter part of the summer he is no prettier than his plain little wife.

After the tanagers have arrived and chosen their mates, each pair builds a rickety, tumble-down nest on a low branch, where cats and improperly brought-up children can easily get the eggs and little birds. The tanager family needs our especial care, being so trustful and careless themselves. The little mother-bird lays four eggs of a pale green color, with brown spots, and she takes all the care of them. Her mate remains away from the nest most of the time, perhaps because his bright color would attract their enemies. Often you may see him perched on a branch, swooping down now and then to catch a fly or other insect on the wing. Tanagers live mostly on insects, caught sometimes on the wing and sometimes picked up from the ground. They eat weed seeds and a few berries, but not enough to do any harm.

The scarlet tanager is very easily tamed. One spring one of these birds flew into a cigar store in a city, perched on a cigar case and sang. He stayed there several months and was a great pet of all the men who frequented the place, but in the late summer he drooped and died, perhaps of homesickness for the cool green woods.

The southern children know the summer tanager and the cardinal, which are red all over, and the cardinal wears a crest, but our black winged tanager is our most brilliant bird and is becoming scarcer and

scarcer each year. If you are lucky enough to find a pair in your grove in the spring, do your best to help them bring up their family in safety.

THE EDITOR.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

(Prize Story.)

The Auto Man

By Joseph A. Hurtz, Aged 14, Wymore, Neb.

A fellow that is a demonstrator for an auto company up on Broadway pretty near lost his job the other day. He pretty near lost it partly for busting in the front of a car and partly for laughing. You know what those auto demonstrators do? They just ride around in a machine all day showing people how nice it runs, so they will fall for one.

Well, the firm got a letter from an old guy in New Jersey that had a farm and a bundle in the bank. He had never had any personal acquaintance with an automobile, but he had seen them scooting by on the turnpike and thought perhaps he would like one. So the demonstrator was sent over to give the old duck a ride.

He did it all right. They covered most of the north part of New Jersey and the old boy thought it was great sport. Just as they got back to the farm, something went wrong with the car. The demonstrator tried to pull up to the front gate, but it skidded and butted into a tree. The old man and the chauffeur went sailing out and lit about twenty feet away. Neither of them was hurt, and when the farmer picked himself up, he said, "Say, I liked it all right, but how do you stop it when there are no trees around?"

That is how the demonstrator came to be laughing when he ought to have been telling the boss how sorry he was he had busted the car.

(Honorable Mention.)

Agnes' Rule

By Zora Mowrey, Aged 13, Arcadia, Neb.

Agnes came down the lane with the mail in one hand and a large paper box in the other. Grandma Houston had sent them something. She opened the box as soon as she reached the house. She placed the articles on the table and on each article she read a name. A pretty new dress for mamma, a new silk handkerchief for papa, a ball for baby Robert, a pretty watch for Walter, and last of all a two-foot rule on which she read "Agnes."

"Are you sure it is for you, Agnes?" asked her mother.

"Yes, mamma, it says, 'for Agnes,'" she replied, looking closer at the name.

"Do you remember last week when grandma was here you said the creek was forty miles across and it took you an hour to cross it when you went after the cows? And your new slippers were a half mile too long? Stop and think what she sent it for," said her mother.

Agnes thought a moment and then looked up with a blushing smile. "I know," she said. "She wants me to measure my stories with the rule."

Whenever she started to tell an outrageous story she would think of the motto, "Always measure your stories with the rule."

Spotty

By Vera Safourek, Aged 12 Years, Richmond, Ia.

I have a little sister whose name is Elsie. She is nearly 4 years old now. When she was 2 years old we had four small kittens, one of which was spotted, black, yellow and white. Elsie claimed this kitten for her own and we called it "Spotty."

Elsie was very fond of Spotty, and the kitten was just as fond of her. When Elsie was ill and cried, Spotty would come to her, rub and love around her and then climb up into her lap. When Elsie took her nap in the daytime her little pet would get up on the bed and go to sleep with her. If Elsie was rough with Spotty, the kitten would run away from her and Elsie would begin to cry. Then Spotty would stop, look at her a minute and then come back and play with her again.

When Spotty had grown to be a big cat she died. Elsie was very lonesome without her and talked about her nearly all the time. It was a long, long time before she forgot her.

Additional Stories

Edwin Hoppe, Jansen, Neb.; Catherine Hoppe, Jansen, Neb.; Hazel Hedum, Moorhead, Ia.

Picture Contest No. 6

You are each expected to write a four-line verse about this picture. The two children writing the best verses about this picture will each receive a book as a prize. Write plainly in ink, giving your name, address and age, and send the verse to Picture Contest Editor Twentieth Century Farmer, Omaha. In awarding the prize, consideration will be taken not only of the merit of the verse but of such things as age of contestant, neatness, spelling, punctuation and a careful observance of the rules.

All verses must be received at this office on or before the 11th day of October. Awards in Picture Contest No. 5 will be announced in the next issue.

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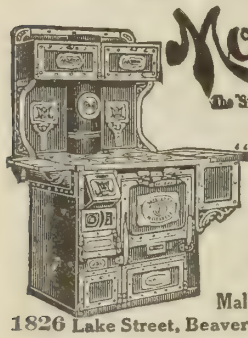

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Of Interest to Our Women Readers

Hide and Seek

It was an old, old, old, old lady,
And a boy that was half-past three;
And the way that they played together
Was beautiful to see.

She couldn't go running and jumping,
And the boy no more could he,
For he was a thin little fellow,
With a thin little twisted knee.

They sat in the yellow sunlight,
Out under the maple tree,
And the game that they played I'll tell you,
Just as it was told to me.

It was hide-and-go-seek they were playing,
Though you'd never had known it to be—
With an old, old, old, old lady
And the boy with the twisted knee.

The boy would bend his face down
On his one little sound right knee,
And he'd guess where she was hiding,
In guesses one, two, three!

"You are in the china closet!"
He would cry and laugh with glee—
It wasn't the china closet,
But still he had two and three.

"You are in papa's big bed room,
In the chest with the queer old key!"
And she said, "You are warm and warmer,
But you're not quite right," said she.

"It can't be the little cupboard
Where mamma's things used to be,
So it must be the clothespress, gran'ma!"
And he found her with his three.

Then she covered her face with her fingers,
That were wrinkled and white and wee,
And she guessed where the boy was hiding,
With a one and a two and a three.

—H. C. Bunner.

Our Home Chat.

A character in a well known novel is made to say, "I think I have as much sympathy as anyone, but when a body wants me to put a spigot in and let it run all the time, I find it does give out." Who has not a friend, relative or acquaintance who has a tale of woe to tell every time you see her? She is constantly asking for and expecting sympathy. Sometimes she has real troubles and deserves pity; oftener her troubles are merely imaginary.

There is a charming woman of my acquaintance whose fount of compassion never seems to run dry. It is almost a pleasure to be in trouble just to experience the swetness of her sympathy. She draws the sad and distressed to her as a field of clover draws the bees. Her home is a refuge for the afflicted, from the tearful young creature who didn't get an invitation to the last dance, to the widow left penniless with three small children to care for. No one who sees her goes away quite so hopeless as she came. Such a power for comforting and strengthening others is a beautiful gift. It is a privilege to have such a friend. But do people appreciate it? Do they realize that such sympathy costs the giver something? They take advantage of it certainly, and use her time and strength as if it were their own. Her work taxes her powers to a great extent, but her friends take no account of that. Weary as they know she often is at night, they flock to her with their woes and use the time she should have for rest and recreation. Often she spends the strength she needs for her own work in comforting someone who needs help less than she, herself, does.

The gift of sympathy is a great gift, but have we any right to impose upon others just because they help us? Is it any compensation for an evening or afternoon of rest or enjoyment missed to have someone say, "O, you have helped me so much?" It is a bad habit to get into to—that of telling all our difficulties and perplexities instead of working out our own problems, and our friends are perfectly justified, when we have acquired this habit, in running when they see us coming. And besides, the more we talk about our troubles the faster they seem to multiply.

THE EDITOR.

The Girl and the Home

In my young days I seldom heard the remarks among my girl friends then that I hear from my girl friends now. You would think, to hear many of the girls talk, that they actually hated kitchen work as the devil is supposed to hate holy water. "No washing and ironing for me," says one. "I despise sweeping and washing dishes," declares another. "No early rising in mine," asserts another, "and neither do I cook for hired hands as my mother did." "I hate cooking, anyway," adds another, and so on through the whole rigmarole of domestic duties that you should expect to do if you marry a working man, and most of you will.

The girl who talks this way often thinks better afterward, but not always is this the case. Through ignorance of what she promised tacitly in her marriage vow, she sets out to make trouble for her husband forthwith in refusing to do her share.

I wonder how it would sound for a young man to be everlastingly bragging how he was going to keep from doing his share of making a living for the woman he was to marry? Wouldn't you think he was a poor, no-account stick of a man? Now, what do you suppose a young man worth while thinks when he hears you making plans to get out of keeping your own house as far as it lies in your power to keep out of it? No wonder that many young men nowadays take a long time in making up their minds about marrying. To be expected to make the kind of a living a girl expects to have made for her today, and get the domestic return shorn of everything that means muscle work on her part, is enough to put most young men to their wit's end when it comes to making up their minds in this question.

IDA M. SHEPLER.

The Lunch Box

School days are with us once more, and lunch boxes must be packed, in many cases, for the lads and lassies.

Try and make them as daintily and wholesomely attractive as possible, as well as nourishing and well balanced, if you would keep the little people in good trim and get the best results both in work and deportment. Remember that the digestion may be ruined for life during the first few years of a child's life.

Lay in a stock of paraffin paper and wrap each article of food as it is packed, for nothing so thoroughly spoils an otherwise good lunch as bread, meat, cake and pickles reposing side by side, each having acquired the flavor of the other.

Do not allow too much sameness to creep in from week to week. Slip in occasionally some little extra as a surprise. Grownups are too apt to forget how long and hard the school day is to a growing child, particularly if of a high-strung, nervous disposition, and a tempting lunch, supplying necessary elements for nutrition and repair, makes the afternoon go with an easier swing and keeps the vigorous, clamoring little engine that works the young life strong and lusty and in good trim.

See that the box is thoroughly aired and scalded each night, else it will become musty and the fresh food take on an unpleasant taste after being within it a short time.

Sandwiches may be gotten up in a variety of ways, and many "left-overs" used, thus giving a welcome change from day to day, but see that the bread is cut evenly and thin and well buttered.

For a change from the time-honored meat sandwich, try occasionally a filling of soft cream cheese, into which a quantity of chopped or flaked nut meats have been mixed; a potato salad filling; lemon butter filling; egg and lettuce sandwiches; a teaspoonful of mayonnaise with fish filling. The cream cheese and nut filling is particularly nutritious.

Plan always to have some kind of fruit, either fresh or dried, in the box. Apples cannot be improved upon. Besides being a relish they are a most desirable tonic for the system. Raisins, too, are particularly nutritious, while dates and bananas are two of the most perfect foods known, but the banana, in order to be readily digestible, must be dead ripe, the skin slightly muddy in appearance and covered with small brown spots.

Peanuts and popcorn supply just those heat-producing, fat-forming elements which the system requires in cold weather; likewise sweet chocolate.

The fact should not be overlooked that a child's craving for sweets is normal and healthy; but supply them in a wholesome form. Sweet chocolate, corn balls, maple sugar, a sandwich filling of moist brown sugar, are much better for the child than an over-abundance of pastry, which, even in children, clogs the system, causing headache and biliousness.

LOU D. STEARNS.

Timely Recipes

Spiced Grapes—Pick from stems six pounds of ripe grapes, separate pulp from skins. Cook separately in kettles; after cooking thirty minutes each, mash pulp well through a sieve, then add to the skins, with one cup of vinegar, teaspoonful of cloves, cinnamon and allspice. Boil until thick and put in jelly glasses.

Pickled Berries—Make a syrup of four pounds of sugar and pint of vinegar, bringing it to a boil. Drop in berries, cook until they are tender and seal in jars. Do not use any spices.

HELEN A. LYMAN.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6234—A Practical Waist—This design is to be classed with shirt-waists. It has two tucks at each side of the front, but the back is plain. The closing is made with a box plait, or without, as preferred, and the neck is trimmed with either a standing collar or a flat, ornamental one, both being provided in the pattern. This style is good for crepe materials, linen, gingham, cambric, pongee and the like. The pattern 6234 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2½ yards of 36-inch material.

6186—Misses' and Small Women's Dress—This dress is made with a tucked skirt. The skirt can be made with either the high or regulation waistline. The dress is made with a sailor collar. Serge or linen can be used to make this dress. Pattern 6186 is cut in sizes 14, 16 and 18 years. Medium size requires 4¾ yards of 36-inch material.

6172—A New Four-Gore Skirt—For all tailor-made styles and also for many others the skirt with pleats somewhere about it is a pronounced favorite. The illustration shows one of the latest ideas along these lines. The four gores give a center back seam, and the side front seam provides a convenient place for the closing. The small cluster of pleats inserted at the lower edge gives a little welcome freedom in walking. The skirt pattern 6172 is cut in sizes 22 to 30 inches bust measure. Medium size requires 3¾ yards of 36-inch material.

6199—Child's Dress—The smart little dress offers several novelties in its construction. It is virtually of sacque cut, although it has a little skirt of three pieces. These are so flat and continue so well the outline of the upper part of the dress that they are hardly noticeable, the more so as they continue with the waist a considerable distance to help. The dress pattern No. 6199 is cut in sizes 6, 8 and 10 years. Medium size requires 2⅝ yards of 36-inch material.

6038—Boys' Suit—This outfit will lend a very deep yoke in front and back, a wide sailor collar and a sleeve with a pleat down the outside. The knee tights pull on over the head and may have tucks down the front or not, as desired. The trousers are gathered at the knee. Poplin, serge, linen, heavy gingham and similar materials are used in making these suits. The suit pattern No. 6038 is cut in sizes 2, 4 and 6 years. Medium size requires 2¼ yards of 36-inch material.

8266T—One-Inch Scallop. The pattern consists of three yards of fancy scalloping with a design in French and eyelet or solid embroidery.

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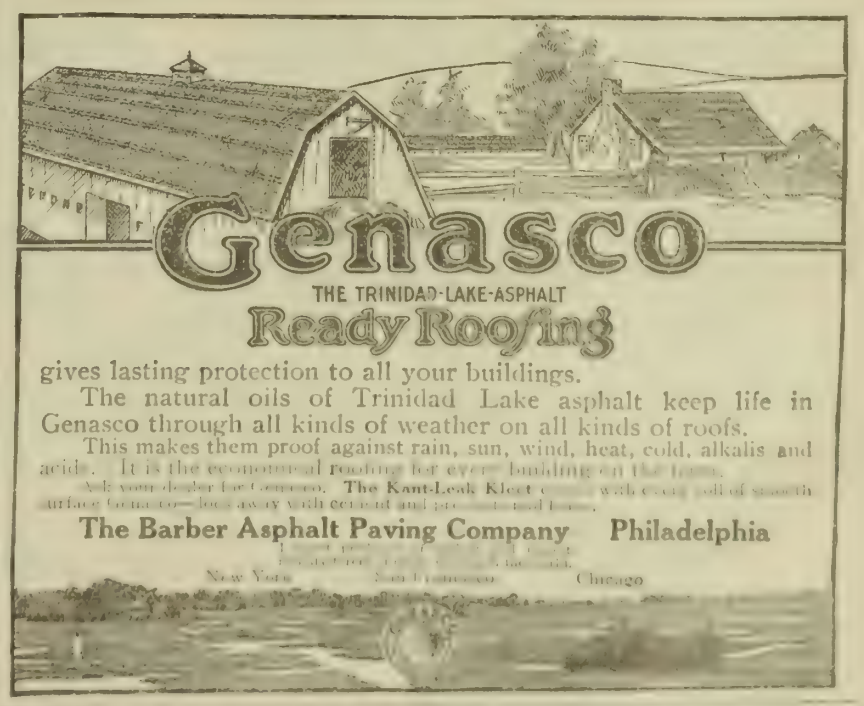

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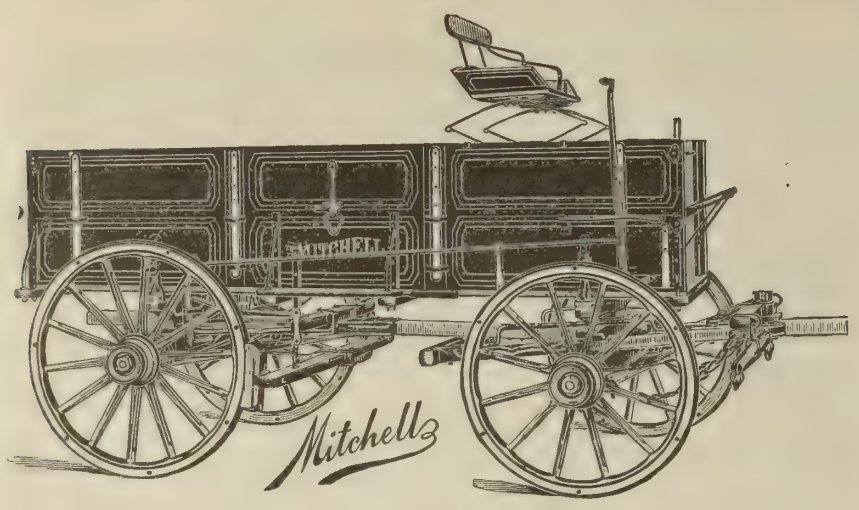

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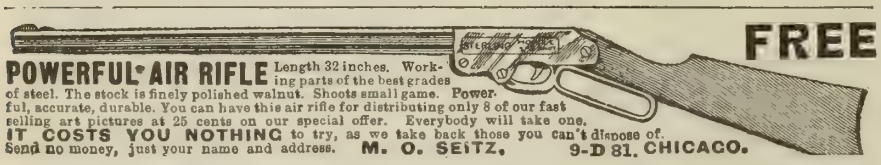

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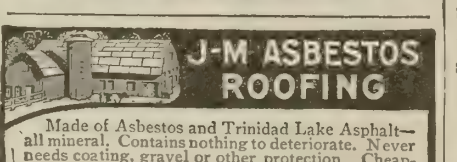

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Timely Items of Interest to Poultry Raisers and Fanciers

Old-Time Stone Bruise

Powderville, Mont.: Can you tell me what is the matter with a rooster that is very lame? The ball of the foot seems to be swollen. Last year we had one in same fix. We lanced the swelling, but nothing came out except some blood. The bird gradually grew worse and died.

Answer—it might have been rheumatism, or a mere hurt to the foot that caused an inflamation; but if rheumatism, the whole leg would have been involved before death; and if a mere hurt, it would have recovered. Both cases are likely to have been due to continued bruising of the ball of the foot by repeated jumping from high roosts or high fences on hard floors or ground, or the roost being too small and the nails of the foot rubbing into the tender foot ball.

This is called corns, bumble foot or stone bruise. An abcess sometimes forms very close to the bone, and from long suffering the fowl may dwindle and die. For a first remedy soak the inflamed foot in warm water often, and put the fowl by itself in a straw bottomed coop or a grassy spot. If this will not reduce the inflamation in a couple of days then a sharp knife must be inserted deep into the trouble, and this wound washed out every day with peroxide, then poulticed and bandaged. As a rule, if this is done and the bird kept quiet, it soon recovers.

Several Questions

M. D. F.: Will you kindly answer a few questions for me in your line of work? Would seven acres—which space includes a small house and stable yard—be enough ground on which to build up a poultry plant? Is it true that certain flocks of chickens show a tendency to die of apoplexy? Can you yard leghorns successfully? Where would I find headquarters of the Rhode Island club? What do you think of hollow tile for a poultry house?

Answer—Seven acres would be enough. On this you could raise much feed and green stuff for the fowls. You must yard them away from using all of the ground all of the time. Yes, certain flocks show a tendency to apoplexy. Flocks that are closely inbred will show many individuals given to this trouble. Leghorns are yarded successfully, but not so successfully at all times as some of the larger breeds. Write to W. H. Card, Manchester, Conn. Hollow tile, so claim is made, is best of all materials for a poultry house that is to be stationary. It is both moisture and vermin proof, and can easily be built rat proof. It will not burn or need repair. It will keep out cold in winter, heat in summer. Could more be said?

Poultry Truths

Uuless you are an expert in poultry breeding, better buy new blood in the male line every two years. But get as good as you discarded. Get stock from heavy laying hens. You cannot get good layers by any other system, whether it be by lucky chance or forethought on your part.

***

Mated pigeons are true to each other and live in harmony with all other mated pairs. The male helps the female build the nest, and helps her feed the young. He also shares the brooding time. She will usually come off the nest at 10 in the forenoon, and immediately he takes her place on the nest. She will remain off until something near 4 in the afternoon, when she resumes her duty until the forenoon hour next day. He stays on guard nearby.

***

Crowding chickens in close quarters often makes them cannibals. They want to eat each other up. More often than not they start on the head, but I have known them to begin on the feet and literally eat them off. Young chickens or pullets make the worst cannibals. Quite often simply changing to fewer in the pen will remedy the trouble and if this will not do, giving them good range will entirely change their bloodthirsty desires.

***

The best of English poultry authorities ascribes our great lossess in poultry breeding to the immature stock we use. How true this is on the farm, and how widely spread. "No breeder should breed from less than 2-year-old hens," this authority declares. "If this were the rule, we would have hardy breeds of fowls and few poultry afflictions." Of course this is not a new doctrine. Most of us knew it. It will hold good if the 2-year-old hens are strong and vigorous, but it is not always true on the other side, as the year-old male, strong and healthy, will produce hardy chicks.

***

Don't allow yourself to be prejudiced in favor of any one breed because someone has succeeded with it; you can have success with any popular breed by giving the requirements of the breed careful thought. The man without experience should never begin with the fancy, and even with experience he must have the money necessary in this line to buy the best. Egg farming pays best for the person with limited capital and time, as its problems are more easily acquired.

***

When the weather begins to turn cool and the insects to disappear then you must increase the home feeding of the growing turkeys. Don't begin feeding heavily at first, but increase after a bit. Don't try to confine them. Feed enough so that they will come up regularly for their feed, and don't feed them with the chickens. This is one way they learn to get lazy and hang about, and next thing they are diseased. Feed old corn, and alternate this with wheat. Give occasional feeds of soaked oats. Put bran slightly salted out dry for them to pick at. If you have plenty of sour milk set this out regularly for them. This promotes digestion and heads off intestinal trouble.

IDA M. SHEPLER.

Blocks of wood can be hardened and waterproofed for a number of purposes by boiling for a few minutes in olive oil.

Interesting Talk with Secretary of Agriculture

By Frank G. Carpenter

WASHINGTON, D. C., Sept. 13—This letter is about the great American Abraham, the patriarch of our agricultural interests, boss farmer of the United States. I might rather say the boss of the farmers, for it is about the man who is at the head of our great farming industry, the one whom of all others Uncle Sam has chosen for the next four years to devote his time and brains to the bettering of the farm and the farmers.

I refer to the new secretary of agriculture, David Franklin Houston, a live man in a live place, and the place which many think is just now more important than any other on our big patch of this great, round earth.

David Houston is at the head of our agricultural industry. Do you understand what that means? He is in charge of the business that makes the wheels of the United States go round. He has the keys of the treasure vaults which fill our pockets and furnish the money to remedy our financial mistakes. He is the boss workman over the mine out of which we annually take thousands of millions of dollars, knowing that an equal or greater sum will be hoisted up the same shaft year after year for generations to come. The output of that mine last year was $9,500,000,000, and within the last sixteen years, according to Secretary Wilson, it has amounted to more than $105,000,000,000.

What the Figures Mean

One hundred and five billion dollars! The sum gives no idea except that of big figures. How much is it? Is there anything that will give us a comparison? I have before me the assets of the greatest countries on earth. The United States leads and next comes Great Britain. Great Britain has more money than any other nation outside of our own, and Russia has by far the most land. You could sell out Great Britain at its own valuation and the sum realized would be only seventy billions. You could carve up Russia and peddle out its territories in Europe and Asia and the total amount would be only thirty-five billions. Now, if you add the two together, you will have one hundred and five billions, or just what we have gotten out of our soil in the last sixteen years. You have heard of the fat woolen stockings of France, the mighty industries of economical Germany and the wealth of the Austrians, which they spend so freely on human enjoyment. All the riches of France, Germany and Austria are not equal to that sum, and if you should take every dollar in cash and in property out of Italy, Belgium, Spain, Holland, Portugal and Switzerland and add them together they would not make much more than one-third of the amount the good red earth has poured into our pockets. She gave us last year almost ten billions, and at the same rate of production she will within the next thirteen years spill out enough to more than equal all the wealth we

David D. Houston, Secretary of Agriculture

have now. Our total assets are estimated at $125,000,000,000. They are only 16 per cent more than what we have taken out of the earth since your daughter or sweetheart who is sweet 16 first set foot upon it. The debts of all the nations are less than $40,000,000. We take almost one-quarter as much every year out of our soil. How is that for a business in these days of big businesses?

Meeting the Big Man

And now just a word about the man at the head of the business. I had my first meeting with him today, in his office at the Agricultural department, and we spent an hour or so talking along the lines of his great undertaking. He seems a big man, and I doubt not he will size up to the job. Indeed, Mr. Houston looks more like a business man than a farmer. He is tall, straight and broad-shouldered. He wears business clothes and he talks in a practical way. He has a serious face, with dark eyes, which smile now and then, indicating a strong sense of humor. He speaks in plain English, and his words are well chosen. He thinks in paragraphs, and it takes close attention to follow his arguments. When you suggest a subject he exhausts it, going to his secondly, thirdly and sometimes to his sixthly before he gets through.

Came from the Soil

Secretary Houston's life has been one of close thinking, and much of his thinking has been along agricultural lines. He was born on a farm, and his father was well enough off to give his children a good education. At the same time he made them learn farming. As soon as little David was old enough to work he followed the plow and later on did every kind of farm work, from hoeing corn to dynamiting stumps and splitting rails. He had also to plan out the crop and see that it was taken to market.

At the same time he was going to school, and I venture he liked school life better than farm life. He left the farm at the age of 17. He then taught country school and in a certain sense he has been a school man ever since. The place where he taught was a shell of a house situated in a clearing, surrounded by stumps. His pupils ranged in age from 7 to 26, and about the only advantage he had over some of them, so he says, was that they had to do the reciting. He was secretly afraid of the skill of one boy in mathematics, of a young woman in geography and of a full half dozen in spelling, and still he knows he was not then below the average of those who are now managing the rural schools of our country.

Acquires Much Learned Distinction

But all that was when David Houston was 17, and little more than a boy. He is a well educated man now, for he has been going to school ever since. After teaching he entered the chief college of his state of South Carolina, and graduated there at 21. Harvard University made him a master of arts at 26, and since then he has received doctor's degrees at several big institutions. I believe he got one or more this year.

Mr. Houston has also had big positions as teacher. He has served as a professor of political science at the University of Texas, has been president of the Agricultural Mechanical College of Texas, and chancellor of Washington University at St. Louis. He has also been president of the University of Texas, and he was at the head of Washington University when he came here. During the greater part of his life he has specialized in the study and teaching of economics, and his present mission, so many men think, is that of applying the latest discoveries in modern economics to the uplift of the farmer.

The new secretary of agriculture does not think that the farmer has a monopoly of the good things of this earth. He believes that the city man has many advantages over him, and that his conditions should be so improved that the two will be upon nearly the same plane as to health, education, business and credit. Said Mr. Houston:

"I want to see the methods of sanitation which prevail in the cities extended to the country. Every rural community should have a well paid expert physician, and it should be under the charge of the state board of health. More attention should be paid to the eradication of typhoid fever and malaria and to the elimination of bad water and milk. A war should be waged upon the mosquito and the fly, and the country schools should be under medical inspection, and every boy and girl should have the same advantages that the children in our most advanced cities have now. We have been spending a great deal to develop our soil. We spend millions of dollars annually to keep fever away from our cattle and cholera away from our hogs. We spend other millions on the gypsy moth, but we let the health of the community take care of itself. I think the development of the people and fitting them to do their work in the world as quite as important as increasing the crops and protecting the hog. Take the fight against the mosquito, the fly and the hookworm. They are the most destructive animals on earth, and the money spent in their control will bring

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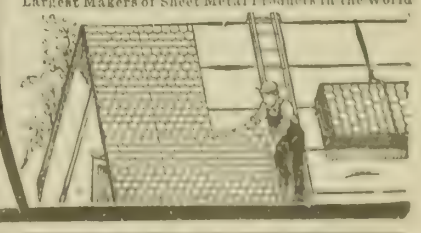

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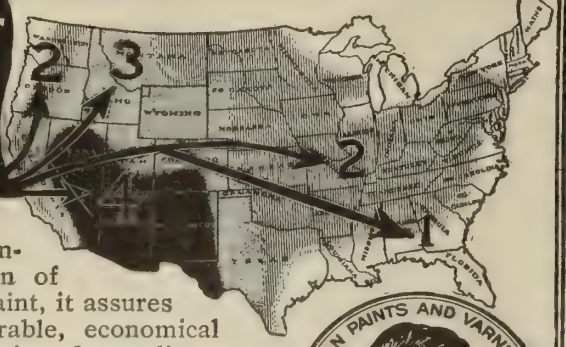

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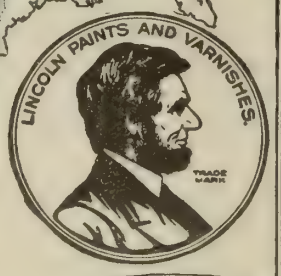

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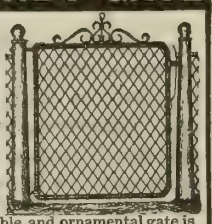

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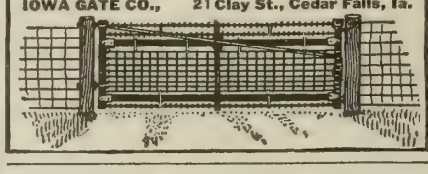

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more dividends than that laid out on the boll weevil or the Texas tick."

War on the Hookworm

"But are we not doing a great deal as to the hookworm, Mr. Secretary?" I asked.

"Yes, the work is going on in every state from Maryland to Texas and from Florida and northern Kansas. The pest is prevalent in all that region. It attacks the rich and the poor, but it is especially dangerous to the barefooted boy, for the worm usually goes in through the bare feet. Nearly all country boys of the south go barefooted, and nearly all are infected. In one county 1,300 school children were recently examined, and of these it was found that 46 per cent of the whites and 51 per cent of the negroes had hookworm. In another school 85 per cent of the children were infected. The doctors in Porto Rico say that a man with the hookworm is only half a scholar. Indeed, I doubt whether any man or woman who has the hookworm is half a man in his or her efficiency. I think our development along such lines is quite as important as crop development.

Health and Schools

"I do not think the importance of rural health can be overestimated," continued Secretary Houston. "It should be advanced in every possible way and that especially as related to the schools. We have now 17,000,000 pupils in the schools of the United States, and a large percentage of them fail to pass each year, not because they are mental defectives, but on account of their health. Dr. Gulick has been investigating the matter. Out of 250,000 failures he found that 16 per cent had not been able to pass on account of ill health. About 9 per cent of these failures had bad teeth, adenoids, defective vision and other things which kept them back. He found that the children who had bad teeth were on the average six months behind those with good teeth. Indeed, Dr. Osler says that more damage is done to our health by bad teeth than by alcohol. I think every child should be examined as to such matters, whether his parents wish it or not, and that he should be put on the road to health.

"In another investigation," the secretary continued, "82,000 children were examined, and of these over 53,000 proved defective either as to their breathing, sight, tonsils, teeth or as to the working of the skin. Thirty-three thousand out of the 82,000 had bad teeth. This condition prevailed largely throughout the country schools. It is being investigated and remedied to some extent in the cities. The work should be extended to every school in the land."

Rural Schools Backward

"But how about the rural school from an educational standpoint?" said I. "I thought one of the proudest things of which America could boast was the country school house."

"That may be so in widely separated individual instances," replied the secretary of agriculture. "It is not so of the country school generally. Indeed, I believe our rural school is a national failure. The largest part of the money spent on education in this country goes to the cities. It sounds well when we say that the United States has 17,000,000 school children; that it has $800,000,000 invested in school property, and that we spend more than $1,000,000 a day for every day of the school year upon training our children, but when you come to the details as to the country communities our voices sink and our faces blush. The country school enrollment is more than 67 per cent of the whole, but its annual expenditures are less than 40 per cent. It has sixty-seven out of every hundred school children, and it receives only $33 out of every $100 appropriated. The cost of teaching a child in the cities averages $33 a year; the money spent upon him in the country averages only $13. In other words, the city child gets almost three times as much for his education as the country child.

Comparative Costs

"I have before me some figures as to this matter of our city and rural education," continued Mr. Houston. "Here are a half dozen states where the city children are annually receiving for their schooling several times as much money as the country children. In North Carolina the city child gets $15, and in Tennessee he has $20 for his education. In each of those states the country child receives only $5.30. In Mississippi the annual cost of educating every city child is $14, while only $4.50 a head is spent on the children who go to school outside the cities. In Alabama the expenditure on the city child is $20, and upon the country child $4.80. In Missouri the average cost of teaching the city boy is $33, while that of the country boy is less than $9. In some states the proportion is less in favor of the city, although the city child always comes out ahead. In Wisconsin the city child gets $32 a year and the country child $25, while in Kansas the city child receives $36 and the country child less than $20. Now, it seems to me that this is all wrong. The child of the country should have as good opportunities for education as the child of the city. It is our children who form our greatest national asset, and I believe it will pay the nation to take care of all of them irrespective of the fact whether they live in the city or country."

Co-operation for Farmers

y and by the talk drifted from the schools to the crops, and from the crops to the best means of getting money out of them. He talked of co-operation and organization as regarding farm life, and then took up the department of markets, for which congress has just appropriated $50,000 and for which more money will be advanced as needed.

The secretary believes in co-operation among the farmers. He says that the farmer has the biggest business on earth in the amount of the product that he gives to the world, and that in comparison with other big businesses he gets the least out of it. He thinks this is largely due to the lack of organization. The farmer does not know how to buy, nor how to sell. He purchases in

small quantities under an expensive and objectionable credit system, and everything he buys is from organized capital, which is often operated as a monopoly. Almost everything he sells is to organized capital, or it goes to middlemen or speculators or to commission merchants whose operations as semi-public agents are almost unregulated.

The department of public markets will look into these matters. It will be directed by experts who will investigate the conditions under which the various products are sold and will give information to each locality. It will deal with grading and packing and with the position of the middlemen. In such matters, the secretary says, the government can only suggest and show the farmers how to go to work. It cannot act as a marketer, nor will it buy the produce of the farmers. It will only show them how to make the most money out of their goods.

As it is now, the secretary believes that our farmers are raising enough to make their business pay well. Our Agricultural Department and the agricultural colleges and experiment stations have for years been doing what they could to increase the crop. The mission of the department for the next administration will be not only to continue this, but also to show them how to get the most money out of their crops, and how to get the best results from their labors. He wants, in the first place, to make country life more livable and at the same time to make it more profitable.

Just on the Edge

Speaking of the crops, I asked the secretary as to our food supply of the future, saying that many people thought the nation was in danger of starving. He laughed as he replied:

"There is but little danger of that. We are on the edge of our beginning in productive agriculture. We have enough land and enough good soil to produce more than we shall need for many years to come. It is ridiculous to talk of a continent like this or a hemisphere like this reaching the limit of its production. As yet we have only scratched the surface and by organization and intensive agriculture we can multiply our present output many fold. What we want is organization and intelligent co-operation, and that on the part of the government of the nation and the states, as well as of our individual farmers. If the more settled states would take the matter in hand they could stimulate their people into producing enough live stock as a by-product to furnish a considerable part of our supply. If the farmers would co-operate, they could do the same as to wheat and every other article of food about which the consumer is worrying."

"But how about the prices, Mr. Secretary?"

"I do not want to discuss the prices or cost of living. I believe there will always be enough and to spare. As to the prices, they are regulated by many things outside the farm and the farmer. The supply of gold is one thing. If we have a superabundance of gold, prices have to go up. And then there are other elements in the calculation. I do not want to discuss that."

"How about transportation and the farmer?"

"The department is already doing a great deal as to public roads, and it will continue to do all it can to facilitate transportation by railroad and in other ways. We want to facilitate the getting of the goods to the markets, to cheapen the cost and to quicken the transit."

Credit for the Farmer

"Will you attempt to help the farmer as to his banking and credit, Mr. Secretary?" I asked.

"I think we should do all we can in the way of suggestions along those lines. As it is now, the farmer is laboring under greater disadvantage in the borrowing of money than the men engaged in any other business. He has to pay a higher rate of interest, and that on worse terms. The indebtedness of the American farmer all told is something like $6,000,000,000, and the interest he pays is on the average about 8½ per cent. The interest charge is more than a half billion dollars per annum, and this is upon a business which adds to our national wealth eight or nine billion dollars every year. I do not think the government should lend money to the farmers, but I think there are co-operative methods which might be suggested by which the farmers could organize for themselves and get their money cheaper and under better conditions. Such credit unions are in existence in other parts of the world. In Germany they have what are known as the Raiffeisen banks, whose capital is supplied by the farmers and handled by them. There are 15,000 of those banks in Germany. About four years ago they had a capital of more than $461,000,000. Eighty-five per cent of that capital was furnished by the current and savings accounts of the members, and of the loans, amounting to more than $500,000,000, nearly 89 per cent was provided from their saving deposits."

"And then there are other kinds of co-operative banks which have proven successful in Germany and elsewhere. I have no doubt but that such institutions could be organized here, and thus relieve the small farmer from the crop lien and store credit systems which work so much to his disadvantage in certain parts of our country."

Copyright, 1913, by Frank G. Carpenter)

Probably the most practical result of the ill-fated Scott expedition to the South pole was the discovery of a great coal field, said to be at least 650 miles long. Its width has not been ascertained.

Be Sure You Get What You Pay For

There's more fraud in shoes than in almost any other article you wear.

Nearly 90% of all shoes retailed for less than $4.00 have paper, composition, or other substitutes for leather in the heels, soles, and counters.

These substitutes are hidden where you can't see them. You can't detect the adulteration until you wear the shoes and find them unsatisfactory.

You may have an old pair of shoes with run-down heels, counters broken down, or the outer sole ripped off. Cut them up and you will probably find them "adulterated".

The only reason why any manufacturer uses substitutes for leather is that they are cheaper than leather. They mean larger profits for him because you pay leather prices for the shoes.

Nothing can take the place of good leather for making comfortable and serviceable shoes. You want leather shoes. Be sure you get what you pay for.

★ ★

To be on the safe side always ask for and insist upon having "Star Brand" shoes with our name on the sole and our star on the heel.

"Star Brand" is the largest selling brand of shoes in the world—over seven million people wear them.

We have built up this vast business—23 big factories employing 10,000 people—in only fifteen years, simply by making "Star Brand" shoes of good honest leather.

If "Star Brand" shoes were not better than other shoes, we could not have grown from a small start to a business of over $15,000,000 a year, outstripping all other shoe makers in this short time.

We make more shoes than any other shoemaker. Our cost per pair is less. It costs us less to sell them. We give you more for your money than you can get in any other shoe.

★ ★

The "Patriot", our fine dress shoe for men, is made in 50 different styles at $4.50 to $5.00. As good a shoe in other brands would cost you $1.00 more.

The "Society", our beautiful dress shoe for women, is made in many styles and sold at $3.50 to $4.00. It is better than many other shoes sold at $5.00.

The "Stronger-Than-The Law", our heavy work shoe, is the strongest and longest wearing shoe made. Its value has never been equalled. Made for men, women and children.

The "Soft and Good", a fine welt work shoe for men—soft as a glove. A long wearing, medium weight shoe at $3.50 to $4.00. This shoe has no competitors.

"Tess and Ted" school shoes are made in many styles for girls and boys. They cannot be duplicated for good looks and long wear.

Bear in mind that there are several different forms of stars used in trade-marks. The genuine "Star Brand" shoe has our name on the sole and our star on the heel.

Made in 750 different styles, sold by 20,000 good merchants. Don't just go into any store, but look up the "Star Brand" dealer. Get a pair and learn why

"Star Brand Shoes Are Better"

The "Our Family" shoe is made of fine box calf and gun metal leathers. Several styles, all sizes for every member of the family.

Last year 646,448 people bought this famous shoe. The two styles here illustrated will show the honest leather construction of the "Our Family" and all other "Star Brand" shoes.

Every "Star Brand" merchant has one of these shoes cut up to prove its honest construction. Go and see it.

The "Our Family" sells at prices ranging from $1.35 for the children up to $3.50 for men. It is a good looking, medium weight shoe—for every day or Sunday.

★ ★

All the above are "Star Brand" shoes with our name on the sole and our star on the heel. Every pair is made of good leather. We do not use substitutes for leather.

During the last six months Pure Shoe Bills have been introduced into Congress and several states, requiring that when substitutes for leather are used the fact must be stamped on the sole.

Many manufacturers and a few merchants are bitterly fighting these bills. From the start we have freely and openly endorsed these bills. We believe in this legislation because it gives you a square deal.

Our business has been built up on honest leather construction. We believe that this is one reason why we have grown so rapidly. If substitutes for leather were better than leather there would be lots of other shoe makers larger than we are.

★

Ask YOUR dealer if he is in favor of a Pure Shoe law. Every "Star Brand" merchant believes in this protection for pure leather shoes just as we do, because it means that the wearer gets what he pays for.

The Oldfield Pure Shoe Bill now pending in Congress should be enacted into a law. The victory should be made complete, because it is a good law. Write your Senator and Congressman and urge them to vote for it.

Very soon you will buy your Fall and Winter shoes. Be sure you get the genuine "Star Brand" shoes.

On every heel

ROBERTS, JOHNSON & RAND
MANUFACTURERS Branch of International Shoe Co. ST. LOUIS

Engines Save Dollars

If you handle your corn at home

A good engine will be the biggest profit-saver in your corn harvesting outfit.

Own a small husking outfit. Don't wait for the big shredder and bad weather. Shell at home, too. Get a higher market price and cut the cost of hauling.

Grind the cobs and corn together for feed and make your stock do better. Your own silage cutter, too, will earn money for you.

When your own work is done, make the engine work for the neighbors.

Adams Husker

An economical, efficient husker, operated by one man. Will husk at a cost of one cent a bushel. Easily stored. Quick-acting safety device.

Watts Corn Sheller

A strong, simple sheller, no complicated parts. Hardly any wear. Comes in 5 sizes. Capacity from 75 to 400 bu. per hour.

Rumely Feed Mill

An all-steel, burr type mill. Grinds ear corn and small grain. Built for wear and large capacity.

Advance Silage Cutter

Simple disc type of cutter—few parts, safety reversing device. Easily sharpened. Large capacity.

These and other machines covering all farm power needs are made by Rumely—balers, cream separators, OilPull and GasPull Tractors, etc. Don't wait till spring to plow.

Talk the whole Rumely line over with your dealer—let him tell you about it or show you actual machines.

Falk and Olds Engines

You'll need a good reliable engine—one you can depend on for all this work, and many other jobs. We sell the Falk Kerosene Engine and the Olds Gasoline Engine, each the best in its line. An 8 h.p. engine is about the right size for the average farmer. Costs little more to buy or run than a 3—4 h.p. engine, but you can do lots more with it.

RUMELY PRODUCTS CO.
(Incorporated)
Power-Farming Machinery
Lincoln, Neb.,
Sioux Falls, S. D.,
Des Moines, Ia.

796

When communicating with advertisers on this page kindly state that you saw their advertisement in the Twentieth Century Farmer.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Inquiries From the Panhandle

T. N. J., Panhandle, Tex.: I expect to thresh about 3,000 or 4,000 bushels of oats, and of course would like to sell to the best advantage. Oats here now are selling at 50 cents per bushel. Can you give me any information as to prices later on? We are looking for oats to sell in the spring at from 75 cents to $1.

I would also like information on sheet iron bins.

I hear some talk of corn being shipped from the Argentine Republic in such quantities as to affect the market here.

I shall bale my oat straw. What should it be worth? What is the feed value of oat stray as compared with other hay?

How many tons of Kaffir corn silage will it take to winter about forty head of hogs? Only a small per cent of the kaffir is headed.

Editor's Answer—No. 3 white oats are worth in this market at present about 41 cents. The quotation for May delivery September 5 at the close market was 48⅞ cents. This is the best information available for future price. The local demand in some cases exceeds the market price.

Galvanized sheet iron granaries, when properly made, will keep grain in good condition. Some granaries of this type that are not provided with an apparatus for carrying off moisture are not reliable. The grain in such heats, and is injured by the moisture.

In this market there is very little demand for oat straw for roughage. The local demand in the Panhandle will probably force a higher price than can be had in the general market. One ton of good oat straw is worth for roughage in food value about half the value of a ton of good bright hay.

The average cow or 2-year-old steer will consume about thirty-five pounds of silage per day. The average hog will probably not consume more than five pounds per day. From this, the amount needed to winter forty head may be figured.

There is at present no appreciable amount of corn being shipped in from the Argentine Republic. Southern mills are requesting that corn be put on the free list in the hope that they may be able to ship it in from Argentine at less expense than from the northern states. It is, however, not probable that shipping through a humid country to the southern states will ever become profitable.

Pigs Weak in the Back

Mrs. J. W., Hudson, Wyo.: We have some pigs 4 months old, and two of them stagger when they try to walk. They can't walk straight toward you, but when they try to run, they almost fall. They seem to be weak in the back, for sometimes they drag their hind parts, then get up and try to run again. They have a good appetite. We feed them cracked corn, milk and slop. They also are in alfalfa pasture. Would you please tell me what is the matter with them; also please give me treatment.

Answer—The trouble which you describe is not well understood, although there are several theories advanced, one being that there has been a lack of mineral in the food supply; another, a lack of materials which supply the motor nerves. There seems to be no fault to find with the feed that the pigs have been having. If you are located where you can procure ground bone, I would suggest giving them about a teaspoonful at a feed in the slop.

Getting Rid of Fleas

Miss F. G., Ovalo, Tex.: I see in an April number of the Twentieth Century Farmer that a subscriber wishes to know some way to rid a place of fleas, so I will tell how. Take common salt (that which you get in fifty or 100-pound sacks is cheapest), put it on the dirt or floors until it is thick enough to look white. Let it stay there until it just goes away of itself, and the fleas will go, too. We tried this in stables where fleas were so bad horses could not stay in them, and in a few days the fleas were all gone. I hope those troubled by these little pests will use salt, as I know how tormenting they are. With them about there is no rest night or day.

Editor's Note—The editor hasn't any fleas just at present, but confesses that he has had them, and longed for some way to get rid of them. He knows of lots of people that have got them yet. This suggestion ought to help out people that have not become thoroughly used to them.

If one believes in the adage that "a reasonable amount of fleas is good for a dog," and that it is therefore also good for humans, he might use the salt to prevent the amount of fleas becoming unreasonable. You remember what Sherman said about war? Well, fleas are worse than war.

Erecting Concrete Silos.

E. R. B., Arkansas City, Kan.: I would like to procure the right to erect concrete silos either in southern Kansas or northern Oklahoma. Can you furnish me the names of two or more companies where I might secure this right?

Editor's Answer—It is not necessary to secure a right to erect concrete silos anywhere. Any man may erect them.

There are certain kinds of doors for concrete silos that are protected by patents, but it is not necessary to use any of these patented doors. Any common home-made door may be used.

Plastering a Pit Silo

R. D. E., Big Springs, Neb.: I see J. A. B. from Wilbur, Neb., has been having trouble with the sand in his silo. I have had the same trouble, but I take a good plasterer's brush and a bucket of pure cement, mixed thin enough to splash good, then dig down as far as I can without the sand caving, and splash it good with the cement. In twelve hours it will be set enough to plaster on without caving. This is harder to plaster on than smooth clay walls, but it can be done with good success. In this way I have gone through stratas of sand from two to three feet deep.

Editor's Note—This sounds good.

No More Blackleg

VACCINATE
WITH
BLACKLEGOIDS
and save the animals.

BLACKLEGOIDS
are
EASIEST
SAFEST
SUREST.

Used and endorsed everywhere that Blackleg is known.

Order through your veterinarian or druggist.

Write us for circulars describing Blackleg and telling how to prevent it.

Parke, Davis & Co.
Department of Animal Industry,
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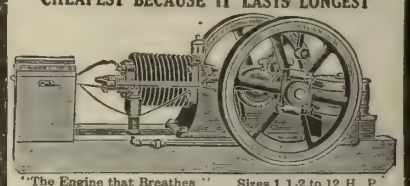
THE GADE AIR COOLED GASOLINE ENGINE
CHEAPEST BECAUSE IT LASTS LONGEST



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NO Fans or belts to bother.
Valves to open against compression.
Hoppers to be filled and emptied.
Bursted cylinders.

Get descriptive folder at once Real 5 year guarantee.
GADE BROS. MFG. CO.,
200 E. Iowa St. Iowa Falls, Iowa.

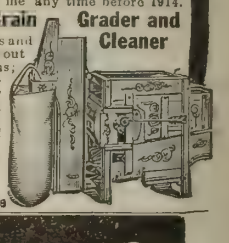
I Ask Only $1.00

Send for Free Book on Cleaning and Grading Grain. Then ask for the size machine you want, send $1.00 and I'll ship 1914 Model Chatham, freight prepaid, with special screens and riddles for all Grains, Grasses and Weed Seed where you live. Give it a month's hard test. If not satisfied, send it back and get your $1. If satisfied, pay me any time before 1914.

MANSON CAMPBELL

CHATHAM Grain Grader and Cleaner

Handles all grains and grass seeds; takes out weed seed, separates mixed grains; leaves big, pure seed. Over 300,000 Chathams in use, and every owner satisfied! Write a postal now for my FREE copyrighted book, "The Chatham System of Breeding Big Crops;" description, price, terms, etc. Address nearest office. Dept. 49



MANSON CAMPBELL CO.
Detroit, Kansas City, Minneapolis

8 X 2 $14

Build a re-inforced concrete tank in one day with *Lock-Form*, which is reinforcement and form in one

CONCRETE TANK

No cracks, no rust, less cost than any other tank made.
FREE—How you can build Tanks and Silos.
The Edwards Metal Structures Co.
1225 WEST 26th ST., KANSAS CITY, MO

Kerosene Engine

The SANDOW Stationary Engine runs on kerosene or gasoline. Starts without cranking—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—15-day money-back trial. Sizes, 2 to 20 H. P. Send postal for free catalog.
Detroit Motor Car Supply Co.
263 Canton Ave., Detroit, Mich.

Pit silo builders in trouble might try it.

History of Case Incomplete

E. R., Imogene, Ia.: I have Poland-China pigs ranging from 3 months to 1 year in age. Their toenails have fallen off. The skin is all off their hind legs. They are lame, and eat well. I feed them ground corn and rye, soaked. Will you please tell me a remedy, and what is the disease?

Answer—This is a very unusual condition, and we would not even guess at the cause. Hogs sometimes slough pieces of the skin from various parts of the body in severe cases of hog cholera, or when the parts are frost bitten. We have known also of hogs losing pieces of skin, as well as the toes, from eating very moldy corn, but this is also very unusual. I would like if you would give me a little fuller history of these cases and say whether there is any considerable number attacked.

"To Ourselves and Our Posterity"

THE above caption, which constitutes a portion of the closing words of the preamble to the great constitution of these United States, flashed through the writer's mind upon reading your editorial, "Another Side of Bumper Crops," in the issue of August 3, 1913.

Well may we inquire as to the wisdom of bumper crops—or, more properly, as to the methods employed in manipulating those crops and the systems employed in maintaining the fertility of the soil from which they were taken—for we have reached a point where none dare deny the fact that we must increase production, at the same time, of course, improving our marketing systems.

The gravest apprehension voiced in this editorial is but a mere hint of the deplorable conditions that would follow a system of marketing all the grain and other products of the land. To a man of ordinary reasoning power it is plain that such a system would, in only a few years, practically destroy the crop-producing powers of the soil, unless some plan of crop rotation was systematically followed for the maintenance of soil fertility.

While this system of selling off raw crops may seem an easy means of disposal, the work necessary to keep up the fertility of the soil in counterbalancing the effects of the system makes it really a costly method, saying nothing of the fact that it is not as desirable as other systems. Still, with the growing of such leguminous crops as clover, cow peas, vetch, etc., planted in a proper crop rotation, we can partly, if not wholly, offset the pernicious effect of draining the soil of its vitality by selling crops direct from the field.

However, we need an awakening the whole country over on this subject, and with that awakening will come a system—or, rather, a double system—that will solve two of the greatest problems now confronting the American people—the conservation of soil fertility and the production of a greater meat supply. Let every farmer produce and keep on his farm enough live stock and poultry to consume every bite of feed he can raise, crowding his land to the limit in producing this supply. Such a practice, coupled with the proper crop rotation mentioned above, and intelligent manipulation of the manure supply in connection with the system, could not possibly deplete the soil of its fertility, but would actually add to it, while the meat-producing capacity of the country would be increased many fold.

Under the system practiced on many farms at this time, we can but wonder how the future millions of people are to be fed and clothed—if, indeed, they can be at all. Our ancestors conquered and gave to us, in its virgin state of productiveness, this vast nation; then let us hold it in reserve under a system that will insure those richly deserved blessings of agricultural pursuits "to ourselves and our posterity."

M. COVERDELL.

Worth County, Missouri.

Farmer Putnam Makes Trip on Silo Train

(CONTINUED FROM PAGE FIVE)

red in the face—and that didn't take very long neither, specially with the thermometer bustin' the bulb out at the top most every day.

Daniels got some experience all right. Him and some of the professors from Kansas Ag. had a nice time one night in Herington, when they went to sleep on the canning car. They left most of their clothes in the sleeper, and durin' the night the train was split up, so's Prof. Cotterell could git a little air in his car, which was standin' between two rows of freight cars, where switchin' crews allus likes to put private cars, when there's a railroad official tryin' to sleep inside. Well, when Daniels and them Kansas fellers woke up, with the bright sun shinin' down on 'em from the clear sky, and people all around goin' to their daily labor, they found that their sleepin' car was moved down the track about two blocks.

Fun for the Bystanders

Well, Mr. Editor, you'd a died laughin' to see that nightshirt parade down them yards, over the rough cinders, to the sleepin' car! It was hot that mornin' in Kansas, hot in Oklahoma, hotter in Texas and Arizona, but they wasn't a spot in hades quite so sultry as was the air between that canning car and sleepin' car when the parade was movin' down the track. You could see a wreath of blue smoke goin' up, and if them professors could a found the switchmen that done it, they would a been mobbed all right.

Laugh! Well you oughter seen the amusement them fellers created, pickin' up one foot at a time and tryin' to step where the cinders was dull.

That's the way it was on them trips. Somebody's allus furnishin' amusement for the others to keep them minds off the hard work. That's what keeps the world young, so I hope them professors what furnished the fun won't be sorry that they had to do it. They sure done a lot of good unbeknowns to themselves, to the innocent bystanders.

One of the interestin' parts of the trip was the way them Dollar Farmers come to hear the lectures. Down to Watonga, Okla., a big bunch of Cheyennes was there and when I seen 'em I thought maybe they was goin' to scalp somebody. But I got to talkin' to one of 'em and found out different. I got up courage to git near to him and I says:

"Oh, noble Redman, the paleface brother greets thee with a message of peace. The arrow of the noble Redman shall fly no more in the land, but he shall turn his hand to the plow and draw wealth from the soil. You are a Cheyenne; I am a Missourian, but we are brothers. Shake!"

He took me by the hand and says:

"Cut out that J. Fenimore Cooper stuff old pal. It don't go with us fellers. We're just plain farmers like you. Say, is that silage good to drink after it ferments? We're thinking of putting up a few silos and sellin' the juice. This is a temperance state, you know, and a feller's got to git it where and how he can."

That shows how civilization is progressin'. It do beat all how the romance is faded out of the country.

THOMAS JEFFERSON PUTNAM.

Walker Offers Poland-Chinas

We wish to call the attention of Twentieth Century Farmer readers to the advertisement of Thomas F. Walker & Sons of Alexandria, Neb., who are offering Poland-China spring males for sale. This herd has been established for twenty-five years and has probably sent out as many good hogs to this and other states as any one herd in the country. The successful breeder is the man who selects the type of hog he wants to breed and continuously works to the end that he may bring that particular type to the highest state of perfection. The senior member of this firm is a man who has given a great deal of study to the breeding of Poland-China hogs, and few men have been more successful than he. He has always been a strong advocate of the hog with plenty of size and bone, but has contended that along with this we must not entirely lose sight of quality. The spring males they are offering for sale at this time are sired by Blue Valley and Blue Valley Orange, with the exception of one litter, and these are sired by Columbus, the undefeated champion of last year. Blue Valley is one of the greatest boars in service in the state, both as an individual and as a breeder. Blue Valley Orange is a son of the famous Big Orange and is making a splendid cross on the type of sows in this herd. We looked over the males they are offering here a short time ago, and must say they are one of the best bunches we have seen this year, and there are a number among them that are of strictly high-class, herd-heading character. We cheerfully recommend these boars to any prospective purchaser, because we have known this herd for a great many years and we know that they will go out and make good if they are given a reasonable chance. Write Messrs. Walker & Sons for further particulars, mentioning the Twentieth Century Farmer.

The "Kowboy King"

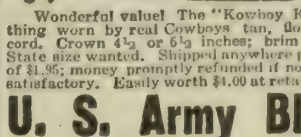
$1.95 Prepaid

State Size Wanted

Worth $3 to $4

Wonderful value! The "Kowboy King" is the real thing worn by real Cowboys tan, flopless brim, wind cord. Crown 4½ or 5½ inches; brim 3 or 3½ inches. State size wanted. Shipped anywhere prepaid on receipt of $1.95; money promptly refunded if not found perfectly satisfactory. Easily worth $4.00 at retail.

U. S. Army Blankets

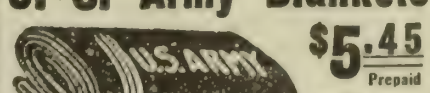


$5.45 Prepaid

PURE WOOL Size 72 x 90

Brand new, perfect Army Blankets; warmest, most durable; full five pounds; every ounce of pretty pure wool—¾ blood wool—color olive drab, or Blue Grey stripe borders. A remarkable bargain, guaranteed to please you or price—$5.45—refunded. Worth easy twice this price.

Hunting Knife and Scabbard 95c Prepaid



Worth $1.00, 8 to 10 in. blade, 6 in. hardwood and steel handle, brass riveted, made of fat old steel the finest tempered steel in the world. Ground to razor edge that will hold indefinitely. These sword knives were recently discarded by the English government. Makes the finest kind of hunting knife or for trimming hedges, cutting corn or cane, or as a butcher knife or cleaver.

Price Prepaid 95c

$30 Beaumont Repeating Army Rifle $2.95

This is a marvelous bargain. A 6-shot, hammerless repeating army rifle, guaranteed to be in perfect working order, made under government supervision. The most accurate rifle made. Magazine under barrel holds ten cartridges. Only three movements to load and fire. Equipped with adjustable, long range fifty sight, length from butt to muzzle 52 inches, shoots 45 caliber cartridges, and can be used as shotgun. Only a limited quantity of these guns left, so be sure to order today at this ridiculously low price, $2.95.

Send for "Book of A Thousand Bargains," describing hundreds of other wonderful bargains in Government Goods and General Merchandise. Free upon request.

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The Palms, Sacred	O That We Two Were Maying
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Last Hope, *Gottschalk*	Lucrezia Borgia, *Donizetti*
Lenox Waltzes, *Tobani*	Sweet Violets, *Sweet*
Flower Song, *Lange*	Wedding March, *Mendelssohn*
The Storm, *Heller*	Mendelssohn's Spring Song
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Review of Live Stock Market

By A. C. Davenport

CATTLE have been especially good property during the last week or more. To be sure, receipts at leading market points have been very liberal, but the demand has been fully as large as the offerings. Prices, in consequence, have been high on pretty much all kinds and sellers have been more than pleased with results. Contrary to expectations, the proportion of range cattle good enough for beef has been very small, the most of the western cattle arriving being suitable only for feeding purposes. As a matter of course, corn-fed beeves at this season of the year are never very plentiful, and it has thus happened that there has been a decided shortage in the supply of desirable fat cattle suitable for the making of dressed beef. As the consuming demand has been reasonably good, prices on all grades of fat cattle have been strong at practically all points, the good to choice grades especially showing strength. The small supply of steers has forced packers to buy freely of the cheaper grades of butcher stock, such as cows and heifers, with the result that the market on that class of stock is also strong at present writing.

Scarcity of Good Feeders

At this season of the year interest in the trade centers especially in the stocker and feeder market. This is the time when the farmers of the corn belt are filling their feed lots and laying the foundations for the beef supply of next spring and summer. In this division of the trade large offerings have been the rule at all market centers, but the offerings have consisted chiefly of the common to medium grades. There has been a world of trashy light cattle and medium weights of ordinary quality. On the other hand, general complaint is heard at all points regarding the scarcity of strictly good fleshy feeders. A big Illinois feeder was recently heard to remark that he filed an order for several cars of good, well-bred, weighty feeders a month ago at Kansas City, but as yet the order had not been filled, although that market was for several weeks almost overwhelmed with receipts of common to medium grades. The same trouble is being experienced at other markets in filling orders for strictly good stuff. The wonder is what has become of the good feeder cattle that were to be had in a great plenty a few years ago. The Illinois feeder referred to above said that it looked to him, after making the rounds of the different markets, as if the really good cattle must have been run out of the country and that the leavings were now being marketed. Perhaps it is not quite that bad, but the scarcity of strictly good cattle is very pronounced.

If good feeders continue as scarce during the remainder of the season as they have been up to date it is hard to see how buyers are going to be able to get prices down very much. In fact thus far as often as the market breaks a little it almost immediately recovers the lost ground. As a matter of course the common-to-medium grades fluctuate back and forth, but the average market even on that kind is high considering the quality of the cattle.

Hogs in Unsettled Condition

Hogs have been wild during the last week or two, ever since the beginning of September. As often as the receipts run a little large packers seem able to raid the market with so much success as to smash prices badly. Declines on such breaks range anywhere from 25 to as much as 50 cents in some instances. Then as the receipts let up a little the downward movement seems to lose its force and the market almost immediately springs back to where it was at the beginning. It would appear that packers, by reason of the liberal receipts, feel that prices should be lower, but as often as they break the market the country holds back supplies and packers are forced to bid the market up again, as the consuming demand for the product is really very good. The fact is, buyers for the eastern fresh meat trade have had a large hand in maintaining prices, as they have been active bidders for light and medium weight hogs for shipment east to be used in supplying the fresh meat trade.

While it is possible to find a good many bears in the hog trade there are a good many features that are decidedly bullish in their tendency. Reports of the spread of hog cholera are confirmed by the large number of pigs and under-weight hogs arriving at all market centers.

Large Receipts of Sheep and Lambs

Sheep and lambs have been attracting a good deal of attention during the last week. The season of the year has arrived when large receipts are to be looked for and the lookers have not been disappointed. Most markets had very liberal runs last week, Omaha alone receiving 167,000 head in five days. Most of the arrivals consisted of feeder lambs, the supply of fat sheep and lambs and of feeder sheep being very light. Under the influence of excessive receipts early in the week prices, which were very high to begin with, broke sharply, the decline being principally on feeders which, in the opinion of many buyers, were entirely too high. The efforts of the bears were directed especially toward the breaking of the lamb market. They succeeded so well that at the low point of the week some markets quoted a decline of as much as 40 to 60 cents. Operators on the market have been wondering what the outcome would be when the lamb market began breaking, and some of the extreme bears predicted that when once it started the country would let the market go down until pretty good lambs could be bought on the basis of Omaha at $5.50. It was very evident, however, that the country had different notions as to values, and when the word went out that feeder lambs were breaking country buyers began coming in so that values reacted considerably, although all of the loss was not regained.

The action of the country in buying lambs freely on breaks has been the occasion of keen disappointment to the bears, making it look very much as if buyers were going to follow the same policy with sheep and lambs that they have with cattle, that is, rush in at every sign of a break, and thus prevent the market on feeders from reaching a permanent lower basis. As a matter of course there are always low spots in every market, but the action of buyers this week makes good feeder lambs under $6 look further away than ever.

The above is a reproduction of a photograph of the champion young herd of Aberdeen-Angus at the Nebraska State Fair. This herd is owned by Charles Escher of Botna, Ia., who was also a strong winner in other classes at the Nebraska State Fair, as well as other leading shows.

Live Stock Notes

Schwab Offers Duroc-Jerseys

George W. Schwab, the well known breeder of Duroc-Jersey hogs of Clay Center, Neb., is offering choice fall males, spring males and spring gilts for sale. In fact, he will supply his customers with anything they want in this line, and at prices that cannot help but be satisfactory. The fall males he is offering for sale are sired by Buddy K. 4th Wide Awake and W. L. A.'s Perfection. The spring males are by W. L. A.'s Perfection, Buddy K. 4th Wide Awake, Gold Bond by Golden Model 2d, and Cremo by Queen's Wonder, he by Crimson Wonder Again, out of H. A.'s Queen. Look up Mr. Schwab's card elsewhere in this issue and write him for further information, mentioning this paper.

The Bader-Carpenter Sale

We call attention in this issue to the sale of Duroc-Jersey hogs to be held at Scribner, Neb., on October 1 by John Bader of Scribner, Neb., and Ernest Carpenter of Fontanelle, Neb. These two well known breeders are offering some of the very tops of their respective herds and will have a combined offering that should attract the attention of any man who is in the market for some strictly high-class stock. There will be fifty head in the offering, consisting of thirty males, ten sows with litters at side and ten open sows and gilts. The offering is composed of a line of individuals with plenty of growth, and as far as breeding is concerned they are as good as can be found anywhere east or west. They represent such sires as Wallace's Sensation, Prince Critic by Proud Chief Junior by Proud Chief, Echo's Crimson Wonder by Van's Crimson Wonder, Golden Model 4th, Fancy Wonder and Bader's Golden Model. The last named boar was the winner of first in class of sixty-one at the Nebraska State Fair as a pig and was a winner of third in the junior yearling class at Nebraska this year in one of the strongest classes ever shown at the fair, being defeated only by two boars outside the state. You cannot make any mistake in getting something sired by him. There will be a number of splendid, big, roomy brood sows here, with litters at side, that should be mighty good buys. They have good, big litters, and the pigs will be old enough to go out into other hands and come right along if given ordinary care. The buyer is furnished an opportunity here to get almost anything he wants in the line of a spring male, a tried herd boar, sow with litter at side or a spring and fall gilt open. In this connection we want to say that they are going to offer for sale both Prince Critic and Echo's Crimson Wonder. These boars are not being sold for any fault, only they have so much of their produce in their herds it is necessary for them to change. There will be stuff in this sale sired by both these boars, and these will afford an opportunity for the buyer to see what they will do as breeders. Better write either one of these gentlemen for catalogue at once and make arrangements to attend this sale. Remember they will treat you right. Their guarantee is that every animal is a breeder, and if it should not prove to be such your money will be refunded, if they are given due notice within sixty days. This is the kind of a guarantee that really guarantees. Remember the sale will be held at Scribner on October 1. If you are unable to attend this sale, send your bids to G. E. Hall of this paper and they will receive careful attention. Kindly mention the Twentieth Century Farmer when writing.

Lingford Offers Fall Boars

W. A. Lingford of Dannebrog, Neb., who is one of our most prominent Poland-China breeders, is offering several extra choice Poland-China boars for sale in another column of this issue of the Twentieth Century Farmer. Mr. Lingford was one of the strongest winners at the Nebraska State Fair this year, and the males he is offering for sale are mostly related to his prize-winning stuff. There are two especially good fall boars by D.'s Monarch, he by Gold Dust Hadley. Either one of these fellows are good enough to head any pure-bred herd. Another pair of good ones is sired by Samson, he by old Pawnee Lad. These two boars are half brothers to the grand champion sow at Nebraska this year. Another good yearling boar offered is by Revenue Chief, he by Blue Valley Exception. This boar was the winner of fourth in the junior yearling class. He is a splendid prospect, and Mr. Lingford is certainly pricing him worth the money. If you are looking for a type of hog that is big enough and one that will go out and make good under average conditions, you can make no mistake in getting one of these boars. They are absolutely right in every way, and you can rest assured that Mr. Lingford will accord you fair and courteous treatment. Write him for further information, mentioning the Twentieth Century Farmer.

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Why wait thirty to ninety days for results. **Grain Belt Brand Vegetable Hog Potash** will put your hogs' appetite on edge in thirty minutes. Add five pounds to one hundred pounds dry weight of grain, and see how much better they clean up their feed. Write and ask us the following questions: What will it do for hogs? What is the chemical analysis? What is it made from? What does it cost? Or any other question you may wish to ask, and we will be glad to answer. You see we have no secrets.

Agents Wanted in Unoccupied Territory.

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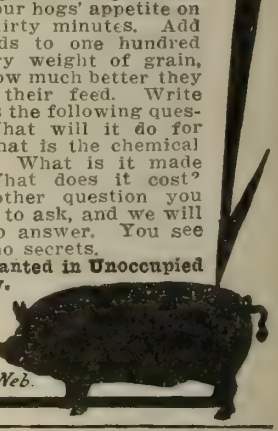

The fact that the Twentieth Century Farmer absolutely refuses all "fake advertising" should assure the honest advertiser good results, and the reader a square deal.

Duroc-Jersey Sale
at Scribner, Neb., October 1, 1913
50 Head — The Top of Two Herds — 50 Head

This offering will consist of two aged boars, 28 spring boars, 10 cows with litters at side and 10 fall and spring gilts open.

The two aged boars are Prince Critic by Proud Chief Junior, and Echo's Crimson Wonder by Van's Crimson Wonder. They are both good individuals, and their produce in the sale will show what they will do as breeders.

The spring boars and gilts are by Prince Critic, Echo's Crimson Wonder, Wallace's Sensation, Golden Model 4th, Fancy Wonder, Model Boy, Crimson Wonder Sensation and Bader's Crimson Wonder, he being one of the best young boars in the state.

Remember, you can get an aged boar, a spring boar, a sow with litter at her side, or a spring or fall gilt open. A large part of the offering is immune. Everything is guaranteed a breeder of your money refunded. For catalogue address

Auctioneer,
N. G. Kraschal.
Fieldman,
G. E. Hall,

JOHN BADER, Scribner, Neb., or
ERNEST CARPENTER, Fontanelle, Neb.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. THOS. F. WALKER & SON, Alexandria, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

TWENTIETH CENTURY FARMER

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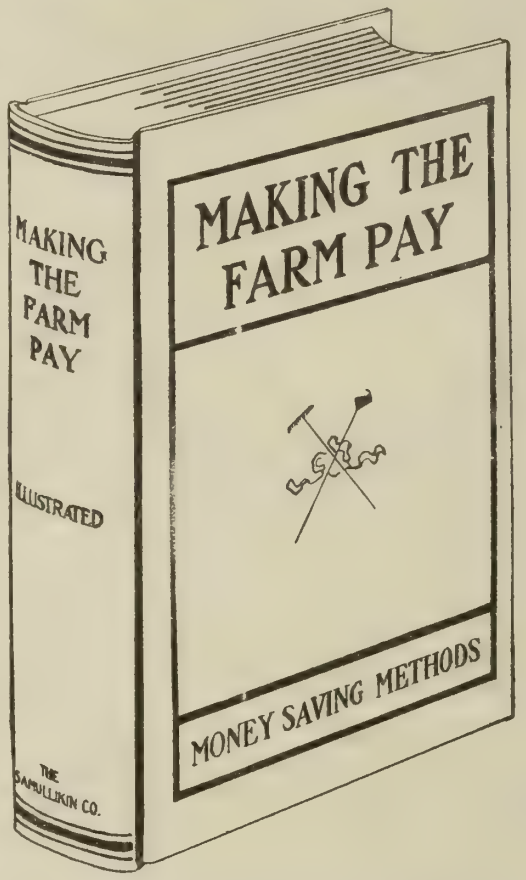
4—Because it tells how to make Vegetable Gardening and Trucking Pay. How HUNDREDS of dollars can be made, by using proper methods, on only a few acres.

5—Because it tells you how to Select and Feed farm animals for greatest net PROFITS; explaining the BALANCED ration and how MUCH feed and MANY dollars can be saved by proper feeding.

6—Because it takes up the Diseases of Farm animals, giving the CAUSES, SYMPTOMS and TREATMENTS of each, which will save you the loss of many dollars' worth of stock; these are explained in Common Terms that any one can read and understand; the treatments are COMMON REMEDIES that you should have in your home.



Size of book 6½x8½ inches. Bound in extra heavy cloth. Contains 500 pages.

7—Because it shows how to MAKE and FILL a silo and explains the VALUE of silage to the average farmer. It gives many rules on measuring feed and grain and many valuable hints and helps for every farmer.

8—Because it tells how to make Poultry PAY and discusses the different breeds — the "Setting" and "Non-setting," the "General Purpose" and "Fancy" breeds. The work tells how to caponize poultry, giving illustrations and cuts; also describes the diseases of poultry and their cures.

9—Because "Making the Farm Pay" is written by the BEST, practical authorities, and takes up improved methods of modern agriculture in all branches of farming; it is written by men who have DONE what they advise others to do.

10—Because "it is the MOST in Agriculture for the money." It is a ready reference library on practical, scientific Farming, giving you Hundreds of Money saving Methods and explaining the successful principles that every wide-awake farmer wishes to know—HOW TO MAKE HIS FARM PAY. A couple of dollars invested in Practical and Scientific Methods will bring HUNDREDS of dollars in Scientific Results.

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Bright and Breezy

Where Smiths Come From

An old lady, traveling for the first time in a large city, saw a glaring sign on the front of a high building which read, "The Smith Manufacturing company."

As she repeated it aloud slowly she remarked to her nephew: "Lawsy mercy! Well, I've hearn tell of Smiths all my life, but I never knew before where they made 'em."

True Appreciation

A Chinese minister at Washington went to hear the Marine band play. Particularly was he impressed with the trombone player; so much so, in fact, that he offered him a handsome engagement in China.

"I have never seen a juggler," said the visitor, "who could swallow as much brass pipe as you and spit it out again, and yet the people here regard it with an utter lack of enthusiasm."

Strong-Minded Ladies

An angry advertiser rushed into the office of a provincial paper recently and shouted:

"See here, our ad. ought to read, 'Thousands of patrons are wearing trousers of our make.'"

The foreman of the composing room looked up and weakly said, "Well?"

The irate advertiser threw down a copy of the paper containing the ad. The compositor had made it "matrons."

A Reasonable Explanation

We were packing our goods preparatory to moving to a distant town. My usual helper being ill, I employed a new assistant, a woman of 30 or more. As I was engaged in packing our books, she paused a moment beside me.

"Somehow, I never cared much for books," she remarked, "but then," she continued, after a thoughtful pause, "I can't read, and that may have something to do with it."—Youth's Companion.

Saw Him Pass By

An old man fell from a second-story window into the street, where an anxious crowd immediately gathered to see whether he was seriously injured. One of his daughters rushed frantically into the first-floor room, where his wife sat knitting, and cried:

"Oh, mother, mother, father's fallen from the top of the house into the road! Oh, dear! Oh, dear!"

"Yes, my child," answered the old lady, placidly looking up from her work, "I saw him pass the window."—Windsor Magazine.

Votes for Women

At a card party some women were discussing woman's suffrage, relates the Washington Star. One of the players said she always attended suffrage meetings and had even marched in one of the parades.

"Goodness!" exclaimed her partner, "I didn't know you went in for that sort of thing. Do you know all about politics?"

"No," replied the suffragist, "I don't know a thing about it."

"Well, why do you do it?"

"Because it teases my husband so."

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Farm Management in England

A FEW years ago, Prof. Howard J. Gramlich of the University of Nebraska went to Europe to make a study of the various methods of farming and stock-breeding practiced in those countries from which we import our fine pure-bred stock, more especially horses. In the next issue of the Twentieth Century Farmer we will have a very interesting article by Prof. Gramlich on the English methods of farm management, showing how it has been possible to conserve the fertility of the soil on this little island, through centuries of cultivation. Not only is this article interesting from the point of view of general instruction contained therein, but it points out how extravagant and wasteful methods of cultivation can be avoided and economy practiced in a way that will be of great advantage to the farmers of this country as well. The article will be illustrated by photographs taken by Prof. Gramlich.

Prattle of the Youngsters

Lost Faith

"Aren't you going to say your prayers, Willie?"

"No, I'm not. I am tired of praying for this family without getting any results."—Life.

Good Logic

"Willie," said the mother sorrowfully, "every time you are naughty I get a gray hair."

"Gee," said Willie, "you must have been a terror. Look at grandpa!"

Willing to Try

Mother—Don't you think that a boy of your size could take the tacks out of this carpet if he wanted to?

Small Boy—I guess so. Shall I go out and see if I can find a boy who wants to?—Judge.

The Last Straw

Tommy had always had to wear his father's old clothes, yet no one knew just how badly he felt till the day he was found alone in the summer house.

Between broken sobs it all came out. "Pa's gone and shaved off clean, and now I know I'll have to wear his old red whiskers."

What We All Wonder

A little girl who had hash for breakfast the other morning looked at the last mouthful of her share long and earnestly as she poised it on her fork.

"Daddy," she said, "what was hash when it was alive?"

Good at Addition

Sammy was not prone to overexertion in the class room; therefore, his mother was both surprised and delighted when he came home one noon with the announcement, "I got 100 this morning."

"That's lovely, Sammy!" exclaimed his proud mother. "What was it in?"

"Fifty in reading and fifty in 'rithmetic," was Sammy's prompt reply—Lippincott's.

Discrimination

Two boys who managed to be rather unruly in school so exasperated their teacher that she requested them to remain after hours and write their names 500 times. They plunged into the task. Some fifteen minutes later one of them grew uneasy and began watching his companion in disgrace. Suddenly the first one burst out with despair and between his sobs said to the teacher: "Taint fair, mum. His name's Bush and mine's Schlotzhauerheimer."

Very Particular

A cunning little girl happened to sit beside a nice looking little boy in a street car one Easter morning. After a time the boy started a conversation, which ran something like this:

"Did the rabbit hide lots of eggs at your house?"

"Somebody did, she all right."

"Did you find 'one all?'"

"I found a lot."

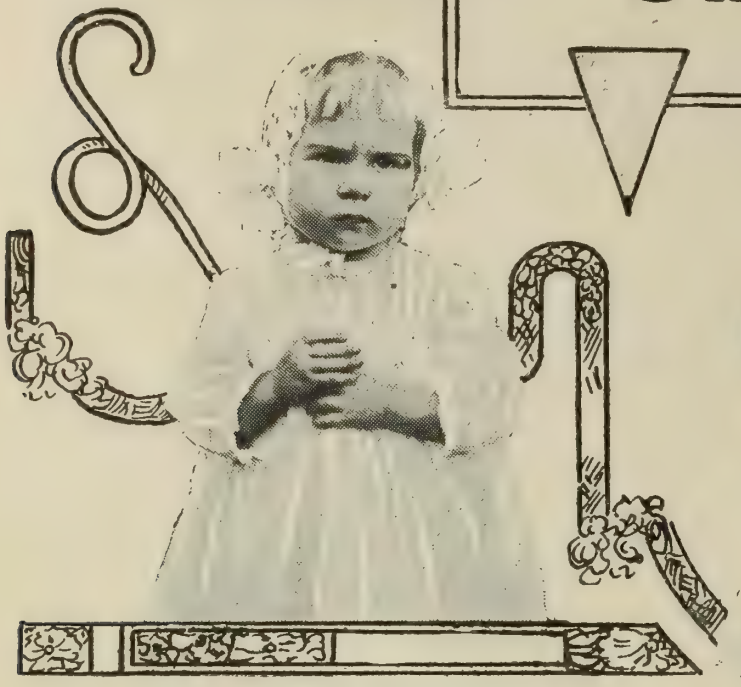
"Do you like hen eggs?"

The little girl was silent a moment then she answered:

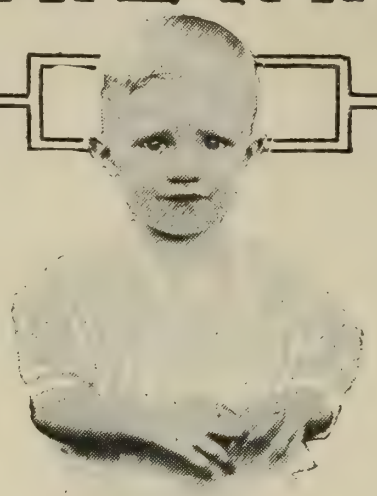
"Oh no; yes, that's the only kind I do like."

Products of Some Nebraska Farms

ENTERED AT THE STATE FAIR



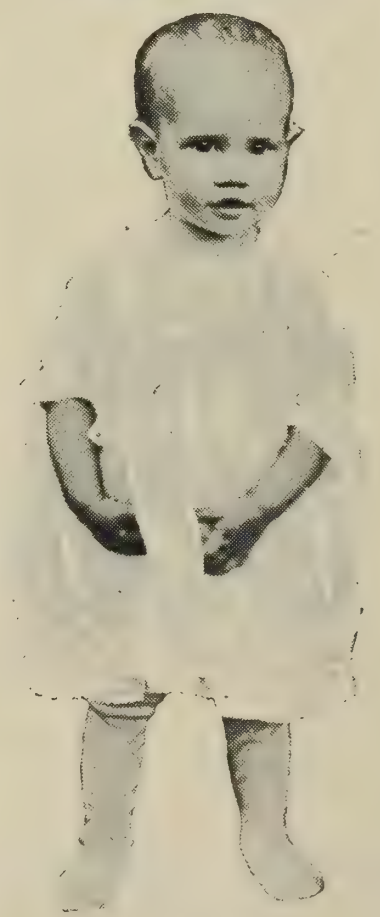
LEWIS ALBERT PEARL,
of
WYMORE.



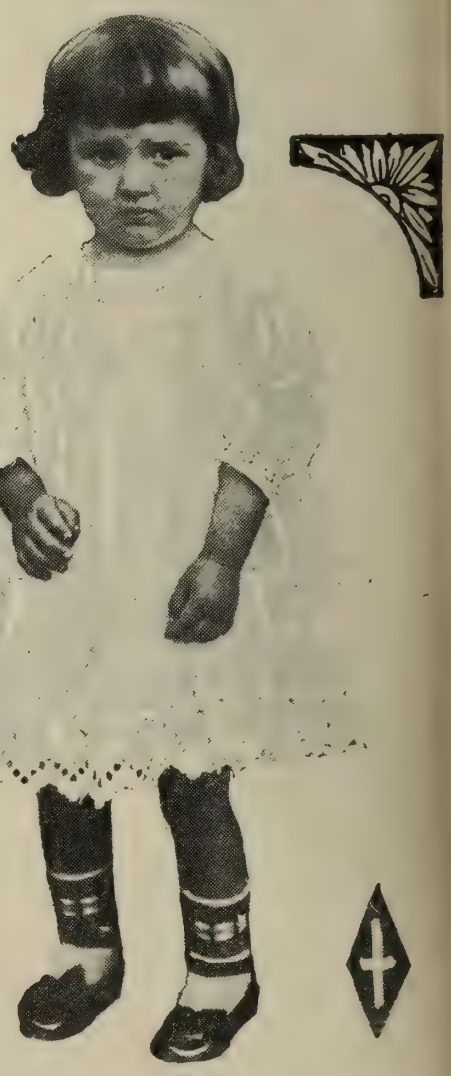
NOBLE BUELL,
of
MURDOCK.

DOROTHY STAINBROOK,
of
DAYKIN.

MARGARET ANNA HOWORTH,
of TECUMSEH.



EDITH NORTON
of WEEPING WATER



EDMOND NEAL,
of DORR.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Mutual Relations of Banker and Farmer

Address by E. W. Hunt, Associate Editor Twentieth Century Farmer, Before State Bankers at Lincoln

IT IS said that an old maid is the only person on earth that feels qualified to tell mothers how to bring up their children. It seems that, according to the same method of reasoning, an editor has been asked to address a convention of bankers.

I must ask you to permit me to go back to ancient Greece for a thesis from which I hope to deduce what I shall attempt to say to you. The ancient Greeks, you know, were an intellectual people. They were largely given to philosophy and metaphysics. They were keen dialecticians and masters of syllogism. They became the greatest intellectual athletes of their time. They were continually proposing to one another metaphysical conundrums, continually hunting for philosophical nuts to crack. They were dimly conscious of the truth, then just beginning to dawn upon the world, that man was intended for something higher than the brute; that he had a nobler destiny, and that he was under obligation to work out his destiny by different methods from those used by the brute; and in their dim light they were groping for some great truth on which they might hang their hopes and their aspirations. And so it came about that the question they most frequently asked themselves, the question that continually eluded their keenest analysis, the question that most deeply concerned the vital problems of their life, was this: "What is the highest good?" This they answered, some in one way and others in another, all of the answers proving unsatisfactory, until at last Aristotle gave to the question an answer that has stood the test of time. It has never been surpassed for accuracy of definition. "The highest good," said Aristotle, "consists in the realization (and by this he meant the complete development and full expression) of one's specific nature."

To illustrate, according to the Aristotelian dictum, the highest good for a hog consists in the realization—that is, the complete development and full expression—of his specific nature. In other words, it is best for the hog to be just as much of a hog as he can be. Correlatively, the highest good for a man consists in the realization of his specific nature; and it is best for a man to be just as much of a man as he can be.

Manifestly, a hog's specific nature is different from a man's specific nature. A hog would get nowhere trying to make a man of himself, and I have never known a man to get very far by making a supreme hog of himself.

At the beginning there was no such marked difference between them. I imagine that the cave man was considerable of a hog, and was governed as a rule by the same motives that govern the hog; but, starting from the same platform, they have developed in different directions and along different lines. As he has proceeded with his development, the hog, unhampered by mind or conscience, has become more and more of a hog. Man, equipped both with mind and with conscience, has developed in a diametrically opposite direction. He has learned—at least some men have learned—that, unlike the hog, no man lives for himself alone, but that each must live for all. He has developed a noble altruism. He is arriving at the conclusion that he serves himself best who serves best the whole family of man.

Note the difference in the method of development between animals and man. Both are actively engaged in seeking their own. In seeking his own, the animal is driven by a motive of immediate, primary, self-interest. he seeks his own invariably at first hand. As man develops he supplants an immediate, primary, self-interest with a remote secondary self-interest. He has learned that in the end he can best secure his own and secure it in larger measure by making his self-interest secondary instead of primary, remote instead of immediate. In other words, organized as society is, there is no such thing as absolute individual independence. Every man is to a certain extent dependent on his fellows. What he gets he must get from his fellows. If he can increase the holding of his fellows, there is a better prospect for him, through them, to increase his own holdings.

We all know that it is foolish to kill the goose that lays the golden egg. Isn't it just as foolish to wear out the goose that lays the golden egg? Would it not be better instead to raise more geese that will lay more golden eggs? The man that lives simply and solely upon any particular industry is a parasite on that industry, producing nothing and consuming what others produce. His work is destructive merely. Would it not be better to make it constructive, to help develop the industry so that from its development he might be able to get larger returns? This is what is meant by making remote self-interest a secondary motive and making development that shall feed self-interest a primary and immediate motive.

City of Lincoln as an Illustration

If the improved results that follow making self-interest a secondary and remote motive instead of a primary and immediate motive are the results of a general law, this same law will show the same results in universal application. To illustrate: Here is a large and growing city. Is it possible for a city like Lincoln to reach its maximum growth and its maximum influence by simply living on its subsidiary territory, by making its self-interest, its supreme, primary motive? You know this is impossible. The city is dependent for its growth upon the territory which it serves. The more highly this territory is developed, the greater will be its possibilities for future growth. The richer and more prosperous this territory becomes, the more money it will have to spend, and the larger will be the share of this money that this city receives. This city is the capital city of the state. The people of the state feel that it is their city, not its own. The only way in which to make the capital great is to make the state great. The greater the state can be made to become, the greater the increase in its general and in its per capita wealth, the more will these things be reflected in the growth and in the influence of its capital city. This city will not come fully into its own until it realizes that its prosperity is bound up with the prosperity of the territory subsidiary to it, and, if it would conserve its own future interest, it will do so best through promoting the interests of the territory upon which it is dependent.

Must Have Money to Spend It

This general law finds its application in all departments of commercial or industrial life. The merchant, especially the merchant in the small town, can develop his business best by developing and promoting the business interests of those to whom he wishes to sell his goods. The more money a patron has, the more money he will spend, and the more will be the share of that money that will contribute to the business of the merchant. A true perception of what his best business interests demand will lead him to promote and to conserve the best

Iowa Rules as to Seed Corn

First—Pick seed corn before October 1, saving at least twice as much as needed for seed.

Second—Hang this seed in a dry, well ventilated place, letting no two ears touch each other.

Third—Test every ear before planting, and discard all ears not showing strong germination.

Fourth—Select fifty to 100 of the best ears and plant on one side of the field to save seed from next fall.

Fifth—Remove weak, barren and undesirable stalks from this seed plat next year before the pollen begins to fall.

Sixth—Use home-grown seed for main part of crop. Use other seed only when necessary

ness interests of his patrons. Every effort that he makes toward building up the prosperity of his trades people will increase the volume and the stability of his own business. In no other way can this be successfully done. The merchant should "tie up," to use a bit of commercial slang, with his customer rather than with his jobber. The customer's interests in the end will promote his own interests. In the long run the success of business is not so much a buying proposition as it is a selling proposition. Let him cultivate and develop the business of the persons to whom he would sell, if he would extend the amount of his sales. Here, if anywhere, immediate, primary self-interest as a supreme motive will limit future development, while self-interest used as a remote and secondary motive will develop and insure it.

Two Lines of Business Policy

Here, then, are two different lines of business policy. The one policy makes immediate self-interest a primary motive. It believes in utilizing the present for the greatest possible gain without regard to the possibilities of the future. It places upon any industry a tax as heavy as the industry can bear or as heavy as possible under co-existent conditions. It is a policy of spoliation. It is the animal's way of doing things. It exemplifies the greed, the lack of foresight and the intense animal selfishness of the hog.

The other policy makes remote self-interest a secondary motive. It is the policy of development. It believes in growth. It seeks to promote the interest of every industry with which it is connected, in order that from such an industry it may derive a greater benefit. This is the human policy. It rests upon the proposition that development in the end brings greater general prosperity, and as a result a greater amount of business. It believes that the demands of the immediate present should be subordinated to future prospects. It denies itself for the present in order that it may have a surplus in the future. It is the policy of intelligent foresight. It builds instead of destroys. It matures instead of starves. It develops the future instead of sapping the life blood of the present. Which of these two policies are the bankers in the small towns, who do business with the farmers in their immediate neighborhoods, going to adopt? Are they to remain parasites on the agriculture of their respective communities, or are they to help in development, and thus become assistant producers?

The Farmer Not an Object of Charity

No intelligent banker who has the future of his business at heart will answer this question in any but one way. He will adopt the policy of development. How may this policy best be carried into effect? Not so efficiently through organizations, or through organized effort, as through personal interest, expressed in a personal relation. There must be no pretense, nothing artificial about this interest. The farmer is not an object of charity and will not accept anything offered to him on a platter. It must come to him, to be most effective, directly as the result of a real human interest in a real human individual and in his work.

> "Not what we give, but what we share,
> For the gift without the giver is bare.
> Who gives himself with his alms feeds three,
> Himself, his hungering neighbor and Me."

No farmer will decline such help offered in such a spirit.

The banker's position and training enable him to give to the farmer the help that the farmer most needs. Hard thinking and hard labor rarely go together. The hard labor of the farmer precludes him from the clear, deep, hard thinking that the successful prosecution of his work demands. Agriculture is becoming more and more scientific. It is requiring more thinking, more study, more planning, more foresight. The banker develops, in the course of his business, the faculties of thinking, of study and of observation that can make him efficient help to the farmer if the help is offered in the right spirit. These two, the banker and the farmer, in team work, will make the most effective combination of forces for the development of agriculture that the world has yet seen. The banker may show the farmer how to cut down the cost of operation, how to eliminate waste, how to maintain and to increase the producing capacity of his soil, how to find the most remunerative markets. Taken together, they could do more to develop the agriculture of the state than could be done in any other way.

There Must Come a Change of Policy

Under present conditions, the future prosperity of your business demands for other reasons the adoption of a changed policy. The farmers have begun an agitation for cheaper money, and this agitation has already attained wide-spread development. Economic law declares that the rate of interest for a loan should be proportionate to the hazard involved in making the loan. The farmer has the best security in the world to offer for a loan, and pays the highest rate of interest. If the bankers would insure the greatest degree of future prosperity for their business, they must take some action that will forestall the results of this agitation or the farmers will take this matter into their own hands. Unless the bankers take such action, the time will come when, instead of being the money masters of their respective communities, they will be suppliants for their business.

There is another consideration for adopting this policy of development, and it is a consideration that will appeal to every man that loves his country. The time is coming—my eyes will not see the dawn of that day—but the time is certainly coming when this country will be as thickly populated as any of the countries of the old world. Each one of its inhabitants will have to be fed and clothed, and the food and the clothing will have to come from the soil. How will the nation ever sustain such an enormous burden with undeveloped resources? And it is because I love my country, because I love this, my adopted state; because the future of both is inexpressibly dear to me, that I urge you as bankers, in your personal relations to the farmers of your respective communities, to use your utmost endeavor, your most loyal devotion, to develop to the uttermost, the imperial resources of our unequalled soil.

Should Farmers Double-Crop Their Land?

By M. A. Coverdell

SHALL we double-crop the land? Our answer is, "Yes"—emphatically "Yes"; for we have reached a point when, with land worth double, and even treble, what it once was, it must be made to yield increased returns of the same ratio.

Some writers claim that the soil cannot stand this double drain, but let us consider that, after crops are laid by or removed from the fields, these fields grow up in rank weeds, which not only rob the soil of as much vitality as a profitable crop, but seed the ground to weed pests for another season.

Still, in making the assertion that our land must be double-cropped, we do so with a full appreciation of the fact that it must also be fertilized in like proportions with its productiveness, and a system of intelligent crop rotation be inaugurated that will work toward re-vitalizing and building it up.

With this thought firmly fixed in mind, every farmer can, by studying his soil conditions and the effects of various crops on that soil, reap double profits from the most of his cultivated land. It is also well to state here that the proper double-cropping of land will work toward a solution of the meat problem we are now facing, since the farmer will be compelled to feed out his crops to animals on the farm so as to secure their manure for fertilizing purposes in order to maintain the strength and vitality of his soil. We practice this system of double-cropping every season, and have yet to note any deteriorating effect on the land.

Early truck and potato patches offer the easiest and surest means of raising two crops on ground in a single season. Early potatoes are always a big price, and we hustle them right off to market just as soon as they are large enough, re-stir and harrow the patch thoroughly, then replant it to some other crop. On small patches, such crops as late sweet corn, turnips, cabbage and tomatoes may be planted. The small patch of early sweet corn also is used up at a season that will permit of its being utilized for these crops, and the same is true of most all early garden truck.

Instead of allowing the beds of early lettuce, radishes and onions to grow up in weeds, as most farmers do, why not crop them a second time? Where one does not care to harvest the early crop, other articles can be planted between the hills and in the rows about the time the first crop reaches a stage at which it stops growing. The second growth will then be ready for cultivation by the time the first is fully matured and the foliage dead, and yet there will be no robbing of the quality of the first crop.

Or, one can again plant the land at the last cultivation of the first crop, and on large or late fields this is the plan we practice most, as the soil thus is left moist and fresh, which induces rapid germination of the seeds and a healthy development of plants. By this plan ninety-day corn may be planted between the potato rows, and often will reach full maturity. It is sure to make an excellent roughage for winter feeding, or green fodder to supplement late fall pasturage, which always is short, and this is one of the very best ways it can be utitlitzed.

In this same connection we sow millet broadcast in the potato patch at laying-by, and have raised this valuable roughage five feet in height, well-headed. After the second crop is removed from the field a clean surface is left for harvesting the potatoes. Cane or Kaffir corn would do fully as well as the millet. In sowing such crops much better results will be realized if the seeding can be done before a good shower, as one cannot do a good job of harrowing between the rows, and the raindrops will beat the seeds into the ground and cover them.

Another excellent plan is to sow the potato patch to rape or turnips and utilize it as pasturage for sheep or calves when the grass grows short and dry in the late summer and early fall. Where the first crop has been harvested, so there will be no damage done by trampling it, a rape patch will be of inestimable value as pasturage for hogs and cattle at this season, or it may be pulled and thrown over the fence to the stock in given quantities each day.

Most oats being sown as early in the season as possible, the fields on which they are grown

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Great Benefits of Co-operation Illustrated

What One Community Has Done that Others May Do with Equal Benefits

THE Puyallup valley lies between Seattle and Tacoma in the Sound country of Washington. It is an ideal location for the production of small fruit. The soil is generous, the climatic conditions friendly and the topography of of the valley adapts itself wonderfully to this industry. Perhaps in no other part of the country are as fine berries grown, and grown in such profusion as are grown there; and yet during the late '90s the growers were working without organization in most strenuous competition with each other, and were unable to make wages in the berry business. Competition was so keen that buyers had the growers entirely at their mercy. The growers got from 40 to 60 cents a crate for their berries. They are now getting an average of $1.50 per crate. What produced the change?

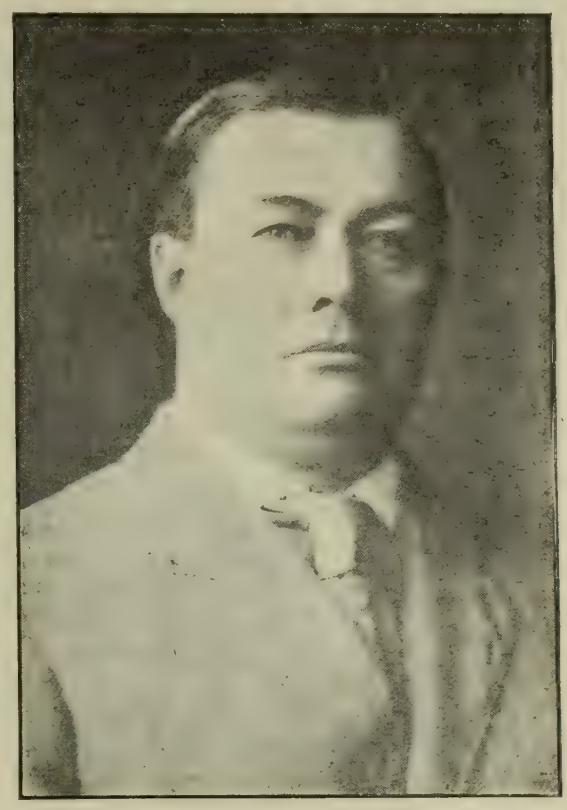
This is written for the purpose of answering that question. It is written for the purpose of showing not only how the growers were able to command such an advanced price for their product, but also to show how they were enabled to increase their production and at the same time vastly lessen the cost of living.

Organize on Purely Co-operative Basis

In 1902 a co-operative association was formed at Puyallup for the purpose of handling the berry business. It was organized on a purely co-operative basis. It was not organized as a stock company for the purpose of declaring dividends on the stock. It was organized simply and solely for the purpose of securing for the producers the greatest possible return for their output.

Of course, stock had to be issued in order to provide money with which to begin operations. At the outset 2,000 shares of stock were issued at a par value of $1 each, and these shares of stock were sold to producers. No man was permitted to own more than fifteen shares, and the organization was perfected on the "one-man, one-vote" basis. Since that time the capital stock has been increased to $2,274. The owners of the stock receive regular interest on their investment and no more. The total net proceeds of the business of the association are divided among the producing

The Whole Family Gets Busy at Berry Time



W. H. Paulhamus of Puyallup

members. Non-members are dealt with on the "cost of service" basis. And yet, with this small capital, during 1912 the association did a business of $758,291.89. It handles the total product of 98 per cent of the producers in the Puyallup valley.

It began with the idea simply of finding adequate market for fresh fruits, but it became at once apparent that a necessary adjunct to this business would be a cannery which would take care of fresh fruit for which an available market at remunerative prices could not be found.

Add Another Form of Industry

The chief production of the valley is red raspberries, of which last year it produced 69,391 crates; but it also produced cherries, gooseberries, black cap, logan berries, currants, strawberries and blackberries. Of this fresh fruit the association last year shipped 269½ cars. It also produces prunes, plums, quinces, crabapples, pears and apples. Of these it shipped last year 2,661 boxes, besides shipping 167,832 pounds of cabbage and rhubarb. During the same season there were delivered to the cannery department and put into cans 5,947,904 pounds, which made 252 cars of 40,000 pounds each, and this immense amount of business was done on a capital of $2,274.

The association has another form of industry. It buys supplies by the carload for its members—canned stuff of all kinds for home consumption, oatmeal, corn; in short, everything that the producer needs in quantity is bought by the association and sold to members at cost price. One member states that the cost of living of his family was reduced $500 in one year by purchasing his supplies from the association.

It has another form of industry of benefit to its members. Of course, with such a small capital it must borrow money from some source with which to transact its business. The security that it offers for its loans is the good faith, the earnestness and industry of the members of the association. It pays for these loans the regular rate, which in that country has been 7 per cent. Producers who had money to loan or to deposit had been in the habit of depositing it in the banks, where they received only 3 or 4 per cent for it. It finally occurred to them that it would be better to loan it direct to the association at the same rate that the association pays for what it borrows from the banks. On the first of January, 1913, among its liabilities were listed money borrowed from the banks, $65,000; deposits of members bearing interest, $61,739. So this co-operative association not only secures the highest market price for the products produced, but it also furnishes the necessities of life at a much lower price than they could be had elsewhere, and it acts as a perfectly safe bank of deposit for all members.

Holds Absolute Control of Marketing

Perhaps the most striking feature of the operation of the association is the absolute control that it holds over the marketing of its own product. It does not sell its product to retailers permitting them to name their own price. It supervises the whole business from the time that fruit is received until it reaches the ultimate consumer. It controls absolutely its own market.

The association has given such a stimulus to production through the increased price received for products that the production of the valley has nearly doubled. The valley is united in an active, enthusiastic support of the policy of the association.

For such an enterprise as this to succeed, it must have an active, judicious business manager. This association has such a one in the person of W. H. Paulhamus, the president and manager of the organization. He has behind him a board of trustees, elected by the members, but he is the controlling force, and the success of the enterprise is more largely due to him than to anyone else. He is the master of the situation and of the business. He knows markets, knows where and how to sell to the best advantage, and he "mixes" with the producers, every one of whom regard him as a personal friend, in whose hands their interests are safe. The manager, through the association, has changed the face of the country, and elevated and broadened and made prosperous the lives of all its members.

Others May Do Likewise

This story is told for the purpose of showing what one community has done through the adoption of strictly co-operative principles. What this community has done others may do.

(CONTINUED ON PAGE TWENTY-ONE)

Youthful Pickers in Puyallup Red Raspberry Field Counting In

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It is said that no man lives for himself alone. Some women do this, anyway.

It is to be hoped that the new Nebraska Live Stock Sanitary Commission will soon get their work thoroughly in hand. Live stock diseases make more serious inroads on the income of farmers than anything else.

Plano has given up the idea of entertaining visitors to the Farmers' National Congress on the Chautauqua plan, and will provide lodging and meals for all visitors either in hotels or with private families. If the attendance is large, it will test Plano's capacity for entertaining.

The only men that intelligently object to deep plowing are the men that plowed deep in the spring and then got no rain on the deep plowing. For this reason some of them are advocating shallow plowing. They most assuredly have the "wrong sow by the ear." It takes a little gray matter to make intelligent use even of deep plowing.

The Minnesota pure seed law provides that the label on seeds shall state the commonly accepted name of the seed, the percentage of germination and date of test, the approximate percentage by weight of each kind of weed seed present, the percentage by weight of pure seed, the name of the state in which it is grown, and the name of the firm selling the seed. It will be a curiosity to see on an alfalfa seed label that part of it was grown in Louisiana or Mississippi, part of it in Arizona or Utah, and the rest of it in some northern state.

Growing Colts Outdoors

The outdoor system of growing the horse from earliest colthood to maturity is gaining favor even among breeders of pure-bred horses. A study of the habits and customs of the western range horse has taken root in the practical observance of outdoor wintering of colts among many of the best horse breeders and raisers in the country.

It is this range-bred horse of America, this open, free-lifed animal who has earned the reputation in actual test of withstanding great privation and hardship in army life, of being the toughest, the most enduring and serviceable horse under great pressure of any type of the equine race. It is this range-bred horse, brought up under outdoor range conditions, whose alertness and constant activity has practically revolutionized the system of growing the colt on the farm. Many of the leading breeders of the American draft horse have adopted, in part, the outdoor range method of developing the draft colt, and have found it profitable and of great economic advantage.

The Department of Agriculture, in its effort to restore and build up the once famed Morgan horse to his former prestige as an animal of great endurance and superior energy, has adopted the winter pasturing method of treatment for the colt—open life, outdoors, with a shed to go into at will; no confinement, no restraint, every-day, out-of-door exercise each day of the year. This is only the common sense, practical application of how to develop the sound, healthy colt into a vigorous, active horse of endurance and worth.

Horse raisers should profit by the experience of those who have practiced the all-year pasture method of growing the colt. Plenty of hay in the crib where the colt has free access to it, some grain fed each day, a closed shed or barn where it can get in out of the cold, wind and storm when occasion requires, and the free range of the pasture at all times, is the method that produces the best of animalkind in constitution, vigor and general principles of soundness.

Machinery on the Farm

The value of machinery on the farm depends to a great extent on its intelligent use, or its extravagant abuse. The farmer should have the best improved machines and implements to properly cultivate the crops and develop the producing resources of the farm. There is such a thing as over stocking the farm with machinery. This indiscretion in the purchase of machinery is almost as ruinous in farm management as a too stinted use of machinery.

A very successful Nebraska farmer, on being interrogated as to his rather large supply of cast-aside machinery, not wornout, said: "When I read of some new machine or implement represented as a labor saver, I investigate it at once, with a view to determine how much it would save me in time, labor, horsepower and general expense in the work it is to do. If upon investigation I find that it beats anything I have, then I figure up just how much. If I can do more work with it, or as much, and save one man or a team or a horse even, then I figure the wages of the hand, his board, investment in the team, etc., and such other items that naturally come into such an estimate, and I soon determine whether I can afford to keep on using the machine I have, or best lay it aside, even if practically new, and buy the new labor-saving machine. It is not a question of having a machine that will perform the work, but one of labor-saving and completeness of work performed."

There are many abuses of machinery that render them inoperative and useless to a very large extent that should be corrected. This, however, is a matter of personal shiftlessness and laziness on the part of the farmer or machine owner. It is a lamentable fact, even in this age of improvement and progress in farm work and farm management, that some farms—we might say many farms—are without machinery sheds, and the farm machines and implements are scattered over the farm where last used and left out the whole year round. Some are more thoughtful and observe what they call system by congregating the machinery in one place, usually in the barnyard, and line them up alongside of a barbed-wire fence for protection and shelter.

The tool house and machine shed need no advocacy to the farmer with any sense of saving or care on the farm. The machine shed should be located with a view to convenience in use and storage. It should be located so as to be readily and easily backed into with all machines or wagons to be stored, and as easily hitched to when needed for service. The closed-tight shed that excludes live stock of all kinds, even poultry and pigeons, is important. Machines thus protected will last three or four times as long as the exposed-to-the-weather machines. Besides, it is more respectable and farmer-like to be neat and saving. The outdoor storage doesn't look good even to the lazy, careless fellow that practices it.

It pays to buy machinery when its saving advantages are manifest, and it pays to give it proper care at all times.

The government has granted to the city of Grand Junction, Colo., a permit for a conduit on the battlement of the national forest reservation for water with which to operate a municipal hydro-electric plant. This is an instance which makes apparent the policy on the part of the government of co-operation with states, counties and municipalities for the common welfare.

Don't be too general or too universal in statement. Nearly all the authorities are now saying, "Don't sell cows and heifers." This should be amended to read, "Don't sell good cows and good heifers." Cows and heifers that cannot be made to pay for their keep, to say nothing of producing a profit, should be sold, and the sooner they are sold the better.

The Corn Crop

The corn crop damage of 1913 has resulted in a great disappointment to everyone at all interested in business operations and the general producing interests of the country. There has been no attempt to shoulder the responsibility of crop failure upon local influences or local conditions which might have been controlled, nor was anyone able to suggest any neglected means of defense, except, possibly, a lack of moisture conservation from which the scientific tiller of the soil may have secured some comfort. This, in some instances, is all that was left that might be called a lesson or benefit in this long-drawn-out period of drouth, which is most plainly illustrated by the Kansan, who, when being admonished by a dry farming expert that he should have conserved the moisture by a certain process of cultivation, interrupted the speaker by shouting: "But when there is no more moisture in the soil to conserve, then what are you going to do?" This was too frequently the case in many sections experiencing the recent prolonged drouth. There was no moisture to conserve.

The corn crop provides one of the greatest food resources for our people. The present shortage reported, though it may be over-estimated in the aggregate, is already appreciated in the trade centers and means a new factor in increased cost of living and higher prices for many of the articles of diet that go into the homes of the laborer. It is scarcity that increases the cost of corn, and the cost of the many food and feed products in which it is used as a part. There is practically no substitute for corn in its many uses, especially on the farm, as a feed in the preparation of the meat-producing animals for the market.

In the great corn belt country of the United States there is scarcely a possibility of large meat production without corn. Corn is really more in need as a stock feed in the country where produced than in the food products manufacturing trade, since its feeding value has become a fixed principle in live stock operations and nothing can be substituted for it. The wise farmer and feeder first grows his crop of corn and has it in his cribs before he provides his animals for which it is intended. A crop of corn is thus in the crib each year in advance. This is the security some farmers demand who are successfully converting their grain crops into beef and pork. The old corn now on the farm will be consumed on the farm, but next year will find empty corncribs and empty feed lots over a very large portion of the drouth-damaged country until the 1914 crop is produced and made a certainty beyond weather damage.

The increased storage of corn silage will be a much stronger factor in feed supply than ever before and will greatly assist both in the feed yard and in the wintering of the farm stock.

What has become of all this talk of prosecutions for infringement of the Harder patent? Was it bluff? If so, the public in the future will keep its eye on the bluffers.

The Professional Exhibitor

There has been a great deal said and written about the professional exhibitor, and yet he has never been definitely defined as an undesirable factor at the live stock show. Any person who has stock good enough to share in the prizes and honor of the show ring and has followed up the shows of prominence in the country may acquire the reputation of being a "professional exhibitor." It should not be, and is not, to the discredit of any breeder of live stock to be reckoned as a professional exhibitor.

There is a difference, however, between exhibitors of prominence, while each may be entitled to the credit of "professional exhibitor." There are exhibitors of prominence who are not breeders of prominence. There are persons who are quite prominent and energetic in the show ring whose show herds or flocks are not of their own breeding or production, yet they acquire show animals of sufficient merit to keep themselves in the ranks of the "professional exhibitor."

Some critics of the show ring advocate that each exhibitor should confine his herd exhibits to animals of his own breeding. This would be an unjust discrimination. The highest honor in breeding and show ring reputation should be, and is, in the classification where all animals are bred and owned by the exhibitor, except, perhaps, the herd bull. The herd exhibits representing the work of the herd owner are the strongest educational feature of any show and carry a feeling of pride and satisfaction to the exhibitor that are worth more to the ambition of man than money.

How Best to Market Wheat

The Farmers' Union, at its recent annual convention, issued a statement to the public in which it said, among other things, that wheat, in order to be marketed at a profit, must sell throughout this territory at not less than $1.05 a bushel. Most of the wheat marketed from farms in this territory this season has brought an average price of 76 cents. If the Farmers' Union's statement is correct, and it probably is, every bushel of wheat so marketed was marketed at a loss of 29 cents.

The question is, What are the farmers going to do about it? Are they going to continue to raise and sell wheat at a loss? Will they continue to be content with the gross sum of money received for the crop, regardless of the cost of the crop when all elements of cost are taken into account?

In order to prevent this loss, one of two methods of operation is open to the wheat grower—he may either feed his wheat on the home farm, converting the raw material into a finished product of human food, or he may stop growing wheat and grow in its place other crops that will pay him better.

With reference to the first method, it may be stated that with corn at its present price, wheat may be fed in such a manner as to net the grower the $1.05 per bushel necessary to protect him against loss. In order to do this the wheat must be economically and judiciously fed, and fed in such a way and to such live stock as will return this price.

With reference to the second method, it may be said that there is no obligation, moral or economic, upon anyone to raise and sell grain at a loss. As soon as the production of wheat drops to a certain point, the price will rise. Not until the price reaches $1.05 will it pay a farmer to grow it. The farmer must protect himself. Over-production, coupled with a manipulated market and vicious combinations among market men and millers, have kept the price of wheat too low. Taking the world's supply of wheat into account, there is no economic reason why wheat should not be worth more in the general market than $1.05 a bushel. If the supply of wheat is lessened, the demand will be increased, and when this process has gone far enough the price will rise to a point at which the farmer can afford to grow and market wheat. Until then it stands him in hand, for economic reasons, to lessen the production of wheat and turn his attention to other forms of agricultural industry which will pay him better.

Atmospheric Humidity

As the season for artificial heating of the dwellings, school houses and business buildings approaches it becomes necessary, in the interest of the general health, to pay some attention to this matter of atmospheric humidity. The invisible moisture that is carried in the air sustains a very close relation to health.

The air passages of all people, as well as of all animals, are lined with mucus membrane, which secretes a mucus fluid that protects it, keeps it moist and soft and sensitive. If this mucus fluid is dried up it leaves the membrane dry and hard and incapable of performing its ordinary functions. A dry air dries up the mucus membranes of the air passages.

In the ordinary dwelling house, business building or school house that is artificially heated, the percentage of moisture in the air runs sometimes as low as 24 per cent and is rarely above 28 per cent. This is drier than the air of the Sahara desert, which is usually about 30 per cent. The average moisture content of the outside air is about 60 per cent.

It is unhealthful to the last degree to expose the mucus membrane to such violent variations in the moisture content of the air. Bad results follow such exposure. It is well known that the season of artificial heat in dwellings, business buildings and in school houses is the season of pneumonia, bronchitis and of general colds. This is largely due to the lack of sufficient moisture in artificially heated rooms.

The degree of moisture in the air may easily be determined by the use of a hygrometer, which may be had almost anywhere where atmospheric instruments are sold. The use of a hygrometer, and careful attention to what it teaches cannot be too strongly urged, especially upon those who have the care of children on their hands.

A Woman Who Has Brought Up Over 17,000 Babies

And does it by mail and with such astounding success that doctors not only marvel how she does it, but concede that she has saved the very lives of hundreds of babies. She has a marvelously complete service that keeps her in personal touch with the mother of the baby, from month to month, for 24 months, and tells, every 30 days, exactly how to feed, dress, wash and take care of the baby.

She is Doctor Emelyn Lincoln Coolidge, the Baby Editor of *The Ladies' Home Journal*, and it is through the personal service back of the magazine that this marvelous work is done with the mother readers of *The Journal*.

Of all the 21 departments of *The Ladies' Home Journal's* personal service this Baby work is unquestionably the greatest and the most important, hundreds of mothers frankly crediting to Doctor Coolidge the very lives of their babies.

Just now Doctor Coolidge has over four thousand *Ladies' Home Journal* babies under her charge; her total in four years has been over 17,000 babies.

Each month Doctor Coolidge has a regular department in *The Ladies' Home Journal* that tells about this marvelous work. And it is free to every reader: the most expert baby-health advice without a penny's cost.

A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

THE CURTIS PUBLISHING COMPANY
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PHILADELPHIA, PENNSYLVANIA

Starting in Sheep Breeding

Selection of the Foundation Animals

THE breeding basis of every flock enterprise is the individual quality and character of the ewes and rams composing the flock. It is, therefore, important that great care be exercised in the selection and purchase of these animals. It is scarcely necessary to suggest that the better the quality selected to start with the greater the advantage the flock owner has in acquiring a reputation for good stock. Again, life is too short, the improvement of live stock in the nands of skilled breeders is too rapid and too positive for anyone to commence away down the line with the ordinary grade animal and hope to produce what would satisfy the ambition of the present-day progressive spirit in live stock accomplishment. "The best is none too good to start with," is a motto that has become quite popular, and the tendency in this direction is commendable.

It is an advantage in starting the flock to buy ewes of one type, of one line of breeding, bred by one flock owner. There is nothing more desirable in flock quality than similarity of the animals comprising the flock. This is one of the features the critical breeder looks for when his sight first meets the strange flock. Uniformity, a family resemblance, is evidence at once of blood and breeding character in a ram. The ability of the sire in transmitting his characteristic qualities to his offspring is influenced by the hereditary tendency of the ewe flock. Buy good ewes; get as nearly all the desirable properties in these ewes as you can to start with. This is the essential guide in flock improvement.

The hereditary tendency of the ewe flock, when all of one breeding or flock character, the result of many generations of descent through careful selection and breeding of the ewes, is an influence, the value of which can scarcely be estimated by the breeder, especially in the starting of a flock. Such a basis makes the work relatively easy compared with a flock of breeding ewes composed of individuals bought here and there all over the country, a few from this flock and a few from that, notwithstanding they are all good ewes from their individual measurement or scoring. In general observation in the founding of a flock select for constitution in all its requirements, making fleece a secondary matter rather than placing it first. It is easier to add fleece qualities than to correct constitutional defects.

The best age for the starting of the ewe flock is 2-year-olds. They should be given good care from the close of the summer grazing season through the autumn months to the breeding season, which usually commences the first part of November. This will bring the lambing period in April. The period of gestation with the ewe is 152 days, or five months, roughly estimated. For early lambs, commence the breeding earlier, just to suit your ideas and purposes, remembering that the earlier breeding will bring the lambs in colder weather, and necessitate more care, warmer stables, more feed, and usually result in a little higher death loss of lambs if all these requirements are not carefully observed.

A strong, well-fleshed ewe is in proper physical condition for the best breeding results. Ewes that have suckled lambs up to the September weaning period need extra care after their milk flow has ceased and the udder becomes normal, in order to have them in a condition of thrift and taking on flesh when the breeding season commences. It is one of the most damaging conditions possible to have the ewe flock in an unthrifty, thin, weak physical condition. The lambing season is lengthened and a less vigorous crop of lambs is the result usually.

One of the essentials in flock management is the constant observation of the ewes, the keeping of the ewes at all times vigorous, well supplied with pasture, water and salt in the grazing season, and well fed and well exercised throughout the feeding and yarding season. If there is money to be made in breeding sheep, it is in doing it right. Sheep, while they may be used as scavengers on the farm, must be given plenty to live on, and well provided for at all times, and be looked after a little each day.

The breeding season and management of the breeding ram will be treated more particularly in a later article.

Raise More Cattle on Farms

Discussion on the Subject by One of Our Readers

THE desirability, not to say necessity, of raising more cattle on farms is becoming more apparent every year. Improved feeding methods, greater familiarity with the silo, and other resources of stockmen in lean years, have been brought to the front emphatically this season. The value of cattle as an investment has also been impressed on owners more forcibly this season than ever before. But, while most stockmen admit the scarcity of cattle, and the increasing difficulty of securing desirable stock cattle and feeders at reasonable prices, comparatively few of them have grasped the idea that it is practical and profitable to breed and raise more cattle at home sufficiently to put it into practice.

When cattlemen in the dry belt were reported panic-stricken a few weeks ago, hundreds of buyers appeared at the river markets, particularly Kansas City, from those sections of the country that have corn prospects, ready to buy the sacrificed cattle. These buyers, many of them from east of the Mississippi river, reported that Illinois and states east were bare of cattle. Last year cattle were short there, but this year there are practically none in that section. That report is verified by the immense throng of buyers that have been on the river markets constantly since the first of August, and by the even greater reserve list of orders in the hands of commission men at the stock yards, to be filled when opportunity offers —that is, on the first break in the market. A buyer from Indiana, who supplies a certain feeding district in that state with raw material every fall, sent as many cattle to that district up to the middle of August from Kansas City as he sent there during the entire season last year, and he states that he can place 200 more cars there.

Theory and Practice Do Not Mix

The immense demand for cattle from farmers and stockmen this season is largely for something to convert into beef in short order, and only a very small share of it is for breeding stock. Occasionally men appear on the market in search of stock cows and heifers for breeding purposes, but it is too true that a great share of the talk about raising more cattle on farms, with its many advantages in enriching the farm, making the one who does it independent and care free when it comes to securing cattle for winter feeding or spring grazing, and a host of other desirable features, is accepted as a theory, but as far as being put into practice goes it is nil, when the great body of farmers and stockmen are considered.

At a meeting of the Iowa Breeders' Association at Des Moines last winter two theories were put forward for raising cattle on farms, by practicing either of which, it was said, the business could be made to return 6 per cent on land worth $250 an acre. Briefly, one of the methods was to produce baby beef, the other a milk and beef proposition. By the first method the calves were allowed to run with the cows from birth, sometimes putting two calves with one cow. At the age of 2 months additional feed is given the calves, and they are pushed with fattening rations till marketed, usually at 13 to 18 months of age, when they weigh around 1,000 pounds. This beef is of choice quality and brings close to top market prices. The second method proposed to raise calves on skim milk and make butter from the cream or sell it at the creamery. By this method the calves approached maturity more slowly, being ready to market at 24 to 30 months of age, when they would weigh 1,100 to 1,200 pounds each. These calves would not be quite as highly finished as those matured by the first method, but there would not be a great difference in the net profit.

Practice of an Illinois Man

Getting away from theory and down to actual practice, an Illinois man, L. B. Spencer of Adair, that state, was at Kansas City recently buying breeding cows. "We simply must raise cattle at home," Mr. Spencer said. Then he went on to explain his system to a group of farmers. He said:

"I have been practicing on dairy calves. I have a few fresh cows around all the time and I manage to have each of these cows raise at least half a dozen calves during the summer. I get the veals when they are but a few days old and put them with the cows. After they are about a month old and can eat a little ground feed I take them off and put in a fresh lot, and so I keep it going. While these calves are not the best kind for beef purposes, at the same time I can make pretty good cattle out of them by giving them good care.

"Of course, the cows I bought here will produce a lot of calves of the high-grade class; so, by using the cows I have and working them the way I have started, together with the string I have bought here, I expect to raise a considerable number of calves. Then there is another item in connection with raising cattle on high-priced land that must not be lost sight of; that is the feed. Cheap feed we must pro-

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Such an ideal food is found in Grape-Nuts, made of whole wheat and barley by long baking and action of diastase in the barley which changes the starch into a most digestible sugar.

The phosphates also, placed up under the outer coat of the wheat, are included in Grape-Nuts, but are lacking in white flour because the outer coat of the wheat darkens the flour and is left out by the miller. These natural phosphates are necessary to the well balanced building of muscle, brain and nerve cells.

"I have used Grape-Nuts," writes an Iowa man, "for eight years and feel as good and am stronger than I was ten years ago.

"Among my customers I meet a man every day who is well along in years and attributes his good health to Grape-Nuts and Postum, which he has used for the last five years. He mixes Grape-Nuts with Postum and says they go fine together.

"For many years before I began to eat Grape-Nuts I could not say that I enjoyed life or knew what it was to be able to say 'I am well.' I suffered greatly with constipation, but now my habits are as regular as ever in my life.

"Whenever I make extra effort I depend on Grape-Nuts food and it just fills the bill. I can think and write a great deal easier."

"There's a Reason." Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

vide in some way. This year I am building four silos, which solve the problem of cheap feed. The same amount of corn converted into silage will go more than twice as far in providing forage feed for stock cattle, or for feeding cattle, than if it were handled in any other way. Our corn crop this season is not up to normal, but when used as silage I can do considerable more with it."

It will be five years, probably ten, before cattle production begins to catch up with the demand; possibly it may never be any nearer equaling the demand than now. In the meantime it would seem that more profit can be made in stock raising now than ever before and that investments are secure from a slump in the business. Pure-bred animals may be bought at low prices, as compared with market prices for beef animals, and herds may thus be improved constantly. Breeding cattle on farms is a branch of farm activity that offers as good a chance for profit at least as any other line.

J. A. RICKART.

Cream Separator Suggestions

AS in any other piece of machinery, buying a cream separator should be regarded as an investment that returns the biggest dividends by securing the best—even though it cost considerably more — since it will last practically a lifetime, and the satisfaction and profit derived from it through a period of that length will more than counterbalance the slight difference in first cost.

There are three essential points to bear in mind, when buying a cream separator; viz: Make of the machine, capacity and price. These points should be considered in the order given, the quality of the machine being most important, the proper capacity to meet one's needs coming next, and the price being really of least importance, on account of there being so slight a difference between the cost of a reliable make of separator and one that is practically worthless.

In selecting a cream separator aim to secure one that is first class in quality and of reputable make; one that runs light; skims close; is easy and simple to put together; with low-down tank; handle that will admit of one standing erect while the separating is being done; and that is easily and quickly taken apart and cleaned.

There is a point on which many purchasers of a cream separator make a mistake by choosing a machine of small capacity in order to cut down the price. Where the capacity is small, it will take longer to run the milk through the machine. Even where the dairy herd is small in number, it will pay to get a separator of at least 600 pounds capacity per hour. Such a machine will handle the milk from eight cows in a reasonable length of time, and if any less than this, it will only expedite matters and save time.

Price is a thing about which we cannot give very definite advice through the columns of this paper. We would say, however, that one should buy a machine which you or some friend in whom you have confidence know to be thoroughly reliable and from some manufacturer who can supply you with repairs. The cost is a matter that you must decide for yourself, although we would not advocate buying a separator of unknown manufacture or questionable quality, no matter how low the price.

The manner in which a cream separator is run will have much to do with its usefulness and length of life. Oiling of the separator should be done regularly.

An even turning of the handle is imperative, as either a faster or a slower motion will result in a loss of the cream. Also, in starting the machine or increasing the speed, it will need to be done very gradually, especially at the first turn or two, or the high-geared working-parts will be damaged by the sudden strain to which they are subjected. Some kerosene run through the separator occasionally will cut loose and remove dirt, gum and surplus oil from the working-parts, preventing wear and tear and causing the machine to operate much easier.

All tinware about the cream separator should be given special attention as to cleanliness, in order that the cream may not be tainted by the sour milk being left on some of the parts. Thorough scalding with hot water is imperative after each separation, and if the vessels can be set out in the sun after washing, so much the better, as the sunlight will aid in the destruction of germ-life.

M. COVERDELL.

Should Farmers Double Crop Their Land?

(CONTINUED FROM PAGE SIX.)

offer a place where all of the above mentioned crops may be planted as a second crop. We mow the oats while they are yet in the "milk," which can usually be done late in June or very early in July, allow them to cure out well, then rake and stack or mow them away for winter feed. This forms an excellent ration, as it supplies both grain and roughage at the same time. Just as soon as the oats are off the ground, we stir it as quickly as possible, sow it to millet and give it a good harrowing to induce rapid germination and to form a smooth surface for cutting the next product. As a rule, the second crop will be well out of the danger from early frosts in ample time for it to be mown for roughage before it is thoroughly ripened. This insures more tender blades, a less woody stem and heads of grain that are not mature or heavy enough to be undesirable for furnishing the grain portion of the ration. These points must be borne in mind when feeding out either the oat hay or millet, else too much grain will be given for the amount of roughage consumed by the stock.

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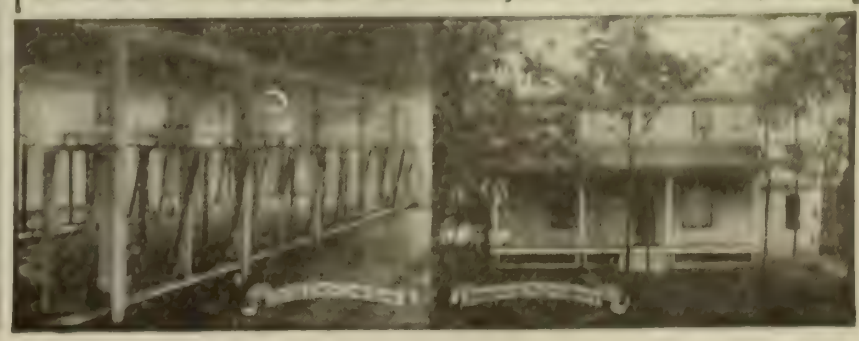

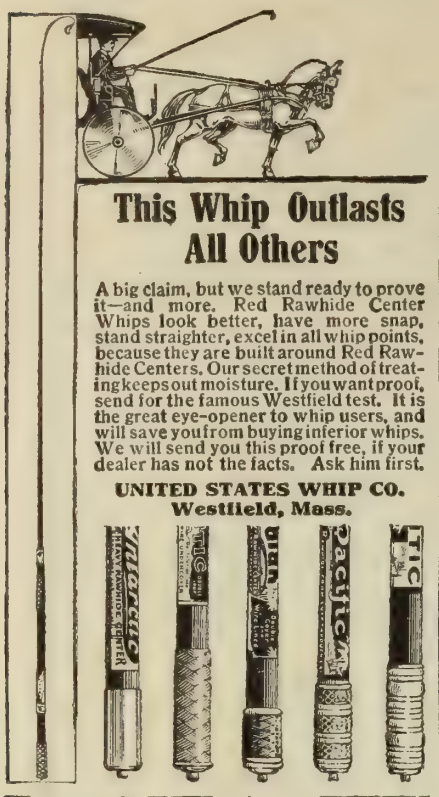

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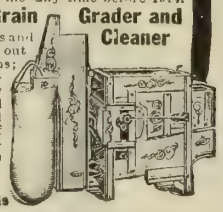

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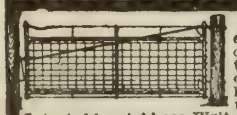

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Of Interest to Our Women Readers

Home Joys

An ache in the back and an ache in the arms,
All on account of the baby.
A fear and a fright and a thousand alarms,
All on account of the baby.
From cellar to attic a clutter of things,
From morning to night and to morning again,
More fuss and more fume than an army of men;
And a head that is stupid for lack of its sleep,
And a heart where a flood of anxieties leap—
All on account of the baby.

A joy in the heart and a light in the eyes,
All on account of the baby.
A growing content and a growing surprise,
All on account of the baby.
And patience that conquers a myriad frets,
And a sunshiny song that another begets,
And pureness of soul as a baby is pure,
And sureness of faith as the children are sure,
And a glory of love between husband and wife,
And a saner and happier outlook of life,
All on account of the baby.

Our Home Chat

At a number of the state fairs this year the most interesting department to the women, and to many of the men as well, was the better babies exhibit. Hundreds of babies were examined physically and mentally and scored on official score cards. The child having the highest per cent—that is, approaching the nearest to the ideal—was awarded the premium.

Mrs. Mary T. Watts of Audubon, Ia., claims to be the originator of these baby contests. She saw, at the various county fairs, how well the live stock were cared for and how carelessly the children were allowed to grow up, and the idea occurred to her that perhaps the human race might improve as fast as the live stock if the same attention were given the children and the same knowledge had of proper feeding and care. She first tried her plan at a county fair in Iowa and it was such a decided success that the Iowa State Fair Board took it up. Since that time it has received the support of almost all the state fair boards, of women's clubs and women's magazines all over the country, and will no doubt do an immense amount of good.

***

The baby health contest at the Iowa fair this year was under the management of Mrs. Watts and was remarkably well conducted, considering the inadequacy of accommodations. Tents were used, and the quarters became most uncomfortably warm in the latter part of the morning and the afternoon. The windows were surrounded by crowds of interested spectators during the whole time. Iowa owes this department better quarters in the future and it is to be hoped that another year will not pass before these are provided. The sweepstakes at the Iowa fair were awarded to Marjorie Page of Sheldon and Homer Howell of Ottumwa, both city babies, and both the children of physicians. The rural babies were not much in evidence at the Iowa fair.

***

At the Nebraska State Fair a corner of the new agricultural building was given over to this department, and the large corps of doctors, nurses, scorers and mothers in attendance had plenty of room and comparative comfort, considering the excessively high temperatures that prevailed all week. Mrs. M. E. Vance, in charge of the better babies exhibit, managed all these people, and the nearly 600 babies which were examined, in a truly wonderful manner. It was pleasing to note that there were many rural babies entered at the Nebraska State Fair and that they were in evidence in the list of premium winners. Orville Haning of Walton, whose picture appears herewith in the process of being examined and measured and who was adjudged the most perfect boy in the contest, is a rural baby. His score was 99 per cent, just within one point of perfection. The most perfect girl, Genevieve Chapman of Ceresco, is a town baby.

Orville Haning, the Prize-Winning Baby at the Nebraska State Fair, Taking His Psychological Examination Under Dr. G. E. Spear

Many mothers were sorely disappointed that they had not entered their babies, as they did not understand just what the contest was and were afraid that it would not be good for the babies. Some of the children were frightened and cried as if they were being hurt, but the doctors handled them as gently as women could have done and not a child was injured in any way. The leading physicians of Lincoln gave their services day after day most generously to this work. There are now nearly 600 mothers in Nebraska who know more about their babies than they did before the State Fair. Some know that their children's teeth need care, some that the eyes must be looked to, some that their babies have been allowed to walk too soon. Even where it is too late to correct mistakes now, the young mother may avoid making the same mistakes with some future baby and thus the better babies contest will have fulfilled its mission in many homes. THE EDITOR.

Dr. Roscoe Smith Measuring the Prize Baby—Dr. Laura Brown with Tape, Mrs. Haning, Dr. Taylor, Dr. Adams and Dr. Waite

Dangers Around Farm Household

Have a safe place for all pins, needles and buttons, keeping them out of the reach of small hands.

Unless the chimney is kept well cleaned out, the accumulating soot is apt to catch fire, burning with such fierceness that it sets the house on fire.

Set lighted lamps high and safe from little hands, especially avoiding setting them on stand covers, which, if pulled off, would drag the lamp off with it.

Make sure that the ashes have no "live" coals or sparks in them when emptied out where the wind will blow and scatter them, firing some of the outbuildings or the farm home.

Never set a vessel of boiling water

down and leave it anywhere for an instant. It takes a little one only a second or two to toddle into such a horrible death. Take no such risk.

If the children were early taught never to play in the fire nor the ashes, it would greatly lessen the danger of their catching afire and burning up, or setting fire to the carpet and burning the house down.

By painting the gasoline can red and the kerosene can blue, with the name of the contents of each can plainly printed thereon, then keeping them strictly separate, we would hear of fewer of these horrible accidents with gasoline.

Small children should be cautioned early in life never to touch such sharp-edged tools as the hatchet, axe, scythe, hoe and cornknife; then, as a further insurance of safety, these dangerous tools should be put up out of the reach of small people.

While it is a thoughtless trick, it is also a careless one, for the housewife to set a dish of hot food or a vessel of hot coffee, tea, etc., where the hands of her little ones can reach it, or on a cloth where they could drag such vessels off on them.

A neighbor's little child, playing around a swill barrel, which was thought to be where it could not reach it, was found drowned in that barrel only a very few moments after the mother had looked out and seen her little one safe and sound. Make the swill barrel doubly safe.

Scissors, knives, forks, can openers, lead pencils and all such sharp or pointed instruments of every kind, we try to keep where the little fellows will not get hold of them. With their tottering steps, it is painful to think of what might happen if they were to be carrying one of such articles and fall down.

A well or cistern, no matter how large or small the opening, ought never to be left open for a minute, even while going into the house to empty a pail of water. If none of the poultry, live stock or children fall into it, bugs, worms, mice and rats often do, tainting the water and making it unfit for anyone or anything to drink.

Instead of lighting the fire, then pouring coal oil (kerosene) on it, pursue a safer course by pouring a small quantity of oil on the fuel and sticking a lighted match to it. Still better and safer, fill a small can with oil, drop three or four corncobs into it every night and let them become thoroughly saturated with the oil. They then make fine fire lighters the following morning.

One should absolutely forbid the little ones being anywhere around the washing machine during wash day. They not only get in one's way, but the baby fingers are apt to get painfully pinched or cut off in the wringer or the gearing of the washing machine; while there is constant danger of their having a vessel of scalding water spilled on them, or they may fall into a vessel of it that has been thoughtlessly left open. MRS. M. COVERDELL.

Missouri.

Kindly Comment

A child made some complimentary remark about a playmate to a companion, and was shocked a short time after to find that the remark had been repeated to the child of whom the words were spoken. Chided for being a "telltale," the little one naively replied: "So many things are said that are not nice that I think all of the good ones ought to be told."

Unless there are evidences that vanity is being cultivated, any little word of encouragement will help baby in the same way that it helps older people. When the first steps are being learned, the fact that grandma notices how well the little one can walk will give it increased confidence and strengthen its pride. When the first words are lisped, encourage it by remarking that Aunt Emma spoke of how nicely it could say "mama."

After the toys are put away, your guest may comment upon how nicely this is done. Do not hesitate about repeating the good word. Baby will feel as happy over it as you would over a compliment regarding some special achievement. Little things are really big to him. And the child who felt that any kind remark ought to be reported, especially when so many things are said which are not exactly kind, was a wise little philosopher. BESSIE L. PUTNAM.

Comforter Covers

Dear Editor—Having been an interested reader of your paper for years and having found so many helpful hints in the women's page, I have often felt that I should like to tell a little of my experience, too. I never have tried to do so thus far, but will start today, because, when Mrs. Shepler talked about sheets and pillow-slips, I wondered if some of the sisters might not like to know the way in which we fix our comforter sheets in Germany, and in fact all over Europe.

I make my sheets with an inch-wide hem all around. They are just the width of the comforter, but ten inches longer. This surplus is meant to lap over at the head, thus saving the part that is most used. Any trimming of lace, insertion, embroidery, scallops or even plain tucks on this side will make the sheet look nice.

At regular intervals in the hems of the sides and foot I make button holes and put buttons to correspond on the comforter. I also put buttons on the upper side of the top of the comforter to correspond with button holes in the hem of the sheet. It is so little trouble to make these, and it saves so much hunting for the sheet, that everyone will be glad who tries it.

We make comforter covers, too, which lap over all four sides, protecting the edges. In these a little triangle has to be cut out of the corners and the edges sewed together so they fit right over the corners of the comforter. This is quite a little more work, and is more expensive, too, as it takes so much more trimming, so I would suggest it for guest sheets only.

With friendly greetings to our dear editor and all the sisters.

Minden, Neb. MRS. W. S.

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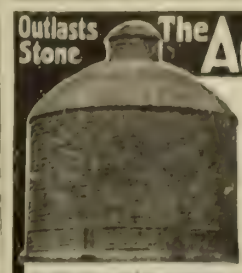

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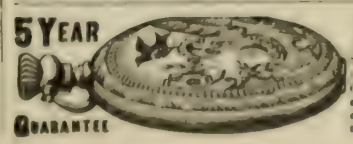

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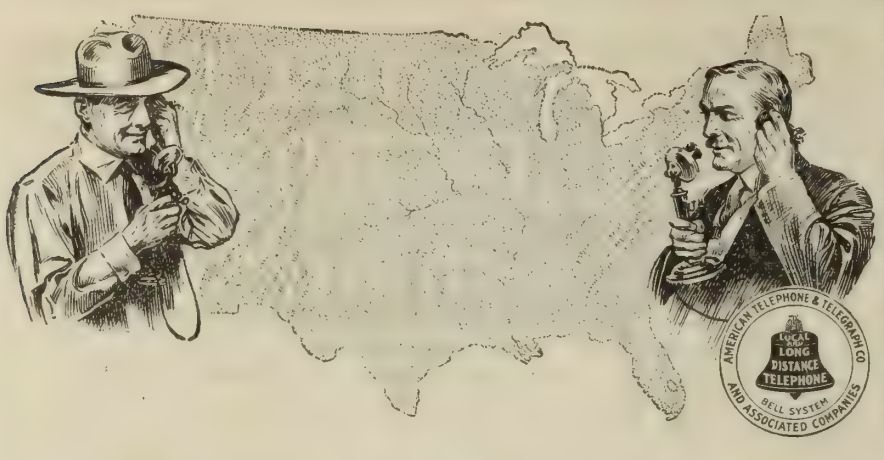

The Merger of East and West

"But there is neither East nor West, Border, nor Breed, nor Birth,
When two strong men stand face to face, tho' they come from the ends of the earth!"
—KIPLING.

In the "Ballad of East and West," Kipling tells the story of an Indian border bandit pursued to his hiding place in the hills by an English colonel's son.

These men were of different races and represented widely different ideas of life. But, as they came face to face, each found in the other elements of character which made them friends.

In this country, before the days of the telephone, infrequent and indirect communication tended to keep the people of the various sections separated and apart.

The telephone, by making communication quick and direct, has been a great cementing force. It has broken down the barriers of distance. It has made us a homogeneous people.

The Bell System, with its 7,500,000 telephones connecting the east and the west, the north and the south, makes one great neighborhood of the whole country.

It brings us together 27,000,000 times a day, and thus develops our common interests, facilitates our commercial dealings and promotes the patriotism of the people.

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Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6232—Girls' Dress—This pretty frock has a box plait from the shoulder to the hem at each side of the front and of the back. There is also a small underturned plait at each of the side seams. The general cut of the dress is in sacque style, with no division at the belt. The pattern 6232 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 3⅞ yards of 36-inch material.

6147—Ladies' Skirt—The skirt illustrated herewith can be cut in either four or five gores. The closing is at the front. The skirt would be a good design for the completion of a coat suit. Serge, cheviot, broadcloth or any of the striped materials can be used to make this skirt. The pattern 6147 is cut in sizes 22 to 30 inches waist measure. Medium size requires 3¼ yards of 44-inch material.

6146—Ladies' Box-Plaited Shirt-Waist—This pretty waist is made with two box plaits at the front. The back is plain. It is made with low neck and short sleeves. Linen, madras or messaline can be used to make this waist. The pattern 6146 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2½ yards of 36-inch material.

6202—For One or Two Materials—This design will allow the maker to employ either two materials or a single one, according to taste. The blouse is the usual plain style in cut, but is is provided with bib facings, which may be used or omitted as desired. The neck opens in a deep V, but inside this there is a small vest, and at the edges is attached a smart collar. The pattern No. 6202 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5⅝ yards of 36-inch material.

6123—Ladies' Shirt-Waist — The shirt-waist herewith illustrated can be made with either the long or short sleeves. A tuck at each shoulder gives the necessary fullness. Linen, pongee or silk can be used to make this shirt-waist, with the collar and cuffs of contrasting material. The pattern 6123 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material, with ¾ yard of 27-inch contrasting goods.

11-11-2517—Two Safety-Pin Cases—These cases are covered on one side with linen and on the other with white silk, and tacked together at the top with flannel leaves between. Green linen, with the flowers and dots in white and leaves and stems in a darker shade of green, is a pretty combination.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

Sunny Smile

Sunny Smile, Sunny Smile,
What do you do,
Tell me, oh, tell me,
The whole long day through?

"Try to make people
Feel happy and gay,
That's what I'm doing
The whole livelong day."

* * *

Geography

The earth keeps whirling round and round
To make the day and night,
While from the fiery yellow sun
It gets both heat and light;
And all the time it whirls and whirls,
It moves about the sun;
It takes a year of twelve long months
Before the journey's done.
—Virginia Baker.

The Editor's Corner

Don't you wish you had a twin? All children do, and when two brothers or sisters are so lucky as to be twins they never seem able to get over congratulating themselves and boasting to the other children about it. The accompanying picture shows two little girls of 10 and two little boys of 5—twins.

Think of two sets of twins in one family! The photograph was sent us by Mrs. Wilbur Kristenson of Iowa, and she says that the little girls are blondes and look so much alike that their own father cannot tell them apart, and the two little boys are dark and seem to be exact copies of each other. The girls are nice, motherly little girls and take good care of their mischievous little brothers. They love to read and have read "Little Women" and several of the other books of Miss Alcott. The little boys keep the cob box in their mother's kitchen filled. Wouldn't it be fun to have a twin to share all your work and play with you?

We knew twin girls once who looked so much alike their friends could not tell which was which. They had a great deal of fun out of the resemblance until the time came when a young man fell in love with one of them and used to go pretty often to see her. The sister tried to fool him by meeting him in a half darkened hall and pretending to be his sweetheart, but he always knew. And the mother always knows, too. We have never heard of any resemblance that could deceive her.

THE EDITOR.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

(Prize Story)

A Birthday Ride

By Walter Cheney, Aged 13, Turlock, Cal.

Ben entered the tool shop, closed the door, pulled down the curtains and lit a lamp. Violet and her elder sister were curious to know what the secret was. They tried to get a peek, but could not. They found the keyhole stopped up with a rag, but when it was poked out it revealed nothing.

When Violet's birthday dawned the secret became known to the neighborhood. Violet and her sister were playing in the yard, when the tool house door opened and Ben appeared with their large dog hitched to a wagon. The harness had no lines, but the dog was led by Ben with a rope.

"Jump in and celebrate your fourth birthday," merrily greeted Ben.

All went well for the first few minutes, when suddenly a rabbit sprang out of the grass by the road. The dog made a leap, the rope slipped from Ben's hands, and away went wagon, dog and Violet. Ben started in pursuit, but the distance lengthened between them. The rabbit sprang across a brook and the dog followed, Violet and the wagon falling in the water.

Ben arrived and found Violet, more scared than hurt, crawling out of the water, and the wagon smashed in mid stream. The dog was gone.

Our Trip

By Nelie Van Drielen, Aged 12, Aurora, Nevada.

This spring my father was over in California hauling lumber, but had to come to put up the first crop of hay. When he returned I came over with him. I enjoyed the trip greatly. We had four horses and a camp wagon. We saw many pretty flowers on our way. I saw three bunches of wild horses. We were five days on the trip, but it did not seem long. Father is calling me, so I shall have to go.

Additional Stories

Velma C. Martin, Clarinda, Ia.; Lucile Tash, Walla Walla, Wash.; Myrtle Gilbreath, Rockdale, Tex.

The Elephant's Bath.

The elephant enjoys a bath in the streams and pools of his native habitat, but his lordly brother in captivity finds no such comfort in the bath that from time to time is given him. A trainer thus describes the expensive operation:

It takes a week to carry out the process in every detail. It requires the services of three men and costs $300. This treatment is necessary for a show elephant and, if the animal is a valuable one, the proprietor of the show does not consider the money wasted.

The first step consists of going over the immense body with the best soap procurable; 150 pounds of soap is used, and the elephant's ears are especially attended to. When the soaping and drying are completed, the elephant is well sand-papered, and after that rubbed all over with the purest Indian oil until the mouse-gray skin is supple and glistening.

This last finishing touch is the most expensive part of the whole bath, as it means the application of about $150 worth of olive oil.

Bankers' Corn Cup

A sterling silver cup was purchased by the banks of Clay county, Iowa, as a yearly trophy to be presented to the boy or girl raising the most corn on an acre in Clay county. The Spencer Commercial club offered $150 in cash prizes and fifty-eight boys and girls enrolled in the acre corn contest. W. A. Posey, county agent in charge of the contest, states that they have had a good season for corn in Clay county and that he expects a number of the acres to produce more than 100 bushels of corn.

Awards in Picture Contest No. 5

Out of nearly 100 verses sent in for competition in this contest your editor was able to find very few, indeed, that were not entirely off in meter. Remember what we told you at the beginning of these contests—that one of the most important things to be considered in writing verses is the meter. If you don't understand what we mean by this, ask someone to explain it to you, as no matter how bright an idea you have, nor how well the rhymes fit, if the meter is not right the verse is not a good one.

We are very glad, indeed, to see that you like this picture contest idea, as you surely do, or we would not receive so many answers each time. Don't be discouraged because your verses do not win prizes or are not printed. Try again, and be sure that you not only have a good idea, but that the meter is right, the rhymes perfect, the spelling correct and the writing neat.

Our first prize winner this week is a very small boy, who wrote a remarkably good letter, considering that it was his first attempt with pen and ink. His grandmother and grandfather wrote to say that he is an orphan and lives with them and that he can write much better with a pencil. We are very glad to have Howard win and hope he will like the book he receives.

Below are the prize-winning verses and a few others:

(First Prize)

Howard Conner, Aged 7, Des Moines, Ia.

Sister appears to be fast asleep,
But a thought like that is folly,
As it is one of her cunning tricks
To fool her brother and collie.

(Second Prize)

Nettie Eberhard, Aged 13, Hooper, Neb.

Slowly I crawl through the old wooden gate,
While Bobby and Tiger so patiently wait,
For mamma says that wherever you go
The ladies should always be first, don't you know.

Evern Bedford, Aged 10, Carroll, Ia.

Through the fence goes little Sue,
Into a field of clover.
"You get through and we'll come, too,"
Says Max and big dog Rover.

Elma Mae Bennett, Aged 8, [illegible]ington, Kansas.

The girl is about
To fall off the fence.
The boy and the dog
Are in great suspense.

Lillian Matz, Aged 13, Cozad, Neb

I can jump over our gate at one bound;
Rover can clear it right from the ground.
When we are over, amusement is great,
Seeing how sister climbs through the gate.

Lila Kinsinger, Aged 12, Mendo Springs Kansas

Bessie's on the pig stye,
Bruno's sitting by,
Robert's watching closely
Lest she fall and cry.

SHERWIN-WILLIAMS PAINTS & VARNISHES

Painting today saves rebuilding tomorrow. You can buy a lot of paint for the cost of a new barn. Isn't it good judgment to keep the old barn from ruin by investing in a little paint occasionally?

Sherwin-Williams Creosote Paint

will preserve every rough-lumber building around your farm. It is well known that creosote, the especially noteworthy substance in this paint, will prevent decay. It sinks into the wood and lends wonderful added strength to the life of the wood. Use it on barns, corn cribs, fences, out-buildings and shingle roofs. It spreads well under the brush and wears long and hard. Its low cost will surprise you. This is only one of the great family of paints, stains and varnishes described in our booklet, "Paints and Varnishes for the Farm." You need this practical, really helpful book whether you want to repaint your barn or merely brighten up a chair or table. We send it free.

The Sherwin-Williams Company **692 Canal Road, Cleveland, O.**

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Prevent Future Losses With
MERRY WAR POWDERED LYE

E. Myers, President, E. Myers Lye Company

I know just how you farmers and hog raisers feel when you see a nice big bunch of fat hogs taken down sick, refusing to eat, getting thin and scrawny and slinking off into fence corners to lie down, stretch out and die. It's hard luck. It means the loss of hundreds—perhaps thousands of dollars to any one of you.

Now I want to tell you that there's no need for you to be discouraged—no need for you to repeat that disheartening experience **—no need for you to lose another hog on account of Cholera or Worms.** Just do what thousands of other practical farmers are doing every day—mix a little MERRY WAR POWDERED LYE with your hogs' rations (directions on every can) **and feed regularly twice each day.**

Fat, Healthy, Worm-Free Hogs

will be the result. It will put and keep your hogs on their feed—destroy every ill effect of hog worms—keep your hogs so healthy, strong and vigorous that, **even should cholera break out in your neighborhood, they'll be so conditioned as to resist it.** Thousands have **proved by experience** that MERRY WAR POWDERED LYE **is a safe preventive of hog cholera.**

Read This Convincing Proof

J. E. VAWTER, Beverly, Kans.—"25 hogs lost 1 mile east; 50 hogs lost 2 miles north; 20 hogs lost 2½ miles south of me, but I used MERRY WAR POWDERED LYE and escaped loss."

MRS. T. AKINS, Hoxie, Ark.—"MERRY WAR POWDERED LYE is all the Lye that we use. Before we began using it we had a lot of hogs with Cholera. We used it and it cured our hogs."

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and ate from a dusty, dirty floor; drank from a questionable water pan, and slept, with a hundred others in a hot hen house, in the same clothes you work in, YOU WOULD APPRECIATE GERMOZONE. The difference in sanitary conditions between a wild chicken and most cooped chickens is almost as great as that between a chicken and yourself.

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Germozone, given twice a week, with regularity, works wonders. Just a little in the drinking water. It purifies the drink; the food; the mouth, throat, crop and entire intestinal tract, giving those solid, slatey colored droppings, tipped with white, that every poultryman knows means chicken health. Don't wait until they get sick or quit laying.

Then too, **Germozone** is a ready and most reliable remedy for ROUP, COLDS, CANKER, SWELLED HEAD, SORE HEAD, CHICKEN POX, BOWEL TROUBLE, etc. It is the best known and most popular medicine for poultry. It is the most widely distributed in trade, handled by more than 10,000 dealers in the United States, at 50c per 12 oz. bottle. If you cannot get it from your dealer, send 10c for a sample bottle and name of nearest agent. "Lee's Poultry Book" and "Pointers for the Amateur," free.

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Timely Items of Interest to Poultry Raisers and Fanciers

THE breed today called the Faverelle looks very much like the muffly hen we used to know. The feathers bunch about its cheeks—if it has cheeks—and down under its bill like great whiskers, giving it the look, sideways, of an old man. It has feathers on its legs and outer toes.

***

It is wonderful what ignorance country people show (city people would show even greater) when taking in the poultry exhibit at the county fair. They know the Leghorns, Plymouth Rocks, Brahmas and maybe another common breed or so, but before the varieties not so common they stand confounded. Why isn't the name of every breed tacked on their coops? It should be exhibition law to do so; then the farmer, if a certain kind of hen, goose or duck took his eye, would know in the future what to ask for.

***

So many persons fancy the markings of the Light Brahma, but look with disfavor on its feathered feet and legs and big body. If you like this marking, minus the feathered feet and legs and bulky body, you get it in the Columbian Wyandotte. In this you have the ideal marking, the compact market size and the clean legs. The odd thing is that the first Columbian Wyandotte was a cross between a White Wyandotte rooster and a Barred Rock hen. From this, so claim is made, the breed was established. But now, if you cross a Columbian Wyandotte with a Rhode Island Red, you are quite likely to get a strange lot of progeny from the cross—many pure white and many like the Barred Rock.

***

Some of the poultry journals spend time, and, worse yet, good space, arguing the question of grit. Some of these editors consider grit of little consequence to a chicken; some of no consequence at all. Proof given that it is not of consequence is lacking, or, if given, the time is too short in which trial is made. If grit is not essential, why should there be a gizzard? If the gizzard is simply necessary to store food and grass until it is passed on, why should it be made so strong and furnished with a lining to safely take in sharp stones; and, if they are not sharp, why will it discard them as of no use in its business? I am one who knows that chickens fed whole grain require some grit; not a great lot, but some good grit, else in time they become diseased and die of indigestion, caused by impaction.

***

Fine feathers do not always make fine birds, but fine feathers will often hide bodily defects. Now, you may not believe so, but more than once I have known them to hide a defective hip, a crooked back or a large-boned leg. It is all right to want the breeders of the poultry pens nicely colored and feathered, but before selecting, go over the bird carefully, measuring and testing with your hands his proper shape for perfection. Make your selection on the perfect shape of his body; not by his fine feathers. You may be surprised by the crooked backs and breast bones you will find.

***

Ducks and geese molt, just the same as hens, only oftener. This is why feather beds and pillows came into fashion. Somebody, long ago, saw that the geese and ducks shed their feathers, so began the business of forestalling the shedding by pulling them out and saving them. Both geese and ducks are all the better for charcoal at regular intervals, and, though both are water birds, they cannot stand dampness, and ducks go lame very soon if crowded in pens. The common tasks with poultry of all kinds are the kind that pay in the long run if well attended to. Give geese and ducks —those to be kept over as breeders —occasional doses of soda, and some turpentine in the mashes. One seldom feeds a mash to a goose, but geese and ducks take up certain parasitic worms if kept about streams or ponds, and you could not give turpentine to them in any handier way than in a mash, and turpentine will fix these parasites.

***

No certain quantity of food can be said to form the daily allowance for fowls, for the reason that something depends upon their condition and surroundings. If on range, with plenty of grass and other forage at hand, you could easily disease them by adding the daily allowance of grain some feeders think necessary. Again, if confined, the amount sufficient you start with would soon be too much to keep them in healthy condition. In winter, if kept snugly warm, they will not require, by one-third anyway, the amount that it will take if the house is cold and they run out in the cold. In this case they must first be warmed before any of the food can go to fatten the fowl reasonably well or to provide eggs for you. It means some study on the keeper's part at first. If he wants to do the right thing by his fowls and himself through them, he will learn how to feed the right amount and not forget it.

***

Once the country store keeper piled the eggs away just anywhere handy, and often let them pile up a month or more before he put them in barrels of chaff or hay and rolled them on the cars to "go Gallagher." Then sometimes the commission man would be dishonest, and half the time when they did go safely the commission man would report back they had come all smashed up, and dock him on the price. Now he must count his eggs into boxes made expressly for shipping eggs, and into these boxes go pasteboard fillers in which each egg has its own compartment, and cannot break if the railroad does its duty; and now these eggs must be taken up twice a week.

IDA M. SHEPLER.

Pen Pictures of Old Battefields of Mexico

Bishop's Palace at Monterey, Taken by the Americans in 1847—American Cannon in the Foreground

By Frank G. Carpenter

WASHINGTON, Sept. 20.—I want to give you some pictures of our Mexican battlefields. I mean of the places where American blood was spilt and American victories won in the latter part of the '40s. During my recent trip to Mexico I visited most of the places and made photographs of the country as it looks today. The Mexican war began on April 4, 1846, and it lasted almost two years. It cost us in good, hard cash $166,000,000, and those who were killed or died during the conflict numbered 25,000. That war established the Rio Grande as our national boundary. It made safe our title to Texas, concerning which the Mexicans were growling, and at its close we took about half of the then Mexican territory, including California, Arizona and New Mexico. If we should have a war with Mexico now, the cost in money and lives will be enormously greater, and it will result in our taking over the balance of the country, either as a protectorate or as a part of the union.

In the Days of '46

All this is by way of introduction. It is a far cry from the Mexico of today to that of 1846. The differences in condition are beyond conception. In 1846 Mexico was thinly populated. It had but few roads and no railroads. Much of the war was waged in the desert; our soldiers marched upon foot and their supplies were carried on the backs of mules and in wagons. They had to undergo the greatest of hardships. At times the armies were decimated by disease, and when General Scott marched from Pueblo to attack Mexico City he left at least one-fourth of his whole army in the hospitals of the former city.

The opening battles of the war were fought in the north. They took place near the mouth of the Rio Grande, and General Zachary Taylor, who was afterward made president of the United States for his services, was there in command. The two first great battlefields were close to Brownsville, Tex., a city which is now the center of a farming community, and is connected by railroad with all parts of the United States. It was then known as Fort Brown, and was one of our outposts on the frontier, having only a garrison of about 900 Americans. When the Mexicans besieged it it had eighteen cannon known as six-pounders, and its ammunition was short.

It was to relieve Fort Brown that General Taylor was marching when the first two battles of the war occurred. He had been sent by the national government to Corpus-Christi in 1845, with orders to repel any invasion of Texan territory, and it was in March, 1846, that he was directed to cross into the disputed territory between the Nueces and the Rio Grande rivers. The Mexicans warned him to keep off, and upon his starting General Arista, in command of the Mexican forces, notified General Taylor that he considered war to have been begun by our country.

Battle of Palo Alto

A little later Fort Brown was besieged, and General Taylor was started to its relief. He first met the Mexican army at Palo Alto, within eight miles of Brownsville. General Taylor had 2,000 men and 250 wagons, and General Arista had 6,800 Mexicans, of which 800 were cavalry. The battle lasted five hours, and resulted in an American victory. Forty of the Yankees were killed and wounded, while the Mexicans lost more than six times as many.

The next fight was within three miles of Fort Brown, in a ravine, at Resaca de la Palma. This engagement took place on the day following the battle of Palo Alto, and Taylor again was victorious. More than 1,000 Mexicans were killed or wounded, and the news went out over the United States that the war with Mexico would be fought to a finish. Congress then passed resolutions asking for 50,000 volunteers, and the regular army was increased to 30,000 men.

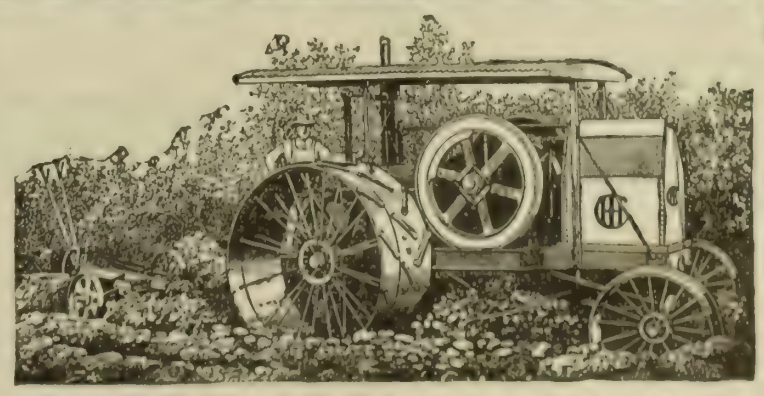
The country went wild over Taylor's victories. Congress passed resolutions of approval. He was made a major general, and his own state of Louisiana gave him a sword. He became the idol of the hour. He was lovingly called "Old Zach" and his manners and customs were favorably compared with those of General Winfield Scott, the commander-in-chief of the army, who later carried on the war in the south. General Scott was a great soldier, but he was always on dress parade. He was the soul of pomposity, and he was often known as "Old Fuss and Feathers." Zach Taylor, or "Old Rough and Ready," was just the reverse. It is said that he went around the camp during a part of his Mexican campaigns in a linen roundabout and trousers. He had already had a long career in the army and had become noted as an Indian fighter. He was in command of a company in the war of 1812, and more than twenty years later had gained a great victory over the Indians at the battle of Okeechobe in Florida.

Fierce Fight at Monterey

The next fight after Resaca de la Palma was at Monterey, which is now reached by the railroad from Laredo. I made the journey in five or six hours in a Pullman car, and found at the end a thriving city of 100,000 people. There were not one-fifth that number there when General Taylor besieged it. His journey took several weeks. It was made on horseback, with an army of 6,700 men, most of whom were on foot. There were then no railroads in Mexico and practically none in the United States. The most of the way was over the desert, and the country gave but little to feed the army. When the Americans got to Monterey they found it in the hands of 10,000 Mexican soldiers. The town had been fortified. The walls were lined with cannon, and the streets and houses were barricaded and planted with artillery. There were forts about the city, and the strongest of these was the bishop's palace on a hill at the southwest.

During my stay in Monterey I walked about the town, visiting the Grand Plaza and other places which the Mexicans had fortified, and went to the outskirts and picked out the spots where the forts were located. The old palace or church at the southwest of Monterey, where the chief engagement took place, still stands, and there is a wall of stones about it today. I found some of the old American cannon still lying on the slope of the hill, and I am told

A Long List of Uses



THERE seems to be no limit to what the tractor can do. It is doing new things on farms every season. It appears to live on work and is not to be satisfied. Says a writer in an Indiana farm journal, "Today tractors are being used for practically all of the operations on the farm with the exception of the corn planting and the last two cultivations of the same crop." Then he goes on to tell how one tractor on a 320-acre farm cuts down the number of horses needed from twelve to five.

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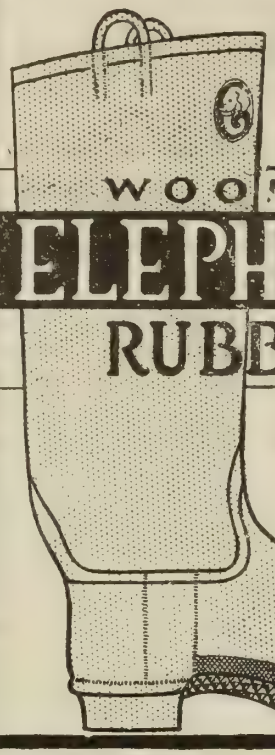

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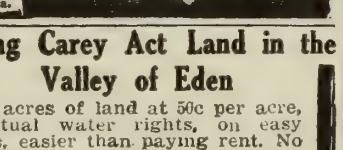

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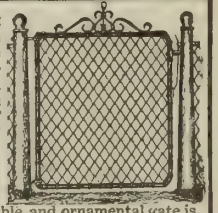

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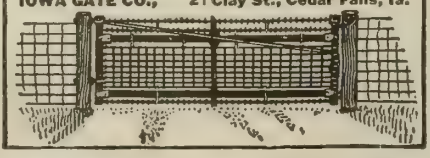

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that they have not been moved from their places since the engagement. In taking the town General Taylor captured the other forts first, and then took this one. He now commanded all the heights about the city and began to shell it, while his men broke their way through the walls of the houses until they had almost reached the Grand Plaza. At that time the Mexicans, who had lost many men, came out with a flag of truce and surrendered.

Talk About Surrender

Leaving Monterey, I bought a ticket to Saltillo, which lies sixty-seven miles south of it, in order to visit the place where the battle of Buena Vista was fought. Saltillo is the capital of the state of Coahuila. It is situated on the slope of a tableland about a mile above the sea, and it is a health resort as well as a commercial and industrial center. The battlefield is situated not far from the railroad, about seven miles farther south, and there is a station called Buena Vista right at the place.

It was there that General Taylor met General Santa Anna, and defeated him, although the latter had four times as many troops. General Taylor's force had been depleted by congress in order to carry on the war more effectively with General Scott in the south. Taylor had less than 5,000 men, while Santa Anna had over 20,000. Indeed, the Mexican force was so large that Santa Anna thought it ridiculous for the Americans to fight. He demanded of General Taylor that he surrender. A reply was sent back which afterward became a campaign cry and aided in the election of Taylor as president. It was:

"General Taylor never surrenders."

Shortly after that the Mexicans sent in a party under a white flag to inquire what General Taylor was waiting for, and "Old Rough and Ready" sent back the following: "General Taylor is waiting for General Santa Anna to surrender."

Captain Bragg's Grape

All this occurred about February 22, which was Washington's birthday. The following day the fighting began in earnest. The Americans were at first driven back, and at one time it seemed as though the battle was lost. General Taylor then gave his celebrated order to Bragg's artillery. It was, "Give them a little more grape, Captain Bragg."

Bragg's artillery was situated on a hill nearby. He sent showers of iron hail into the Mexicans, and this threw them into disorder and flight. The battle had lasted two days, and when the night of the second day came the rival armies held about the same positions that they had had that morning. Our men slept on the field, and when the next morning came it was found that the Mexicans had fled.

In that engagement 20,000 Mexicans were beaten by less than 5,000 Americans. Their losses were about 2,500 killed and wounded and 4,000 missing. Our losses were only a little over 700, but that was almost one-sixth of our whole force. General Lew Wallace says that the Americans were beaten oftener during that engagement than there were hours in the day, but that they did not know they were beaten. They rallied and fought and rallied and fought, and at last wrung victory from the hands of defeat.

The battlefield of Buena Vista is now desert-like and barren. The ground about is covered with sage brush and stones and the only green vegetation is the tree under which General Taylor's hospital stood during that engagement. At least I suppose the hospital stood there, for the tree still bears the name of the General Taylor hospital tree.

Taylor's Story of the Battle

The battle of Buena Vista was the last engagement of any account in the north. It ended the service of General Taylor in Mexico, and, as I have said, it made him the hero of the American people. Upon his return to the United States he was received with the greatest applause, and that notwithstanding he liked to keep in the background. A story illustrating his simplicity is told of a senator named Butler, whose brother, Pierce Butler, was killed in the battle of Buena Vista. Senator Butler had asked for a description of the battle and General Taylor replied: "Well, come and dine with me today and I will tell you all I know about it. The senator waited in patience throughout the dinner for the story to begin, and at its close brought up the subject of the battle, asking about his brother. General Taylor said:

"Yes, senator, your brother Pierce was a good soldier and he died after a brave fight on the field. Now you want to know how the battle was fought, do you?"

"Yes, general, if you will be so kind. Please tell me just how your troops were placed and all about those of the enemy. I would like to understand how, with such a small force, you could defeat Santa Anna, who had four times the number."

"The difference was more than that," said General Taylor, "but we did not stop to count. I know that I wished for more soldiers."

"Yes," said the senator, "but what was the order of battle?"

"Why, senator, we began fighting early in the morning the first day and we fought all that day. We lost a good many men, and at night it looked pretty bad."

"Well, what next?"

"Well," said General Taylor, "when it got dark I rode over to Saltillo to look after our stores and provide against a surprise."

"Why did you go yourself? Why not send one of your aids?"

"You see, senator, everything depended on our not having our supplies cut off, and I wanted to see for myself."

"How was it next morning?" said the senator.

"About the same as the night before," said General Taylor, and stopped.

"Who was the first man you met?"

"General Wool."

"And what did he say?"

"He said, 'All is lost.'"

"And what did you reply?"

"'Maybe so, general; we'll see.'

And then we went to fighting again and fought all that day and toward night it looked better." Here General Taylor stopped again, although the senator waited impatiently for more, and finally asked:

"What next?"

"Well, next morning it was reported to me that Santa Anna and all his men had disappeared in the night, and I can tell you I was devilish glad to be rid of them so."

Grant, Davis and Lee

It was in these engagements that General Grant, then a second lieutenant, figured. Grant says the war was unjust. Jefferson Davis was in command of a regiment of Mississippi volunteers at the battle of Monterey, and General Robert E. Lee began his services in Mexico there with General Wool. Lee was afterward transferred to the army of Vera Cruz, and served so well there that he rose to be a colonel.

The first fighting in southern Mexico was at Vera Cruz, and the commander-in-chief was General Winfield Scott, who led the army from there over the mountains and on to Mexico City. Scott had 12,000 men and the Mexicans had only 5,000, but Vera Cruz was protected by the fortifications of San Juan de Ulloa in the harbor, and they thought this was a sufficient defense for the city. Scott attacked the city from the land side, and he was able to land his whole army without opposition. He disembarked on the 9th of March, and two weeks later both the city and fort surrendered.

In Cerro Gordo Pass

The Americans then started on their march up the mountains. They had gone about sixty miles, when they entered the Cerro Gordo pass, and there fought the battle of that name, taking 3,000 prisoners, five generals and forty cannon. They then climbed their way on over the mountains and on to the city of Puebla, which is situated on the plateau about seventy-five miles from the capital. Puebla has now over 100,000 inhabitants, and it is one of the industrial centers of Mexico. It has great cotton mills and a number of factories. It has beautiful residences and one of the finest cathedrals of the world. When Scott reached there it had about 50,000 population, and there was a great army awaiting him at Mexico City. In the meantime he had had sickness among his men in coming over the mountains. Seven of his regiments had been discharged and the American forces had been reduced to a little over 10,000, nearly half of whom were recruits.

Scott left 2,500 of his troops, including the sick and wounded, in Puebla, and with the balance marched upon Mexico City, where he knew an army of about five times his own force awaited him. He had only about 7,500, while the Mexicans had 36,000.

He came over the mountains and down into the little valley where lies Mexico City. He skirted the lakes and met the enemy first at Churubusco, and where he gained a great victory. He fought the Mexicans again at Molina del Rey, and again before the Castle of Chapultepec, where the president of Mexico now lives. He was victorious everywhere, and on the 14th of September the Mexican army evacuated and he triumphantly entered the capital.

During his operations in the valley of Mexico General Scott's total losses were 2,703 men, including 383 officers. The Mexicans lost more than 7,000 in killed and wounded, and we took over 3,700 prisoners of war. Scott remained in Mexico for some time. He had his headquarters in Mexico City, where his troops were reinforced to an aggregate of 20,000 men.

When Peace Was Signed

It was on February 2, 1848, that the Mexicans made peace. The conference was held just outside the capital, near the shrine of Guadalupe and under the shadow of its sacred virgin, who is the patron saint of the Mexicans. It is said that the Mexicans prayed to the virgin to bring about peace, and that many among them believed that it came through her intercession.

During my stay in Mexico I visited Chapultepec, Churubusco and Molino del Rey. The localities of the fighting can easily be found, and under the great trees at Chapultepec the spot is pointed out where the young Mexican cadets fought so bravely in defense of their country. I also visited Guadaloupe Hidalgo, where the peace treaty was signed. It is three miles from the capital and may be reached by street car. This place is still the most visited of any of the Mexican shrines. It has hundreds of thousands of pilgrims who go there every year to worship, and the people of today have as much faith in the efficacy of the virgin of Guadaloupe as they had when they prayed to her to bring pity into the hearts of the Yonkers.

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Lo, the "Poor" Farmer!

Forty thousand automobiles registered for the state of Nebraska doesn't sound a great deal like poverty, and the farmer leads the city man in the matter of possession of a "machine."

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
Arizona	Phoenix	Nov. 2-8	J. R. Henderson
Illinois	Springfield	Oct. 3-11	J. K. Dickerson
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin

Interstate and National Expositions

American Royal	Kansas City	Oct. 6-11	A. M. Thompson
International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Dry Farming Congress	Tulsa, Okl.	Oct. 22-Nov. 1	John T. Burns
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson
New State	Muskogee, Okl.	Oct. 6-11	William C. Boon

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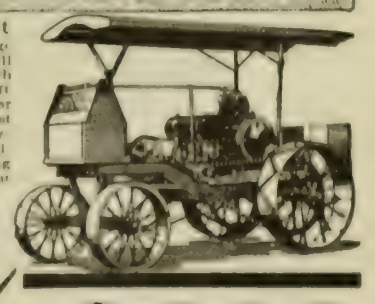

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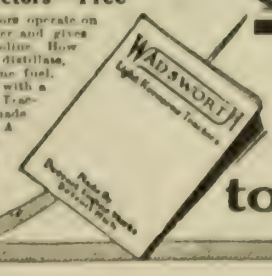

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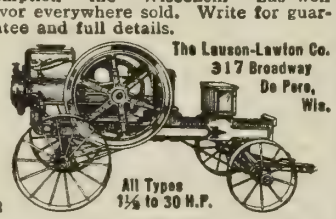

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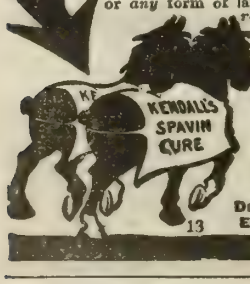

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Plowing or Disking for Wheat?

T. A. H., Macedonia, Ia.: Knowing how the drouth has hit Mills and Pottawatamie counties in Iowa, would you advise the drilling of wheat in stubble that has been double disked? We have had a small rain the last two days and there are prospects for more. How late would you advise sowing (drilling) wheat on plowed ground? How late on disked stubble? Both in preference to spring wheat next year.

Editor's Answer—One of the principal reasons for plowing for wheat is to afford the possibility of storage of moisture in the soil. The deeper the ground is plowed, the more moisture it will prevent from running off and being lost, and the more it will hold until such time as it can soak down into the subsoil, where it will be held secure against evaporation until needed by the growing crop.

The man that double disks stubble and then sows or drills his wheat on the stubble so treated, is liable to lack sufficient moisture for maturing the crop next season. If next season should have plenty of rainfall, such handling of the wheat crop might be successful, but whoever adopts the practice takes chances that no one should take.

It all depends upon the season how late it would be possible to sow wheat and secure a full crop. Wheat has been sown as late as the middle of December in this latitude, and, because the season was favorable, it produced a full crop the next season. Ordinarily wheat sown not later than the middle of October does fairly well, sometimes better than that sown earlier. As a general rule, however, it is safer and more certain of a profitable harvest to sow not later than the middle of September in this latitude.

Approving Words

To the Editor: As you and I have had a number of very interesting discussions on the development of the wonderful state of Nebraska, and especially on the uses of cement as a commodity, which is very rapidly coming to the front in this state in its development, I wish to relate to you a conversation that I had last week with a very prominent farmer in Dodge county. This will give you somewhat of an idea how the farmers of the state are grasping the idea of quality in certain commodities.

This gentleman related to me last week that he had occasion to use about one and a half cars of cement in the erection of certain improvements on his farm. He told me that he went to the different dealers in a number of towns adjacent to his home in regard to purchasing the cement for the above improvements. He also informed me that he required of the different dealers that they give him a test, showing the fineness of the cement which they were selling. He realized fully that the finer the cement was ground, the higher the quality, and better results would be obtained in construction. He stated that some cement that was being sold in Nebraska tested as low as 70 per cent. through a 200-mesh sieve; others running 74 per cent and 78 per cent, and he found one particular brand that ran as high as 84 per cent. This is the one that he bought and used in construction, realizing that cement of such fineness was more economical, because what would not pass through the 200-mesh sieve was so much waste material, for which he had to pay the price of good cement. He also realized that such fine cement would produce better results than any others testing lower through a 200-mesh sieve.

I was very much astonished at the knowledge that this man had relative to the quality of cement, and am certain it will be but a short time before everyone using cement will demand these tests, and the finer they are able to get it ground the more strength and better results will be obtained.

I asked him where he got his information regarding this material, and he told me that he was a subscriber to the Twentieth Century Farmer, and that it was from an article published in that paper that he had obtained the information.

I wish to congratulate you upon the good work that you are doing for the consumer of this very valuable product for the state of Nebraska. I wish you and your paper every success.

Omaha, Neb. C. B. C.

Seed Corn Protest

C. W., Silver Creek, Neb.: I note that you, in common with the "experts" generally, advise that farmers should select their seed corn at once from the field for the particular reason that one can in that way get the most desirable ears.

Now, I suppose I ought to apologize to the professors and the bankers and the officers of commercial clubs for presuming to interfere with their prerogative of telling the farmers how to do things, but I beg leave to differ with them as to this seed corn proposition so far as this year is concerned. Nearly all the corn in the state is already ripe and rapidly drying up as it stands on the stalks. That is the most natural and, in my opinion, the best way. If corn were later and there were danger of its freezing before being thoroughly dried out, then, of course, it would be better to gather corn for seed at once and see that it was carefully dried without freezing. But this year there is no danger, and if corn is put in a good crib, well covered and properly ventilated, it will be found next spring that nearly every ear will grow good and strong and make the best of seed. And, if I mistake not, many thousands of bushels all over the North Platte country will be thus sold right out of the crib and at a good, big price.

But for my own private use I intend to select my seed corn in the field as it is husked and then carefully house it. When one has an ear in his hand he can instantly tell whether it ripened early or late; he can see what sort of a stalk it grew on and how high from the ground, and he can note a half dozen other things of interest, and all without loss of time.

But, to cut the matter short, I do not think the farmers need my advice, although I have been in the business more than half a century, and much less do they need the advice of bankers, "demonstrators" and other more or less curiously constructed animals. We can take it all right as coming from you editors; that is a part of the business. But we would be very much obliged to you if you would kindly tell a lot of the meddlesome individuals in as emphatic a manner as your command of English (or, more properly, United States) will permit to keep themselves off our backs and their noses out of our business.

Editor's Note—Very few men can do two things at a time and do them both well. Perhaps this correspondent is one of the few to whom this will not apply. The aver-

Enormous Returns from Pecan Trees

Jackson county, Mississippi, has the oldest paper-shell pecan orchards, and more various kinds have been originated there than anywhere else in the world. It has been their birth place, and nobody knows how long they will live and produce nuts—hundreds of years, likely. There is a pecan tree in Alabama, about 100 years old, bearing plenty of nuts. It is four and one-half feet in diameter, with a head nearly, if not quite, 100 feet across. Another that was planted in 1860 is nearly as large and has borne bushels and bushels of the very finest nuts. An orchardist in Jackson county, Mississippi, says: "We have on our new place fifty acres in pecans. Any paper-shell pecan ground planted to good 3-year-old stock is cheap at $250 per acre. I would not sell mine at that."

Another man says: "Our home orchard of 891 acres produces a yearly income of 10 per cent on a $40,000 investment. In 1910 our trees bore ninety-five pounds, and in 1911 105 pounds, which sell rapidly at 75 cents per pound, 'run of the tree,' and $1 per pound for selects. Pecans bear every year, require no cultivation after the first few years and are not subject to disease." For absolute safety and profit there are few, if any, things comparable to pecan growing.

age man, if he selects seed corn in the field when husking, will either husk very little corn, giving most of his attention to the selection of seed corn, or he will select very little seed corn, giving most of his attention to the husking. It is better to do one thing at a time and do it well than to try to do two things and do them both indifferently.

Our correspondent evidently husks his own corn. Most of the corn growers in the corn belt hire their corn husked. It certainly would hardly do to trust the average corn shocker with so important a matter as the selection of seed for the next crop.

Don't blame the professors too much. They are doing the best they can under their present handicap. In some cases, if they do too well, and receive too much recognition, their positions are made uncomfortable for them by superiors who wish to see their names in print and pose before the public as the big "I" of the institution.

There are very few farmers, and our correspondent is probably one of them, that cannot yet learn something about the business of farming. They should be glad to get help from any source, providing it is offered in the right way, in the right spirit, and is really efficient help. Even if it fails in efficiency, the fellowship spirit in which it is offered is worth a whole lot, and everyone should be glad to have a little of it radiate toward himself. Real human fellowship is so divine a thing that none of us can afford to miss any of it.

Two Hog Disease Inquiries

In the last issue of this paper were printed two inquiries with reference to two different types of hog disease. These inquiries were answered purely from the veterinary point of view. It is suggested that it might be well to look at these matters also from another point of view; that is, from the point of view of heredity.

It is well known that when certain strains of blood become run down, degenerate, exhausted of vigor and vitality, that the get from such ancestors shows certain inherent weaknesses that cannot be attributed to the ordinary accidents of life. Certain diseases are unquestionably due to the accidents of life, improper feed, undue exposure to the elements and various other causes, which might be in a large measure prevented by the owner of live stock. But there are certain other congenital inherent weaknesses which cannot be so regarded. Rachitis, rickets, hydrocephalus, enlarged and irregular bone formations are generally regarded as due to congenital causes. This may be true in the case of hogs with broken-down backs and with various other ailments, such as falling off of the toenails and general ulceration of the skin and abscesses in different parts of the body. It might be well for the owners of hogs that are suffering from any such trouble, in order to prevent it, to change their breeding stock and secure those that are known not to be run down or played out in virility, but are vigorous, strong and show excessive vitality. This is merely a suggestion, but it would be well for all breeders to bear it constantly in mind.

Benefits of Co-operation

(CONTINUED FROM PAGE SEVEN)

The method of operation may have to be changed in order to meet different conditions, but the fundamental law of such organizations, the moving spirit in such organizations, if they are to be successful, must always be the same. Producers must co-operate instead of competing, and, working together for the promotion of mutual interests, will be able to accomplish much more for themselves than when each operates independently and in competition with others. There must be no fake co-operation—co-operation in name only. Such an organization must not be organized simply for the purpose of paying dividends on the stock. The stockholders should receive fair interest on their investment, but the net proceeds should be evenly distributed among producing members. Any organization, organized for whatever purpose, based upon these principles and directed by wise, efficient business management, is sure to succeed anywhere.

Must Be Standard

Montana has an apple box law which provides that any fruit offered for sale in that state not of standard size shall be sold as culls.

Live Stock Notes

Kane Has Sale October 30

J. J. Kane, the well known breeder of Duroc-Jerseys at Wisner, Neb., will sell forty head of choice boars at that place on October 30. These boars are a big, smooth, clean, growthy lot and should receive the attention of farmers and breeders who are looking for something in this line. They are sired by B. & G.'s Wonder, Invincible Chief, Golden Model 15th, Wonder Model and Chief Select 2d. Write for catalogue and further information, mentioning this paper.

Chandler's Horse Talk

Fred Chandler of Chariton, Ia., is offering registered Percheron stallions for sale ranging in age from weanling up to 4 years old. If you are anticipating the purchase of a stallion, considerable can be saved by buying early in the season. In the light of recent shows, the American bred horse is demonstrating his ability to compete with the best products of other countries. If you want a good, straight, clean, thoroughly acclimated American bred stallion, write Mr. Chandler for further information, mentioning the Twentieth Century Farmer.

Leisy Sells Durocs November 7

Attention is called to the change in the date of the Duroc-Jersey sale of Robert Leisy at Wisner, Neb. Mr. Leisy will sell at Wisner on November 7 instead of the date previously claimed. He will have a splendid lineup of big, growthy males to offer, carrying the very best blood lines of the breed. In fact, they are about as growthy a lot as will be offered for sale this season. Get your name on his mailing list for catalogue, and watch these columns for further announcements.

American Royal October 6-11

A report issued recently by the secretary of the American Royal Live Stock show indicates that this year's Royal at Kansas City will surpass in magnitude that of any previous year. From the reports of the associations or secretaries of the various breeds of stock it is evident that there will be an increased number of exhibitors in nearly all the breeds. The prospective shortage in beef and mutton animals, together with the high price of hogs, is serving as an incentive to the production of more and better live stock on the farm. It is to be hoped that those who can do so will take advantage of the opportunity afforded annually the year American Royal. The lessons taught at such shows as this are of incalculable value to the man who is interested in the preparation of better live stock on the farm.

Dodds Buys New Boar

Harry Dodds, the well known breeder of Poland Chinas at Florence, Neb., purchased a litter yearling boar at the State Fair that is one of the best prospects we have seen for some time. This boar will be in the pens in the futurity show, and it was the consensus of opinion among some of the best judges that he should have been placed further up the line. He is a big, smooth, well-turned, well-balanced fellow, with lots of quality and extraordinarily heavy bone and about the best set of feet it is possible for a hog to have. He is a son of Hillcroft Model and is out of an Expansion bred dam. He will no doubt prove a valuable acquisition to Mr. Dodds' herd.

A Splendid Duroc Offering

We wish to call attention in this issue of the Twentieth Century Farmer to the advertisement of a Duroc-Jersey sale to be held at Wisner, Neb., October 1 by John Bader, Scribner, Neb., and Ernest Carpenter, Fontanelle, Neb. This will be a combined offering of some of the very best products of these two popular herds. Nothing inferior will be offered and every animal sold will be guaranteed to be just as represented. The blood lines represented are just as good as it is possible to find. The offering will consist of twenty-eight head of spring males, ten sows with litters at side, ten fall and spring gilts open and two aged herd boars. The two aged boars are Prince Critic and Echo's Crimson Wonder. Prince Critic is a son of Proud Chief Junior and Echo's Crimson Wonder was sired by Van's Crimson Wonder. These boars have both proven themselves to be strong, consistent sires, and are only being offered for sale for the reason that their blood lines are already strongly represented in these herds. The spring males and gilts are by Prince Critic, Echo's Crimson Wonder, Wallace's Sensation, Bader's Crimson Wonder, Golden Model IV, Fancy Wonder, Model Boy and others. Three of the fall gilts are sired by Valley King, champion boar at Iowa and Nebraska three years ago. This sale will afford an opportunity that is not offered in many sales. The fact of the matter is, you will be able to get almost anything you want, either a tried herd boar or a good big growthy spring male, a spring or fall gilt open, or a tried brood sow with litter at side. If you are in the market for anything in the hog line, you cannot afford to miss this sale. If you have not already received a catalogue write for one at once, and arrange to be on hand sale day. If you cannot do so send your bids to G. E. Hall, who will represent this paper, and they will receive careful attention. Kindly mention the Twentieth Century Farmer when writing.

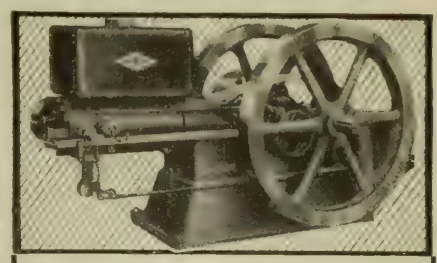
Mulefoot Hogs

One of the most interesting exhibits at the Nebraska state fair was that of Mulefoot hogs. There were three exhibitors entering small herds, and their pens were surrounded every day with curious people who wished to see this strange breed. The hogs are black in color. They are said to have white spots sometimes, but all the exhibits at the fair were of pure black animals. They look very much like a Berkshire except for the feet

which are shaped like those of a mule or horse.

"No" said one of the breeders, on being questioned, "we do not claim absolute immunity from disease for these hogs, but I can say from my experience that I have never had any trouble along that line, while my neighbors on all sides of me were losing their hogs of every other breed from cholera. If these hogs were kept in dirty pens fed without care and exposed daily to disease I have no doubt they would contract it. I do believe however that the Mulefoot hog is more nearly immune than the other breeds, and that with proper care and feeding it is not liable to infection.

"This is the claim made for the Mulefoot by the American Mulefoot Hog Record association. They also claim that the hog will attain the same size as the Duroc or Poland China. That I can not say, as I have not been long in the breed, but I do claim that it is a good hog to put on fat rapidly, that it produces a good animal carcass, that the lean to fat ratio is good, it is hardy and will able to take care of themselves, and that the animals are of a very quiet and tractable disposition. If all these claims are true and time has yet to be proved, this animal will be very valuable to the district not infected with hog cholera.



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The most reliable, economical and satisfactory farm engine made. Not a gasoline engine rigged up to operate on kerosene, but a genuine kerosene engine that needs no tinkering. Runs on plain kerosene, distillates and other light oils. Quick, easy starting, light running, *safe*—no exposed flame. Sizes from 1½ to 60 H. P.

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In the San Joaquin Valley, California. This great valley in the heart of California yet has room for over half a million men who will farm its fertile acres in the way they should be farmed. There is no room for the failure—no place for the man who can not succeed where he is. But there is a wonderful opportunity for the man who has the success habit.

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We will tell you of the opportunities in general. We will search out for you just the kind of a location you are seeking. It might take you weeks or months and many miles of travel to find the spot that our knowledge of local conditions will direct you to at once.

After you have found the spot we will send to you a man who knows this country thoroughly, and if you wish he will tell you the methods and crop rotation which are most successful here.

All this service is free. It is part of the effort the Santa Fe is making to let people know of the advantages along its lines. The railroad has no land to sell and no interest to serve but your ultimate success here.

What the San Joaquin Valley is, and what others are doing here, is told in our two books, which are free and yours for the asking. Then if you are interested enough to ask further questions, you will find me eager to answer.

C. L. Seaton, Gen'l Colonization Agt.
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Review of Live Stock Market

By A. C. Davenport

CATTLE prices must be provided with wings, they have been soaring so high of late. If this thing continues, buyers and market reporters will be forced to take to airships to keep in sight of the markets.

It was pointed out in these columns weeks ago that conditions were even then decidedly bullish so far as the cattle trade was concerned, and that prices were already so high that it might be considered a bull market without any further advances. That, in a few words, indicates to a large extent the condition of the market all the season—that is, facts and figures and all the available news concerning supply and demand have pointed in the direction of a bull market, but still prices have been so high that it hardly seemed possible that they could go much higher. It seemed as if prices on beef cattle were already about as high as the consumers of the product could afford to pay, but was demonstrated last week that still higher prices were within the realm of possibility. Still cornfed beeves are not as high as they were a year ago at this time.

Supplies of killing cattle of all kinds, cornfed steers as well as grassers from the western range, were far from plentiful last week, while the consuming demand in comparison seemed very brisk. Buyers for packing house account, regardless of what their feelings in the matter may have been, were forced to pay advancing prices. By the time the market had closed last week prices at leading market points were 15@40c higher and in some instances more than that. Range beeves advanced 50c and in some cases $1 per hundred in two weeks. The movement of cattle throughout last week into buyers' hands was very active, so that the trade from start to finish was not only higher, but in a most satisfactory condition.

There can be no question as to packers' views and any time that receipts prove large enough to give them the opportunity they will not hesitate to give the market a severe pounding. The only question is whether receipts will prove sufficiently large to give the bears control of the market. The bears themselves are none too sure of such an event and there are very few of them that anticipate more than a temporary break even in the event of large runs.

The market on all kinds of killing cattle is really higher than the sellers expected at the beginning of the season. As a matter of course every advance in the market makes future advances still more difficult with prices so high, but what of it? It is already high enough to suit practically everyone, and it could break 50c or even $1 and still be a high market. The fact is, operators on the market would not be surprised to see the pendulum swing a little higher or a little lower, but they would all be very much surprised should the market prove to be otherwise than good.

Beef Market Will Remain Good

There is one thing that operators on the market are unanimously agreed upon, and that is that it will be a good market straight through to the end of the season as far as beef cattle are concerned. There was a time when some cattlemen were a little doubtful as to the future of the feeder market. Realizing that prices were already very high they were afraid that a short corn crop would seriously affect the market. When the season for range cattle opened prices did not show the break that many had anticipated, as the demand, in spite of a short corn crop, was remarkably good. Still the timid ones were not quite satisfied, being afraid that the demand that started out so briskly would soon be satisfied and that the slump would then come. There appeared to be some grounds for their fears and it was within the range of possibility that something of the kind might happen, but the season is now far advanced and still there are no indications of the buying demand being satisfied or of any great slump in prices on feeding cattle. In fact, it begins to look very much as if the market was destined to be well supported until the close of the season. As a matter of course, temporary breaks are always to be expected and as a rule the sharper they are the shorter their duration.

Very Little Change in Hogs

Hogs have been fluctuating within rather narrow limits all this month. Prices advance for a few days and then as receipts become heavier the market sags back to where it started. It has been, in fact, a see-saw movement all the month. About the only change worth mentioning has been with light hogs, which are no longer commanding the premium as compared wtih heavyweights that they were a week or two ago. The eastern demand for hogs weighing around 200 pounds has shown a decided decrease of late, while there has been an improved demand for choice heavy or fat-backs. However, good light hogs at present writing are still commanding a premium over other weights.

The winter packing season opens November 1 and if packers are true to the traditions of the past they will break the market some time between now and that date. Occasionally the break comes the latter part of September, but only about once in twenty years does the market fail to close lower at the end of October than it opened at the beginning of the month. In fact, prices at the close of October have been lower than at the opening of the month every year since 1896, when hogs at the beginning of that month were selling below $3 and at the close were averaging slightly above that figure on the basis of Omaha. It does not seem to make much difference whether receipts are heavy or light, whether the demand is good or bad, the packers have almost invariably broken the market during October. This has been the rule for so many years that operators on the market have come to take it for granted and they begin looking for a break with the coming of October, regardless of country supplies or any other influences that might have a direct bearing upon the market any other month in the year.

Thus far this year January has been the low month, the average price on the basis of Omaha ranging from $7 to $7.40 during that month. Prices, however, were gradually firming up and before the close of February hogs were averaging a little better than $8 at Omaha. Prices continued working upward during March, hogs selling at the close of that month on an average between $8.80 and $8.90. Toward the close of April it slumped rapidly and during May and June the average price ranged from $8.10 to $8.50. In July the market averaged considerably higher, but in August there was a slump that took the market below $8 and it has ranged close around the $8 mark during the greater part of September to date. It has been a high market practically all the year and packers will be forced to break it down sharply and keep it there to make anything other than a high market.

Demand for Feeder Lambs Strong

Sheep are marking time. They are in the same position as cattle were a month or six weeks ago. Prices, which at this season of the year are largely under the influence of the feeder demand, have been very high owing to the fact that the country demand for feeding lambs has been so strong. Sheepmen have looked upon the active buying of feeders as more or less of a temporary character and have been expecting all along, the same as cattlemen were earlier in the season, that the urgent demand for feeders would soon be satisfied and that the market would then ease off considerably. Still the country has kept buying, with no indication thus far of a letup. Last week Omaha, which cuts a big figure in the sheep trade, received, in round numbers, 175,000 sheep and lambs, which was very close to the record mark, but in spite of this the country stood up to the rack, buying everything offered without breaking prices enough to be hardly noticeable. Operators on the market, however, are still in doubt as to the future of values and a good many prospective buyers of feeders are holding back with the expectation of filling their feed lots at lower prices next month. As large receipts are anticipated for October it is possible that they may be successful, but if too many put off buying until late there always is a possibility of some one being disappointed.

The above is a photograph of Fancy Advance 2d, the grand champion Duroc-Jersey sow at Nebraska, 1913. She is owned by Clarence Wallace of Wisner, Neb., and is a daughter of Wallace's Wonder, one of the greatest sons of Crimson Wonder.

Sale Dates

Duroc-Jersey Hogs

October 1—John Bader, Scribner, Neb.
October 9—William Moderow, Beemer, Neb.
October 9—M. O. Froistad, Newman Grove, Neb.
October 5—W. M. Putnam, Tecumseh, Neb.
October 25—Herman Tolle, West Point, Neb.
October 30—J. J. Kane, Wisner, Neb.
November 7—Robert Leisy, Wisner, Neb.

Poland-China Hogs

October 18—G. B. Van Kleeck, Central City, Neb.
October 20—William Ferguson, Scribner, Neb.
October 29—Tim Neuhofel & Son, Central City, Neb.
November 12—A. E. Rich, Creighton, Neb.

Shorthorn Cattle

December 16 and 17—C. A. Saunders, Manilla, Ia. Sale at South Omaha.

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Fresian Cattle

February 3-4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher Botna, Ia. Sale at South Omaha, Neb

GRAIN BELT BRAND
Vegetable Hog Potash

Why wait thirty to ninety days for results. **Grain Belt Brand Vegetable Hog Potash** will put your hogs' appetite on edge in thirty minutes. Add five pounds to one hundred pounds dry weight of grain, and see how much better they clean up their feed. Write and ask us the following questions: What will it do for hogs? What is the chemical analysis? What is it made from? What does it cost? Or any other question you may wish to ask, and we will be glad to answer. You see we have no secrets.

Agents Wanted in Unoccupied Territory.

UNION STOCK YARDS COMPANY
South Omaha, Neb.

The fact that the Twentieth Century Farmer absolutely refuses all "fake advertising" should assure the honest advertiser good results, and the reader a square deal.

Duroc-Jersey Sale
at Scribner, Neb., October 1, 1913
50 Head — The Top of Two Herds — 50 Head

This offering will consist of two aged boars, 28 spring boars, 10 sows with litters at side and 10 fall and spring gilts open.

The two aged boars are Prince Critic by Proud Chief Junior, and Echo's Crimson Wonder by Van's Crimson Wonder. They are both good individuals, and their produce in the sale will show what they will do as breeders.

The spring boars and gilts are by Prince Critic, Echo's Crimson Wonder, Wallace's Sensation, Golden Model 4th, Fancy Wonder, Model Boy, Crimson Wonder Sensation and Bader's Crimson Wonder, he being one of the best young boars in the state.

Remember, you can get an aged boar, a spring boar, a sow with litter at her side, or a spring or fall gilt open. A large part of the offering is immune. Everything is guaranteed a breeder or your money refunded. For catalogue address

Auctioneer, N. G. Kraschal.
Fieldman, G. E. Hall,

JOHN BADER, Scribner, Neb., or
ERNEST CARPENTER, Fontanelle, Neb.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. THOS. F. WALKER & SON, Alexandria, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

JERSEY CATTLE

Buy Jerseys

Dollar for dollar invested, the Jersey will earn back the amount paid for her quicker than other breeds because her product brings a higher price per quart or per pound. For the home she is unsurpassed, and her low cost of keep makes her most desirable. Write now for Jersey facts. No charge.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE

...e Capital, Topeka, Kansas, June 16, said: ...hen Maid Henry, the famous 13-year-old ...stein owned by the Kansas Agricultural ...ege, was working so hard for the record ...ce, was working so hard for the record 19,000 pounds of milk and 865 pounds of ...ter in a year's time, dairymen prophesied ...at the Maid would be ruined. But Maid ...ny returns to show that she is some cow ...n after breaking a record. She has a 111 ...nd male calf born just the other day to ...ve us."

Send for FREE Illustrated Descrip...e Booklets.

...olstein-Friesian Asso., F. L. Houghton, Sec'y.
Box 179, Brattleboro, Vt.

HORSES AND MULES

YOU KNOW

...rally satisfactory breeding studs ...e money-making trade. GET ...OOD ONE from my big bunch ...ected Percherons, weanlings to ... years. Early buyers get the best ...ave money. Just east of Omaha.

...D CHANDLER, Rt. 7, Chariton Iowa

DUROC-JERSEY HOGS

CHULTZ' DUROC-JERSEYS

...uroc-Jersey boars for sale, that are right, ...breeding and as individuals. I am pric...em worth the money and guarantee them ...make good. GEO. W. SCHULTZ, Yutan, Neb.

KUZEL'S DUROCS

...ho Top King, Model Wonder 3d, Proud Won... Jr., Crimson Boy and Prince, by Prince of ...el's, are the sires of my spring pigs. Choice ...rs for sale at reasonable prices.
L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

...pring boars for sale, sired by Model Good..., ...ern's Wonder, Uneeda Wonder and Queen's ...er Again. They are the kind that win ...espondence solicited.
O. G. SMITH & SON, Kearney, Neb.

DUROC-JERSEY BOARS

...pring boars for sale, sired by Crimson C..., ...mson Wonder 10th, Critic B., Chatham's Pride. ...so a few extra choice fall boars. I will guar...ee to please you.
C. E. CLAUFF, Central City, Neb.

RIZE WINNING DUROCS.

...hoice boars for sale, sired by B. & G.'s Won..., Blue Ribbon Model, Chief Select 2d, Mod...w's Wonder, Valley King and others. Price...asonable. WM. MODEROW, Beemer, Neb.

CHWAB'S DUROC-JERSEYS

...A choice lot of spring and fall boars for sale ...ed by Budder K 4th, Wide Awake, Gold Bond, ...L. B.'s Perfection, Crimso and others. Also ...d sows. Priced worth the money.
GEO. W. SCHWAB, Clay Center, Neb.

POLAND-CHINA HOGS.

POLAND CHINA BOARS

...I have a choice lot of big growthy ...ales for sale, sired by Warren Jumbo ...ster Jumbo and Smooth Wonder by Big Wo... ...ons out of Expansion Lady. Look bred ... ...ices reasonable. Fred Wilke, Columbus, ...

POLAND-CHINA BOARS.

...Spring males for sale, sired by Big ...ns and ...d Big Orange Hadley. They are the ... ...e quality and have Expansion ...ding. J. A. SCHALDECKER, Grafton, Neb.

CHOICE FALL BOARS

...Fall boar of herd heading character. Two of ...se are half brothers to the champion now at ... this year. They are sired by D. S. Mo... ...mmoth and Orion Cherry. Priced to ...
W. A. LINGFORD, Dannebrog, Neb.

...When communicating with advertisers ...this page kindly refer to that you saw ...ir advertisement in the Twentieth ...ntury Farmer.

RICE

...RICE—NEW CROP—50 POUNDS ...for table use or seeding. Packed with ... the heart left on, something dif...ous; a perfect food. In double sacks, ...ight prepaid to points east of ... to ... Sacks ... Farmers ... ...t. Texas.

LANDS

Alabama

MY 614-ACRE ALFALFA, PRAIRIE-belt farm in Alabama, 2 miles from a thriving town, with good churches, schools, etc., on the main county road; water abundant and good, 20 to 30 feet. Admittedly one of the most fertile farms in the county and well drained, with 100 acres hay land, renting for $5 per acre; 100 acres timber. A good, new hay barn; 10 tenant cabins. *It's really a very fine alfalfa and corn farm at an exceptional sacrifice—only $30 per acre; one-third cash, balance to suit. It's easily worth double what is asked. E. E. Secor, Selma, Ala.

Arkansas

160-ACRE IMPROVED FARM; 60 CULtivation, balance timbered; 100 fenced; no rocks; on public road; no negroes; school joins farm; good water; orchard; 5 farmers from Nebraska lately bought here; 2½ miles from Winthrop, on railroad—$20 acre; $1,000 down, balance 6 per cent. Sessions Company, Winthrop, Ark.

Farms Wanted

CUT OUT THE BIG COMMISSIONS—We only charge $10 to sell your farm or business anywhere. It's easy. Let us tell you how. The Bulletin Board, Ulysses, Neb.

SELL YOUR PROPERTY QUICKLY for cash. No matter where located. Particulars free. Real Estate Salesman Co., Dept. 87, Lincoln, Neb.

Florida

LAKELAND, FLORIDA, CENTER OF the orange, grape-fruit and strawberry section; high altitude, fine climate, rich lands, good schools, pure water. Address Secretary, Board of Trade.

Homesteads

HOMESTEADS! CAN TELL YOU OF best locations in Montana, Colorado, Wyoming. Booklet, "Western Homesteads," 4c stamps. Homesteaders' Exchange, Douglas, Wyoming.

Iowa

POULTRY OR TRUCK FARM—30 acres 3 miles north of Des Moines; 5 acres fenced for poultry, with 18 houses; water piped to houses; shade in all runs; good barn and corncrib; modern, 10-room house; cistern in kitchen, steam heat, bath and toilet; good orchard and small fruit; two blocks from school, church and store. Price, $10,000, easy terms. Will sell complete farm equipment with place. This farm has been a profitable one and owner is retiring from business. Address Frank Foy, 908 15th St., Des Moines, Ia.

Kansas

FORCED SALE—160 ACRES GRAIN and stock farm, 3 miles from good town of 1,000 people in eastern Kansas; small improvements, good land, well watered, well located. Owner forced to sell in the next 60 days. Price is $40 per acre. Easy terms. Address Owner, Lock Box 367, Iola, Kan.

Minnesota

IMPROVED FARMS, GROWING 70 to 100 bushels of corn per acre this year. Write Secretary Corn Breeders' Association, Cokato, Minn.

160 CHOICE FARMS IN THE GARden spot of southern Minnesota, where corn is king. Price, $60 per acre and up. Prices advancing rapidly. Come now. Free list. The Paffrath-Schmid Company, Springfield, Minnesota.

Mississippi

PINE LANDS IN MISSISSIPPI AND Alabama, for stock raising, general farming, etc., $1 to $10 per acre and up. Elevated country. Good water. Lands better cared for. Terms, one-fourth cash, liberal terms on balance. For folders, maps and full information address Mr. Geo. Lehmann, Box 712, Mobile, Alabama.

Nevada

$2.50 to $5 PER ACRE—THAT'S THE price of good land in Nevada. Today is rapidly passing when you can get good land cheap. Fall Nevada wheat and hay there is sold close by ready to get seed sections. There are 1000 acres in Elko county open for entry to settlers or relatives to settle. The most favorable terms and free information. Write to-day. Elko Land & Livestock Co., 903 Pacific Bldg., San Francisco, Cal.

Nebraska

160 ACRE FREE HOMESTEADS IN Nebraska. Send 6c in stamps for complete map of land opened to entry. After drawing you will win Nebraska. Central Investment Co., Broken Bow, Neb.

LANDS

Nebraska

FOR SALE—200-ACRE YORK COUNTY farm at $135 per acre. Will take small farm anywhere as part payment and leave $10,000 in place at 5 per cent. All level. P. J. Refshange, Owner, Hordville, Neb.

New York

BUFFALO OF ERIE COUNTY, NEW York, is the best market in the world for mixed farming. I have, within twenty miles, three highly improved farms; good reasons for selling—135 acres on State road direct to Buffalo; spring brook runs through it; 3½ miles to high school; near fine church; large barns; well fenced, and highest fertility, for it has never been leased. For grain, stock, dairying or fruit it would be difficult to find a better. It has two small orchards, some grapes and small fruit. It has a 2½-story, modern, 17-room house, with furnace and cellar under the whole. A second set of buildings and tenant house of ten rooms; one mile from the railway station; R. F. D. mail. Price, $16,000; $10,000 down and balance 6 per cent mortgage. Possession any time. One hundred acres, good building and fenced, fine apple orchard; good for any line of farming; ½ mile from State road—price, $8,000; one-half down and balance 6 per cent mortgage. Eighty acres one mile from State road; good buildings and fences, nice apple orchard; an extra nice farm for any line of farming—price, $6,500; $3,500 down and balance 6 per cent mortgage. Possession of these last two April 1, 1914. For further particulars apply to the editorial department of this paper, or to W. E. Hunt, owner, Clarence, New York.

Oklahoma

OKLAHOMA RANCH—60 ACRES, near coal mining town in coal oil and gas belt, 6 miles to big gas well; good title—$5 acre. Cornelium & Co., Hastings, Neb.

Oregon

OREGON BOOK FREE, SENT ON request. Official state book telling of Oregon's resources, climate and agricultural opportunities for the man of moderate means. Questions will have painstaking answer. We have nothing to sell. Room 3, Portland Commercial Club, Portland, Oregon.

Wyoming

BLACKBURN FARMS ARE STILL A great attraction, because of their immense crops of wheat, oats, barley, potatoes, alfalfa, etc. No poor stock seen anywhere. It simply can't be otherwise when there is an abundance of the very best feed and water in the world, and no diseases, and a climate that's just suited to animal growth. There's no sweltering, exhausting heat to hinder, so that growth is normal. Pests are absent. No wonder the cattle and sheep men of former years there made fortunes. Stock raising here is the great money-maker, and it's the most certain here of anywhere. What a place to raise hogs! A few good sows would yield pigs that would grow into dollars with a rapidity that would astonish the average grower. A better place for poultry would be hard to find anywhere. The dairy business [illegible] nothing else and the yield of butter-fat per cow is far better than in Iowa or Nebraska, because both the food and water is more nourishing and the climate [illegible] to the needs of the cow. But really the very best thing of all is the wonderful healthfulness of the people. [illegible] In almost every family in Iowa and Nebraska no one is ailing. Could you but live there a while you would become healthy. All in all, it is the most satisfying climate there is for man or beast, but as a place to make money raising stock it will easily rank with, and [illegible] to appreciate what we have been saying you should send for our illustrated folder. It is free, so better still, go and see. Let us tell you about our excursions. La Grande Development Co., Thomas Cavanagh, all Board of Trade, Omaha, Neb. [illegible]

Wisconsin

TIMOTHY, CLOVER AND CORN land, [illegible] good drained meadow lands in southern Wisconsin, all within [illegible] miles from Iowa, six hours from Chicago, [illegible] land. Prices [illegible] per acre. Terms to [illegible] Cedar Lands Co., [illegible] Wisconsin.

ANGORA CATS

ANGORA KITTENS FOR SALE—Beautiful creatures. [illegible] Mrs. C. P. [illegible]

HELP WANTED

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary, $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

GOVERNMENT FARMERS WANTED—Make $125 monthly. Free living quarters. Write Ozment, 39-F, St. Louis, Mo.

WANTED—MEN AND WOMEN OVER 18 for U. S. government positions; $65 to $150 month. Thousands of appointments this year. Pull unnecessary. Farmers eligible. Common education sufficient. Write for free booklet of position open to you. Franklin Institute, Dept. T-98, Rochester, N. Y.

SALESMEN—FOR HIGH-CLASS TObacco factory; experience unnecessary; good pay and promotion for steady workers. Complete instructions sent you. Piedmont Tobacco Company, Box L-27, Danville, Va.

WE WILL PAY YOU $120 TO DISTribute religious literature in your community. Sixty days' work. Experience not required. Man or woman. Opportunity for promotion. Spare time may be used. International Bible Press, 546 Winston Bldg., Philadelphia.

HONEY

HONEY—NEW 1913 CROP, PRODuced by our own bees, guaranteed pure; finest quality and delicious flavor; only $9 a case of two five-gallon cans (120 pounds of money) f. o. b. cars at Myers, Montana. The Rocky Mountain Bee Co., Forsyth, Montana.

LIVE STOCK

CHOICE HOLSTEIN CALVES—WE have beautiful marked calves, 15-16th pure blood, from large-producing, high-grade dams and a very fine sire; either sex; males, $15; females, $17; from 3 to 5 weeks old; crated and put aboard express car for any point. Send order to Whitewater Stock Farms, Whitewater, Wis.; Hanson & Hawes, Props.

POULTRY

Orpingtons

HIGH-CLASS BUFF ORPINGTONS for sale cheap. Frank A. Agnew, South Omaha, Neb.

Miscellaneous

FREE—BIG BOOK ON POULTRY OF all varieties, and hatching eggs at bargain prices. The Belgrade Poultry Farm, Mankato, Minn.

BUILDING PLANS

A BOOK OF BUNGALOWS AND houses for cold climates; modern, practical and artistic, sent postpaid for 75c. Special plans for all kinds of buildings also prepared. L. Harry Warriner, Architect, Needand Bldg., Gary, Ind.

COMMISSION MERCHANTS

POULTRY, EGGS AND BUTTER wanted, highest market price; egg cases furnished free. Peyn & Co., Omaha.

TRACTORS

FOR SALE—THREE BIG-FOUR Tractors (30 h. p), with engine gang plows. Used very little; in perfect condition, and good as new. Price $1,850 to $2,200 per outfit, including plows. Call on or address W. L. Hudson, Plant and Executive Offices, St. Paul Minn.

FOR SALE—CHEAP ONE 30-60 H. P. Minneapolis Threshing Machine, in good condition. Peter Rice, Jackson, Missouri.

PATENTS

PATENT YOUR IDEAS. THEY MAY bring you wealth. Send for Free Book. How to obtain and sell Patents. Watson E. Coleman, Washington, D. C. Established 1869.

LUMBER

[illegible]

SUBSCRIPTION PROPOSITION

[illegible]

ADDRESS ALL COMMUNICATIONS TO THE COMPANY AND NOT TO ANY INDIVIDUAL OFFICER OR MEMBER

The Federal Land and Securities Co.

CAPITAL STOCK $200,000.00
100 WEST 17TH STREET

J. R. CARPENTER, PRESIDENT
ALEX HASTIE, SECY. AND TREAS.
W. W. BUSSELLE, SALES MANAGER

Cheyenne, Wyoming September 16, 1913.

TO THE READERS OF THE TWENTIETH CENTURY FARMER:-

Kind Friends:- You have all read in the columns of the Twentieth Century Farmer our advertisements of the Golden Prairie District of Wyoming. Many of you have written and have received our descriptive literature and a considerable number have visited the district and purchased farms from us.

We realize that those who have written us do not nearly represent the number interested, for while after reading the true and interesting story of "Harry" and "Jim" in last week's paper you no doubt fully intended to send us the coupon and learn all about this country "where nature has put jack-screws under the land" thus protecting the crops from excessive heat and hot winds, something interfered and you have put it off.

This is the season of least stress with you (there is always something to do on the farm). There never was a better time to make the trip. Threshing is going on now all over the Golden Prairie and you may see with your own eyes the advantage of farming where the average maximum temperature is 11 degrees lower than that of Omaha and where during the 43 years the U. S. Weather Bureau has been established here, a temperature making hot winds possible has never been recorded. And while here it might be of interest to visit the Weather Bureau and learn officially that the winter temperature averages about 11 degrees above that of eastern Nebraska and Iowa.

HOW LONG WILL IT TAKE TO MAKE THE TRIP? That depends on where you start from and whether you are in a hurry or not. "What man has done man may do" and a few instances of the past two weeks will serve to illustrate: Mr. Briscoe and Mr. Miltzow of Lake County, Illinois, north of Chicago, left home night before last. They arrived at our Burns office this morning, went out in an auto with our Mr. Busselle and each purchased a farm. They visited the Laramie County Fair grounds at Burns where the exhibits are being installed for the annual fair which opens tomorrow, ate their supper and drove to Cheyenne by auto with the writer where they are staying tonight. They will leave in the morning at six and arrive home Thursday forenoon.

Mr. McDonald of Otoe County, Nebraska, ran up to Omaha Monday of last week, taking the afternoon Union Pacific train and arriving at Burns Tuesday morning. He picked out and closed up for a 320 acre farm that day, drove to Cheyenne that evening and started home the next day, being away from home only about three days.

On Monday of last week Mr. Vosler left his home in Cass County, Nebraska, got to Burns Tuesday morning at 8:28, bought his farm and started back that afternoon at 3:14, arriving home the next day.

Others who have purchased during the past few days, many of them making flying trips, are Mr. Smith of Morgan County, Illinois, Mr. Kniss of Cass County, Nebraska, Mrs. Seymour of Otoe County, Nebraska, Mr. Johnson of Montgomery County, Iowa, Mr. Chenoweth of near Springfield, Illinois, Mr. Parkhurst of Black Hawk County, Iowa, and Mr. Duclos of Cass County, Nebraska.

Our only reason for not giving the full name and address of each of these recent purchasers is that last fall we published a list of buyers and they were simply swamped with letters. On request we will furnish to any reader interested the full name and address of each of these and other recent purchasers, together with legal description of their lands and prices paid.

A ticket can be purchased at the Summer Tourist rate any day this month, good returning up to November 1st. This rate is $16.00 Omaha to Cheyenne and return - proportionately low from intermediate and higher from points east of Omaha. Ask for Summer Tourist ticket to Cheyenne and return, taking train No. 3 which leaves Omaha on U. P. Ry. at 4:30 P.M., arriving at Burns, 26 miles east of Cheyenne where our branch selling office is located, at 8:28 the next morning. We invite you to come and see the Golden Prairie District - come whether you are ready to purchase now or not.

We sell our lands at $12.50 to $25.00 per acre for unimproved prairie, one to eight miles of railroad station, and our terms are either on annual installments extending over a period of ten years, or on our celebrated CROP PAYMENT PLAN whereby both principal and interest are paid by delivering to nearest market station one-half the crop raised each year until the land is paid for. We shall be pleased to furnish to all those readers who have not yet written us descriptive literature and our signed Guaranty whereby we agree to refund your railroad fare and $5.00 per day if you do not find everything as represented.

Awaiting your further pleasure, we are, with best wishes,

Very sincerely yours,

THE FEDERAL LAND AND SECURITIES COMPANY,

By J. R. Carpenter President.

JRC/MJS

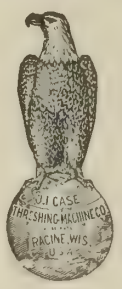
TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, October 4, 1913 | Number 669

CASE Wins 9 Out of 10 Gold Medals

Surpassing Its Own Amazing Records!

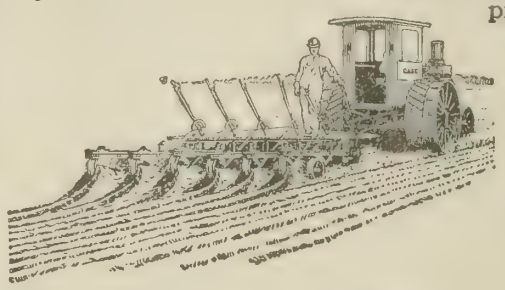


The Standard of Mechanical Excellence the World Over

The unquestioned supremacy of Case products has again been demonstrated at Winnipeg, where Case Machinery captured everything in sight.

This is the kind of machinery you want, the kind of machinery that does the most work at the least cost, the machinery that stands unchallenged and unequaled for every farm test.

Surely *now* no up-to-date farmer is going to be satisfied with anything that fails to do what Case will do. In farm power Case products stand supreme.



Steam

Case won 3 Gold Medals in this class for 110 h. p., 80 h. p. and 40 h. p. The 110 h. p. has won this medal four times, sweeping everything each time entered. The 80 is a three-time winner at Winnipeg.

Oil

The Case 60 h. p., in winning its Gold Medal scored 79.15 points on design and construction out of a possible 100. A convincing testimonial to those qualities which have always characterized Case Machinery.

Gas

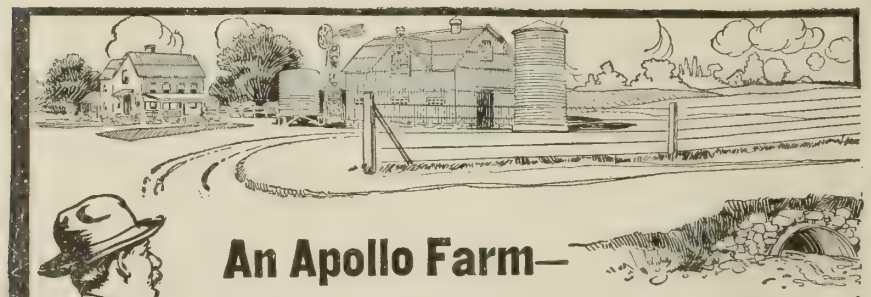
The Case 40 Gas and Oil Tractor won both Gold Medals for Gasoline and Oil classes. 42% more gasoline and 32% more kerosene were required by nearest competitor. Case 25 won Gold Medal, scoring 36% more points than its rival.

Plows

Won both Gold Medals and Sweepstake Honors in large and small classes.

Our new automatic Lift demonstrated that the one-man outfit is at last a certainty. May we send you our catalogs?

J. I. CASE THRESHING MACHINE COMPANY, Inc.
657 State Street, Racine, Wisconsin (182)



An Apollo Farm—

Barns, silos, tanks, implement sheds, stock shelters, wind mills, garage, poultry houses, corn cribs, culverts—all constructed from

APOLLO
Galvanized
Roofing and Siding

Sold by weight. Look for the trade mark.

These products are full weight, strong, rigid, durable—and have the additional advantage of being fireproof. Upwards of 450,000 tons of Apollo Sheets used during 1912, which proves quality and growing favor. Accept no substitute. APOLLO Best Bloom Galvanized Sheets are also unexcelled for Tanks, Culverts, Cisterns and underground uses, as well as for Roofing, Siding, and all forms of sheet metal work. Sold by leading dealers everywhere.

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BULL'S-EYES

SCORED BY THE

Twentieth Century Farmer

"Creamery Problems in the Missouri Valley"

A SERIES of editorials published the forepart of 1913 after a careful, far reaching, personal investigation of conditions, setting forth some startling facts never before made public. Pronounced by the best authorities to be the most influential single thing ever done for Dairying in the Missouri Valley. Re-printed in bulletin form and now ready for distribution. Write for Bulletin No. 5.

"The Truth About Silos"

A TRULY sensational series beginning in July this year, exploiting the questionable methods of certain manufacturers and patentees and discussing, in a fair, unbiased way, the relative merits of the various kinds of Silo construction. No farm paper has ever before gone so straight to the mark in presenting the truth to its readers regarding a subject which so vitally concerns them. Write for Bulletin No. 6.

Fremont Power Farming Demonstration

ORGANIZED, managed and advertised by the Twentieth Century Farmer, and held under the auspices of the Commercial Club of Fremont, Nebraska, September 8-13, 1913. Sixteen of the world's largest tractor manufacturers were present with forty engines; also seven plow manufacturers of world renown. Between 15,000 and 20,000 people attended, principally farmers from all parts of the United States and Canada. It was voted by manufacturers and farmers alike to be without question the greatest and most successful affair of its kind the world has ever seen.

THE policy of the Twentieth Century Farmer is always to print fearlessly what it believes right and what is in the interest of its readers. As a result, no publication enjoys the confidence of its readers in a greater degree than does the Twentieth Century Farmer. It is a farm paper that is doing things; in other words, it is alive.

Twentieth Century Farmer
OMAHA, NEBRASKA

Bright and Breezy

Distant Acquaintance

"Are you acquainted with Mrs. ny, your fashionable neighbor?"
"Only in a roundabout way. Her boards at my house."

How About You?

"It is a well known fact that stly everybody has a well devel- ed bump of curiosity," said the actical man.
"Think so?" inquired the other. this paragraph will turn the pe upside down."
—Lippincott's.

While There's Life—

he Doctor—Mrs. Brown has sent me to go and see her boy, and I st go at ance.
is Wife—What is the matter with boy?
ne Doctor—I don't know, but Mrs. wn has a book on "What to Do ore the Doctor Comes," and I t hurry up before she does it.

Poor Old Man

r. Alfred Lester was teling us ntly a story about a newly mar- lady who was being interviewed the reporter of the local paper after the ceremony.
nd after the honeymoon where you intend to settle down?" was final question.
t the Old Manse," said the bride he hurried away.
e reporter thought it sounded a familiar, but he decided to use n his interview, so when it ap- ed in print the report finished "After the honeymoon the happy le intend to live at the old 's."—Pearson's.

About the Limit

t had been at work for three digging a well, and as the fore- wanted it finished within the he had promised Pat another to help him. It was getting o 11 o'clock, and Towser, the man's bulldog, was looking over edge of the pit, when Pat said imself, "I'll have a smoke." He filled his pipe and was about to it when he glanced up and be- Towser's handsome features. ly removing his pipe from his th he said, "Be-e-gorra, Oi've ked with Germans and Hen- ans, and Oi've worked with lians, but if a man wid a face that comes down here to work le me Oi gets up."

Recognized the Sound

e elderly matron with the bun- who was journeying to a point Visconsin and occupied a seat the middle of the car, had fallen p. On the seat in front of her a little boy. The brakeman ed the door of the car and called he name of the station the train approaching. The elderly an roused herself with a jerk.
here are we, Robby?" she cried.
don't know, grandma," an- ed the little boy.
dn't the brakeman say some- just now?"
. He just stuck his head in- the door and sneezed."
elp me with these things, y," she exclaimed. "This is osh. It's where we get off."

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Big Demand for Silo Bulletin

SINCE the announcement that the series of articles, "The Truth About Silos," would be printed in pamphlet form, we have been receiving daily requests for these bulletins. No series of articles published in any farm paper has attracted so much attention. The interest is indicated by the experience of one subscriber, who says he and his neighbors have been talking of building silos and his copies of the Twentieth Century Farmer have been circulated among them because of the valuable information about the different methods and materials of silo construction. These bulletins are now ready for distribution. Any one sending two cent stamp to cover postage and mailing will get one free. If you are not ready to build a silo you should have one of these bulletins to file for future references.

Prattle of the Youngsters

No Fool

Captain (receiving the new middy)—Well, boy, the old story, I suppose—fool of the family sent to sea?

"Oh, no, sir," piped the boy: "that's all altered since your day."

Varied Career

Velma had a tremendous respect for matrimony. When she was 6 she had already determined her career—

"When I'm grown I'm going to be a musician, an artist and a mother."

Saved

Mother—Oh, Willie, you naughty boy, you have been fighting again, and lost two of your teeth.

Willie—No, I ain't, mother; they are in my pocket.—American Boy.

As Usual

Benevolent Old Lady (to little boy)—How did you ever get such a black eye?

Small Boy—Me and Sammy Jones was fightin for a apple in school an' he smashed me.

Benevolent Old Lady—Dear, dear! And which glutton got the apple?

Small Boy—Teacher, ma'am—Harper's Weekly.

True, for Once

Teacher—Willie, did your father whip you for what you did in school yesterday?

Willie—No, ma'am; he said the licking would hurt him more than me.

Teacher—What nonsense! Your father is too sympathetic.

Willie—No, ma'am; but he's got rheumatism in both arms.

Saw the Sign

The Johnsons had an old hen which insisted upon neglecting her comfortable nest to lay a daily egg in the coal celler.

"I can't think," fretted Mrs. Johnson, as she and her small son, Joe, together hunted for that particular egg, "why this one hen insists upon using the coal bin."

"Why, that's easy, mother," exclaimed Joe, in astonishment. "I s'pose she's seen the sign, 'Now is the time to lay in your coal."—Ladies Home Journal.

Perfectly Simple

Gladstone, the great English statesman, always took a keen interest in everything that related to rural life.

When still a very small boy, Gladstone was visiting with his parents at a country estate. The owner of the estate showed the boy the farm buildings and pastures.

The young Gladstone took a great interest in everything, but particularly in a large black bull.

"That is a very fine, strong animal, Master William," said the owner of the estate. "And he's only 2 years old."

Why, how can you tell his age?" asked the boy.

"By his horns."

"By his horns?" the lad repeated, in an incredulous voice. He continued to stare thoughtfully at the bull, then suddenly his face brightened. "Oh, now I understand," he said. "Two horns—two years."—Youth's Companion.

Unloading One of the Giants from Flat Car

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

TWO old German-American farmers stood beside a huge sixty-horse-power gas tractor in a field near Fremont, Neb., the other day. Their appearance bespoke a moderate prosperity gained through years of intelligent toil. Said one in the tongue to which he had been born, tapping the great drive wheel that rose above his head: "'Tis a mighty thing!" And the other nodded vigorous assent to the simple tribute.

Well, it was a mighty machine. Even an amateur impressionist would have come to some such conclusion. But there were thirty-nine more of the same mechanical breed in that same field, and these two neighbors were but two of the 15,000 farmers who took personal advantage of the gas tractor demonstration held September 8-12, three miles northeast of Fremont under the auspices of the Twentieth Century Farmer.

Eclipsed all Previous Demonstrations

It was an event of superlative importance. For the first time in America the interest of a large body of farmers was concentrated upon the internal combustion traction engine as an instrument of the new power farming. Not even the annual motor competition near Winnipeg, Manitoba, could approach this Nebraska demonstration in magnitude. Indeed, from the viewpoint of attendance, the Fremont show easily effected a total eclipse. The one at Winnipeg is, of course, primarily an engineering event and the attendance for the most part is confined to mechanical engineers.

For that matter, however, there were plenty of engineers at Fremont, as well as scores of business executives and salesmen. Sixteen companies participated. Each of them had from one to four tractors on the ground, big and little, and representing practically every type manufactured. In the field they pulled from two to twelve bottoms, according to their size and power. Only work on the draw-bar was demonstrated and most of that was plowing, although some disking, harrowing, seeding and road-grading was done behind the powerful machines.

Fremont was crowded during the week of the demonstration, for not only was the power show in progress, but the four-county fair, a poultry show, and a dog show were on at the same time. Those who arrived by train, and hundreds came from all parts of Nebraska, Iowa and South Dakota, and many from the surrounding states, rode out to the demonstration field in automobiles. Thousands of farmers from a hundred miles around drove their own cars, bringing their families along. Thursday was the "big" day when 4,000 farmers saw the tractors and gang plows turning the field upside down. Scarcely less than a thousand automobiles were on the ground that afternoon.

Headquarters for Everybody

A large auditorium tent had been erected by the management in the center of the 500-acre Coad ranch, where the event took place. Here was maintained headquarters for everybody. An information bureau, telephone and other conveniences were kept available throughout the week. Around this tent was grouped a village of smaller tents for the manufacturers and their representatives. Every night the tractors pulled up to the village. Some of the machines even were housed over night in tents.

Although the plowing each day from 1:30 until 4:30 p. m., overshadowed everything else, not a day during the demonstration was without its special attraction. Twenty-four of the newly arrived tractors paraded the principal unpaved streets of Fremont Monday afternoon. At night the tractor men were served a banquet by the Commercial club of that city. Tuesday was set aside for Mid-West Implement, and Nebraska and Iowa grain dealers' day. A free-for-all watermelon feed was given toward evening by the implement jobbers of Omaha and Council Bluffs. Wednesday was Ak-Sar-Ben day. Live stock and Lincoln day fell on Thursday, on the afternoon of which hundreds partook of the farmers' barbecue. Friday was Iowa and South Dakota day.

Farmers Ask Questions

It is quite safe to say that never had so much power-farming enthusiasm been assembled together in one spot as was manifested at Fremont. Everybody was talking in terms of gas traction. And the intelligent skeptic was there, too, large numbers of him. Trust our western rural citizenship for that.

Of course, it was all well enough to be wonder-struck at the size and apparent performances of these titanic machines, but these men did not come for that pleasurable sensation alone. They came with questions, and they didn't hesitate about asking them. If any tractor man brought his machine on the ground expecting the farmers to fall down and worship at the mere looks of the thing, he went away a wiser man.

There were too many Missourians from Nebraska and Iowa and other states for the accomplishment of such a fatuous purpose. They were there to be convinced by facts. They were inclined to side-step some of the salesmen and put their questions to the less romantic engineers. These farmers liked to get hold of the men who designed those tractors, then go off and weigh the information thus received.

Many Tractor Owners Attend

Many of the onlookers owned tractors themselves, and if there is a bigger partisan of make than the man who drives his own automobile, it is the owner of a tractor. Plentiful were the off-hand arguments about the particular merits of this machine of mine and that machine of yours. And the advocate of the use of tractors in general was also present.

"My 16-year-old boy runs mine," said one robust granger, on the sunny side of middle age. "Haven't had to buy more than one repair, and that was my fault. I had been keeping six horses, but when my machine came and we started in plowing, I turned every one of them into the pasture. Then a man came along and wanted to buy a span. I sold them to him and haven't missed them a bit. I believe I could spare another span."

Gives Time for Side Attractions

Another satisfied owner had nothing specifically to relate about his tractor, but told this on his neighbor: "He's the greatest fellow to hunt plover you ever saw. He'd rather shoot those birds than eat 'em any time, and he's quite an artist at the table, too. Do you know what he does when he goes out to plow? Well, sir, he just gets his machine started down the furrow, sees that the guide is working all right, then sort o' strolls across the field in the same general direction the tractor is going and shoots at all the birds he can scare up. Of course, he always manages to be at the end of the furrow

Four Bottoms and Power to Spare

The Last Round

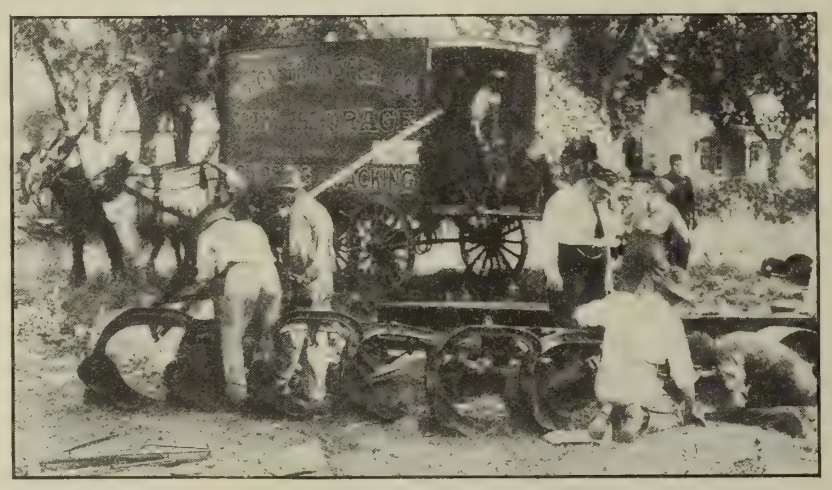
/hen the machine arrives. Then he climbs in the cab, lifts the plows, turns her around, and hunts some more, keeping it up until he gets tired. I don't say that I can recommend that kind of practice. I'd rather read my farm paper if I had any extra time, myself, but it shows what can be done."

Character of the Soil

The plowmen at the demonstration said that two-thirds of the ground they had to work in was heavy gumbo. All of it was Nebraska black land, characteristic of the valleys of the Platte and Elkhorn. In many places it was thickly shot through with tough tanweed roots, which, of course, increased the difficulties to be overcome. Most of the Coad ranch was covered with wheat stubble, but some of the ground plowed was virgin prairie. All of which made the event a true test of both the tractors and engine gangs.

Some of the soil thrown to the surface had never seen sunlight. The moldboards plowed all the way from five to nine and a half inches deep in places. The deep-tilling discs went down as far as eighteen inches at times. Foxtail grass had taken a large part of the field. In several instances this brought some of the plowing outfits to a stop, on account of the fact that it choked the plows, thus losing considerable amounts of time. It was plainly noticeable that several of the gangs did not cover the trash well. An inch or so of rain fell late Wednesday afternoon, after it had threatened nearly all day. For a time it was feared that this would stop plowing on the following day, but it did not, although practically every plow in the field underwent more or less trouble in scouring because of the moisture. Before the rain came the ground was as dry as a bone. With the exception of Wednesday's shower, the weather conditions were ideal.

Arriving for the Demonstration



Assembling the Gang

Starting the Land

Hundred Acres Plowed in 3 Hours

About 1 o'clock each afternoon the machines would chug majestically, if not automatically, from headquarters to the part of the field to be plowed. There they were allotted strips varying in width, according to the number of bottoms drawn. The machines went into the field in their alphabetical order, which was reversed daily in order that every entry should get good position. More than a hundred acres were plowed within three hours or so each afternoon.

Some of the skeptics already mentioned, who, by the way, were the very strongest advocates of power farming, made themselves meddlesome enough to question the depths at which some of the plowmen said their plows were set. And they brought some discrepancies to light, for their pains.

"How deep are you going?" one would inquire respectfully.

"Seven inches," perhaps the plowman would say.

Then, with his yardstick, with which many of the spectators had been supplied, the questioner would kneel down in the furrow and measure it. "Can't make it stretch to seven inches. It's exactly six."

"These plows are set at seven inches," the plowman would roar.

But what avails it to be told seven when you can only make it out six? Truly, there is plenty of room for the intelligent skeptic in this wide world of ours.

Some Friendly Criticism

Now these are the things that were really said and that really happened. If there be aught of criticism here, it is of the friendliest sort. Undoubtedly this demonstration at Fremont

(CONTINUED ON PAGE TEN)

All Tractors, Big and Little, Trailed Each Other in Plowing the Ends as Soon as the Individual Lands Were Finished

How the English Farmer Does His Work

Methods in Vogue Pertaining to Land Tillage Differ Greatly from Conditions Found in Other Countries

A Tenant Farmer's Home

Threshing Scene in Berkshire

By H. J. Gramlich

THE manner in which the farms in England are operated and the methods in vogue pertaining to land tillage differ greatly from conditions as we find them in other countries. There has been no tendency on the part of the English to break away from time-honored customs, and as a result agriculture there is pursuing much the same course it has followed for the past dozen or more centuries. Despite the bad features of this system, it must be admitted that whatever is attempted by the English farmer is usually completed in a first-class manner, so that, though he may lack in modern methods, he at least does his work well.

English Farmers Costly Renters

Doubtless agriculture would have developed more had there been more independence among the agricultural class, as we find it in France or the United States. The ownership of the land has had much to do with shaping the country's agricultural development. Only about 16 per cent of the farm land is operated by owners. This seems beyond reason, but census reports verify the statement. In France 81 per cent of the land is operated by owners. In the United States there are many tenants, but far less than in England, though more than in France. The people who own the land in England are principally the nobility, and they have practically all received their titles through inheritance from generation to generation. Their chief object at the present time seems to be to extract the maximum rental from the tillers of the soil, with a minimum of investment, in order to gratify their personal wants. Some of these "gentlemen," as they are called, find their rent money insufficient to meet their fastidious needs and resort to disposing of the land in order to get more spending money. This land is then largely bought by men who expect to till it themselves, and hence this practice is good for the country.

A law has recently gone into effect whereby the tenants of a neighborhood can compel a landlord to sell a piece of property by all signing a petition and presenting it to the county council. The land is then appraised by an impartial committee. This has not as yet produced any great effect in England, but in Ireland much property has changed hands since its passage.

Land Values Medium, but Rents High

Land values do not vary greatly from those in the central part of the United States. The land in England would be classed as second grade in many places, and in some it is still worse. Really good land, which is located well, brings toward $300, while much inferior land can still be purchased at $100. In general, the soil is a heavy, clay loam, oftentimes with pebbles and rock throughout.

Cash rental is paid almost exclusively, and the amount paid varies from $5 per acre on the poorest land up to $15 on the first-class land. The average might be placed at about $8. Considering the quality of the soil, this certainly looks high.

Sharp Class Distinctions

As a result of this long existing custom, we find the people divided quite distinctly into classes. There are the gentleman or landlord, the tenant farmer, or governor, and the laborer. This system has so strong a hold that a man born a laborer or tenant farmer is virtually doomed to remain the same throughout his life. The landlord draws up the lease, stating the conditions of rental and including all matters upon which he wishes to hold the tenant. The leases are often for long periods, some even being for ninety-nine years, in which case the tenant's descendants virtually have an option upon the rental of the farm. However, most of the leases only cover periods of five to ten years.

The conditions are usually stated in full, the landlord writing out what crops must be grown in rotation and all such matters which are likely to need settling. The tenant moves onto the farm with the hope of remaining a period of years; in fact, he often assumes charge of the farm occupied by his father and grandfather ahead of him, and hence knows pretty well how to manage affairs. Where this occurs, there is naturally no danger of farms running down, and the tenant has practically an owner's interest in the place. He in turn employs laborers to do the work in the fields and with the stock.

Landlord Leaves Management to Tenant

The landlord's name is ordinarily prefixed with a title, such as earl or duke, and he makes his home in a castle or mansion somewhere near the farms, but seldom troubles to go out upon them. The tenant lives in a comfortable house, built in old English style and surrounded by beautiful gardens and orchards. Upon the farm he is known by the title of "governor" or "master." In most cases his time is occupied in tending to business affairs and looking after the men, so that he seldom gets out and sweats. He keeps in close touch with all the stock, and his chief delight is to show visitors the animals which he has bred.

The manual labor is performed by a class of men who display a goodly amount of integrity and earnestness, but who are forced by circumstances to work so cheaply that they have but little hope of ever getting ahead. Most of these men are married and live in two-roomed cottages, located at some distance from the "governor's" residence. Their compensation varies from $4 to $5 per week, together with their cottage and a small garden spot, in most cases. Sometimes the "governor" exacts a small rental of 35 to 40 cents per week for the house. But for the fact that these people

(CONTINUED ON PAGE TWENTY-ONE)

Laborers Stirring Hay by Hand

Plowing for Root Crops

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

Ninety per cent of the young men who take the short courses in agriculture in the University of Wisconsin are employed in agricultural pursuits, and 85 per cent return to farms to earn their living. This speaks well for the work done at the college.

"Underground Waters for Farm Use," a popular report of the United States Geological Survey, has again been reprinted to meet the wide demand from all farming and suburban sections of ths country. A copy can now be obtained free, on application to the director, United States Geological Survey, Washington, D. C.

During the last seven years the government meat inspection service has inspected 377,000,000 animals, of which 1,100,000 carcasses and 4,750,000 parts of carcasses were condemned. Federal inspection is maintained in 792 slaughter and packing establishments. These are distributed among 227 towns and cities. The inspection force comprises 2,400 veterinary inspectors and assistants.

Corn popped in the sun in a Kansas cornfield, is the latest story of the past hot summer and comes from a southern paper. The farmer, so the story goes, was taking a nap at noon on the edge of the cornfield, when the sound of popping corn awoke him, and there was the cornfield all white like a field of cotton. If any more Kansas farmers plan to plant their fields to popcorn next summer they should read the southern newspapers and be warned.

Marketing of Fruit

The matter of greatest interest to the producer and consumer of the fruits of the country is its distribution. There is plenty of fruit produced in almost every state to fully supply the demand of that state if it were properly distributed. The trouble, in the first place, is with the grower or producer of the fruit. He does not understand how to handle his fruit crop and it is permitted to waste and destroy in the orchard before there is any attempt made to harvest or market it.

The rotting of hundreds of bushels of apples in the orchard is not an uncommon thing; in fact, it is quite the common thing in the Missouri valley and farther central western apple districts. It is just as important that the fruit crop be taken care of and saved from waste as the wheat, potatoes or any other crop on the farm. It demands a little more exact and prompt attention than most other crops, as the apple crop is a more perishable crop, especially the earlier varieties. A shipping market must be looked up in advance if the orchardist has any quantity of fruit justifying shipment or city market.

The fall and winter apple trade is one of the more stable market propositions and may be handled more satisfactorily and economically through association organization, where the crop is handled subject to association rules and requirements and sold under association management. Some system of distributing agency is necessary in all lines of fruit production in order to get a uniform supply and a uniform price throughout the country. There is too much waste and too high a price for what is saved, under the present unsystematic handling of the crop.

The apple crop of the northern, northwestern and northeastern states comprises the big fruit interests of this country, and is the crop that is destined to receive great attention and encouragement in the future development. The apple crop of the United States is practically an all-year crop. Winter varieties of apples are now being carried over to meet the new crop of early summer varieties, not in large quantities, but no doubt will be made to satisfy every demand within a few years.

When the fruit-growing districts of the United States become properly organized into fruit growers' associations, with name and title of association as a guarantee of quality on each package of the fruit under its brand, and an authorized inspection to follow these various association shipments into the distributing markets of the country, there will then be a greatly increased consumption of fruits. Production will then have to be increased; the grower will receive his share of the proceeds for the crop he produced; the necessary middleman who has contributed toward its distribution will receive a just reward for his labor; the consumer who pays all these various costs and expenses will get the fruits upon a basis of economical cost, barring the speculative features of trade, which cannot be eliminated wholly, even by producers' associations in their efforts to put their produce into the hands of the consumer.

The saving of unnecessary waste, the increase in production and the encouragement of larger consumption, are features of the fruit-growing industry that demand the attention of orchardists and land owners all over this country.

Winter Wheat Seeding

The recent general precipitation over the winter wheat districts has been sufficient to start plowing and seeding, and this work is progressing as rapidly as the conditions for ground preparation will admit. The protracted drouth and very dry condition of the soil during the month of August greatly reduced the acreage of plowing below that of average seasons. September usually sees three-fourths of the winter wheat sown, but the present season is an exception. With favorable weather conditions, a very large acreage will be sown in October.

There are some reasons why an increased acreage of winter wheat will be encouraged this fall. The fact that there has been a large amount of corn land stripped of its crop, rendering this ground easy of cultivation for winter wheat, will be an incentive to turn this, as soon as possible, into a crop. This land will be in good tilth for receiving the wheat, and at a very light expense of team power. The unusual crop of wheat generally harvested over the drouth-ruined corn districts is an argument in favor of wheat growing as against holding the land for corn crop next spring.

Some states are already reporting a prospect of increased winter wheat acreage. Kansas will use a larger acreage no doubt, owing to its dried-out cornfields. Missouri and southern Nebraska share in the same feeling in regard to winter wheat seeding. Wheat is recognized as one of the very best paying crops in these states, under average weather conditions.

Kansas has planned an organization for furnishing its farmers who are in need of such help with seed wheat. It will be a loan for one year on a note endorsed by the farmer. This is regarded as a great help where fifty to 100 acres are to be sown, and there is no ready cash to meet the usual seeding expense.

The Department of Agriculture has decided to continue indefinitely the potato quarantine against the British Isles, Germany, Austria Hungary and Newfoundland, from which our main importations of potatoes come. The object of the quarantine is to prevent the introduction into this country of the disease known as the potato wart, the potato canker or potato scab.

Churches, schools, labor unions, fraternal orders and other organizations to the number of 200,000 at least will be asked to join the anti-tuberculosis workers of the country in the observance of the fourth national tuberculosis day, which has been designated for December 7.

Dreaded Cornstalk Disease

Now that there are thousands of acres of cornstalks prepared and being prepared for feed, in some of its varied forms, it might not be unwise for feeders of stock to proceed cautiously in testing its prussic acid qualities before putting the stock on full feed of fodder, or giving them the liberty of the stalkfields. There has been in past years very serious loss incurred by turning stock into stalk fields after the corn had been gathered.

After many years of heavy loss of cattle, the discovery was made that the poison was prussic acid, and that it developed under certain conditions of growth in the blades or leaves of corn, sorghum and kaffir, and that it required but a small amount of this poison to kill an animal. It was quite frequently observed in second growth of sorghum and stunted corn following seasons of dry weather. It has not been found as virulent in fodder or sorghum where cut and shocked, and the fodder perfectly dried and cured out before being fed.

The present condition of the fodder over the country in its relation to prussic acid content is not yet known so far as reported; neither has this poison in the siloed product been defined, so far as known, from a practical demonstration of feeding. The silo would furnish the opposite conditions recommended for the destruction of the poison—dry, windy, bleaching weather. The fatality of the cornstalk disease has been observed usually before the effects of the drying, freezing winter weather has exerted its curing influences.

It will be only a matter of good judgment and discretion for cattle owners to try out their fodder in all its forms of prepared feed before risking a general and unstinted ration to the fodder-eating animals.

W. L. Nelson, assistant secretary of the Missouri State Board of Agriculture, suggests a "farm clean-up day." It is a good suggestion. A farm that looks tidy, has been cleaned up, is much more attractive and has greater value than one with litter in evidence all around. More than this, it is more healthful. The best of all, a clean-up day will help to develop habits of thrift and of tidiness, something some of our farmers stand sorely in need of.

The fire season of the National Forest Reserves is practically at an end with less damage than ever recorded. This is due to two principal causes: Partly to a favorable season, but more largely to a much better organization of the forest service for fire prevention. To date there have been approximately 2,260 fires as against 2,470 last year, while the area burned is only about 60,000 acres as against 230,000 in 1912 and 780,000 in 1911.

There were 1,445 farmers in attendance upon the "short course" at the Oregon Agricultural college this year, compared with fifty-six when the work was inaugurated six years ago.

Corn Growing Contests

One of the greatest disappointments resulting from the drouth is the blighted prospect of the boy corn growers of the country. This army of contestants for prizes in acre corn crop production will, in the aggregate, number thousands of young farmers, the best blood of the land, the men of tomorrow, the tillers of the soil who will live to see the present crop yield doubled, and possibly trebled, all over the rich valleys and prairies of the central west.

But boys must sooner or later learn the lesson of crop uncertainty even when the very best of effort is put forth in cultivation and tillage. The growing of crops under adverse weather conditions affords the best of opportunities for demonstrating the value and need of observing scientific methods in preparation and handling of the land. There will be valuable lessons no doubt learned by young and old in every neighborhood where this boys' acre corn contest has been observed.

While in hundreds of instances the acre contest has, in whole or part, been ruined by the excessive hot, dry weather, there remains the evidence of superior cultivation, the indisputed proof that better tillage, closer observance of good farming will increase the crop chances for a large yield. The boys' acre corn contest is a good thing. It is the greatest educator in crop work that is now practiced on the farm. Its virtues are in demonstrating the possibilities of crop yield, and will just certainly set the standard as does the grand champion steer at the big live stock show point the road to a better and higher type and condition of beef production.

Organize for more boys' acre corn contests for 1914. A dozen such contests in each corn-growing county throughout the corn-belt states is not too many. Commercial clubs, farmers' institutes, bankers' associations, business men's clubs, every form of association at all progressive in its ideas and purposes for public improvement, can well afford to lend their influence in stimulating increased production in some line of crop.

American Royal

The western live stock interests, especially of the central western states, should rally in attendance and exhibition patronage to the great educational live stock institution known throughout the live stock breeding countries of the world as the "American Royal." This exhibition association has become a breeders' institute, so to speak. It is the place where hundreds of the most progressive breeders of the country go each year to take a post-graduate course in the study of the best there is in type and breeding quality of the various kinds of farm animals.

The Kansas City Royal, as it is often designated, is the general roundup of the top prize winners of the greater portion of the pure-bred breeding industry of the United States. The big live stock shows, state fairs and other exhibition interests of the western, southwestern and central western states of the Union recognize the American Royal as their exhibition center and congregate their champions and grand champions in a test for candidates to the International to be held later at Chicago, November 29 to December 6, 1913.

This rounding up of the prize winners from practically all states west of the Mississippi is a most excellent thing from the standpoint of breeders' and exhibitors' study. It is one of the finest exhibitions for the young breeder that he could attend; it gives him an inspiration that will certainly encourage his attendance at the International. It holds the same relationship to the live stock exhibition industry that the high school does to the college There is no feature of study that will more thoroughly and properly prepare and fit the young breeder for his work than to attend live stock shows where he can see the live stock competing in their proper divisions and classifications. Here he will see the various physical qualities, desirable and undesirable, that go to make up the better types of animal, and by balancing up the good and the bad points represented in each animal, picture in his imagination the perfect animal.

The American Royal has been of great educational influence, especially to the pure-bred live stock industry of the west and southwest. It has created a sentiment over the entire southwest range country for more pure-bred sires. It has helped to make Kansas City a breeding center for pure-bred stock, a good sales point from which the entire territory tributary may profit. This fifteenth annual Royal show will be held October 6 to 11, 1913, and will, in all probability, be the best display ever made since its organization.

The American Shorthorn Breeders' Association announces that volume eighty of its herd book has been issued from its office at Chicago. It contains pedigrees of 20,000 bulls, 8,000 of which are bulls numbered from 359001 to 367000, and 12,000 cows numbered from 115001 to 127000. Volume eighty-one, which has recently been compiled, will contain pedigrees of 20,000 Shorthorns. It is important that Shorthorn breeders keep posted on how the breeding industry is progressing by consulting the herd book.

Hog cholera threatens to be a greater scourge and more productive of loss this year than it was last year. The demand for serum far exceeds the supply. The commercial serum plants are exhausted, and the state plants are unable to satisfy all demands. Perhaps some time our legislatures will get wise enough to appropriate sufficient money to stay the ravages of this disease instead of spending the state's money on gew-gaws.

The railroads claim that their present income is considerably less than it was in 1910. They are making their present equipment carry all that it can. They claim something must be done to increase the income so as to increase credit so that more extensive equipment may be provided. Query—Was the income of 1910 adequate for paying dividends?

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Fremont Power Farming Demonstration

(CONTINUED FROM PAGE SIX.)

More Than 3,000 Sandwiches Were Served Free of Charge at the Farmers' Barbique.

has done more than any other single thing to advance the cause of power farming. Then, never forgetting that fact, surely it is not only well, but wise to consider those things which do not deserve complete approval. Will power farming be any the worse for it? On the contrary.

How can it possibly be harmful to a plowman to be advised to say six when his plows are registering six? In brief, the plain truth sounds better to a farmer than something rather short of it. Why try to misrepresent facts, even slightly, that have such solid legs to stand upon as tractor-plowing facts? Malpractice of this kind surely belongs under the head of what big sister's little brother calls "bonehead plays."

Everybody took it as a foregone conclusion that the Fremont demonstration should be established as an annual event. "You folks have started something," said the representative of another publication to a Twentieth Century Farmer man, and he put several pounds of accent on the "something."

Do Not Favor a Technical Contest

Naturally, the contest question came up. Every participant interviewed looked upon the proposal to turn the demonstration into a contest, with disfavor. Several said they would not enter a contest. A few non-participants favored a regular competition. Among these was Prof. L. W. Chase of the University of Nebraska, who for several years has been prominently connected with the Winnipeg event. Prof. Chase thought some sort of a happy medium might be struck between an out-and--out demonstration and an out-and-out contest. He believed that an event thus conducted would do the farmer the maximum amount of good.

Tractor men over the country seem to be agreed that the competition at Winnipeg has suffered because of the rigid rules laid down to govern it.

"Flour City" at Fremont

The "Flour City" Makes Friends at the Fremont Demonstration

Its Merit rests solely on performance.

40 Tractors working side by side in the same field afforded the dealers and farmers present an opportunity to compare construction of the tractors and the class of work done.

THE PERFORMANCE OF THE "FLOUR CITY"

in this demonstration was an "eye-opener" to those interested in power farming. The "Flour City" 20 H. P. pulling six and the "Flour City" 30 H. P. pulling eight 14-inch bottoms in the Fremont gumbo, was a revelation to those present.

It proves our claim for reserve power which was verified in our ability to pull our full quota of bottoms, where others could not. It proved our claim that by reason of peculiar design and construction the "Flour City" can produce more power with less weight than any tractor on the market.

If you are interested, ask some one who was there and get an unbiased opinion. If you are interested, send for our catalog.

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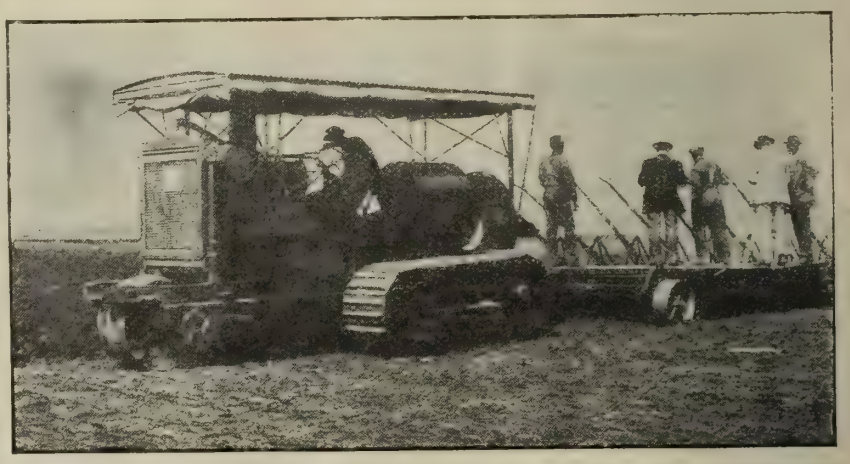

Tractors of All Types and Makes were There Working Side by Side

On Thursday Sixty-five Acre were Plowed in Less than Three Hours

men who appear to know charge that it is possible for an operator thoroughly acquainted with the regulations to take a mediocre machine through the Canadian contest and come out with a good scoring, whereas, a good operator not so familiar with the rules may take a good machine through and emerge with a comparatively bad record. These men believe that it is impossible for any set of engineers to lay down a standard and pronounce it the perfection in construction toward which tractor builders must approach impossible because so many of the best engineers disagree widely as to what perfect construction is.

However this question may be decided, there is no doubt that 95 per cent of the thousands who saw the demonstration at Fremont are desirous of seeing it repeated next year.

Manufacturers That Took Part

The following manufecturers of tractors and plows participated in the demonstration:

American Gas Engine company, Kansas City, Mo., one "Weber" tractor.

Aultman & Taylor Machinery Co., Mansfield, O., two "Aultman & Taylor" tractors.

Avery company, Peoria, Ill., three "Avery" tractors.

J. I. Case T. M. company, Racine, Wis., two "Case" tractors.

Emerson Brantingham Implement company, Rockford, Ill., two "Big-4" tractors.

Hackney Manufacturing company, St. Paul, Minn., two "Hackney Auto-Plows."

Hart-Parr company, Charles City, Ia., three "Hart-Parr" tractors.

Holt Manufacturing company, Peoria, Ill., three "Holt-Caterpillar" tractors.

International Harvester company, Chicago, Ill., three "Mogul" and one "Titan" tractors.

Kinnard-Haines company, Minneapolis, Minn., two "Flour City" tractors.

Leader Engine company, Grand Rapids, Mich., four "Leader" tractors.

Minneapolis Steel and Machinery company, Minneapolis, Minn., three "Twin City" tractors.

M. Rumely company, LaPorte, Ind., two "Oil-Pull" tractors.

Russell & Co., Massillon, O., one "Russell" tractor.

Wallis Tractor company, Racine, Wis., two "Wallis" tractors.

Ward Tractor company, Lincoln, Neb., two "Ward" tractors.

The following plow manufacturers were represented: John Deere Plow company, Moline, Ill.; Case-Sattley Plow company, Racine, Wis.; J. I. Case Plow works, Racine, Wis.; Gale Mfg. company, Albion, Mich.; Moline Plow company, Moline, Ill.; Oliver Chilled Plow company, South Bend, Ind.; Parlin & Orendorff Plow Co., Canton, Ill.

Complete information and descriptions regarding any one or all of the tractors and plows exhibited at Fremont by the above manufacturers may be had by writing to the editor of this paper or direct to the manufacturers.

The Sioux City Interstate Fair

THE inter-state live stock show at Sioux City, which was held the week beginning September 15, differed little from previous Sioux City shows. It was, perhaps, more of a live stock show and less of a race meet than previously. A week's good weather presented an opportunity for liberal attendance, which the people of the surrounding country took advantage of. It may be said that the fair was a highly successful one.

The dominating feature of the week was the cattle show and that of Shorthorn cattle in particular. Iowa, Minnesota, South Dakota, North Dakota and Wisconsin contributed herds of that breed in such numbers as to make it rather a better exhibit all around than that which was held at the late Iowa state fair. There was, however, nothing of a sensational sort among the exhibits, and Judge E. R. Silliman of Colo, Ia., had no serious crises to pass on. The younger cattle were shown in quite large numbers and of a sort that present great promise for the excellence of western Shorthorns when they have attained their maturity. The herds of Aberdeen Angus and Herefords were those which have been making the circuit of state fairs and which have, from time to time, received mention in this paper. There was but one herd each of Polled Durhams and Red Polls, no Galloways, no Jerseys and two herds of Holstein Friesians.

Occupying as it does the center of a great hog producing territory, Sioux City attracted an exhibit of slightly more than a thousand head of Duroc - Jerseys, Poland - Chinas, Chester Whites, Hampshires, Berkshires and Yorkshires. Giving consideration to the point of high merit, it must truthfully be said that the show was not up to a high standard in most breeds. The Chester Whites were present in greater numbers than last year and each other breed showed lesser numbers It is a credit to breeders of Chester Whites that they have also shown marked advancement in the meritorious and desirable points of the breed. Their enterprise and enthusiasm is accomplishing much and a continuance can not fail to make this breed a warm competitor as one of the most popular breeds of swine within a limited number of years. While the Hampshires presented a fairly good show-

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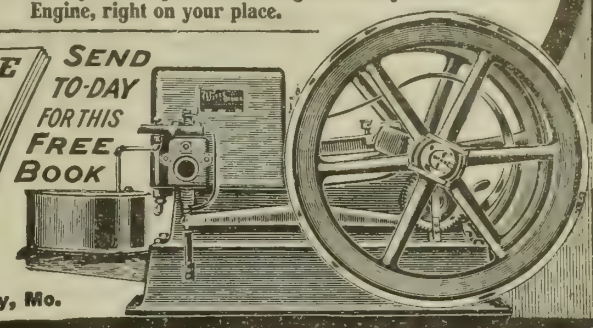

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This system positively gives the steadiest speed for belt work you can get in a gas tractor. It cuts the amount of fuel used by feeding exactly what the work calls for, no matter how the load changes. And it is the only system that lets you use the cheapest kerosene all the time—light load or heavy—summer or winter.

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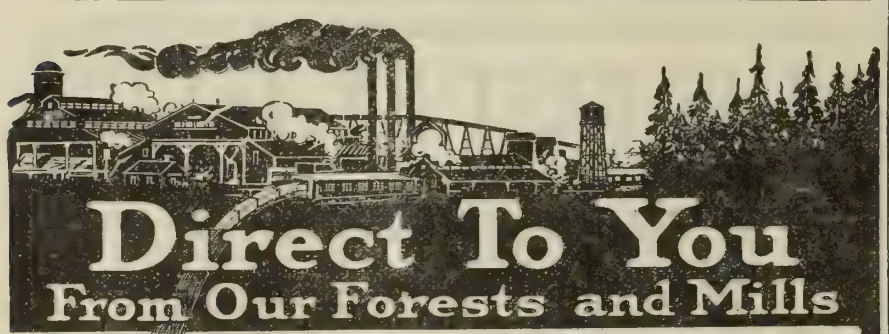

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ing, the competitions of the ring included but one professional show herd, all the other exhibitors being local breeders, many of whom brought out some highly desirable animals. Among these was Roy E. Fisher of Winside, Neb., and the only representative of the state showing this breed. The Poland-China show would have been an exclusive Iowa one had it not been for Robert A. Schug of Coleridge, Neb., who was the only Nebraska Poland-China breeder represented. Nebraska Duroc-Jersey breeders, however, made themselves felt in the show. W. B. Albertson of Lincoln, William Morgan of Wayne, J. T. Overboe of Allen, Robert Pritchard of Carroll, W. W. Robbins of Lyons and E. D. Robbins of Lyons were present and captured a reasonable share of the ribbons.

Cattle Department

Shorthorn Awards

Bulls 3 Years Old or Over—First, Harding on Village Denmark; second, Farmer Farm on Daybreak; third, McMillan on Fair Knight 2d. Bull 2 Years Old and Under 3—First, Harding on Gloster Fashion; second, Burge on Silver Sultan; third, Jackson on Pride of Avon. Senior Yearling Bull—First, Farmer Farm on Corner Stone; second, Olaff on Pride of Elm Lawn; third, Lee on Bannock Button. Junior Yearling Bull—First, Burge on Crusader; second, McMillan on March Premier; third, Lee on Victoria's King. Senior Bull Calf—First Saunders on Cumberland Type; second, Saunders on Cumberland Again; third, Ehler on Baron's Butterfly. Junior Bull Calf—First, Farmer Farm on Lavender Duke; second, Saunders on Marcus Cumberland; third, Burge on Victory of Wayside. Cow 3 Years Old or Over—First, Brown on Irene Avalon; second, Lee on Lady Adelaide; third, Ehler on Royal Queen. Cow 2 Years Old or Under 3—First, Farmer Farm on Pleasant Mildred; second, Harding on Maxwalton Missie; third, Brown on Christobel. Senior Yearling Heifer—First Farmer Farm on Sittyton Anna; second, Harding on Duchess Gloster; third, Saunders on 81st Duchess of Gloster. Junior Yearling Heifer—First Farmer Farm on Lancaster Duchess 7th; second, Harding on Village Flower 7th; third, Brown on Laurene. Senior Heifer Calf—First, Harding on Augustus 112th; second, Burge on Silver Mystic; third, Farmer Farm on Village Blythesome. Junior Heifer Calf—First, Harding on Fond Fame; second, Harding on Village Flora 3d; third, Brown on Laurel. Senior Champion Bull—Harding on Gloster Fashion. Junior Champion Bull—Saunders on Cumberland Type. Senior Champion Cow—Farmer Farm on Pleasant Mildred. Junior Champion Cow—Farmer Farm on Lancaster Duchess 7th. Grand Champion Cow—Farmer Farm on Lancaster Duchess 7th. Aged Herd—First, Harding on herd headed by Anoka Fashion; second, Farmer Farm on herd headed by Daybreak; third, Brown on herd headed by Village Sultan. Young Herd—First, Saunders on herd headed by Cumberland Type; second, Farmer Farm on herd headed by Corner Ston; third, Harding on herd headed by Fond Lavender. Calf Herd—First, Saunders on herd headed by Cumberland Type; second, Harding on herd headed by Fond Lavender; third, Burge on herd headed by Cromwell. Get of Sire—First, Saunders on get of Cumberland's Last; second, Harding on the get of Villager; third, Farmer Farm on the get of Superb. Produce of Cow—First, Farmer Farm on the produce of Lancaster Duchess 3d; second, Harding on the produce of Flower Girl; third, Brown on the produce of Laura Marshall.

Aberdeen Angus Awards

Bull 3 Years Old or Over—First, McHenry on Erwin C. Bull 2 Years Old or Under 3—First, Escher on Prince Felzer; second, Caldwell on Kihoga; third, Anderson on Enus 3d. Senior Yearling Bull—First, Caldwell on Ebony of A. 3d; second, Anderson on Prove 2d; third, McHenry on Quality Prince 2d. Junior Yearling Bull—First, McHenry on Enright; second, Caldwell on Quartermaster Ito; third, Anderson on Enus 4th. Senior Bull Calf—First, Caldwell on Black Cap Star; second, Anderson on Prince of Elchies; third, Escher on King Earl. Junior Bull Calf—First, Anderson; second, Anderson. Cow 3 Years Old or Over—First, McHenry on Black Cap McHenry 88th; second, Anderson on Pride of Blackstone 3d; third, Escher on Blackbird Perfection 3d. Cow 2 Years Old or Under 3—First, McHenry on Pride McHenry 100th; second, Anderson on Key on Indianapolis; third, Caldwell on Black Bird Chloe. Senior Yearling Heifer—First, McHenry on Pride McHenry 109th; second, Caldwell on Erito C.; third, Escher on Ebba. Junior Yearling Heifer—First, McHenry on Pride McHenry 112th; second, Anderson on Jilt 62d; third, Escher on Pride Etta 2d. Senior Heifer Calf—First, Anderson on Eulima 28th; second, Caldwell on Eritas; third, Escher on Envious Maiden. Junior Heifer Calf—First, Anderson on Jilt 7th; second, Escher on Blue Blood Lady; third, Caldwell on Pride Cap Lady 7th. Senior Champion Bull—McHenry on Erwin C. Junior Champion Bull—Caldwell on Ebony of A. 3d. Grand Champion Bull—McHenry on Erwin C. Senior Champion Cow—McHenry on Black Cap McHenty 88th. Junior Champion Cow—McHenry on Pride McHenry 109th. Grand Champion Cow—McHenry on Black Cap McHenry 88th. Aged Herd—First, McHenry on herd headed by Erwin C.; second, Anderson on herd headed by Enus 3d; third, Anderson on herd headed by Kihoga. Young Herd—First, Anderson on herd headed by Provo 2d; second, Escher on herd headed by Enright; third, McHenry on herd headed by Quality Prince 2d. Calf Herd—First, Anderson on herd headed by Lord Melamere; second, Escher on herd headed by King Earl; third, McHenry on herd headed by Brewster on Denison. Get of Sire—First, Anderson on get of Bonnie Ben Royal; second, McHenry on get of Baden Lad; third, Caldwell on get of Undulata Black Cap Ito. Produce of Cow—First, Caldwell on produce of Quietdale; second, Escher on produce of Pride McHenry 47th; third, Anderson on produce of Pride of Elchies 10th.

Hereford Awards

Bull 3 Years Old or Over—First, Harris on Prince Perfection; second, Tow on Byron Fairfax. Bull 2 Years Old and Under 3—None shown. Senior Yearling Bull—First, Harris on Repeater 7th; second, Harris on Gay Lad 9th; third, Cassady & Son on Golden Lad. Junior Yearling Bull—First, Tow on Fairview Prince; second, Harris on Gay Lad 12th; third, Engle on Beau Blanchard Junior. Senior Bull Calf—First, Harris on Gay Lad 16th; second, Harris on Repeater 9th; third, Tow on Standard 4th. Junior Bull Calf—First, Tow on Distinction 4th; second, Harris on Gay Lad 23d; third, Tow on Disturber Jr. Cow 3 Years Old or Over—First, Tow on Disturber's Lassie 5th; second, Tow on Miss Bray. Cow 2 Years Old and Under 3—First, Harris on Harris' Princess 215th; second, Tow on Defender's Last; third, Harris on Disturber's Lassie 5th. Senior Yearling Heifer—First, Tow on Disturber's Lassie 5th; second, Harris on Miss Repeater 11th; third, Tow on Disturber's Lassie 6th. Junior Yearling Heifer—First, Harris on Miss Gay Lad 7th; second, Tow on Disturber's Lassie 7th; third, Tow on Disturber's Lassie 8th. Senior Heifer Calf—First, Harris on Miss Gay Lad 15th; second, Harris on Miss Gay Lad 16th; third, Tow on Lady Stannard. Junior Heifer Calf—First, Harris on Miss Perfection 6th; second, Engle on Lady Excellence; third, Engle on Sunny Susie. Senior Champion Bull—Harris on Prince Perfection. Junior Champion Bull—Harris on Repeater 4th. Grand Champion Bull—Harris on Repeater 7th. Senior Champion Cow—Harris on Harris' Princess 215th. Junior Champion Cow—Harris on Miss Repeater 11th. Grand Champion Cow—Harris on Miss Repeater 11th. Aged Herd—First, Harris on herd headed by Prince Perfection; second, Tow on herd headed by Byron Fairfax. Young Herd—First, Harris on herd headed by Repeater 7th; second, Tow on herd headed by Fairview Prince; third, Engle on herd headed by Beau Blanchard 2d. Calf Herd—First, Tow on herd headed by Stannard 15th; second, Harris on herd headed by Gay Lad 15th; third, Engle on herd headed by Carlos Blanchard. Get of Sire—First, Harris on get of Repeater; second, Tow on get of Disturber; third, Engle on get of Beau Blanchard. Produce of Cow—First, Harris on produce of Harris' Princess 31st; second, Harris on produce of Pretty Lassie; third, Cassady on produce of Lily Morrison.

Holstein Awards

Bull 3 Years Old or Over—Iowana Farms. Bull 2 Years Old or Under 3—First, Iowana Farms; second, McMillan & Sons. Bull Calf—First, second and third, Iowana Farms. Cow 3 Years Old or Over—First and third, Iowana Farms; second, McMillan & Sons. Heifer 2 Years Old and Under 3—First and second, Iowana Farms; third, McMillan & Sons. Heifer 1 Year Old and Under—First, second and third, Iowana Farms. Heifer Calf—First, second and third, Iowana Farms.

Swine Department

Duroc Awards

Boar 2 Years Old or Over—First, Weiland & Gordon on Missouri Model Top; second, Seaman on Manager; third, Veenker on A Wonder. Boar 18 Months Old and Under 24—First, Gruis on A Wonder Jr.; second, Weiland & Gordon on Model Top Jim; third, Campton on Duke Muncie. Boar 12 Months Old and Under 18—First, Veenker on Model Chief Jr.; second, Pritchard on King of Kings; third, Overboe on Maple Leaf Golden Model. Boar 6 Months Old and Under 12—First, Pritchard; second, Morgan; third, Lynn. Boar Under 6 Months Old—First, Steele & Son; second, Weiland & Gordon; third, Henderson. Sow 2 Years Old or Over—First, Moen on Lasy A Wonder; second, Weiland & Gordon on Golden Queen; third, Reisser. Sow 18 Months Old and Under 24—First, Weiland & Gordon on Golden Mabel; second, Weiland & Gordon. Sow 12 Months Old and Under 18—First, Weiland & Gordon on Crimson Beauty; second, Veenker; third, Weiland & Gordon. Sow 6 Months Old and Under 12—First, Albertson; second, Lynn; third, Lynn. Sow Under 6 Months—First, Weiland & Gordon; second, Camp-

(CONTINUED ON PAGE TWENTY.)

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm : :

To the Catbird

Delicate and downy throat,
Shaped for pure, melodious note;
Silvery wings of softest gray,
Bright eyes glancing every way,
Graceful outline, motion free—
Types of perfect harmony.

I have heard you tell a tale
Tender as the nightengale,
Sweeter than the early thrush
Pipes at daydawn from the bush,
Wake once more the liquid strain
That you poured like music-rain
When, last night, in the sweet weather,
You and I were out together.

Unto whom two notes are given,
One of earth and one of heaven;
Were it not a shameful tale
That the earth note should prevail?

For the sake of those who love us,
For the sake of God above us,
Each and all should do their best
To make music for the rest.
So will I no more reprove,
Though the chiding be in love,
Uttering harsh rebuke to you—
That were inharmonious, too.

An indescribably lovely medley of song, broken by a harsh "me-ow," then continuing in rippling sweetness. No, it is not a cat among a flock of different kinds of birds, but one lone, little catbird, swaying on a branch of the lilac bush—a trim little slate-gray fellow, with a black cap on his head and a long, black tail, which he flips about like a wren. He is an intelligent bird, and the mischief in his sharp, black eyes is almost human. He is human in this also—that he is not so wicked as he seems to be. He has lots of good qualities that you can only learn about through close acquaintance. He is a very charitable bird. If the parents of a nest full of little ones are killed, the neighbor catbirds will feed the little ones and care for them until they are old enough to look out for themselves. And this is quite a job, too, when you consider what appetites young birds have. But he loves to startle us humans, and you can almost hear him chuckle when, after charming use with his beautiful song, he cuts it short with a harsh cat call.

The catbird builds its nest among the bushes, preferably by the wayside, though you are likely to find a catbird nest at any time in your berry bushes. In the spring they live almost entirely on insects, but along in the summer they acquire a taste for fruit, especially cherries, strawberries, currants and the wild berries. Then Mr. Catbird's earlier bug-eating benefits are forgotten and he is scolded as a thief. Perhaps he does more harm than good: some people claim he does, and it a hard question to decide, but you can always try the same plan with him that has been found so successful with the robin—plant a few mulberry bushes. All birds prefer them to the finest cherries, and while he is enjoying the mulberries himself, he will be catching worms and ants for the little ones, as the young catbirds are always kept upon a purely insect diet. THE EDITOR.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

Write plainly at top of story your name, age, address and the title of the story.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

Little Hen and Big Mother Hen

The Little Red Hen scratched contentedly in the sand, now and then giving vent to a pleased cluck, cluck, when she discovered a morsel a little plumper and more juicy than the last.

Bobby sat flat on the hard, cool earth, legs crossed, head down, eyes bright. "Little Red Hen," he said, "go and lay your egg."

"Cluck, cluck!" The Little Red Hen flapped her wings, put her head on one side and looked up with twinkling eyes, then went on with her scratching, as if to say, "Ah, but it's my dinner time now."

Every day when the Little Red Hen layed her egg it was beaten to a froth, a spoonful of sugar added and the glass filled with rich, cold milk for Bobby to drink, because he was in a great hurry to become a man, and his mother said that was one of the things that would help him along more quickly.

"Cluck, cluck!"

The Little Red Hen stopped her scratching and held one graceful foot high in the air, as the Big Yellow Hen and her full dozen small chicks—every one a downy ball—came around the corner of the barn.

"Cluck, cluck," said the mother hen.

"Peep, peep," came from every one of the tiny golden balls.

Straight across to where the Little Red Hen stood they came, and Big Mother Hen began her work of scratching and hunting for some choice bits for her babies to eat.

With a proud toss of her head, the Little Red Hen turned and walked slowly away.

Presently Bobby's mother came out and began to drop big pats of steaming yellow dough about, and the Big Yellow Hen and the twelve small yellow balls crowded flutteringly about, with glad little wiggles and cries, and a great flapping of wings. It seemed to Bobby some of them fairly stood on the heads of the others they were in such a hurry.

"I don't blame them," he laughed, "if they like it half as well as I like my egg. Mother, the Little Red Hen was cross because the Big Mother Hen came and drove her off. I'm afraid she won't lay me an egg today."

Then, around the corner, came a cut-cut-ca-da-cut, and the Little Red Hen stood flapping her wings and swelling her throat, while she looked straight at Bobby as if to say, "I've done my part; now you do yours. Go and find it."

LOU D. STEARNS.

Brooklyn's Famous Cat

Peter is a large, yellow cat that has been a pet of one of the fire houses for many years, according to the Brooklyn Eagle, and so perfect are his qualifications for a fireman's license that he has been adopted as a regular member of the department. At sliding the firemen's pole Peter ranks first, making the descent from the third floor to the bottom of the pole in less than three seconds. The cat is perfectly familiar with the alarms, and, when sleeping with the men on the third floor during the night, is ever on the alert for the duty signal. At the first sound of the alarm Peter makes a dash from his bunk to the pole; with a flying leap he throws his paws about it, his front feet and back legs wound about the shiny brass surface in the very same way in which the firemen descend. With a single leap he reaches the driver's seat, and seems to enjoy the honor of being the first member of the company ready for action.

So famous has Peter become as a pole-slider and rapid ladder-climber that scarcely a day elapses but many people avail themselves of the opportunity to witness the exhibition.

Picture Contest No. 6

You are each expected to write a four-line verse about this picture. The two children writing the best verses about this picture will each receive a book as a prize. Write plainly in ink, giving your name, address and age, and send the verse to Picture Contest Editor, Twentieth Century Farmer, Omaha. In awarding the prizes, consideration will be taken not only of the merit of the verse, but of such things as age of contestant, neatness, spelling, punctuation and a careful observance of the rules.

All verses must be received at this office on or before the 11th day of October.

DIDN'T KNOW That Coffee Was Causing Her Trouble

So common is the use of coffee as a beverage, many do not know that it is the cause of many obscure ails which are often attributed to other things.

The easiest way to find out for oneself is to quit the coffee for a while, at least, and note results. A Virginia lady found out in this way, and also learned of a new beverage that is wholesome as well as pleasant to drink. She writes:

"I am 40 years old and all my life, up to a year and a half ago, I had been a coffee drinker.

"Dyspepsia, severe headaches and heart weakness made me feel sometimes as though I was about to die. After drinking a cup or two of hot coffee my heart would go like a clock without a pendulum. At other times it would almost stop, and I was so nervous I did not like to be alone.

"If I took a walk for exercise, as soon as I was out of sight of the house I'd feel as if I was sinking, and this would frighten me terribly. My limbs would utterly refuse to support me, and the pity of it all was I did not know that coffee was causing the trouble.

Reading in the papers that many persons were relieved of such ailments by leaving off coffee and drinking Postum, I got my husband to bring home a package. We made it according to directions and I liked the first cup. Its rich, snappy flavor was delicious.

"I have been using Postum about eighteen months, and, to my great joy, digestion is good, my nerves and heart are all right; in fact, I am a well woman once more, thanks to Postum."

Name given by Postum Co., Battle Creek, Mich. Write for copy of the little book, "The Road to Wellville."

Postum comes in two forms:

Regular Postum must be well boiled.

Instant Postum is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage **instantly**. Grocers sell both kinds.

"There's a Reason" for Postum.

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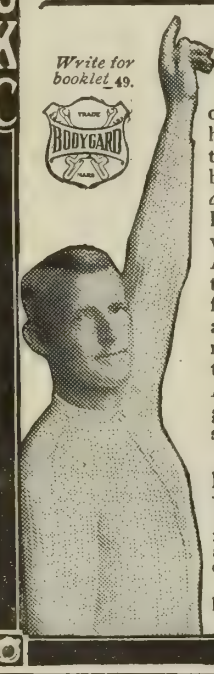
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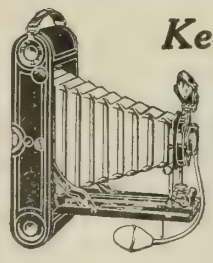
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Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

Of Interest to Our Women Readers

October

Yellow of apple, purple of grape,
Gold of the hills that cloud-shadows drape,
Who said October at heart was sober?
All of her shadows are sun-dappled crepe.

Fire of the morning, blaze of the noon,
Fading at sunset to mauve and maroon,
Gray of the dusk, but kindled full soon,
Out of day's ashes, gold of the moon.

Splendor of gold and of purple unroll'd,
Glory of color, undream'd and untold!
Who said October at heart was sober?
All of her purple is shot through with gold!

—Alice E. Allen, in Lippincott's.

Our Home Chat

Elsewhere on this page there appears a story, by an old subscriber, of a childish experience of her own. She speaks of the school where the experience took place as "splendid." It was probably so considered in her time.

A few years ago a school was considered a good one which crammed a large amount of useless knowledge into the brains of the helpless children. After ten years or more spent in these graded schools, the child was turned loose in the world at the age of from 16 to 18, knowing absolutely nothing which could help him in his future life. He was prepared for college, where he might acquire additional knowledge of a more or less useless nature, but he knew nothing of any kind of business or trade.

The old order is passing away. Bookkeeping, trades, agriculture, housekeeping, sewing and a number of other useful things are now taught to the children, and the tendency at present is to make the school courses more and more practical all the time.

But, more than this, the school people are learning that children are individuals; not made after the same pattern, but each with his own particular talents, faults, traits and disposition. The teacher is being taught that she must study the individuality of her students if she wishes to make them accomplish their best work. What is a good course to pursue with one child may be injurious to another. What would be dishonesty or deceit in one child, and come from bad home training or degeneracy, may be timidity in another and come from lack of self-confidence or even from deafness or some other physical difficulty.

The teachers themselves are learning more than the students in these days of progressiveness, and the time is coming when each child will be studied and educated in such a way as to bring out his best qualities and teach him to control and keep in subjection the less desirable ones.

THE EDITOR.

Molasses Cookies that Will Keep

One pint of best baking molasses, one cup of sugar, one and three-fourths cups of shortening, equal parts of butter and lard, two-thirds cup of very sour milk, three eggs, three teaspoonsful of soda, dissolved in the milk, and a pinch of salt; ginger, if desired. Beat the ingredients all together and mix in just enough flour to make them roll easily, keeping them as soft as possible. When rolling, sprinkle granulated sugar over the top, before cutting. Bake in a moderate oven. If not molested, these cookies will keep indefinitely.

A delicious fruit cake can also be made by taking some of the dough, before it is stiff enough for cookies, and mixing in some spices, raisins and other fruits. Nuts also mix in well. ELIZABETH M. ROSSITER.

Colorado.

Wrongs Done a Sensitive Child

Many people do not appear to realize how easily a sensitive child may be hurt. A childish experience of my own may prove helpful to parents and teachers.

I was about 9 years old, when a cousin of my mother's, who lived in a town with splendid schools, wanted me to come and make my home with her. She had three little boys, but no girls. At first my mother objected to my going, but I wanted to go very much. The country school which I attended consisted only of German children, and at noon and recess they spoke only the German language. So mother finally consented to let me go.

It was in November and was getting quite cool when a sister of the cousin with whom I was to live came after me. The distance was sixteen miles, and it was very late when we got there. I was cold and stiff from my long ride when we entered the house. They were eating supper, I remember, and they made a place for me at once, although I had not had time to get warm. Childlike, those three boys watched every move I made, and I was so excited that I carried my food to my chin more often than my mouth, and every time I did so the boys would giggle.

That was on Saturday. The following Monday I started to school. They had me put about three grades above where I had been in the country school, and, of course, I didn't get on. I had always been considered a bright pupil by my teachers, and it hurt me not to have my lessons and to fail in the tests. When this happened we were sent to the "professor," who gave the children whippings when they came up to him too often.

I had been there twice and was afraid of a whipping if I went again, so when we had our next test in spelling I got my book out and copied down some of the hard words I couldn't even pronounce. Of course, the teacher caught me and I was sent home from school in disgrace. The oldest boy of the cousin's was in my room and he reported to the teacher things which he claimed I had said, and which I had not only never said, but not even thought. When I denied them the teacher said, before the whole school, "Anyone who will cheat will also lie."

When my paper was returned after the next test, I had to go to the "professor" again. Then I acted so badly at the cousin's that they wrote to my parents stating I was so mean they would have to send me back, and no one knows how I dreaded to meet my father. I expected to see reproach in his face, but no. How differently did he greet me!

"Here's my little girl, God bless her heart!" he said, as he caught me in his arms before I was half way down the platform steps. How healing those words, and how glad I was to be back home, where there were no graded schools! I never want a child of mine to suffer from being misunderstood and falsely accused as I was, and I believe the very best way to avoid it is to keep them always with me, for no one understands and loves them as I do.

Editor's Note—Will the author of this letter kindly send her address, as it has been detached from the letter and lost.

Some New Ideas and Recipes

Do any readers of the Farmer eat mushrooms? I presume many do. Probably some raise them, which is really the best way to do to avoid being poisoned, unless one is an expert at telling the different kinds. But hardly anyone knows that the common puffball, both the large and small varieties, are edible. They are, and they are good, too.

I used to wish years ago that they were good to eat, for when a large one was broken it looked like creamy cottage cheese. We have cooked and served them for a long time now, with no injurious effects.

Gather when nice and white inside and firm on the outside. Any yellow tinge or puffiness on the outside makes them not so nice, though not hurtful. Pare them, cut in round slices. Have the spider hot, and fry like beefsteak, seasoned with salt and pepper; serve hot. Or, one can cook them like oysters, as I have done many times, by cutting them in small pieces, stewing till done, then proceeding as in oyster stew, adding rich milk, and after the milk has come to a boil adding plenty of butter and salt. Serve with crackers.

Salmon Soup—I have just learned this last summer that salmon can be used as a substitute for oysters in stew. Of course, salmon is much cheaper than oysters, even when you buy the best, which I always do. Remove the skin and proceed as for puffball stew. It makes a very appetizing dish and is quickly prepared.

Good Cookies—Three eggs, one cup of white sugar, one cup of brown sugar, one cup of sour cream, one scant teaspoonful of soda, one teaspoonful of baking powder. Flavor to taste and flour enough to make a soft dough. MADGE MILLAR.

Michigan.

Crumb Balls

Take bits of sweet graham crackers, crisp a moment in the oven and roll fine. Boil one-half cup of sugar, one-fourth cup of sweet milk and one tablespoonful of grated chocolate to "soft-ball" stage, as for fudge. Remove from fire, add a few drops of vanilla and beat till nearly cool. Add enough cracker crumbs to make stiff. Mould into small balls while still warm; roll in dry crumbs and set aside to harden. These will be welcomed by the children as a new confection. DAISY CANNON.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6087—Ladies' Hats—These hats can be made with either the circular or bias brims. Either striped or plain material can be used for the hats, with the lining of silk. The pattern 6087 is cut in sizes for ladies, misses and children. The ladies' size requires for hat No. 1 one yard of 27-inch material, for hat No. 2 1¼ yards of 27-inch material, with ⅝ yard of 20-inch silk to line.

6221—Girls' Dress—This neat little frock is closed in front and has a three-piece skirt. This is attached beneath a belt to the blouse, which has inset sleeves, seamed on the outside and a round-cut neck, finished with a band. The pattern 6221 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 2¼ yards of 36-inch material.

5945 Girls' Dress—Nothing more practical or becoming could be selected for a frock for a little girl than this delightful model. The waist is made in the attractive coat style and has pretty turn-down collar and rolled-back cuffs. The plaited skirt is attached to an underwaist. The pattern 5945 is cut in sizes 6 to 12 years. Medium size requires for the dress 3¾ yards of 36-inch material and ½ yard of 27-inch contrasting goods, and for the underwaist ½ yard of 36-inch material.

5967—Ladies' Dress—This dress can be used for morning or afternoon wear. It can be made with either the high or low neck. It closes at the left side of the front and the skirt is a four-gored model. The pattern 5967 is cut in sizes 32 to 42 inches bust measure. Medium size requires 6¼ yards of 36-inch material, with ½ yard of 27-inch contrasting material.

6099—Girls' Dress—This dress is just the thing for the school girl. It closes at the right side of the front, and the skirt is cut in five gores. Woolen or wash materials can be used to make this dress. The pattern 6099 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 3¾ yards of 36-inch material, with ¾ yard of 27-inch contrasting goods.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

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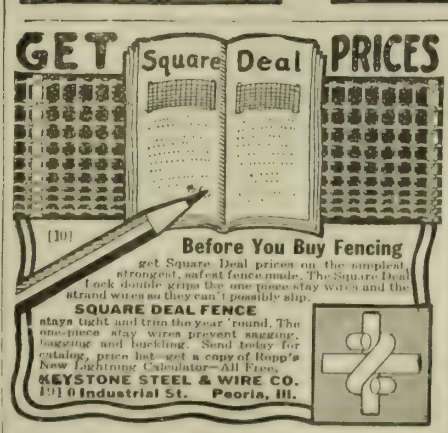

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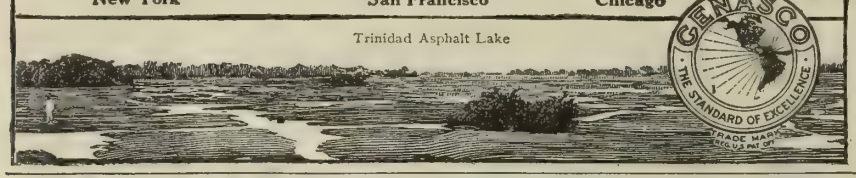

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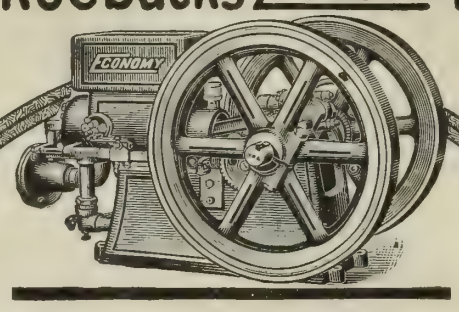

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Timely Items of Interest to Poultry Raisers and Fanciers

I WONDER if the farmers who read this page ever avail themselves of a certain kind of literature for which they are taxed to help keep up—i. e., the farmers' bulletins, given on request by the Department of Agriculture at Washington, D. C.?

There are now over 500 of these, and all will be sent one on demand, or a list from which you can select by number. Every phase of farming or forest work is well treated in these bulletins. Every question on crop raising for any part of the country is handled intelligently and in an up-to-date manner. Stock raising, poultry culture, dairy needs and work—without price, you get all this mass of hints, helps and experience.

The poultry keeper should avail himself of every book they have on the subject. Here he can get books on standard breeds, ducks and geese, turkeys, poultry buildings, how to care for and feed poultry, caponizing, hints to poultry raisers, important poultry diseases, etc.

Your flock may be healthy now, but how long will it remain in this condition? With your utmost care disease may slip into the flock. This last named book may tell you exactly by description the kind of disease that comes to the flock and just what is best to do in getting rid of it quickest. Of all animals, chickens are most prone to sickness.

An Epidemic

Reader, Prague, Neb.: I have about 150 Plymouth Rocks. A great many of them have the cholera. Their excretions are white, though a few show green excretion. My hens have this disease each year for about a month or two. I have tried several cholera cures, but did not get results hoped for. The egg production is bad, only about twenty-four eggs to the 150 hens. Can you give me advice as to how I may stop this disease?

Answer—The excretion as described is one symptom of cholera; the daily death rate of six or more is another, and yet this is not all that is required to diagnose it as cholera, for there are other fatal enteric diseases besides cholera. But any treatment for cholera might fit in with some of these other diseases when it comes to treatment, for there is no use depending on medicine in such cases. You must watch the very first appearance and immediately set in to quarantining or killing off first cases, and keep after it in the way of scraping up and liming the runs as far as possible to, changing the drinking water often and keeping a disinfectant constantly in it—ten drops of sulphuric acid to the gallon, or a teaspoonful of the Douglas mixture to every quart of drinking water. But, let me say, while the cleaning up and Douglas mixture will help, the disease will continue to take its toll of life as long as the sick stay near the well.

That it comes every year, shows a failure somewhere to get the grounds or houses or some members of the flock free from the germs. Prompt sanitary measures, housing the flock in separate houses, not more than thirty to the house or compartment, keeping up the health of the flock between epidemics, would be one part of my advice. Another would be to reduce the number to fifty and pay particular attention to the health, comfort and cleanliness of the fifty until you get the premises free from the disease. It may be the cholera, but my idea is that it is one of those epidemics resembling cholera, such as coccidiosis, the germ of which breeds thick in damp, filthy quarters, or is brought by pigeons. Rabbits and rats have it also. To keep the intestines of the fowls clear and healthy, use Epsom salts often in the mash. If you could give me a description of other symptoms, and length of sickness, as well as condition of liver after death, and how you feed and care for the flock, I might name the trouble with certainty. In the meantime, anyone willing to venture a suggestion might try his hand.

The Douglas Mixture

The Douglas mixture is the famous help in getting rid of cholera, both as a medicine and a disinfectant. Dissolve one pound of copperas in two gallons of water, add one-half pint of sulphuric acid. The dose is a teaspoonful to the quart of water. This, as a disinfectant, at the strength given, altogether is one of the best.

Some Breeds Asked About

F. J. S., Cal.: Would like to know something of the Wyandottes—color, etc. Are the Black Minorcas the same as the old-time Black Spanish? These were large for the hens and laid large, white eggs. Are the Blue Andalusians non-sitters, and what is their size? What has become of the Black Polands?

Answer—There are eight varieties of the Wyandotte—White, Buff, Columbian, Golden Penciled, Silver Penciled, Partridge, Black, Silver. The Silver is the oldest. They are fine birds in every variety. The Minorca and Black Spanish are not the same, though the Black Spanish blood entered largely, no doubt, in the making of the Minorca. Each is a distinct breed in the standard. The Minorca hen must weigh as much as the Plymouth Rock, and she lays larger, heavier eggs. These are a clear white. The Blue Andalusian is something in shape of the Leghorn, but larger. The hen must weigh five pounds to be standard weight, the cock one pound more. They are prolific layers and often are non-sitters. It is quite likely that they came from a cross between the Black Spanish and some white fowl, as a cross of this kind often produces a blue-feathered chick. By the Poland I judge you mean the Polish. They are still in existence, and in the standard. There are the Bearded Golden, Silver and White, the Buff Laced, the non-bearded varieties, and the White Crested Black.

IDA M. SHEPLER.

Jncle Sam's Industrial Diplomat

By Frank G. Carpenter

WASHINGTON, D. C.—Here, in brief, is the story of the man who represents the twenty-odd million horny-handed laborers of the United States in the cabinet of President Wilson. He was born in Scotland, fifty years ago, the son of a miner, coming to the United States at the age of 8, and at 9 delving in the coal pits of the Allegheny mountains. From that time on, until he was 36, his boyhood and young manhood was spent in the darkness, swinging the pick, drilling and blasting and loading the coal on the cars. Then a fireman on a railroad locomotive and a worker at odd jobs, at sawmilling and ditching; then mining between times and tilling mountain land on the shares; at last, a petty farm owner of 100 acres of hills and hollows, and, finally, to cut short the story, a member of congress, who was re-elected again and again as a representative of labor, and now a cabinet minister with a salary of $12,000 a year.

This sounds like a story of the days of Aladdin. It is only the plain, simple annals of the evolution which is constantly going on in our American life. It shows what a boy can make of himself, and how, with everything apparently against him, he need not despair.

Life of Manual Labor

So much by way of introduction to my interview with Mr. William Bauchop Wilson, the head of the Department of Labor. I give it to show you that he has a right to represent the working men of the United States in our national government. The information came from the secretary upon my asking whether he had ever worked with his hands. He replied:

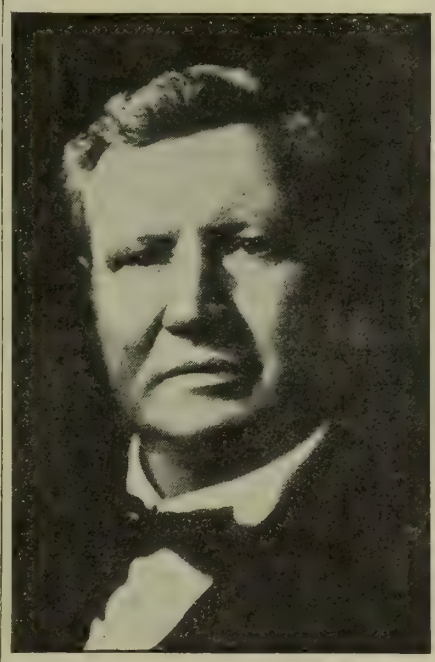
"The greater part of my life has been spent in hard, manual labor. I swung a pick in the coal mines for twenty-seven years, and that as a miner, not as a boss. I entered the mines as a boy to help my father load coal. My father was a miner, and all the money we got came from the amount of coal he could mine. He was paid by the ton, and upon the output depended our living. This was the situation when I reached the age of 9 years. Then father had a bad attack of lumbago. His back was so weak and so painful that he could not lift the coal from the floor of the mine to the cars. He was all right from his waist upward, and could still sit on the floor of the mine and undercut the coal with a pick, but he could not stoop to load it. I was taken down to the mines and did the loading. Later on he taught me how to aid him in drilling, and I finally learned all kinds of mining. Father and I worked together for seven years, and after that I had a place for myself. I continued mining coal for twenty years longer, and later on mined coal in the winter time and worked on the farm in the summer."

"Your wages must have been small in those days?"

"Yes, they were small. Until I was 36 years of age, I do not think I ever made as much as $40 a month the year round. I sometimes made as high as $80 a month, but lean seasons always succeeded the fat ones and kept down the average."

These words of the secretary were in good English, and his talk throughout was more like that of a college-bred man than one whose life had been spent in hard, manual labor. I wondered, and asked him, where he got his education. He replied:

"I could not go to school on account of my work, but I was fortunate in that my father was one of those argumentative Scotchmen who not only loved to debate, but gloried in having his facts backed by the best of authorities. He was not an educated man, and could not read very well, and so made me read to him. My mother, who had a common school education, taught me my letters, and I soon learned to read. After that father kept me reading to him every night, and by the time I was 9 or 10 years of age I had read the whole of Smith's "Wealth of Nations" and other books on political economy. I had read a great deal of Chambers' "Information for the People," "The Science of the Bible," some works of Drummond and a little later on I read Burns and Campbell, Shelley and other poets. We had also Scott and Dickens, and I got to know them. As to the Bible, father was a rigid Presbyterian. In Scotland he belonged to what they called "the Wee Kirk," and, of course, we read a great deal of the scriptures. As I look back upon those days I can see that this was good literary training, and can realize how much effect it had upon my mind. I had a good memory, and this was stimulated by my father calling upon me to corroborate his quotations from the authorities used in his arguments."



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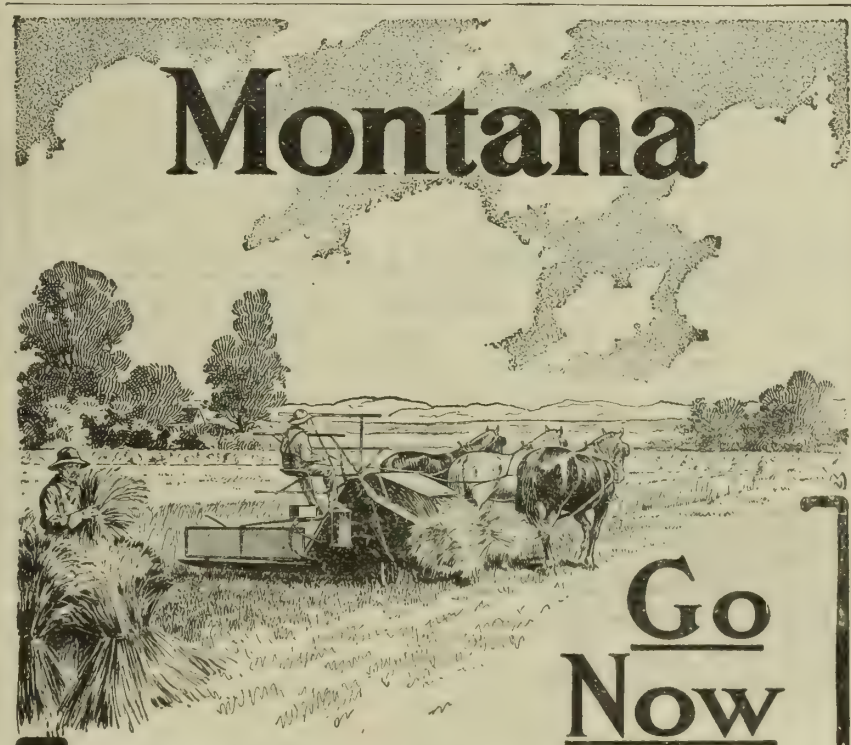

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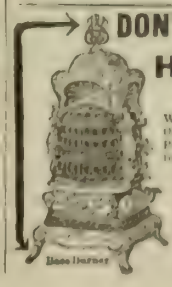

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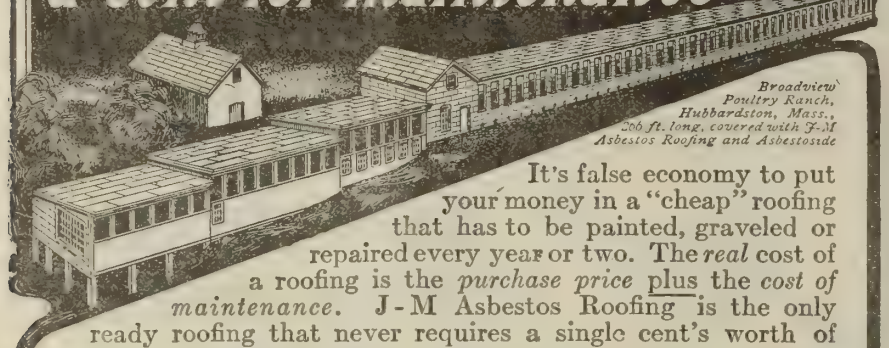

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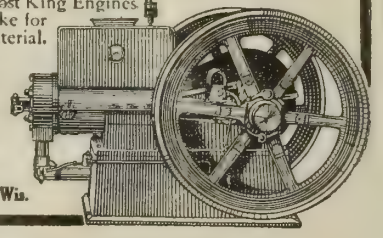

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the mines," the secretary continued, "our community arranged for a night school. Every pupil paid $1 a month to the principal, and for a time I was able to attend that. I did also considerable studying at home, and so in one way and another I have gotten what little education I have. I was for a time a printer and stuck type for the Bostwick Advertiser. This taught me punctuation and gave me some insight into grammatical construction. But, altogether, as you can see, my education has been very little."

Always a Union Man

"When did you first become connected with labor organizations?"

"I can hardly remember when I was not a part of them. I became a limited member of a labor union when I was 13, and I have been more or less associated with unions ever since. I am a union man now, and have my union card. When I was 18 I was victimized for my activity in the mines as a trade unionist, and was ordered to leave. That was what drove me to the west and made me a fireman on a railway locomotive. After my return to Pennsylvania I did what I could for the interest of the miners, and later on I was secretary of the United Mine Workers. That organization has over 3,000,000 members, and has done much to better the conditions of labor in the mines all over the country."

"You were elected to congress as a laboring man, were you not?"

"Yes, it was largely the support of the working men that brought about my nomination and election, and it is, I suppose, my identification with and interest in labor matters that has put me here."

"Is there any story connected with your appointment as secretary of labor?"

"Not that I know of. I was not an applicant for the place, and when my name was proposed I simply said that I would appreciate the honor if it came to me. My idea of this position was too high for me to be an applicant for it."

Value of the Trades Union

"Mr. Secretary, have you ever doubted the value of the trades union to the laboring man?"

"No, I believe in the union. I believe in organization as a means of protection for all kinds of labor. My viewpoint of the relation between the employer and the employe is such that I cannot see how the latter could secure even a small share of justice without organization. I look upon any industry as a partnership in which the employer and the employes are the partners in production. They have a mutual interest in securing the largest production for a given amount of labor, and it is only when it comes to a division of the profits that their interests begin to diverge.

"At that point the workmen can only act collectively to any advantage. If they act individually, the individual laborer who objects is at a great disadvantage as compared with his employer. If the man is dissatisfied and declines to continue work, he is out of a job and is crippled to 100 per cent of his producing capacity. On the other hand, the employer is crippled only to the extent that that man's work represents in his total output. Now, if the employes act collectively and they stop work, the whole machine must stop. The employer is crippled to 100 per cent of his producing capacity and the employes are crippled in the same amount. They are then on an equal basis and there is a chance to make a settlement. The trades union is absolutely essential to the rights of labor."

What the Department May Do

"What can this department do to better the relation between labor and capital?"

"The Department of Labor is rather an advisory department than an executive department. It might be called a department of industrial diplomacy. Its object is largely to act as a mediator between capital and labor in case of dispute, and I believe that it will be beneficial to the community at large to just that extent that its diplomacy succeeds."

"But is the laboring man willing to accept Uncle Sam as his arbitrator?"

"I do not mean that Uncle Sam is to be the arbitrator, but that he is to bring the parties together and to get them to mutually submit their differences to other arbitrators to be chosen themselves. It would not be wise for the government to act as an arbitrator, for the reason that wrong precedents might be established. The conditions in one place might not be suited to the decisions to which the arbitrator had committed itself in other places. Again, the decision of today might be unjust in the changed conditions of tomorrow. Progress is always being made, and situations are continually changing. If this department were tied down to a line of decisions, along a given direction, it would stand in the way of progress itself."

"But just what can you do?"

"We can only bring the parties together and perhaps suggest plans of settlement. I suppose I could answer your question better by telling you what we have done within the last few months. We took up the adjustment of the trade disputes connected with the New York, New Haven & Hartford railroad, and succeeded in bringing the employes and the company together, so that they have adjusted their dispute in a way satisfactory to both parties. We have arranged in the same way a difficulty in the forge department at Erie, and we have brought the shopmen and the Baltimore & Ohio Railroad company together. We have averted a number of strikes and we are doing that right along."

"Suppose the strikers at Paterson had asked you to step in?"

"I cannot say what would have been the result. We might have succeeded in getting the parties together. We could only have suggested and advised. We are, as I have said, merely a department of industrial diplomacy."

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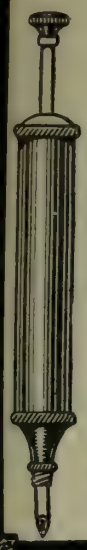

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is better than the one in which you live. Some parts of it may not suit you but there are many places along the Union Pacific System Lines where you can locate and be satisfied.

Write to me and tell me what kind of land you want—irrigated, sub-irrigated or dry farming, for general farming, stock-raising, fruit raising, etc.—in the climate that best suits. I will send you the information that will help you locate in the place best suited to your needs.

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Better Corn, Clover and Alfalfa lands for the money than anywhere else in United States. Dairy and Live Stock is our motto. We offer you reliable service.

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There are more members to each strike and the strikes are better organized. The trades which are the best organized have the fewest strikes, and as the organization of labor becomes more complete the strikes become less and less. The reason for this is that collective bargaining is more easily possible under that condition. Both parties to the contract are better able to fix terms and carry them out."

"Do you think that a general strike all over the country is possible?"

"No."

"What is the ideal condition that should exist between the employer and the employe?"

"A condition of partnership and of equal rights. There is an implied partnership now, but the difficulty is that the employer does not recognize it. He assumes that his plant is his property and that he has a right to do with it as he pleases and to run it as he pleases. He fails to grasp the idea that there is no title to property that is not a law-created and law-protected title. Society has allowed private individuals or corporations to hold certain rights only for its protection and development. Now, if society has created the title for its protection, society can modify that title whenever it deems necessary for its protection. Therefore, when the employer claims the factory as his own, to do with as he pleases, he fails to realize that he has no title to the factory except insofar as society permits."

"That would mean that society has the right to change the regulation of any such piece of property at its own will?"

That condition already exists in law, and that right has always been reserved by the governing power. It is the title of eminent domain, the right of the government to determine that certain things are of such eminent good to the community that the community can take them over and manage them itself. The railroad in getting its right-of-way, is able to condemn property through that principle, and it is so with other things. The average man fails to realize this, and the employer cannot see that property is only law-created and law-protected and that its regulation can be changed by society as the conditions of society demand."

Eight-Hour Work Day

"Will the time come when we will have an eight-hour day everywhere in the United States?"

"That is the condition now in most of the states in many industrial occupations. In Arizona we have the eight-hour-day law in underground mines and workings. In California the same is true as to mines, smelters and public works of any kind, and it is likewise so in Colorado. In Connecticut the hours of labor are eight, unless otherwise agreed, and engineers, firemen and machinists and other mechanics employed in steam institutions may not work more than eight hours except in cases of emergency. In nearly all the states eight hours is the rule upon all public works, and it is nearly everywhere so in the mines and smelters. It is so in Illinois in all mechanical employments, and it is so on the public highways. Eight hours is the rule in Indiana, and it is so in Massachusetts as to all laborers and mechanics employed by or on behalf of the state. I might go on and show the same for nearly every state in the union."

Farm Work Different

"How about work on the farms? Take your farm in Pennsylvania; could you run that on an eight-hour day?"

"I do not know about that. There is a difference between the work on the farm and the work in the various industries. The most of the state laws make a difference as to the work on the farm, and in many cases such labor is especially exempt from the regulations as to other labor. The season for farm work is limited, and it is so affected by rain and other conditions that it cannot be as closely regulated as the work of a factory or in the various industries. As to our other industries, however, there is no doubt but that the eight-hour day is practical and beneficial both to the employer and the employe."

"Do you think we will ever have less than an eight-hour day?"

"That is possible. There are some industries in England where the day is now less than eight hours. This has been the case for the last thirty years in the coal mines of Northumberland, where the men have been working only six hours a day."

Conditions Are Improving

"Are the conditions of labor improving?"

"Yes, there is no doubt of that."

"What would you say about organized labor as a trust? Why should it not be handled on the same ground as other monopolies?"

"I have already answered that question, but I would say that an organization should not be opposed or destroyed simply because it is an organization. The laws for centuries have permitted the organization of corporations, and such permissions will be continued. The opposition to trusts and monopolies arises because they enable a few men to dictate to the producer what he shall receive for his production and to the consumer what he shall pay for the things he consumes. This can never be the case with labor organizations. Such an organization cannot be composed of a few individuals; it must be an organization of the multitude, and it must be always for the purpose of endeavoring to secure for the producer an equitable share of that which he produces and at the same time it can never be an organization which will regulate the price to the consumer. The labor organization is thus founded upon an entirely different basis from the capital organization. It should not be regarded as a trust. It cannot be a monopoly in that sense of the word."

"Then you think it should be governed by different laws?"

"Yes. The laws should be adapted to it, and based upon the difference of condition which actually exists."

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of **wood shingles**—the cause of disastrous fires, leaky roofs and endless expense and trouble. Use beautiful, indestructible **Edwards "STEEL"** Shingles. Cost less, last longer than wood—better in every way. Over 100,000 men now use **Edwards "STEEL"** Shingles—the shingles that never **rot, rust** or **burn.** Ten times easier to put on. Each one dipped in **molten zinc** after it is cut. No raw or exposed edges. Patented Edwards Interlocking Device permits contraction and expansion—makes joints **water-tight** FOREVER! $10,000 guarantee against lightning loss FREE.

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We sell direct from factory and pay freight. SHINGLE BOOK FREE. Write for book and Prepaid Factory Prices. See for yourself how much less **Steel** costs than **wood—then get busy!** If you give dimensions of your roof, we will quote prices on entire job. Send postal right off—Catalog No. 1098 and special prices will come by **return mail.**

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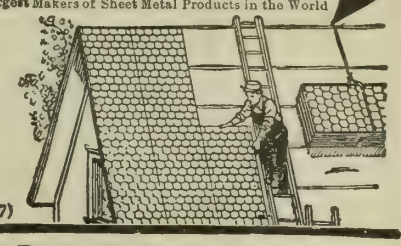

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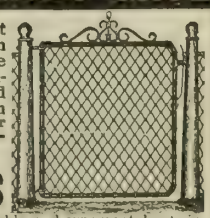
These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our **triple-galvanized, high-carbon steel**



Iowa Gates

The filling of this serviceable and ornamental gate is extra close diamond mesh. Gate has strong frame, patent latch, etc. Comes in all sizes; plain and fancy tops.

Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

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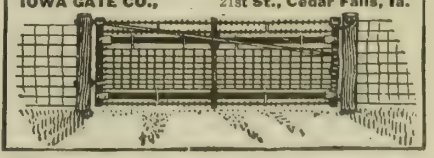

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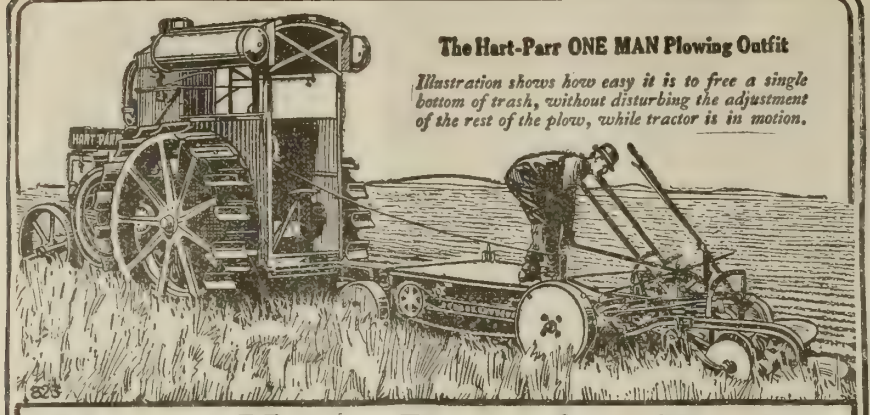
References: Southwest National Bank of Commerce here, all trade papers and mercantile agencies.

You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply



The Hart-Parr ONE MAN Plowing Outfit

Illustration shows how easy it is to free a single bottom of trash, without disturbing the adjustment of the rest of the plow, while tractor is in motion.

Use a Hart-Parr for Profit

The dirty, disagreeable chores created by the horse take a lot of time. After a hard day in the field, there are the horse chores to do—unharnessing, feeding, bedding, etc. Next morning, it's feed, clean and hitch up. Few farmers relish this.

It's different with a Hart-Parr Oil Tractor. When the day's work is over, merely stop the engine. Next morning, simply start it again—the work of only a few minutes in either case. There are mighty few owners who don't get a lot of genuine pleasure and profit operating a Hart-Parr Oil Tractor. And compared to horses, it delivers more power and better power at less expense. So why stick to inefficient horses when a

HART-PARR -OIL TRACTOR-

will do all the heavy farm work quicker, better and cheaper.

Right now, the outfit shown in the illustration is creating a big stir. It's the light Hart-Parr Oil Tractor with the big pull and the wonderfully simple Hart-Parr "Self-Lift" Plow—the outfit that is doing big things on 100 to 300 acre farms.

Time and again, this outfit has practically sold itself at Fairs where we have exhibited. Shrewd farmers are at once impressed with its great simplicity, marvelous strength, light weight and correctness of design.

The tractor has the power of 12 sturdy horses, only it is much steadier and absolutely tireless. An especially designed carburetor enables it to burn *cheapest kerosene* at all loads and under all conditions. The drive wheels have wonderful wave form lugs which afford 31 per cent greater surface contact than any other lugs. Drivers can be equipt with "Hold-Fast" extension lugs, the lugs with a bull dog grip in softest soil. One man operates and cares for the tractor, no matter what it is doing—plowing, harrowing, discing, seeding, harvesting, threshing, road grading, silo filling, hauling, etc.

Hart-Parr "Self-Lift" Plow is one-third lighter and has one-third less parts than any other. You operate it right from the engine platform. A slight pull on the rope attached to the clutch lever causes each bottom to lift straight out of the ground, in order. Another pull on the rope and the bottoms drop into the ground again. No back breaking labor. The trip mechanism does all the work. And you save the plowman's wages and board.

Read and study the unexcelled features of both tractor and plow, enumerated in this announcement. Learn why this outfit is a big money maker on farms of 100 to 300 acres.

Write today for special circulars fully describing both equipments, and get our fine catalog and literature on power farming costs. We build an outfit for every farm, large or small. We have a power outfit exactly suited to *your* requirements.

This is the Hart-Parr One-Man Outfit that you saw at the Fremont, Nebr. Plowing Demonstration and which made such a big hit there.

HART-PARR COMPANY

254 Lawler Street **Charles City Iowa**

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Superior and Original Features of Design Found Only in the small, light Hart-Parr Tractor and Self Lift Plow.

Tractor—Lightest weight, yet great strength. Only 300 different parts—others have 800 to 1500. Main frame is a strong, one-piece casting. Drive wheels with wave form lugs, are solid steel castings—not built up or pieced. Driver lugs give 31 percent greater surface contact than any other. Can be equipt with Hart-Parr "Hold Fast" extension lugs, the lugs with a bull dog grip in soft soil. Especially designed carburetor operates efficiently on cheapest **kerosene.**

Plow—33⅓ percent lighter than any other and has one-third less parts. Combined automatic and hand lift. To raise or lower bottoms, merely pull a rope attached to clutch lever. Any one bottom may be raised with hand lift attachment without disturbing adjustment of rest of plow. Spring beam coupler enables plows to skid around or over obstructions and prevents breakage.

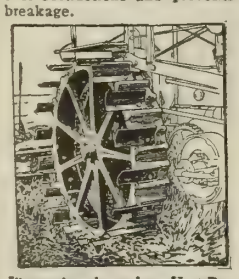
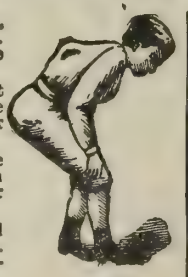
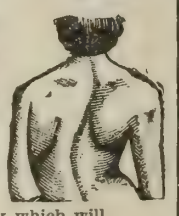


Illustration shows how Hart-Parr "Hold Fast" lugs grip the ground and pull out straight away without tearing up the soil.

DEFORMITIES CURED





CLUB FEET of any variety, and at any reasonable age, can be made straight, natural and useful. No plaster paris, no severe surgical operation, and the result is assured.

POTTS DISEASE when treated in time should result in no deformity; paralysis can be prevented and the growth not interfered with. Write for information and references.

SPINAL CURVATURE Recent cases usually make good recoveries and even those of long standing do well. No plaster paris, felt or leather jackets. Write for information and reference.

HIP DISEASE in the painful stage can be relieved and the inflammation permanently arrested. Shortening, deformity and loss of motion can often be corrected. No surgical operations or confinement.

INFANTILE PARALYSIS We can refer you to many responsible people all over the country, whose children, afflicted with Infantile Paralysis have been practically restored at this Sanitarium.

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The Sioux City Fair

(CONTINUED FROM PAGE TWENTY)

ton; third, Weiland & Gordon. Herd Over 1 Year Old—First, Weiland & Gordon on don. Herd Under 1 Year Old—First, Lynn on herd headed by Fancy Colonel; second, Weiland & Gordon; third, Veenker. Herd Under 1 Year Old Bred by Exhibitor—Awards same as in above class. Get of Sire—First, Lynn on the get of Evergreen Prince; second, Weiland & Gordon on get of Crimson Chief; third, Weiland & Gordon on get of Golden Model 26th. Produce of Sow—First, Weiland & Gordon on produce of Miss Betsy; second, Campton on produce of Crimson Belle; third, Veenker on produce of Crimson Lucy 2d. Champion Boar—Weiland & Gordon on Missouri Model Top. Champion Sow—Weiland & Gordon on Crimson Beauty.

Chester White Awards

Boar 2 Years Old or Over—First, LaDoux on Gold Coin; second, Kent on Kent's Promotor; third, Bouchard on Sioux Chief. Boar 18 Months Old and Under 24—Householder on White Wonder. Boar 12 Months Old and Under 18—First, Kent on Iowa Prince; second, Gaffey on Young Sam; third, Mehring on Mehring's O. K. Boar 6 Months Old and Under 12—First, Bouchard on pig not named; second, LaDoux on pig not named; third, Kent on Iowa King 2d. Boar Under 6 Months Old—First, Bouchard; second, Kent; third, Mehring. Sow 2 Years Old or Over—First, Kent on Kent's Kind; second, Kent on Iowa Mora; third, Mehring on H. C. Iowa Gem. Sow 18 Months Old and Under 24—First, Kent on Iowa Favorite; second, Mehring on H. C. Sensation; third, Pittman on Perfect Lady 2d. Sow 12 Months Old and Under 18—First, Mehring; second, Kent on Kent's Beauty; third, Kent on Iowa Bond. Sow 6 Months Old and Under 12—First, LaDoux; second, Kent; third, LaDoux. Sow Under 6 Months Old—First, Kent; second, Mehring; third, Coulson. Champion Boar—LaDoux on Gold Coin. Champion Sow—Kent on Kent's Kind. Herd Over - Year Old—First, Kent; second, Kent; third, Mehring. Herd Over 1 Year Old Bred by Exhibitor—First, Kent; second, Kent. Herd Under 1 Year Old—First, Kent; second, Kent; third, Mehring. Herd Under 1 Year Old Bred by Exhibitor—First, Kent; second, Kent; third, Mehring. Get of Sire—First, Kent on get of Iowa Protection; second, LaDoux on get of Gold Coin; third, Kent on get of Ned. Produce of Sow—First, Kent on produce of Iowa Security; second, Gaffey on produce of Peach Bud; third, Householder on produce of White Alice.

Poland-China Awards

Boar 2 Years Old or Over—First, Dorr on Expander; second, Griffin & Son on Meidier; third, Jenson on Orange Jumbo. Boar 18 Months Old and Under 24—None shown. Boar 12 Months Old and Under 18—First, Dralle on Dralle's Wonder; second, Dralle on Calypso Wonder; third, Davis on Wonder's Equal. Boar 6 Months Old and Under 12—First, Jenson; second, Dralle; third, Schneider on Big Chief. Boar 6 Months Old—First, Henry Bros.; second, Henry Bros.; third, Schmeider. Sow 2 Years Old or Over—Dralle on Dakota Belle. Sow 18 Months Old and Under 24—Dralle on Queen's Daughter. Sow 12 Months Old and Under 18—First, Schmeider on Winning Beauty; second, Dralle on Expansion Queen; third, Schmeider on Cash Maid. Sow 6 Months Old and Under 12—First, Schmeider on Purple Girl; second, Dorr; third, Dorr. Sow Under 6 Months Old—First, Henry Bros.; second, Carpenter; third, Jenson. Herd Over 1 Year Old—Dralle on herd headed by Chief Prince Wonder. Herd Over 1 Year Old Bred by Exhibitor—None shown. Herd Under 1 Year Old—First, Dorr; second, Schmeider on herd headed by Big Chief; third, Jenson. Herd Under 1 Year Old Bred by Exhibitor—First, Dorr; second, Schmeider; third, Jenson. Get of Sire—First, Schmeider on get of Blue Valley Chief; second, Henry Bros.; third, Dorr on get of Expander. Produce of Sow—First, Henry Bros.; second, Jenson on produce of Crop Ear; third, Davis on produce of Miller's Florence. Champion Boar—Dorr on Expander. Chamion Sow—Schmeider on Winning Beauty.

Hampshire Awards

Boar 2 Years Old or Over—First, Messenger on Messenger Boy; second, Fisher on Dr. Scott; third, Mehring on John Eldon. Boar 18 Months Old and Under 24—First, Peterson on Peterson's Choice; second, Messenger on Eddie Mac; third, Fisher on Danube 3d. Boar 12 Months Old and Under 18—First, Fisher on Tatro's Messenger; second, Mehring on Colonel Joe; third, Messenger on Walter J. Boar 6 Months Old and Under 12—First, Fisher; second, Peterson; third, Boles. Boar Under 6 Months Old—First, Mehring; second, Fisher; third, Messenger. Sow 2 Years Old or Over—First, Peterson on Excelline; second, Peterson on Galva Pride third, Messenger on Miss Scott. Sow 18 Months Old and Under 24—First, Messenger on Salome; second, Messenger on Western Belle; third, Fisher on Crestline Princess. Sow 12 Months Old and Under 18—First, Mehring on H. C. Pansy Queen; second, Messenger on Marie; third, Boles on Susan. Sow 6 Months Old and Under 12—First, Fisher on Fisher's Queen 7th; second, Messenger on Evaline; third, Peterson on Miss Stella 5th. Sow Under 6 Months Old—First, Fisher; second, Messenger; third, Messenger. Herd Over 1 Year Old—First, Messenger on herd headed by Messenger Boy; second, Fisher on herd headed by Tatro's Messenger; third, Mehring on herd headed by Colonel Joe. Herd Over 1 Year Old Bred by Exhibitor—First, Messenger on herd headed by Walter J.; second, Fisher on herd headed by Winside Star; third, Boles on herd headed by Wonderful. Herd Under 1 Year Old—First, Fisher on herd headed by Fisher's King 5th; second, Messenger on herd headed by Pioneer Boy; third, Peterson on herd headed by Cherokee Boy. Herd Under 1 Year Old Bred by Exhibitor—Awards same as in above class. Get of Sire—First, Messenger on get of Messenger Boy; second, Fisher on get of Winside Star; third, Peterson on get of Cherokee Lad. Produce of Sow—First, Messenger on produce of Heroine; second, Mehring on produce of Kentucky Belle; third, Fisher on produce of Hamburg Belle. Champion Boar—Messenger on Messenger Boy. Champion Sow—Messenger on Salome.

Berkshire Awards

Boar 2 Years Old or Over—Iowana Farms on Baron Premier 102d. Boar 18 Months Old and Under 24—Boyce on Trueworth's Sensation. Boar 12 Months Old and Under 18—First, Iowana Farms on Rival's Iowana Baron 3d; second, Boyce on Master Champion 3d; third, Wheeler. Boar 6 Months Old and Under 12—First, Iowana Farms; second, Iowana Farms; third, Wheeler. Boar Under 6 Months Old—First, Boyce; second, Boyce; third, Wheeler. Sow 2 Years Old or Over—First, Iowana Farms on Rival Duchess 23d; second, Iowana Farms on Ravenwood Duchess; third, Boyce on Princess of Maple Grove. Sow 18 Months Old and Under 24—First, Iowana Farms on Rookwood Lady 52d; second, Iowana Farms on Rookwood Laurel 14th; third, Iowana Farms on Longfellow's Duchess Premier 5th. Sow 12 Months Old and Under 18—First, Iowana Farms on Rival's Jewell 6th; second, Iowana Farms on Rival's Jewell Dee; third, Iowana Farms on Rival's Jewell Dee 2d. Sow 6 Months Old and Under 12—First, Iowana Farms on Iowana Matchless Queen; second, Iowana Farms on Iowana Matchless Lady; third, Iowana Farms on Iowana Lady Queen 2d. Sow Under 6 Months Old—First, Boyce; second, Boyce; third, Wheeler. Champion Boar—Iowana Farms on Baron Premier 102d. Champion Sow—Iowana Farms on Rookwood Lady 52d. Herd Over 1 Year Old—First, Iowana Farms; second, Iowana Farms; third, Boyce. Herd over 1 Year Old Bred by Exhibitor—None shown. Herd Under 1 Year Old—First, Iowana Farms; second, Iowana Farms; third, Boyce. Herd Under 1 Year Old Bred by Exhibitor—First, Iowana Farms; second, Boyce; third, Boyce. Get of Sire—First, Iowana Farms; second, Boyce; third, Wheeler. Produce of Sow—First, Boyce; second, Wheeler; third, Wheeler.

Horse Department

Percheron Awards

Stallion 3 Years Old or Over—First, second and third, Quinn. Stallion Under 3 Years Old—First, second and third, Quinn. Champion Stallion—Quinn. Mare 3 Years Old and Over—First, Miller & Brown; second, McMillan; third Wickem. Champion Mare—Miller & Brown. Get of Sire—First, Quinn; second, Wickem; third, McMillan. Produce of Mare—First, Wickem; second, Quinn; third, Judge. Stallion and Four Mares—First, McMillan; second, Wickem; third, Miller & Brown. Five Stallions—First, Quinn; second, Miller & Brown. Champion Stallion in Open Class—McMillan. Champion Mare in Open Class—Miller & Brown.

Belgian Awards

Stallion 4 Years Old or Over—First, Irvine; second, Burress Bros. Stallion 3 Years Old and Under 4—First, Irvine. Stallion 2 Years Old and Under 3—First, Irvine; second, Burress Bros.; third, Irvine. Stallion 1 Year Old and Under 2—First, Irvine. Stallion Foal—None shown. Mare 4 Years Old or Over—First, Irvine. Mare 3 Years Old and Under 4—First, Irvine. Mare 2 Years Old and Under 3—First and second, Irvine. Mare 1 Year Old and Under 2—First, second and third, Irvine. Mare Foal—None shown. Get of Sire—Irvine. Produce of Mare—First and second, Irvine. Stallion Any Age Bred by Exhibitor—First, Irvine; second, Burress. Mare Any Age Bred by Exhibitor—First, second and third, Irvine.

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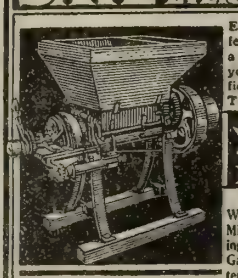

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How the English Farmer Does His Work

(CONTINUED FROM PAGE SEVEN)

practice the strictest economy, they would certainly find trouble in raising a family on $4 per week. As it is, no luxuries are purchased and the plainest food and clothes suffice their needs.

While an American would call them slow workers, they deserve credit for their steadiness and faithfulness. Many toil from morn till night, seemingly making their master's interests their own. The tendency to remain upon certain farms is as strongly fixed upon this class as it is among the tenants, and one often finds a laborer living in the cottage occupied by his father before him, and perhaps his grandfather before that. Where the "governor" is a young man, the old, gray-haired laborer will probably tell how he cared for him as a child.

Live Stock Conserve Soil Fertility

Long years of experience have taught the English farmer that there is but one way to conserve the soil fertility, and consequently we find but one type of farming, and that is live stock production, together with the growing of such crops as meet with the needs of the stock. The rolling contour of the country leaves more or less permanent pasture on every farm, while that land which is arable is rotated in such a manner as to be used for pasture and meadow at regular intervals.

From one-half to three-fourths of every farm is in pasture. With so much pasture we should expect to find lots of stock, and, considering the high rental paid, we can see where the tenant must have good stock to make farming pay. An average rainfall of well onto fifty inches gives the grass abundant moisture to grow luxuriantly, and the stock take on large gains on a ration of grass alone. The limey soils produce an extremely nutritive and rich grass.

In many instances only pure-bred stock are kept, though ordinarily some of either are found on each farm. For instance, a breeder of Shorthorns usually keeps grade Shire horses and some breed of sheep, while the man who keeps only pure-bred horses usually keeps grade cattle and sheep. These animals would all look very well beside the best found on our farms, and the returns from them are proportionately large.

Rural England Slightly Populated

Considering the fact that England has 560 inhabitants to every square mile, we should expect to find the farms small and intensely cultivated. However, the population is largely located in the cities, so that the rural portion is not so densely settled as these figures would indicate. At least two-thirds of the farms are over 100 acres in size, many running up to 500 and 600 acres.

The first farm visited by the writer was one occupied by a sheep breeder down in Shropshire and consisted of 560 acres. Upon this farm was a barley field of seventy acres. This was quite a surprise, inasmuch as reports in books and papers had led to a belief that the large farm and field were practically unknown in the old country.

Upon the larger farms some improved machinery is being used, but for the most part the old-fashioned tools and methods are still in vogue. With labor exceedingly plentiful and comparatively cheap, the tenant figures that it does not pay him to invest in a great deal of high-priced machinery. In putting up the hay crop the mower has come into general use and also the rake, but otherwise no improved implements are used. The hay is drawn in a two-wheeled cart, pulled by a large Shire, and at the barn or shed the men pitch it off, with no thought of this being drudgery. Hayforks in barns are practically unknown. Should the hay get wet while cutting, it would be turned by hand, a number of laborers going around the field with hand rakes and each pulling a swath over. One-horse tillage implements are used quite largely, save on the larger farms, where more modern ones of greater capacity have been added.

Seven and Five-Year Rotations

For the most part the crops grown in England are the same as those grown in the United States and about the same rotations are practiced. The seven-year rotation is in most common use and gives the best satisfaction on stock farms. Some use five-year rotation, which works quite well in certain sections. Where this is used, the order of the crops is: wheat, oats, roots (turnips or cabbage), wheat and clover. This gives abundant straw for winter feed, roots for succulance during the cold months, and furnishes clover hay to balance up the straw in feeding. Such a rotation is usually practiced on farms where there is a large amount of permanent pasture. Where the land is nearly all arable, the following rotation is usually used: First year, oats; second year, roots; third year, wheat; fourth, fifth and sixth years, grass (pasture or meadow); seventh, barley or potatoes. The fourth year this is cut for hay, and the fifth and sixth used for pasture. An ordinary hay cutting yields about one and one-half tons per acre.

Of the grain crops, wheat is usually the most profitable to grow, average yields running about thirty-five bushels to the acre; oats yield sixty to sixty-five bushels of forty pounds each, while barley normally produces fifty bushels of fifty-six pounds each. The roots often make over twenty-five tons per acre, and the potatoes, under average conditions, make ten pounds, or the equivalent of 300 bushels. While these figures look large as compared with our yields, when we consider the higher rental paid and the comparatively small portion of each farm which is allowed to grow crops other than grass, it still looks as though the American renter has somewhat the advantage over his English cousin.

Economic Results of English System

Economically, there are several results from this system of farming which are quite important. One is the keeping up of the soil fertility. Were it not for the live stock which has been produced in this country during the many centuries past, it certainly would not be able now to produce such large crops upon its fields. Year after year, with no return of fertility, soon wears out the soil, and the eastern section of the United States amply proves what a century of such farming will do. On the other hand, England is today as fertile as it ever was, due largely to the conservative system of farming which it has always pursued.

Another result of scarcely less importance has been the production of a better class of farm animals. The marvelous evolution which has been brought about in the development of farm animals in the past two centuries may have its primal incentive ascribed to the system of farming practiced in England. Bates, Cruikshank and the others who made their mark in improving breeds of domestic animals were keen enough to look into the future, and saw clearly that better stock would be an absolute requirement in generations to come. As it is, England can boast herself the originator of a large majority of our popular breeds of stock, and it has been she who has fostered them until they are now upon the verge of perfection.

How to Stop Cruelty

There is only one way to do it, and that is to go down to the foundation and build up. We must educate the children. We must create a great public opinion. We must wake up the pulpit and the press, and scatter the literature of humanity until it shall be read in the homes, taught in the schools, hung on the walls, and all the children shall feel that these animals have been mercifully created by our common Father, and mercifully given us to use, but not abuse.—George T. Angell.

Knows 'Em Well

The following headline recently appeared in a well known stock journal: "Sixteen Loads of Hogs from Oklahoma—Many Old, Familiar Faces Are Seen at the Yards." One wonders how the editor became so well acquainted with the ancient hogs of Oklahoma.

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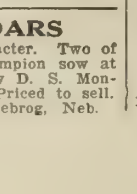

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SCHULTZ' DUROC-JERSEYS

Duroc-Jersey boars for sale, that are right, both in breeding and as individuals. I am pricing them worth the money and guarantee them to make good. GEO. W. SCHULTZ, Yutan, Neb.

KUZEL'S DUROCS

Echo Top King, Model Wonder 3d, Proud Wonder Jr., Crimson Boy and Prince, by Prince of Colonel's, are the sires of my spring pigs. Choice boars for sale at reasonable prices.
L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

Spring boars for sale, sired by Model Goods, Queen's Wonder, Uneeda Wonder and Queen's Wonder Again. They are the kind that win. Correspondence solicited.
O. G. SMITH & SON, Kearney, Neb.

DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.
C. E. CLAUFF, Central City, Neb.

PRIZE WINNING DUROCS.

Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Moderow's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.
GEO. W. SCHWAB, Clay Center, Neb.

POLAND-CHINA HOGS.

POLAND CHINA BOARS

I have a choice lot of big growthy spring males for sale, sired by Wayside Jumbo by Wade's Jumbo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille Columbus, Neb.

POLAND-CHINA BOARS.

Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

CHOICE FALL BOARS

Fall boars of herd heading character. Two of these are half brothers to the champion sow at Neb. this year. They are sired by D. S. Monarch, Sampson and Combination. Priced to sell.
W. A. LINGFORD, Dannebrog, Neb.

Review of Live Stock Market

By A. C. Davenport

"THEY can't break them; the cattle are not in the country." This remark, made in reference to cattle, is heard many times every day at the big market centers. The bulls seem more confident than ever as to the future of the market, while even the bears admit that the chances of lower prices for cattle are very remote, barring, of course, occasional breaks of short duration. This feeling has been brought about by the moderate runs of range cattle, together with light receipts of natives.

With all the inducements for free shipping afforded by prevailing high prices, Chicago was able to show a gain in receipts for the month of September of only about 7,000 head as compared with the same month last year. At Omaha there was a slight decrease. Kansas City had a very large run, due to the influx of dry weather cattle early in the month, but as a whole the runs have been disappointing to those who were looking for an opportunity to pick up a few cheap cattle to be used for feeding or stocking-up purposes. All indications would seem to point to moderate receipts for October, and some cattlemen are already predicting that the range season will close earlier than usual. Whether this latter prediction proves true or not, most stockmen are looking for a strong market throughout the season, with a possibility that prices on fat cattle may go considerably higher before the close.

Discussion at Chicago Meeting

Operators on the market were very much interested in the discussion regarding the cattle situation at the Chicago meeting last week. The suggestion made by packers that the small farmers should take up cattle breeding and the appropriation of money to carry on a campaign of education looks to old-timers in the cattle business like a return to the system in vogue forty years or more ago, before the great market centers became the controlling influence in the cattle business. In that day the farmers of the old eastern states were in the habit of breeding a few cattle and fattening the surplus each year on rougnage, with a little bran or ground screenings, and occasionally a little corn. These cattle were sold two or three head at a time to the local butcher. If the supply of cattle for sale in any particular locality was larger than the local demand, there were drovers who were in the habit of going through the country picking up the cattle and driving them to the larger cities, where they were sold to the larger slaughterers.

As the business of cattle slaughtering became more centralized at big market centers the small country butchers gradually went out of business. At the same time the growth of the range cattle industry of the west made it very much easier for the packers at the centralized markets to secure cattle in large bunches from the west, with the result that the small farmers scattered throughout the farming districts were left without a market and gradually went out of the cattle-breeding business. Whether the packers can induce these small farmers in the old states to again take up the breeding of beef cattle remains to be seen. The outcome is rendered more uncertain by the fact that the small farmers have of late years found dairying very profitable, and it will take more than one short campaign of education on the part of the packers to induce them to change from dairy to beef breeds.

The south, where it is also proposed to carry on an educational campaign, may prove a more receptive field, inasmuch as the south is growing neither beef nor dairy animals, while southern newspapers, the experiment stations and progressive citizens generally are calling upon the people to take up stock-raising, not only because of its money-making possibilities, but more especially because the thin lands of the south demanded it.

No Change in Hog Situation

Hogs are simply marking time, waiting for the coming of the break that almost invariably puts in an appearance some time between the latter part of September and the opening of the winter packing season, November 1. In the meantime prices show comparatively little change, small advances and small declines alternating every few days. Some kinds of hogs have advanced a little at some points and others have declined about the same amount, but in the main no great or noteworthy change has taken place during the last few days. The fact is, the market during September has been almost colorless so far as the development of any new or interesting features is concerned. The low point of the month was experienced during the first week, when there was a sharp break, hogs selling lower than they had for a long time back. That lasted only three or four days and the market sprang back to where it was at the close of August, and has continued very nearly in the same notches up to the present time.

Possibility of Lower Sheep Prices

The bears are still looking for lower prices before the close of the season, although they admit that there is a possibility that receipts may not prove so large during October as many have been led to expect. They are, however, basing their belief in lower prices on the assumption that the more urgent buyers must be getting pretty well filled up, and also on the well known fact that a good many would-be buyers are holding off and refusing to pay current prices. Should the weather turn cold and rough that also would have a tendency to discourage free buying on the part of small feeders. While the bulls admit that there is a possibility of lower prices, they are of the opinion that the market will have to break very soon, if it breaks at all. At present writing there is some indication of weakness at eastern market points and the trade is wondering if it spreads to western markets.

Even the bulls in the sheep trade are looking forward with a great deal of interest to the coming of winter, and wondering what November and December may develop in the sheep trade. Some are already predicting that many feeders without previous experience in handling sheep will get tired of them with the coming of cold weather and, finding that they are not succeeding very well with them, will ship their holdings to market while they are still half fat or only warmed up. Thus a good many sheepmen are predicting lots of grief for the early winter so far as the common and half-fat sheep and lambs are concerned.

Opening of Nebraska National Forest Reserve

More than five hundred sections of land, known as the Nebraska National Forest Reserve, will be opened for homestead entry, in claims of 640 acres each.

Don't Waste Time and Money by going out to the land now. Nothing gained by it. Get information first. The Alliance Herald will keep you posted at least expense. It is the official organ of the Nebraska Stock Growers' Association and is published in the nearest large town. The opening will not be until some time after October 1st. The Herald will publish the date as soon as announced. A classified list of claims and a map of the land as furnished by the government will be published in a supplement some time prior to the date of opening. This supplement will be sent to all subscribers who pay $1.50 for a year's subscription in advance

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Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.
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There are 22 yearling boars by Black Giant, one by Longfellow, one fall yearling by Long Giant, and one by Jumbo by Wade's Jumbo. The spring boars and gilts are by Big Bone, Jumbo, and Long Giant. They will speak for themselves sale day.

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A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. THOS. F. WALKER & SON, Alexandria, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

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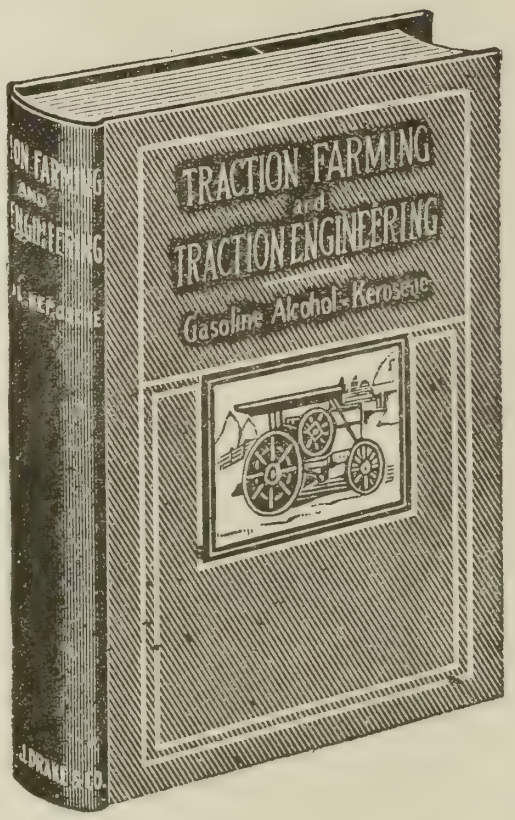

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Bright and Breezy

Often Done

Willis—I see a fellow in New York took out $250,000 insurance on $200 worth of goods.

Gillis—That's nothing. I know a lot of fellows who carry $25,000 life insurance on a 30-cent life.—Puck.

New Variety

An old colored mammy in the south, overhearing some gentlemen at luncheon discussing capons and caponizing, resolved to excel her neighbors in the matter of large chickens, and promptly wrote an eastern dealer, as follows:

"I jist wants to ax you what am de price o' dem capering aigs? Dar ain't nobody 'round he'ah what raises 'em, and Ah wants to be fust on the market. Ah likes big chicken mysef, 'deed Ah do. Send me a settin'."

Ancient History

A middle-aged bachelor was in a restaurant at breakfast when he noticed this inscription on the egg:

"To Whom It May Concern: Should this meet the eye of some young man who desires to marry a farmer's daughter, 18 years of age, kindly communicate with ———, Sparta, N. J."

After reading this, he made haste to write to the girl, offering marriage, and in a few days received this note:

"Too late, I am married now and have four children."

Slow Work

It was on an east Texas train. The little coffee-pot of an engine, having wheezed laboriously over serpentine rails, jolted to a restful stop at no place in particular. Time passed tediously. Some of the passengers stalked nervously up and down the aisles, while others drew their felt hats down over their eyes and tried to forget it. When a half hour had elapsed, the conductor came through.

"Say, friend," said a querulous-voiced old man, "as near as you can tell, what's holdin' us?"

"We're taking on water," was the explanation.

"Well, why don't you git another teaspoon? That un seems to leak something dreadful!" — Pulitzer's Magazine.

The Lesser Evil

A gentleman from the north was enjoying the excitement of a bear hunt down in Mississippi. The bear was surrounded in a small cane thicket. The dogs could not get the bear out and the planter who was at the head of the hunt called to one of the negroes:

"Sam, go in there and get the bear out."

The negro hesitated for a moment and then plunged into the cane. A few moments later the negro, the bear and the dogs were rolling upon the ground outside. After the hunt was over the visitor said to the negro:

"Were you not afraid to go into that thicket with that bear?"

"Cap'n," replied the negro, "it was jest dis way: I neber had met dat b'ar, but I was pussonally 'quainted wid de old boss, so I jest naturally took dat b'ar."

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How to Move

AT THIS season of the year many people are moving from one part of the country to another. "What shall we take with us? What shall we leave behind? How shall we send our things?" These and many more more questions arise, which cannot be satisfactorily settled.

In the next issue of the Twentieth Century Farmer we will publish an article written by a man who has moved. He gives experiences of himself and a neighbor, telling of the mistakes they made and of the conveniences they discovered. No one who is planning to move his household goods from one location to another, and especially a distant one, can afford to miss reading this article. It is clear, concise and full of just the information you need, but perhaps do not realize you need.

Prattle of the Youngsters

Unfreezable

"Can anyone name a liquid that doesn't freeze?" asked the teacher.

There was a moment's silence. Then a voice in the rear of the room answered, eagerly, "Please, teacher, hot water."—Youth's Companion.

His Price

"If you will sit down and be still for one hour," said Danny's harrassed father, "I will give you a nickle."

"Well," said Dannie, "I usually charge a dime."—A Subscriber.

Lamb or Mutton?

The Teacher—You see, had the lamb been obedient and stayed in the fold, it would not have been eaten by the wolf, would it?

Boy (promptly)—No, ma'am; it would have been eaten by us.

Reasonable

"Mammy, dear," said little Matty, "what is a stepmother?"

"If I should die and your dad should marry again, the lady would be a stepmother."

"Oh, I see," remarked Matty; "you'd step out and she'd step in."

Sanguinary Ambition

If I was a great, big man," said Bennie, who was entertaining the caller, "I'd go and be a soldier."

"What would you want to be a soldier for, Bennie?" asked the caller.

"So's I could shoot."

"What would you shoot?"

"Chickens, lions and Indians," promptly replied Bennie.

The Man and the Boy

A man of high social position was forced to stay over a couple of days in a small country town. Desiring to post some letters and not knowing where to find the postoffice, he said to a small boy gruffly, "Son, I want to go to the postoffice."

"All right, hurry back," said the boy soothingly.—Lippincott's.

His Inference

Robert had been listening to the conversation of his parents. They were discussing a certain Mrs. Smith, who was tagged in their talk as a grass widow.

"I say, pa," said Robert, after some reflection, "is a grass widow a woman whose husband died of hay fever?"

Telling the Truth

On little Arthur's birthday he received a present of a very large, furry monkey.

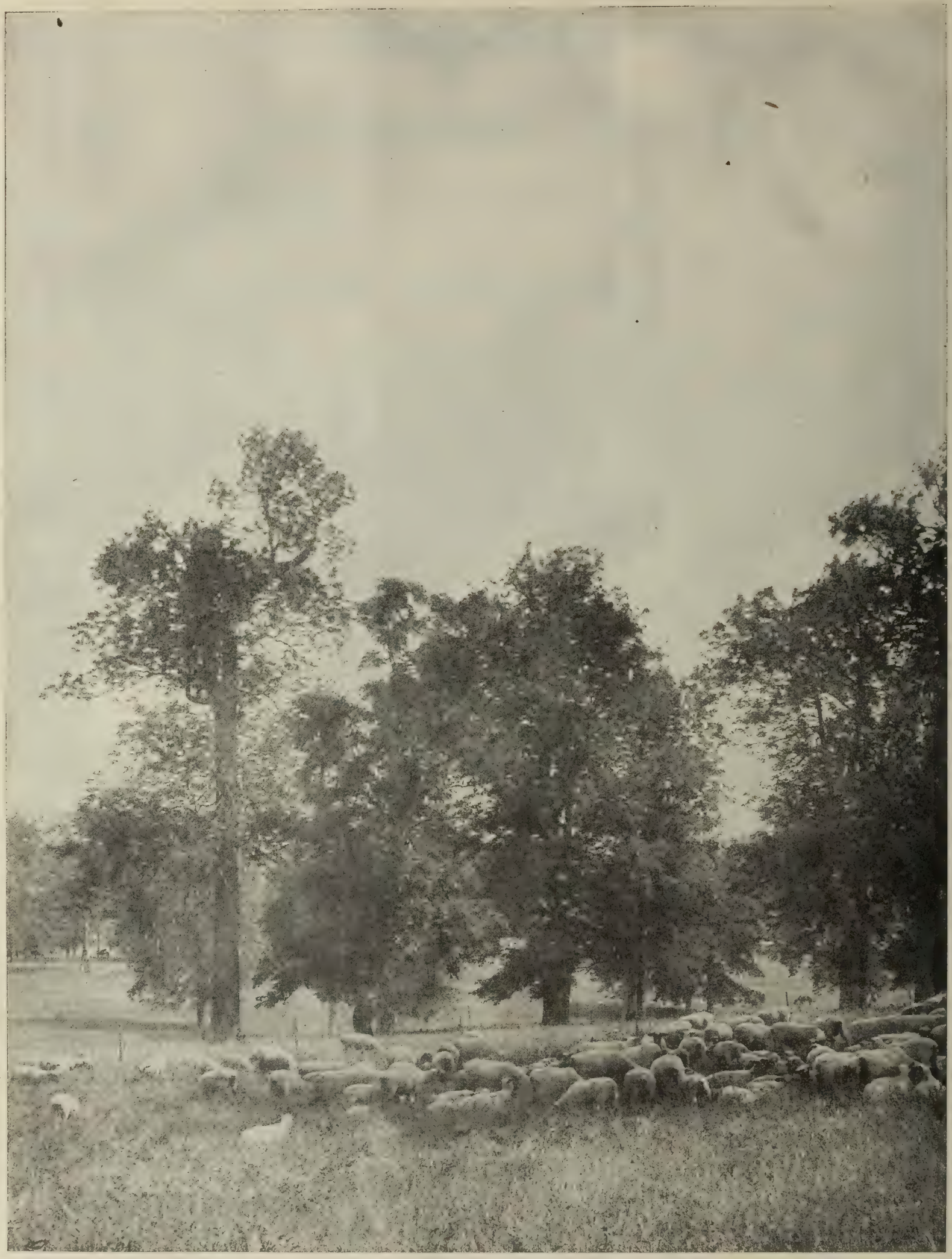
Two days later his father found it lying in a corner with both eyes missing.

"My boy," asked his father, more in sorrow than in anger, "why have you spoiled that beautiful monkey by pulling its eyes out?"

"Didn't," replied Arthur, briefly.

"Don't tell any untruths," snorted father, more in anger than in sorrow, "or I'll punish you! Why did you pull the monkey's eyes out?"

"Didn't!" repeated little Arthur, defiantly. Then he hurried on, as father took off his slipper. "I—I pulled them in."



No Farm is Complete Without a Flock of Sheep

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Methods of Agriculture in the British Isles

Certain Conditions There that May Well Be Reproduced in America

LAST winter the Iowa legislature, at the suggestion of Governor Clarke, authorized him to appoint a commission to report on agricultural conditions in Great Britain. James Wilson, the ex-secretary of agriculture, and Henry Wallace, editor of Wallace's Farmer, members of this commission, have filed their report with the governor. It will be worth while for American landlords, as well as tenants, to learn the conditions under which land is leased in Great Britain.' The landlord and tenant problem in America is coming to be the most serious agricultural problem that confronts the people of this country. As it exists today in most parts of American territory, it furnishes ground for grave apprehension as to the welfare of the agriculture of the future. Under the system in vogue here, the fertility of the soil is being rapidly depleted. The future of agriculture—and upon the future of agriculture depends the future welfare of the nation—depends upon at least maintaining the present capacity of the soil to produce. Agriculture is the basis of all our life. As agriculture declines all other forms of national activity must of necessity decline. It is of first importance that agriculture be kept in its most flourishing condition. Present methods of leasing land to tenants, present systems of contract between landlord and tenant, inevitably tend to the lowering of the producing capacity of our soil. This matter must be taken seriously in hand if the success of future agriculture is to be assured.

All readers will be interested to know how they manage this matter in Great Britain. It is with pleasure that the following excerpt from the report submitted by the two commissioners named is placed before our readers:

Landlords and Land Laws

"We might remark here that both in England, Scotland and Wales there are two distinct classes of landlords: One whose inheritance traces back to feudal times, whose ancestors accepted rent in lieu of military service, and who have retained to a greater or less degree a sense of responsibility for the welfare of the land. They take genuine pride in their estates, and spend much of their income in promoting the welfare of the estate and also of the tenants. The other class of landlords are those who have grown rich through mining, manufacturing or speculation, and who, through the misfortune of some of the older landlords, have been able to buy estates, for the purpose of securing that social recognition which in that country comes through large holdings of land. These latter, not knowing the heart of the farmer, and anxious to secure larger profits, as well as social recognition, are disposed to advance rents, sometimes beyond the limits of justice.

Recent Legislation

"It was largely to correct the abuses that have grown out of this custom that the land legislation of the last thirty years has been enacted. This legislation (which may be found in its complete form in the public general acts, 1908) endeavors to conserve the rights, first, of the land; second, of the tenant; third, of the landlord.

"The British law does not recognize the landlord as the absolute owner of the land. The spirit of the law is best stated by a definition given us by a Scotchman who has given this subject much study, namely: 'Land and all that is in it and on it belongs to whoever put it there.' There is no questioning of the means by which these large estates came into the hands of the ancestors of the present owners.

"The landlord has title to the land itself, and in England and Scotland he also owns the improvements which he and his ancestors put there, but there is recognition of the right of the tenant to remove, at the end of his lease (without damage to the interests of the landlord), any improvements he has been obliged to make, and especially of his right to any fertility he may have added to the land during his occupancy.

"For example, if he has bought stock feeds, such as Indian corn, oil meal, cottonseed meal, or any other meal, and has fed it to stock, he is credited with the manurial value of that feed until he has had opportunity to recover it during the term of his lease or of his occupancy. If he has plowed under clover or other humus material, he is entitled to compensation in case he is removed. This principle applies to commercial fertilizers.

"On the other hand, if he has sold off the farm certain grains specified by the law, the landlord has the right to sue him to recover the manurial value of the feeds sold, or to demand that an equivalent be returned to the land by the tenant.

Landlord Forced to Be Just

"The landlord may not raise the rent because of any increase in fertility which the tenant may have put in the land. And if he does so without reasons justified by good husbandry, according to the custom of the country and neighborhood, the tenant may recover not merely for the expense of removal, but for any damages that he may have incurred. This is called 'suing for disturbances.' When a lease expires and is not renewed, and the tenant actually leaves, he is entitled to recover for any unexhausted manures. This the landlord must pay. He charges it up to the land. This must be assumed by the incoming tenant, the equities being determined by an arbitrator, an expert in lands and manures, appointed by the Department of Agriculture. From his decisions there can be an appeal, and a second appeal, but no more. This decision, if at all just, is practically final.

"This brings us to the very core of the matter. The tenant, being assured of payment for any unexhausted fertility he may have added to the land, is encouraged to do his best, and naturally desires to remain on the land for a long period, usually the longer the better. On the other hand, the landlord, being indisposed to pay the debts of the land, is anxious to retain the tenant as long as possible. This explains why the one-year lease is something practically unknown either in England, Scotland or Wales.

Conservation of Fertility Encouraged

"It also explains the fact, surprising to us, that lands in these countries usually maintain their fertility. This was not the case prior to the enactment of these laws. Under the old fourteen and nineteen-year leases, the tenant (human nature in tenants being much the same on both sides of the ocean) was likely to do first-class farming the first years of his lease, and then become what is there known as a 'scourger,' a 'physicker' of the land (British for soil robber), getting out of it all that was possible toward the end of the lease and putting in nothing more than he was absolutely required to do. The new land laws make it to the interest of the tenant to farm to the best of his ability; to the interest of the landlord to keep him as long as possible, and thus conserve the fertility of the land.

"The laws of both Scotland and England (differing in some respects because conditions are different, but fundamentally the same) go into every detail, and, so far as we can see, fully and fairly recognize the rights of the land

The Country Boy's Creed

I BELIEVE that the country which God made is more beautiful than the city which man made; that life out of doors and in touch with the earth is the natural life of man. I believe that work is work wherever we find it, but that work with nature is more inspiring than work with the most intricate machinery. I believe that the dignity of labor depends not on what you do, but on how you do it; that opportunity comes to a boy on the farm as often as to a boy in the city; that life is larger and freer and happier on the farm than in the town; that my success depends not upon my location, but upon myself—not upon my dreams, but upon what I actually do; not upon luck, but upon pluck. I believe in working when I work and in playing when I play, and in giving and demanding a square deal in every act of life.

—Edwin O. Grover.

(the estate, which is treated as a personality, separate from the owner), and the interests of the tenant, while fully protecting the interests of the landlord."

Trustees for Future Generations

The British law as here outlined seems to rest basically upon the belief that future generations have an inalienable, indefeasible right in the soil. It is from the soil that they must gain the means of subsistence. According to this theory, a title deed does not give to the grantee an absolute right over the property that it conveys. It places him, rather, in the position of a trustee for future generations, and it makes it his duty to transmit his trust unimpaired to posterity. It recognizes the producing capacity as property in itself, and recognizes the right of the tenant to compensation for any addition that he may make to this producing capacity. If there is any quicker way for robbing the soil than the landlord and tenant systems in vogue in this country, the writer has yet to discover it. The substitution of the British method for any American method will become of vast economic national importance.

This landlord and tenant question will not down. Sooner or later it must be settled, and settled in such a way as will redound to the general welfare. Landlords, as well as tenants, are invited earnestly to study the British method with a view to adopting its most feasible features here.

Essentials for Right Kind of Co-operation

Farmers Have Not Yet Recognized the Benefits that May Be Derived from Thorough Organization

By H. C. Price

Dean of the Ohio College of Agriculture

ORGANIZATION is the slogan of our times, but in agriculture we have not yet realized the benefits that may be derived from thorough organization. The pride of our existence has been the independence of our farmers. We have developed on the principle that every farm should be sufficient unto itself and every owner dependent upon no one but himself.

We have overlooked the advantages that result from individuals working together for a common end. But in the meantime other industries have organized to protect and develop their own interests. Labor organizations, manufacturing organizations, transportation organizations, and, in fact, every line of industry, is found organized. Agriculture, on the other hand, has held aloof and complained at the organizations of trusts and combinations of capital, but has taken no active steps to meet organization with organization.

I do not want to be understood to be countenancing for a moment or justifying organizations for the restraint of trade. I refer simply to the legitimate organizations for increasing the efficiency of the industry by the introduction of more economical methods of business.

Fundamental Principles of Co-operation

The basis of organization that must be followed in agriculture is co-operation, and I want to discuss what I consider some of the fundamental principles of successful co-operation in agriculture. With the widespread interest there is in this subject, there is danger of impractical plans being launched by the over-enthusiast or the professional agitator and organizer. G. Harold Powell says in his recent book on co-operation in agriculture, "American agriculture is strewn with the wrecks of associations that were the outcome of high motives and impractical enthusiasm."

Co-operation is not the panacea for all our problems in agriculture, but it will go a long way in solving many of them, and will revolutionize our present methods of distributing farm products, if properly developed.

Co-operation is fundamentally based on equality. It stands for full and equal rights to everyone, without special privileges to any. That is a principle which every good citizen endorses, but it is not the principle on which the business of this country always has been transacted in the past.

Acquaintance and Confidence Essential

It is fundamental in organizing farmers' co-operative business organizations that the members shall be acquainted with one another and have confidence in each other. This means that the local organization shall be made up of members that live in a comparatively small area so that they may have a chance to know each other personally. The local organizations may be united into district or county associations, and the district or county associations combined into state associations, but the membership of the district and state associations should be made up of associations, not of individual farmers. Only the local association should have individual farmers as members.

To succeed in a co-operative association the members must have a common interest; that is the reason co-operation has been more successful in the past in sections that produced special crops, such as vegetables, fruits, tobacco, etc., than it has been in sections where general or mixed farming has been followed.

There is another fundamental factor of successful co-operation to be recognized. The farming population must be stable. Successful co-operation cannot be built up on a shifting tenant class such as prevails, to the detriment of our agriculture, in many sections.

Successful co-operation must be built on uniformity of conditions and congenialty of members. People of different nationalities, particularly when they do not like each other, seldom are able to maintain co-operative associations. People of different classes, where any class distinction exists, are not adapted to co-operative efforts. Co-operation is simply the extension of the principles of brotherhood, and people who are not inclined to be friendly in other relations cannot expect to succeed in co-operation.

Co-operation must be built on necessity. On this point Mr. Powell says: "Among farmers, who, under existing conditions, are already prosperous, the need of business organization is not usually felt, even though the costs of marketing and the extravagant profits of the middlemen might be greatly reduced. They must feel the pressure of need before they can launch a successful business association. When the farmers buy their supplies at reasonable prices and sell their products readily at a good profit, they do not feel the necessity of organization. It has been the experience of the past that they must feel the need of getting together to meet a crisis in their affairs and the realization of the need must spring from within and not be forced on them from without by the enthusiasm of some opportunist who seeks to unite the farmers on the principle that organization is a good thing."

Perishable Products Associations Strongest

This accounts for the fact that our most successful co-operative marketing associations have been organized for selling perishable products that have to be shipped long distances to market. For example, the orange growers of southern California and the apple growers of Oregon, Washington and Colorado have co-operated because they had to or else go out of business, not because they are any different as a class from the farmers of the east and south.

I want to emphasize one other factor that is the keystone of the whole system of business

There is an Increasing Demand for Dairy Cattle in Middle West

Wineland Farm, Lincoln, Neb. This is One of the Largest Jersey Cattle Breeding Farms in This Section

co-operation, and that is the steadfastness of the members. A co-operative business organization can only succeed by its members supporting it in adversity as well as prosperity. Opposition is certain to arise and private interests will do all they can to disrupt the system. In the organization of the association there should be some binding provision in the bylaws signed by every member. Voluntary membership is suicidal to a co-operative association, and unless members are willing to stay by the organization and support the managers and board of directors it is sure to fail. In an organization formed for marketing farm products, for example, the members should be required to sign an agreement giving the association exclusive right to market all of their products.

We have passed the individualistic stage of agriculture, and the next great development will be the organization of our forces. No farmer liveth to himself. Men must see beyond their line fences and have an interest wider than their own families and their own live stock.

Want Better Citizens

A stream never rises higher than its source; neither is a farm or a community better than the men who are responsible for them. We want better farms and better farming, but, above all, we want better citizens—men who have the vision to see not only the problems of their own farms, but of the community in which they live. We need men who have the perspective to see the problems of agriculture in their relation to state and national problems —men who do not clamor for class legislation, but demand that agriculture gets its just deserts at the hands of legislatures and no more. We need men who will resist the exploiting of agriculture by the politician and the demagogue under the guise of being the farmer's friend.

We need men above sect or creed who will work for the rural church, the rural school and every agency instrumental in promoting rural life. Such men will be discovered, trained and developed through co-operative organization of our rural life, and God speed the day when our farmers will be bound together in thoroughly organized co-operative association, working for the common end—a better, richer, broader farm life.

Bees and Honey as a Source of Income

What William Brower Has Done Any Farmer Might Do Equally as Well if Not Better

ONLY one failure in twenty-eight years is the experience of William Brower of Norwalk, Ia., a bee keeper who keeps on an average 150 colonies. This man is not a farmer, yet what he has done any farmer might do equally as well, and most farmers have advantages which he did not possess. He was an indoor worker in a little town; because of ill health he was compelled to turn to some open-air occupation. In few small towns is there ready opening for help such as he was capable of giving under the condition suited to his case, so he made an opening. He had a comfortable, small home, to which was attached two or three acres of garden and orchard. With a few stands of bees he ventured into the field of bee keeping, and now for nearly thirty years they have supplied a satisfactory income.

Just Ordinary Equipment

While he has perhaps developed into a professional apiarist, his equipment is only such as any bee keeper should have. It includes a small room used for storage purposes and as a workshop, a cave for winter protection and the necessary supply of hives and sections; neither is expensive. The building is perhaps 14x16 feet in size, of ordinary sheathing and siding construction, with shingle roof. In it is kept the surplus store of honey, section and hive stock and the extractor. The cave is an ordinary one, of cheap construction, dry and well ventilated. It is 9x40 feet in size, with a seven-foot ceiling. It has a capacity for 250 hives.

The bees are usually put into this winter cave about the 10th of November, although in favorable seasons the removal may not be necessary until the first of December. They are not again put out on the summer stands for four or five months, or until settled, warm weather has arrived. On this plan winter losses for twenty years have not averaged greater than 3 per cent. It is aimed to leave in each hive a sufficient quantity of honey to carry the bees through the winter season. The varying conditions of seasons, however, make a wide difference in the amount of honey consumed by the bees between fall and spring, so that sometimes it is necessary to resort to feeding in order to bring them through in strong and healthy condition. When feeding is demanded the food provided is a syrup made from granulated sugar.

Apiary Shaded by Grape Vines

This apiary is located on ground sloping gently to the east. It is planted to grapes. The hives are set so that the foliage of the vines affords shade for them during the warmest part of the summer days. While bees will gather the juice of grapes bruised or broken open by other causes, they are incapable of making an incision in even the ripest of grape skin.

Apiary of William Brower, Norwalk, Iowa

White Clover Honey Most Popular

The main honey flow arises from white clover, and white clover honey leads in popularity. Basswood honey, however, ranks all others in color, flavor and quality. As basswood bloom remains for but a limited time, the quantity from this source is small. Heartease follows white clover closely as a honey producer, with Spanish needle after. Spanish needle honey has a great tendency to taste strong. Alfalfa is a great honey plant, but its scarcity east of the Missouri river takes it out of consideration. Sweet clover advocates make great claims for it.

The apiary in question markets a large share of its product in a nearby city. It is put up in attractively labeled glass jars of one pint and larger sizes, as well as in tin cans or pails. The remainder is shipped to Philadelphia. Sixty per cent of the honey disposed of is in the extracted form. Two reasons exist for this. There seems to be a more stable demand for extracted honey, and at a more settled price. The other reason is one affecting economical production. Combs may be filled and extracted half a dozen times in a single season; comb foundation will last for as much as twenty years. The use of foundation and extracted comb is favored on the plea that the time which might be taken by the bees to build new comb will be put to better use in honey gathering. Foundation is made from natural beeswax by a small press, which makes a thin plate of cell-like formations.

Definitions of "a Friend"

The first person who comes in when the whole world has gone out.

A bank of credit on which we can draw supplies of confidence, counsel, sympathy, help and love.

One who combines for you alike the pleasures and benefits of society and solitude.

A jewel whose luster the strong acids of poverty and misfortune cannot dim.

One who multiplies joys, divides griefs, and whose honesty is inviolable.

One who loves the truth and you, and will tell the truth in spite of you.

The triple alliance of the three great powers, Love, Sympathy and Help.

One who considers my need before my deservings.

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The Department of Agriculture at Washington has issued a warning against non-scientific diet systems. The warning is timely. These diet "know-it-alls" should be carefully avoided by intelligent people.

The Canada thistle is invading the Missouri valley. It is a most unwelcome visitor. It should be classed among the noxious weeds. No farmer should spare any expense to get rid of this pest as soon as it makes its appearance.

A good many physicians, especially those that practice in the country, fail to report cases of contagious disease so that they may be properly quarantined. Any physician that fails to do this should have his license to practice immediately revoked.

It is said that the May beetle, which is the ancestor of the common white grub, will be unusually abundant next year. Farmers will find it to their advantage to do all the deep fall plowing they can in order to prevent their multiplication next year.

It is three and a half years since the last census enumeration was completed, and still much of the results that the census was supposed to accomplish are not yet available for the public. The director of the census has appointed special agents who have had experience in such matters to devise plans by which the work of future efforts in this line will be facilitated.

Mock Silage

An experiment that seems to be successful has been made with mock silage at Burlington, Vt. No regular silage was there available. Accordingly, they made a mock silage of dry corn fodder. This corn fodder carries approximately 60 per cent dry matter. Eight tons of dry corn fodder was used. It was shredded and placed in a silo. While the silo was filling, three tons of water were added to the mass. Five days later two and a half tons more water were added. Three days later four tons more of water were added, and a week afterward two tons more were added. This reduced the final dry matter of the contents to about 25 per cent of the weight. This water that was added later did not penetrate evenly throughout the entire mass of silage, and as a result some of it fire-fanged and was ruined.

There is no doubt that this mock silage will answer every purpose, provided sufficient water can be added at the time the silo is filled so as to insure an even distribution of water throughout the entire mass. The foregoing figures may be taken as a fair index of the relative amount of water that will be necessary to produce the most desirable results.

Save the Heifer Calves

This proclamation has been sent out over the entire country, seemingly by common consent of the live stock and meat-producing interests —"Save the Heifer Calves." There has been a great deal of sentiment expressed by associations and organized business interests, as well as by individuals, as to the duty of the farmer and the ranchman in the matter of raising more cattle by saving their heifer calves. There is a great deal of independent speculative sentiment among the present-day farmers. There are thousands of farmers and farm operators in every state who are not farmer born nor farmer bred and who have cultivated the speculative idea in the operation of the farm rather than that of primary production. They prefer to buy their neighbors' calves or look to the cattle markets of the country for their supply rather than keep breeding herds and raise the calves.

The speculative idea is contagious, and is found taking root often in the mind of the old pioneer farmer who never thought of taking advantage of his neighbor's production to get rich until he saw it worked out by his more progressive, up-to-date farmer friend of the speculative turn of mind.

This heifer calf agitation has been the means of directing many persons who are able to raise calves to a better understanding of the cattle supply situation. It has also caused many to drop in with the idea and put it into practice, believing the admonition a just and reasonable call from a wise and conservative source. It is reasonably certain that there has never been a time when a lot of well-bred heifer calves had a better outlook for increased values. The heifer calf conservation is the real solution of the present scarcity of beef. The great need is more cows to raise more calves, and the preservation principle to be exercised is in behalf of retaining all the good heifer calves to be developed into breeding cows.

The heifer calf business or industry is not exactly a get-rich-quick proposition, but it is a get-rich-sure proposition for any farmer who has the room, the feed and the disposition to raise cattle.

Where to Store the Seed Corn

Good Places

1. Spare room or well ventilated attic.
2. Dry, ventilated cellar (furnace room if possible).
3. Dry shed.

Bad Places

1. Stable over or near stock.
2. Over oats or corn.
3. Damp cellar.
4. Closed attic over kitchen.
5. Any damp, close place.
6. Out in sunshine.
7. In piles on floor.
8. In boxes or barrels.

Up to Congress

At its recent midsummer meeting the Missouri Valley Veterinary Association adopted a resolution asking the secretary of agriculture at Washington to place a quarantine against Illinois cattle so as to prevent tubercular cattle from being shipped to other states. Dr. Davis, state veterinarian of Wyoming, was authorized to conduct the correspondence with the department at Washington. Secretary Houston replies that at present there is no appropriation available to warrant inaugurating and enforcing regulations providing for the inspection and testing of cattle of the state of Illinois that are intended for interstate shipment. In view of this fact, the department will make no attempt to prevent the interstate movement of cattle diseased or exposed to the disease of tuberculosis that originated in the state of Illinois.

It is difficult to see how the secretary of agriculture could do anything else. It is the business of congress to provide funds for controling animal disease. This is much more important than boosting small towns by building new government buildings. The question is up to congress rather than up to the secretary, and until congress acts it will be impossible for the secretary to do anything.

This matter should be brought seriously to the attention of congress in order that relief of some kind may be had.

Meanwhile the agitation has started things moving in Illinois. They are taking steps there to rid the state of disease. Illinois is driven to such action by the fact that other states threaten to prohibit entirely the importation of Illinois cattle.

Missouri Valley Fruit Markets

The very rapidly developing orchard industry in the Missouri valley states, especially that feature devoted to apple growing ,suggests the centralizing of market advantages within this territory. All those interested in the growing of fruit should co-operate and lend their support to organizing associations to centralize the trade of their communities. This sort of co-operation has become a necessity in present-day business methods. The fruit producer is practically forced to it.

The Missouri valley apple-growing country comprises the states of Nebraska, Iowa, Kansas and Missouri. These states are large producers of apples at the present time, and the industry has gone beyond the experimental stage of development.. Each of these states has state fruit growers' associations, and the improved methods of care and cultivation of orchards is taught and practiced.

A marketing system for the purpose of centralizing the produce of these big orchards at convenient markets within their own territory, and thus establishing a trade and a special demand for these fruits upon their own quality and merit, is a matter that has been almost wholly overlooked. It is not enough to organize fruit growers' associations and employ a sales agent to dispose of the association's crops. There must be a centralizing of trade interests that will establish a market for the produce. These states are now organized into an interstate association called the Missouri Valley Fruit Growers' Association, and should proceed to establish market centers for this territory, at which there would be congregated the produce of the orchards of the members of the various fruit growers' associations, recognized by this large district association.

Missouri river points should be selected as central storage depots and the fruit-consuming world informed of the crop in storage at these several places. Sioux City, Omaha, St. Joseph, Kansas City and St. Louis would comprise a good business territory for the sale of the apple produce of these states. The apple buyers of the country, the dealers, the distributers, should learn that the place to get Missouri valley apples is at the Missouri valley storage plants, the local wholesale markets near where the apples are produced, and that everything handled there is sold under the guarantee of the producer and the association to which he belongs.

The orcharding industry of this section of country is destined to great development, and this is now under way and the acreage will be largely increased each year until the Missouri valley will be the great apple center of the United States.

An Oklahoman finds a double use for his concrete silo. As soon as it is emptied of silage he fills it with water, which he proposes to use for irrigation purposes.

Switzerland has four co-operative associations for the growing and marketing of forest products.

Room for More Sheep

The present feeder situation with all kinds of meat-producing animals cannot be regarded as particularly exciting or active. On the contrary, prospective feeders are rather hesitating and undecided as to what course to take. It is generally conceded that there will be a heavy falling off in volume of live stock feeding. Cattle feeding almost demands the accompaniment of swine, as the latter are often the means of saving a loss in the venture. With sheep feeding it is different. The sheep goes it alone. It forms no combination with other feed-yard animals; it neither helps nor depends upon receiving help from the waste from other animals' feed. The sheep is the most economical consumer of feed of any animal put in the feed lot. The waste from the trough or rack in the sheep feed lot is practically nothing when the flock is properly provided and systematically handled.

There has been an expression of opinion from some sources that the feeding of sheep would be carried on during the coming feeding season with about the usual interest and volume of business. The same sources of information expressed a belief that there would be a heavy falling off in cattle and hogs fed, and a consequent strong advance in both beef and pork prices. This seems a probable result, owing to scarcity of cattle and prevalence of disease among swine, and the prospective high prices of feed, especially that of corn, which is a recognized necessity in finishing these animals for slaughter.

While corn in some localities does not enter into the requirements for the feeding of sheep as it does in others, and to the extent that it does for the feeding of cattle and hogs, there is, notwithstanding, a very strong corn demand for the sheep-feeding industry. In the western sheep-feeding districts, where alfalfa hay and beet pulp are the recognized basis of feed supply, there is a demand for corn as an ingredient essential in getting good results in flesh-forming on these sheep.

A very large per cent of the sheep prepared for the mutton market are shipped from the sheep-growing districts into the corn-belt country as feeders and become large consumers of corn. This branch of the live stock feeding industry has become in recent years a very important factor in corn consumption. If the price of corn is to affect the feeding industry in cattle and hogs, then why not sheep? Mutton has become a great source of meat supply with the American people, but in no sense can it be called a substitute for beef or pork, and, as it will meet the high prices of corn upon practically the same basis, there is good reason to predict that there will be a proportionate falling off in the sheep-feeding industry.

The great demand for mutton which has prevailed in recent years, and especially for lamb, has caused the flock's increase to be comparatively light. The lambs have been demanded for slaughter almost, or quite, as fast as produced, and at prices that tempted the producers to market them with but little regard to reserve for flock increase. An extension of the sheep industry upon a reasonable basis of range prices would result in advantage to the country. The wool product of the United States could stand a very large expansion and not be in danger of over-supply.

Grazing Regulations

The forest service of the Department of Agriculture is being upheld in its present grazing regulations. This is encouraging news to all intertests, local and general, in any way affected by the regulations governing the use of these lands as a grazing proposition. The following report has been issued by the department setting forth the status of this department of government service:

"There were only 144 cases of grazing trespass on the national forests during the last fiscal year, according to a report issued from the forest service. The service considers this remarkable, in view of the fact that the national forests contain 138,000,000 acres and have boundaries many thousands of miles in length. Nearly 32,000 grazing permits were issued and more than 20,000,000 head of domestic animals grazed upon the forests for periods from a few days, in crossing, to a whole year.

"The various forest officers in charge of the areas on which this stock grazed are much pleased by this record, because it reasonably might be assumed that it would be extremely difficult to protect this large area from the encroachments of live stock and from depredation of various sorts. A large part of the difficulty, however, is obviated by the ready co-operation of the stock owners who use the range.

Of the 144 cases where the departures from the regulations of the Department of Agriculture were considered serious enough to warrant the filing of a trespass charge; twenty were dismissed by the department because of a lack of proof. The department points out that, while there were, of course, a great many minor violations due to a lack of knowledge or a misunderstanding of the regulations, they were settled without difficulty through the issuance of permits to cover the cases or by personal conferences which were sufficient to prevent further trouble.

The officers in charge of this department of the government grazing interests have become better acquainted with the situation and know how to adjust and settle disputes that may arise between occupants of the range. The live stock owners have become more easily dealt with than formerly, when they recognized no authority in control. The establishing of recognized rights among stock owners has had a tendency to encourage co-operation among the stockmen themselves, which practically solves the difficulties that formerly existed."

More than 900 high schools in Ohio are teaching agriculture and more than a half million boys and girls are studying the subject in the public schools there. It is estimated that about 1,000 teachers took work in agriculture in the summer schools last season.

We Have Given Ideas for 30,000 Home Parties and Church Socials in Three Years

For girls at home who wanted to entertain their set: for young people's church societies: for ladies' aids: for women in frontier towns who wanted to entertain women who "never had a party in their lives": for women in the great cities who had run out of ideas and wanted new ones for luncheons and teas: for the minister's wife who wanted to raise money for the church —for everybody, in fact, young and old, in city and country.

And we have given ideas for these thousands of happy-time occasions without a penny's charge.

It is part of the personal service that has been building for twenty years back of *The Ladies' Home Journal*, and every subscriber or reader is entitled to the service without a penny's cost. An editor with two or three assistants does practically nothing else but travel, buy, and collect the newest ideas for all kinds of good times, and pass them on.

It is worth knowing about. A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

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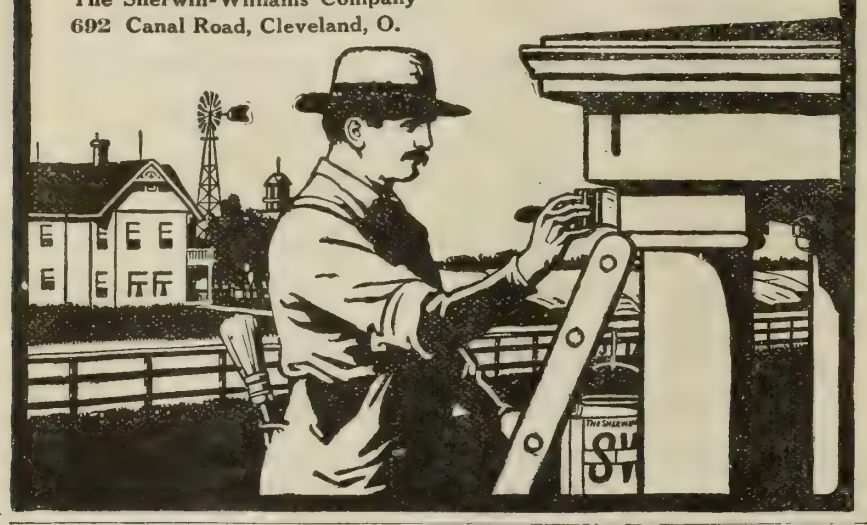


New Things in Postal Service

By Frank G. Carpenter

WASHINGTON, Oct. 4—"I am the poorest man in the world for a newspaper story. My life has not been pyrotechnic. I was not born in the gutter, and I have had no sensational struggles with poverty to get an education and reach public service. I am only a plain, ordinary man, developed along the common lines of American life in a plain, ordinary way. Besides, I have had no news instinct. I do not know a good story when I see it. I have had the newspaper fellows tell me that I was the best newsmaker in the government service, but that the news I furnished was sent forth without any knowledge on my part that it was of any interest whatsoever."

Delivery by Wagon Costs from One to Five Cents Per Package

But He Will Talk

These were the words of the postmaster general, Albert Sidney Burleson, as he sat before his big desk in the Postoffice department. He had a pile of papers before him, and the room adjoining was filled with callers waiting for audiences, and each with his own axe to grind. The time was 9:30 in the morning, and from then on throughout the day the business, I was told, would increase. It was not a good time for an interview, and the opening words of the postmaster general were by no means propitious. Nevertheless, I put my questions, and the answers came quick and without hesitation. One of the first subjects was the parcel post, and the trouble that had arisen with congress as to increasing the size of the packages and lowering the rates.

The postmaster general said:

"I intend to do all that the law will permit to better and cheapen the parcel post service. The postoffice is a department of efficiency, and it is the servant of the people. I am not here to make the laws, but it is my duty to enforce and carry them out as far as this department is concerned. That duty I am trying to discharge as regards the parcel post. You have seen how the first move I made was resisted. I then said to the senators and representatives just what I have said to you—you have placed this responsibility upon me, and I am going to carry it out. I shall move forward just as fast as the law will permit, and I believe that we shall soon be sending parcels of 100 pounds weight through the mails. When we have established the present system, I have another move planned to follow it. We shall go on, step by step. I know just what I am going to do; the next step will be made at the soonest possible moment, and the development will go right along during the next four years."

Express Companies' Problem

"But how about the express companies? Are you going to drive them out of business?"

"The express companies will have plenty to do in the carrying of packages of large size and weight. They will have to give way to the government as to small packages. There is no individual concern that can compete with the government; there is not the slightest doubt about that. We are going to do the small package business of the United States."

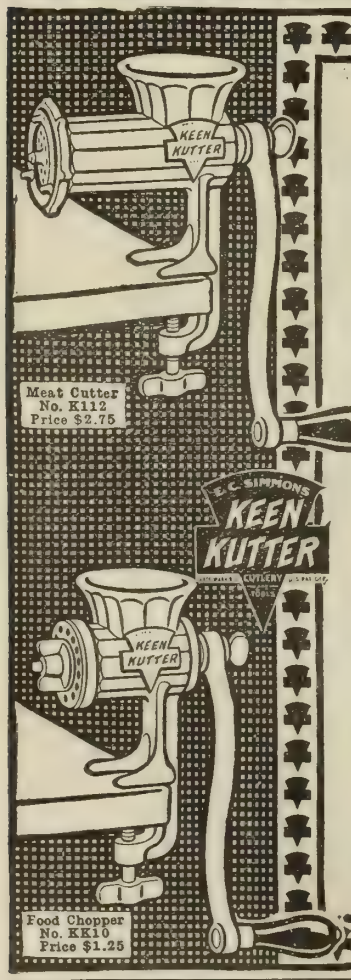
I here asked as to the prospective increase to the parcel post service. The postmaster general replied:

"That business is steadily increasing, and that is so of every department related to our mails. We are now handling from 24,000,000,000 to 25,000,000,000 packages of mail a year, and we have the largest transportation service in the world. Our system of parcel transportation is larger than that of any express company and it is just at its beginning."

Business for Six Months

"Give some of the details," said I.

"Well, in the first six months we handled more than 300,000,000 parcel post packages. With the increase in the weight limit and the reduction of the rates the increase will be accelerated, and I estimate that by the time the year is closed we shall have handled 750,000,000 packages. We are doing much to help the business along. One thing is the change as to stamps, so that any kind of post-



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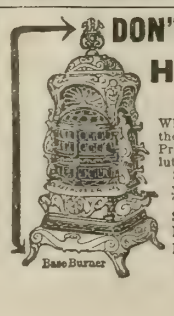

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age stamps can be used to send a parcel post package. Another is in the use of pre-cancelled stamps. It cost something to put the stamps on 750,000,000 packages and to cancel them by hand is an extremely difficult process. We can cancel the stamps on letter mail by machinery, but we cannot do that on packages, which are of all shapes and sizes. We have figured that it would cost us about $250,000 to cancel the stamps on the parcel post packages. We believe this cost can be cut down to $10,000 by the use of machinery and by allowing the use of pre-cancelled stamps. As it is now, pre-cancelled stamps are permitted where mailers send out 2,000 or more packages at one mailing. We want to fix it so that almost any person can further his business, and at the same time reduce the cost to the government in that way."

Used by Big Firms

"You speak of people sending 2,000 packages at one mailing. Have we many firms that do that?"

"Yes. The great mail-order houses send out many times that, and there are small institutions that have a heavy parcel post daily mail. The largest number of packages sent out so far in any one day by a single firm was 40,186, and the largest amount of postage used by any one company in a day for the parcel post service was $6,148.

"That sum was paid by one of the large mail-order houses," continued the postmaster general. "The mail-order houses were prepared for the parcel post at the time it was inaugurated, and they have adopted it in their business in a marvelous manner. The other day I took down a statement for the agent of one of these firms as to its business during the first seven months of 1913. In that time it sent out almost 4,500,000 parcel post packages. These houses are doing so much that we have tried to facilitate their parcel post mail in every possible way. We have put a corps of clerks in certain establishments of that kind, and the packages go almost direct to the consumer, being largely distributed before they are sent to the trains. Our men show them how to handle the packages, and how the wrapping should be done. In this way they have proved of great value to the mail-order establishments and have also saved the government thousands of dollars by not clogging the mails. The increase in the weight limit from eleven to twenty pounds will add to the mail-order business."

One of the First Delivery Motor Cars

Help for the Farmer

"What can the parcel post do for the farmer?"

"It can make every farmer a mail-order merchant. It has already done that in other countries. He can send his goods in small packages to the consumer. Twenty pounds is just about three pecks of cotton seed; it is one-third of a bushel of wheat and almost half a bushel of corn. It might enable vegetables and other products to be sent into cities direct, and it will be of great advantage to the farmer in the exchanging of seeds and in buying tools and supplies.

"We had a case the other day of a man who broke the point of his plow while at work on the farm. He had a telephone and he called up the merchant in town to send him a new point. The merchant replied that he had not one on hand, but that he had telephoned to the home office, 100 miles away, and ordered it to be sent on by mail. That plow point came to the farmer the next morning through the parcel post, and before night he was plowing again, without having left the farm. All that was done at a cost of 21 cents, whereas it would have taken him at least half a day to have driven to town for the package had it been sent there."

"Do you think the people appreciate the value of the parcel post and what they might do through it?"

People Learning Its Value

"They are rapidly learning to do so. Daniel C. Roper, the first assistant postmaster general, has just returned from a trip throughout the west. He says the people are everywhere beginning to send their goods in that way. The postmaster of a small town in Montana said he was handling fifty packages a day, and among the things sent were boxes of cigars from the local tobacconist, while among those received were packages of knit underwear from a small town in Utah, which had a factory of that kind. In one town he found a man who was advertising his laundry business through the parcel post, putting it in this way: 'Our delivery wagon, run by Uncle Sam, will stop at your home every morning and will make a delivery to you every afternoon.' That kind of thing is going on all over the country."

"But does it not cost the government a great deal to deliver the packages?"

"We have had a careful record kept of fifty of the most important postoffices of the country for a period of six days. This was last April. The reports from those offices show a wide range of methods employed, and just what it costs by each method. It was found that the cost of delivering by motor vehicles varied from 1½ cents to nearly 15 cents per package, whereas delivery by horse-drawn vehicles showed a variation of from 1 cent to 5 cents per package. We are now investigating how to deliver goods most cheaply."

Great Popular Department

The conversation here turned to the political business of the Postoffice department and of its closeness to the people. Postmaster General Burleson said:

"The Postoffice department outranks any other of the executive branches in its direct value to and connection with the people. It is the department that is closest to every individual, and it is, more than anything else, a representative of the national government. In many communities it is the only representative of the national govern-

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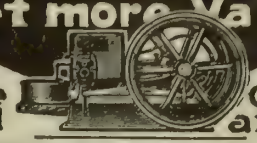

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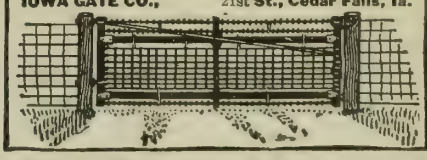

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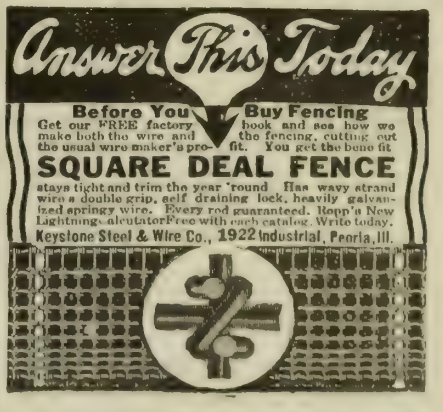
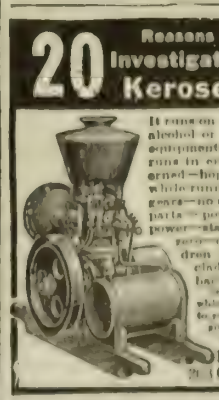


20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary ENGINE



It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5 year motor clad guarantee—Penny money-back trial—Sizes 2 to 20 H. P.

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ment. The State department is a very important part of the administration, but there are millions of our citizens who never come into contact with it or have any knowledge of what it is doing. The Agricultural department and the Treasury department touch hundreds of thousands of our citizens, but the Postoffice department comes into almost daily contact with every individual in the United States who is old enough to read and write. It is a concern that touches the individual, and that every day. If there is any department that should not be controlled by politics, it is this department. And still," continued the postmaster general, with a smile, "the head of the Postoffice department is the man who is supposed to keep the executive and legislative departments in touch with each other. He is the intermediary and go-between of the two."

"But why is that, Mr. Postmaster General?" I asked.

"One reason for it is that the Postoffice department is the one place to which every congressman must come from time to time. The senator or representative may seldom have occasion to go to the State department; he may never have occasion to go to the Agricultural department, but he is sure to come to the Postoffice department. It is for this reason that the postmaster general has dropped into the business of keeping harmony between the executive and legislative branches. There is no reason why this should be so, and he does not always succeed in his job, but it seems to have devolved upon him nevertheless."

"Referring to the political aspects of the department, I see that you are making the fourth-class postmasters undergo a civil service examination to show their fitness for office."

"That is a result of the executive order of May 7, 1913, which prescribed a test for determining the fitness of fourth-class postmasters under the civil service law. It was President Roosevelt who first brought fourth-class postmasters into the classified civil service. He did that in 1908 as to certain of them in the northern and northwestern states, and it was in October, 1912, that President Taft extended the order to cover the United States. Mr. Wilson requires them to submit to a competitive examination."

Extending Rural Delivery

"What are you doing as to the rural mails?"

"We have put on over 200 new routes, involving an additional expenditure of something like $190,000 a year. That branch of the service steadily grows. It now has in the neighborhood of 18,000 officers and clerks, and it costs something like $20,000,000 a year. The number of miles traveled per annum runs high into the millions, and more than 200,000 people are now receiving their mail at their doors instead of at remote postoffices."

"How many postoffices are there in the United States?"

"The number is almost 59,000."

"Give me in a nutshell some idea of Uncle Sam's postoffice business."

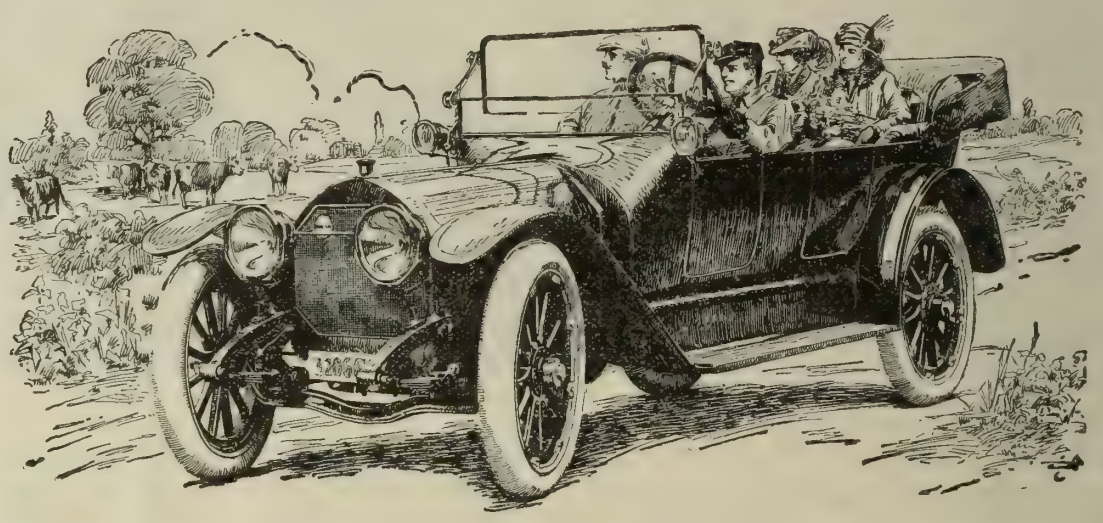
"It is a big thing to put into a nutshell. In the first place, we have 59,000 postoffices and about 290,000 employes. Our gross revenue per annum is in the neighborhood of $250,000,000 and our gross expenditures are a little less. The department always runs at a slight deficit, and this is largely because we do a great deal of free business for Uncle Sam, which ought to be charged to the other departments. And then, to continue the enumeration of the contents of the nutshell, we sell every year almost 10,000,000,000 postage stamps and enough stamped envelopes and wrappers to give one to every man, woman and child upon earth and leave some to spare. Last year we issued more than 900,000,000 postal cards and we sent out registered letters to the number of 44,000,000. We do an enormous money-order business both at home and abroad. The domestic money orders annually number 80,000,000 or more and our foreign money orders are more than 4,000,000, representing all told an aggregate value of something like $700,000,000. In some years we send away to other countries through the postoffice almost $100,000,000."

Postal Savings Banks

"What are you doing as to the postal savings bank?"

"We have $40,000,000 or $50,000,000 now on deposit. The system was established only a little more than two and one-half years ago, and it is now in operation in more than 12,000 postoffices and at about 700 branches and stations. On June 30 last the depositors numbered 350,000, and their deposits then were approximately $25,000,000. All this comes from a class of people who were making no effort to economize and save before the postal savings banks were established. It comes from many who were too timid to put their money into the regular banks, or who were so afraid of the banks that they would not trust them with their savings. They kept them hid under the hearthstones or perhaps in a tin can or a stove, and the result was the loss of hundreds of thousands of dollars every year. We have plans to increase the facilities of the postal savings banks, and in a short time we shall have $100,000,000 of such deposits, and that without taking from the savings banks of the country as much as 1 per cent of their former returns. The postal savings banks are patronized largely by foreigners. They have confidence in their home government and therefore have confidence in ours."

(Copyright, 1913, by Frank G. Carpenter)



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And all the sky is dim and far and grand,
We gather 'round the kitchen fire and listen
While mother reads us tales from fairyland.

And though we know they're only fairy stories
We always see them, truly in the fire!
Kings and glass mountains, gold and silver glories,
The dragon, and the Princess Heart's Desire!

There always is, you know, a prince unfearing,
And there always is a fairy with her crook;
Yet somehow we are never tired of hearing
The stories from the magic fairy book!

—Gordon Stuart.

The Editor's Corner

Twice within the last few months the prize for the best story has gone to Ytole Norris of Belleville, Kan. Now the purpose of these story contests is to encourage you children to write and thereby gain practice in expressing your ideas. Few of you will ever become authors when you grow up, but all will have to write letters now and then on various subjects, either business or personal, and the practice you get in writing these stories will help you learn to make your meaning clear.

For this reason we feel that it is not fair to give Ytole Norris prizes every time she writes. However, her stories are interesting ones and neither do we feel that it is fair to deprive the rest of you of the privilege of reading them. Therefore we are going to institute a new department. In the future, when any one of our young writers has won two story prizes he or she will become an honor member. Then we will print their stories whenever we consider them worth printing, and for every honor story printed we will send the author a book. Not the book for the prize story, which will also be sent, but another book, which will be for the honor story.

Ytole Norris is the first honor member. See how quickly some of you other boys and girls can join her.

THE EDITOR.

(Honor Story)

Carl's Summer on a Ranch

By Ytole Norris, Aged 15 Years, Belleville, Kan.

Carl was a city boy. After school was out his father declared he would send Carl to his uncle's, who had a large cattle ranch away out west. Of course Carl "kicked" and did not want to go, but his father would not be daunted, so to his Uncle Ned's Carl went.

Now Carl had a cousin about his own age, who could sit in the saddle all day long and herd cattle and who dared any broncho on the place to throw him. The rest of the cowboys respected his muscle and grit.

Of course when Carl came from the city, with his rosebud complexion, silk sox, English walking shoes and blue serge suit cut in the latest style, he at once became a source of fun and pleasure for the cowboys. He had been there three days before he could be urged to go down to the barn or ever as far as the turkey

Guilty or Not Guilty

pen, where his aunt had a fine lot of turkeys; but when it came time to round up the cattle he wanted to see it all so he could tell his city friends when he returned home.

All morning he walked about among the men, asking questions and being the butt of many a laugh and joke; one of the men, who was working on a machine of some kind, sent him to the other end of the place to the tool shed to get him a "left-handed mallard." Carl went willingly to get the tool. On arriving at the shed and asking the man who was sitting on a bench for a "left-handed mallard," the man grinned and said, "They're making a goat of you, bud. There is no such tool as that. A mallard is a wild duck."

Carl did not answer, but turned and walked away toward the pasture, where the horses were kept. Seeing a pretty, black and white pony saddled and tied to the fence, he decided to ride her. "She started all right," Carl said after he had regained his senses, "but she wouldn't go, so I tried to make her, and she stood on her head, and I lit about a mile away, I guess. I don't care, I had the honor of being on a real broncho, anyway."

The round-up came off fine, and Carl learned more about horses than he had learned in all the rest of his life before. He returned home at the end of his vacation, tanned but happy. Even if he had not learned to ride a real broncho and throw a lasso, he had had many more exciting experiences which I have no room to relate.

(Prize Story)

How Hilda Saved the Calf

By Hilda Pabian, Aged 13 Years, Prague, Neb.

One fine day last summer Emil, aged 5, and I were left at home alone to prepare dinner for my brother and two hired men. I was just a little girl, so I was going to show them how well I could cook. Everything was progressing nicely until 11:30, when I heard Emil calling, "Hilda, the calf fell into the cellar! Come on, quick!"

I ran out to find the calf hanging in the cellar by a rope. Emil had brought his pet calf into the yard and had tied it to a tree near the cave. The cave was not yet completed and we had only a temporary door above it. The calf tried to walk across and, of course, fell in. When I saw the calf hanging in the cellar I had to act quickly for fear it would choke. I could not pull the calf up, but managed to untie the rope and drop the calf on the cellar floor.

Here I was holding the calf so it would not attack the cream, butter and preserved fruits, which were all on tl floor. I had just put a large piece of wood into the stove, which would surely burn my stewed chicken if I did not tend to it. What could I do with the calf? There was nothing to tie the rope to; I could not trust Emil and the men were not yet home. I stood there fully fifteen minutes till the men came. I called immediately, but as I am always up to some joke, the men would not come to my assistance. Finally I did get help, but my dinner was ruined. The men did not mind, however. They said, "A good laugh is better than a good dinner sometimes."

(Honorable Mention)

Losing the Rooster

By George Killian, Aged 11 Years, St. Edward, Neb.

One day in the summer we all went to town; myself, my three brothers and mamma all went in a top buggy. When almost to town, out jumped our nice, white rooster. Mother said, "There, boys, there goes your nice rooster." We could not catch him, so we never got him back. The family all went away, so the rooster thought he had to go too. Well, we felt bad because he was gone, for we had raised him by hand. He was hatched in an incubator and all the other little chickens died but this one, and he was our pet. I'll never forget that trip and loss.

Where the Mouse Was

By Josie Cafferty, Aged 9 Years, Ewing, Neb.

I suppose you little folks have all had experiences with animals and such things, but I will tell you of my experience with a little mouse. One morning, as I was putting on my sweater coat, I felt something creeping up my back, and on unfastening my sweater a litle mouse jumped out of my coat, and O! how I did jump around and scream for a while! My cousin tried to step on it, but it was going too fast. It ran for the bedroom as fast as it could go. My sister takes the Twentieth Century Farmer.

Being Afraid

The boy who is afraid of things is not necessarily a coward. Every boy is afraid at times, though they seldom admit they are. But there are some few who seem to be very brave. They do things the rest dare not do and seem to glory in taking risks. Very likely we admire such a fellow and look down on the boy who hangs back and will not be dared to attempt some feat he considers too dangerous. The boy—the daring one—has not courage, however. There is no reason to admire him. Generally he is foolhardy; almost always he is showing off. The brave boy, the boy to admire, is the one who is afraid, but who, when necessity arises, forces himself to do the thing he is afraid to do. If you are not afraid to climb a rope to the top of the barn you should have no praise for bravery; but if, being very much afraid, you make yourself climb that rope to save life or property, you are the possessor of true courage. Never judge a boy's cowardice until circumstances arise which put him fairly to the test.—American Boy.

Picture Contest No. 7

Today, the 11th of October, is the last day on which answers received for the picture contest can be considered. Next week we will publish the picture for contest No. 7. In the meantime, devote all your energies to writing stories and let us have a big bunch of them in each issue from now on. Also, be sure to all try your luck in the picture contest. Don't be discouraged just because you may have sent in stories or poems that have not been printed. Perhaps they will be next time.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

Write plainly at top of story your name, age, address and the title of the story.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

REVIVED

Old-Time Health Eating Grape-Nuts

"I had been sick for 10 years with dyspepsia and a lot of complications," wrote an Ark. woman.

"An operation was advised, change of climate was suggested, but no one seemed to know just what was the matter. I was in bed three days in the week and got so thin I weighed only 80 lbs. No food seemed to agree with me.

"I told my husband I was going to try some kind of predigested food to see if I could keep from this feeling of continued hunger.

"Grape-Nuts and cream was the food I got and nothing has seemed to satisfy me like it. I never feel hungry, but have a natural appetite. Have had no nervous spells since I began this food, and have taken no medicine.

"I have gained so much strength that I now do all my housework and feel well and strong. My weight has increased 8 lbs. in 8 weeks and I shall always eat Grape-Nuts as it is far pleasanter than taking medicines." Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs. "There's a reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Of Interest to Our Women Readers

Partnership

"My father and I know everything
In the whole wide world, we do!"
My little son nodded his curls at me;
"Just everything, mother,—true!"

"Then tell me, Sir Brag," I teasing said,
"Where, in the world so wide,
I can find the country of Yucatan?"
He answered with unmoved pride:

"That one is father's to tell—it's hard;
The easies are mine; but we
Together know all that there is to know!—
Ask one that belongs to me?"

And thus from innocent lips I learned
A lesson of trust and rest;
What matter the mysteries yet unsolved?
The problems of life unguessed?

One knoweth—I have no need to know;
One careth who best can care;
"The easies are mine"—my Father and I
The whole of the truth we share.
—Ada Melville Shaw in Sunday School Times.

Our Home Chat

There is a great deal of perfectly good sympathy going to waste these days in tearful articles about the "overworked farmer's wife." She is pictured as carrying tons of water for her washing, as stewing over hot ranges and breaking her back over the separator, while her husband rides at his ease on a riding plow and employs a motor to do all the heavy lifting about the barns. She is contrasted with the city woman, whose work is made easy by every modern convenience and whose time is largely her own for mental improvement.

There are selfish husbands in the city as well as in the country. There are city men who have all the money they need for their clubs and card games or with which to employ competent help at their offices, yet whose wives have to give every moment of their time and strength to housekeeping cares and the bringing up of their children. And there are women in the country who have oil ranges, electric lights, motor-run washing machines and every other possible convenience.

The trouble with these people who are raising such a howl about the abused farmers' wives is that they are comparing women of different means. They take the well-to-do city woman and compare her with the wife of a struggling farmer on a rented farm. Take it all in all, the farmer does about as well for his wife as the city man does. And as for intellectual opportunities. Perhaps the women on the farm are unable to meet as often as city friends, but when they do, the meetings are more likely to be worth while. There is no particular intellectual value in four or five bridge parties a week and the small talk that is talked at receptions and teas, which is what the majority of the social functions in the city are.

We know that the woman on the farm is no oftener mistreated and oppressed than her city sister. We wish, however, that some of the readers of the Twentieth Century Farmer would write their experiences as farmers' wives. Tell us about your work, your social opportunities and what you think on this question. Please sign your names, as an evidence of good faith, but they will not be published unless you wish them. Never mind whether you have any literary ability or not. Literary ability is not what we want. We want to hear our experiences and know what you think on this question. THE EDITOR.

Fall Flower Garden Work

There are a great many things one can do in the flower garden in the fall and early winter that will help to bring brightness into the garden when spring arrives.

If you have not planted your fall bulbs you should do so soon, as they should be in the ground before it freezes for the winter. These bulbs must root before spring or they will not bloom well, and they cannot root when the ground is frozen, though they like the very cool weather just before the ground freezes.

Hardy violets, snapdragons and ten-weeks stock all will stand some frost, but should be potted before a severe frost, except the violets, which should have a severe enough freeze to check the growth, or they will all run to tops and give few flowers during the winter.

If you have grown any Margaret carnations during the summer select a few of the best and pot them up. You will be surprised how much larger the bloom will be in the house if you give them a cool window and good soil. There are several varieties of carnations that are grown from seed that are as good or better than the Margaret, but none that are as generally grown, or so easy to succeed with. They have all the colors common to the pink family.

The ordinary Dianthus, or annual pink, as they are called, though they are biennial, make good plants in the window garden.

When you have taken up what you want of these hardy varieties, prepare the others for the winter, for many of them will winter over and bloom freely the second year. The snapdragons are semi-hardy, and should be protected by covering with straw or leaves, and turning a box or something over them so the straw will not get wet and remain a soggy, frozen mass during the winter. Mulching for semi-hardy plants should not be put on until after a severe freeze, and should be kept dry during the winter.

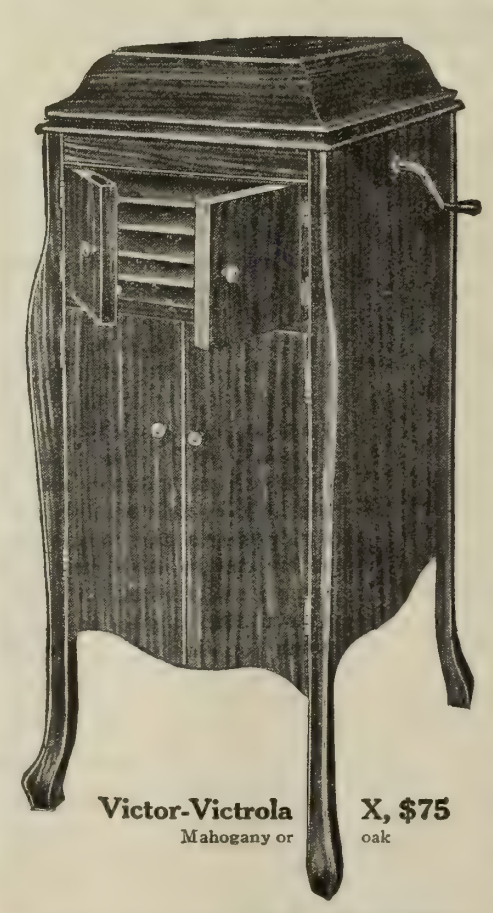
The dianthus and the violets are perfectly hardy, so far as cold is concerned, but they will be better for a mulch being worked in around them, but do not cover the plants to any depth or they will rot. The Margaret carnation can be carried through sometimes if treated as I have outlined for the snapdragon.

The picotee and the small plumarius or old-fashioned garden pink, are hardy enough to live over without any covering, but poultry are especially fond of them, as they stay green all winter, so you must protect them on that account if you have hens running in the garden.

Seeds of pansies can be sown in the fall and will start very early in the spring, blooming much sooner than those sown after the soil gets warm enough to work in the spring. Many of the annuals may be treated in the same way, though the seed of most of the self-sowing varieties is very fine, and it hardly pays to risk getting a stand. Portulacca, petunias, poppies, verbenias, snapdragon, kochia and nicotiana are all in this class.

If you have any shrubs you want to transplant you had better attend to it after the first good freeze this fall, for you can select a time when the soil is in perfect condition to work, and the shrub can get established well before the growing season. In resetting, cut away all bruised or mangled roots, and pack the soil almost as firmly as though you were setting a post, provided it is dry enough so it will not make a muck, and they should not be planted when it is wet enough so it will not

A new cabinet style Victrola—$75



Victor-Victrola X, $75
Mahogany or oak

The same unequaled Victor tone, the same price, but a greatly improved design—a really wonderful instrument at $75.

The handsome cabinet is another evidence of the ability of the Victor Company to maintain its supremacy in the artistic excellence of its instruments as well as in their musical superiority.

See and hear this new Victrola X at any Victor dealer's—he will gladly play your favorite music for you.

Write for the handsome illustrated Victor catalogs.

All the latest Victor-Victrola patented features, including Exhibition sound box, tapering tone arm, "goose-neck" sound-box tube, and twelve-inch turntable, are incorporated in this instrument.

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New Victor Records demonstrated at all dealers on the 28th of each month

crumble when made into a ball and tapped with the finger.

Kansas. L. H. COBB.

Letter From an Old Subscriber

Dear Editor: I once was a subscriber to your paper, but in moving to our new home I neglected to renew and not long ago a friend handed me one of your latest copies, and I was surprised at its growth and betterment in every way.

Now I want to pass along to you one of my own ideas. We sold our baby's high chair when we moved out here, and we had no way of getting another one, as we were thirty miles from a railway or furniture store. So I took a small goods box, removed one side and end, trimmed the end piece so it would slip down inside the box a little over half way, and nailed it firmly, then sawed off the end of the box slantways, so the open side of the box is three inches lower than the back, smoothed the rough edges and nailed a piece of smooth board around the outside to hold it firm and painted it, and it looks very nice.

When meal time comes we set the little fellow in it, put it in a chair and he can eat like big folks without any danger of falling. I don't see how I ever managed without it, and it is so good that a friend of mine made one for her little guests.

With best wishes to your paper,

Nebraska. MRS. E. M. H.

Getting Rid of Bed Bugs

Among the different articles published, I have not seen anything on the subject of bed bugs. Now seems to be the best time of year to begin warring against them, so I thought some of our readers might be interested in my ideas.

Bugs are very bad this year. They do not multiply very fast in cool weather, and I believe the dry, warm summer has been the cause of so many bugs. Now that cool weather is coming on, a thorough cleaning this fall will undoubtedly rid beds and other harboring places of this pest. It is no easy task to get rid of them when they are once established, for they inhabit every crevice, nook and corner, not only of the beds, but in any piece of furniture, the wall, the floor and even the clothing hanging on the hooks. It requires a goodly amount of persistence, and I believe the lack of it is one reason why a great many housewives fail in getting rid of them permanently. Just as long as there ar any unhatched nits you can depend upon finding bugs. In all my searches, I have never yet found anything that would destroy the nits. Nature has provided them with an impervious coating that resists anything I ever heard of. Gasoline or kerosene will kill the bugs, and I believe repeated attacks, followed by a strong insect powder, will eventually clean them out of any ordinary house.

I like kerosene better than gasoline, for it is not nearly so dangerous and it does its work thoroughly before it has a chance to evaporate. Cover all the nits with insect powder and the bugs that hatch out in it will never get any farther.

Fill all the cracks in the wall and

(CONTINUED ON PAGE NINETEEN)

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6094—Boys' Russian Suit—A clever little Russian suit for the small boy is offered in this design. The blouse has removable shield and a pretty sailor collar, which extends well down at the front. This is fashioned of contrasting material. Linen or serge can be used to make this suit. The pattern 6094 is cut in sizes 2, 4 and 6 years. Medium size requires 2⅞ yards contrasting goods.

6086—Misses' Frock—Quite a charming frock for the young girl is here offered. This dress closes at the left side and the vaist has a chic sailor collar and short sleeves with pointed turned-back cuffs. The skirt is cut in three gores and has a flounce. The pattern 6086 is cut in sizes 14, 16 and 18 years. Medium size requires 5 yards of 36-inch material.

6057—Girls' Coat Suit—This suit consists of a coat and a three-gored skirt. The coat can be made with or without the belt. Serge, cheviot or broadcloth can be used to make this suit, with the collar of velvet. The pattern 6057 is cut in sizes 6, 8, 10 and 12 years. Size 8 years requires 2¾ yards of 44-inch material with ⅝ yard of 24-inch velvet.

5938 Ladies' Coat—This delightful coat design may be developed for dressy wear or for general service, depending upon the manner of its treatment. It may be made in either of two lengths—44 or 56½ inches. It has the fashionable deep armholes, a smartly-shaped collar and revers and deep turned-back cuffs. The pattern 5938 is cut in sizes 32 to 42 inches bust measure. Medium size requires for short coat 3½ yards of 54-inch material and 1⅛ yards of the same width contrasting goods.

5913—Ladies' Dress—Here is a clever costume in blue and white striped serge with blue satin collar and cuffs. The dress is stylish and smart, but quite easy to make. It closes at the back and the pattern provides for a separate guimpe. The pattern 5913 is cut in sizes 32 to 42 inches bust measure. Medium size requires for the dress 4½ yards of 36-inch material and 1 yard of 27-inch satin for the guimpe; 1½ yards of 36-inch material and ⅝ yard of 22-inch all over.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

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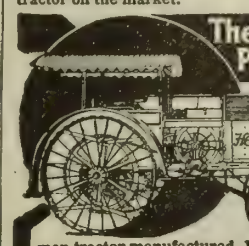

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Handles all grains and grass seeds; takes out weed seed; separates mixed grains; leaves big, pure seed. Over 300,000 Chathams in use, and every owner satisfied! Write a postal now for my FREE copyrighted book, "The Chatham System of Breeding Big Crops;" description, price, terms, etc. Address nearest office. Dept. 49

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CUP ELEVATOR

Always ready for use. Placed inside the crib in the dry. Easy running, durable and strong. Elevates oats, wheat, or ear-corn, 50 bushels in three minutes.

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The first successful **Upright Ear Corn Elevator made—SOLD DIRECT to the Farmer.** Free Catalog showing 8 styles with crib plans which save you money. Write for it today.

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Gilbert Hess
Doctor of Medicine
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Hens can't lay eggs and grow feathers at the same time

Feather growing saps all the nutrition of a hen's ration. That's why hens practically stop laying eggs when moulting starts. Given their own time to moult, hens take about 100 days within which to shed the old feathers and grow new ones. But that hits your pocketbook hard, because egg prices are away up high in October, November and December. Change *your* methods to *mine*. I *force* my hens to moult *early in fall*, make them moult *quickly* and get them back laying again before winter sets in. To do this I rely absolutely on

Dr. Hess Poultry PAN-A-CE-A

Shortens Moulting Period—Makes Them Lay

My hens get this bracing poultry tonic all year round, so that when moulting time comes along they are fit to stand the severe strain. Just before moulting commences I confine the birds for about a week and put them on half rations to reduce the fat. This dries up the quills right to the ends and it only takes an increase in protein and fatty rations to make new feathers and force out the old ones. Back they go then on Pan-a-ce-a—this tones up the egg organs and brings back the scratch and cackle and compels each hen to lay regularly—*just when eggs are at their highest price.*

My Pan-a-ce-a is a tonic—it makes poultry healthy, makes hens lay, helps chicks grow and shortens moulting period. The result of my 25 years' experience as a doctor of medicine, doctor of veterinary science and successful poultry raiser. Ingredients printed on every package and certified to by the U. S. Dispensatory and Medical Colleges. Read this *money-back guarantee.* You buy Dr. Hess Poultry Pan-a-ce-a of your dealer and feed it according to directions. If it does not do as I claim—if it does not pay you and *pay you well*, I have authorized your dealer to refund your money. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50. Except in Canada and the far West. Never sold by peddlers. Send 2c stamp for my brand-new poultry book—it's a stunner.

Dr. Hess Stock Tonic

Taken off pasture, put on dry feed and closely confined, your stock are apt to get out of fix during winter. Some are liable to get constipated, dropsical swellings, stocky legs, but, most common and dreaded of all diseases, especially among hogs is worms—worms. Dr. Hess Stock Tonic will keep your stock toned up, enrich their blood, keep their bowels regular and will rid them of worms. 25-lb. pail $1.60; 100-lb. sack $5.00; smaller packages as low as 50c. Except in Canada, the far West and the South.

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Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks, or keep it in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy sifting-top cans, 1 lb. 25c; 3 lbs. 60c. Except in Canada and the far West. I guarantee it.

Free land information

You can learn the facts about any section of the country through The Twentieth Century Farmer's Free Land Information Bureau, which is maintained for the benefit of our readers. Climatic conditions, land laws, best lands for any particular crop, best sections for fruit growing, stock raising and general farming—all such facts may be had if you will simply send postage for reply, and address

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Omaha, Nebraska.

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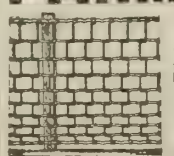

11½ cts. a rod for a 26 in. high fence; 17 1-4c. a rod for 47 inch high stock fence: 28 1-2c a rod for a 50-inch heavy poultry fence. Sold direct to the farmer on 30 Days Free Trial. Special barb wire, 80 rod spool, $1.55. Catalog free.

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Timely Items of Interest to Poultry Raisers and Fanciers

THE incubators and the water or hot-air brooders are put away by this time, but are you sure you have poured out the last drop of water from the hot water incubators and brooders? You must be sure, for if you haven't, though but a small amount be left in, it will burst the pipes somewhere if it freezes. Why I cannot explain, as one would argue the ice had room to expand. No matter about the argument, experience has told me that if the incubator be set in a cold room, and any water remains in it, you will have a bursted pipe somewhere in it.

***

Don't put away the brooders just as the last batch of chickens left them. You have no idea what they left in them. Chickens running at large and coming back to the brooder at night may not only bring certain kinds of vermin, but eggs of worms and germs of disease that, left over until spring, may not be so easily eradicated though you do clean the brooder out before putting in the early hatches. Put them away well scalded out and disinfected. About as good a disinfectant as I know of in this case is an old tin can in which are some broken up corn cobs, on which you pour some coal oil, then sprinkle sulphur on top this, throw in a lighted match, after placing the can safely in the brooder, close the doors, then let it smoke itself out. Put the can by for other work of this kind.

***

Some farm poultry keepers are of the opinion that if the hens are neglected through the winter and left to take long walks to find a living, though the egg basket may suffer for it, the more fertile will be the eggs next spring, and the surer the chicks hatched will be to live. There is something in this claim, but to neglect them, to let them run half starved, to let them shiver with cold, will not bring this about; for just so sure as you go about getting fertile eggs next spring in this manner, you lose out. In fact, the hens will be so run down by spring that half of them, if not more, will be an easy prey to disease, and it will take the rest so long to respond to the stimulus of green grass and extra feed that the fertile eggs will be slow coming. Let them forage afar if they want to, but see to it that they come back from the forage with well filled crops, and to dry well-sheltered quarters. The danger for the hatches next spring does not lie in excellent treatment, but in keeping them too close, and over-stimulated with egg-producing foods—such as meat and condiments.

***

Water, shell and all kinds of feed—save the whole grain thrown for scratching purpose—should be placed above the floor. Have a block or shelf for the water pan, the oyster shell and a trough they cannot step on for the mash.

***

There was a trap nest craze. It soon subsided, and yet the trap nest is useful. In the making of laying strains they are to the poultryman what the Babcock test is to the dairyman.

***

Now is the time to have all of your next year breeders bought, especially turkeys. The Bronze turkey hen holds the same coloring and marking as the tom, except that her feathers are edged with gray and, dull in hue.

Sick Geese

A. S. E., Ill.: My geese are dying. They act rather queer. They act so weak, as though broken down in the back. They want to rest on their breasts all the time. When they get up to walk they stagger and seem lame. Sometimes they fall over on their backs and cannot get back without help. Some have died in that position. Do tell me what to do. There is no sign of worms in the intestines, and they have no flukes, for they do not run to stagnant ponds or creeks.

Answer—No doubt but that these geese have taken on the germs of coccidiosis, which is something akin to the spore causing white diarrhea in chicks, blackhead in turkeys. In geese they attack the kidneys. It will finally destroy every goose if not stopped. My advice would be to give the geese calomel, one grain doses at intervals, with some castor oil to carry it off—say, a grain today, one tomorrow, with a rest of two or three days before giving another. Three grains of copperas to the quart of drinking water has proved good in this trouble. A little turpentine also will not come amiss. The disinfection of their eating and roosting grounds must be the main dependence. A 10 per cent solution of cresol is best for this. Take the sick from the well. Dose the well with the calomel also.

London Purple

F. J. S., California: I see where you advise the use of London purple for disease in chickens. I would like to know how it is used, as it is a poison a little dangerous to handle. I use it on potato vines and rose bushes to kill potato bugs and insects. I put two tablespoonsful in one gallon of water and use it in a sprinkler. I dissolve it first in a small amount of water, then add the rest.

Answer—It was not for diseases that I recommended the London purple. It was parasites on the body and in the throat. I use it in powder form; put it in an old pepper box and sprinkle it on the chicks after they go to bed, but remember not to put it on them too thick; just a sprinkle or two is enough on the head and body at one time. This is to keep down lice of all kinds. If they have the gapes it sets them to sneezing, and, somehow, what they breathe of it kills the worms, or at least this has been my experience. You must not allow them to eat over where it is sprinkled or it will kill them. Some persons spread a newspaper, some an old cloth, under them while sprinkling; others, again, merely let the poison shake off on the ground under them, and see no bad results. I do not know its composition. IDA M. SHEPLER.

Dual-Purpose Cattle in Britain

MANY persons, both in Canada and the United States, have been persistent in the claim that dual cattle cannot be made to give equal profit with those that are special purpose. They have even gone so far as to say that dual-purpose cattle cannot be bred. By that they mean that the dual quality in cattle cannot be maintained, that there will be a swinging to the one type or the other so unstable in character that it cannot be regulated. The first claim only will be discussed in this paper.

In answer to the claim first stated, it may be said that the larger part of the Shorthorns by far are maintained for dual uses. This will be very evident when it is stated that fully 80 per cent of the milk in England comes from Shorthorn cows, pure or in the graded form. This testimony comes from high authority and from men who are on the spot. Mr. Powell, secretary of the English Shorthorn herd book, said to the writer that the farmers who had been breeding for beef in the past were giving more and more attention to the development of milking qualities in their herds. In fact, the number of farmers at the present who maintained them exclusively for beef was small, indeed.

The Dairy Shorthorn Association was established several years ago. It has for its objects the promotion of the dairy interests of the breed. The animals are all recorded in Contest Herd Book. But in 1912 a record was published giving the milk records of many animals of the breed for the year ending September 30, 1912. In this record there is published the yields of milk from 243 pure-bred Shorthorn cows; on the average, they produced 7,518.88 pounds of milk. A breed that can furnish such a record cannot be called a distinctive beef breed. The association has now 185 members and it is rapidly increasing. The highest-priced animals in England today are of this breed and of this class within the breed. The demand for them is very brisk. They are now being imported in large numbers into Argentina, South Africa and New Zealand, and the importations have commenced into Canada and the United States. The men who breed these cattle call them dual purpose. They claim they are growing them for milk and for beef. Viewed from such a standpoint, however, it must be said that they have been unfortunate in the name which they have chosen.

Red Polled cattle are maintained for dual uses. The breeders claim this. They have records previous to 1912. In many herds milk records have been kept. For several years past these have been published, but only in herds where the record of all the animals is given. In 1909-10-11 herds have thus published records; these comprise 207 cows. Of this number thirty-three gave over 8,000 pounds of milk; thirteen gave more than 9,000 pounds, and twelve gave more than 10,000 pounds. Individual records in some of the herds have been very large. Take, for instance, the Rendlesham herd, conducted for forty-three years by the late Alfred J. Smith. One cow in this herd gave an average of 10,863.5 pounds for five consecutive years; a second gave 8,540 pounds for seven years; a third gave an average of 7,858 pounds for eleven years. In another herd was a cow that gave 11,866 pounds for six years. The good milking qualities of these cows cannot be questioned.

The South Devon breeders claim that their cattle are of the dual class; they have been breeding them separately since 1890; they have issued thirteen volumes of the herd book and have recorded 1,226 cows. Many of the breeders keep milk records; some of them do not care to have cows in their herds that will not give fully 8,000 pounds of milk in a year. The milking qualities of animals that will do this cannot be questioned. The breeders of the North Devons, or at least some of them, are beginning to keep records which would seem to indicate that they, too, are to be transformed into a dual breed.

The Lincolnshire Red Shorthorns are now becoming quite popular as dual cattle; they are virtually of the Shorthorn type. Many volumes of the herd book have been issued. A considerable number of the breeders are now keeping milk records, but as yet the organization does not publish the records. The herd of John Evans of the Burton farm, near Lincoln, is an index of what the breed is capable of doing. During nineteen years ending with 1908 the average milk yield per cow was 800 gallons; that is over 800 pounds. The number of cows in the herd averaged forty-one during those years.

But what, it may be asked, of the beef-producing properties of the breed? No one will have any doubt on this point who sees the animals just as they are found on the average farm. They carry an ample supply of flesh; of course, less when they are in the flush of milk, but no sooner does milk giving cease than they fatten quickly. Anyone who sees those animals and yet doubts their capacity to make good beef, cannot know much about cattle.

But their good beef-producing properties are shown in another way. In the case of all these breeds the calves not wanted for reproduction are grown into beef; this is true of pure-breds and grades alike. Very, very few of them are vealed, as is done so frequently in the case of dairy animals; they make excellent beef. When 24 to 30 months old they are of about the same size as animals reared on their dams; they may not carry so much fat as the latter, but there will be correspondingly less waste—that is, less fat which has to be sold at a reduced price.

This question is assuredly of great importance to the farmers. The supply of beef must come in great measure from this class of cattle. It must be grown on the arable farm, and it must be produced in the main from cows that will be milked.

Minnesota. THOMAS SHAW.

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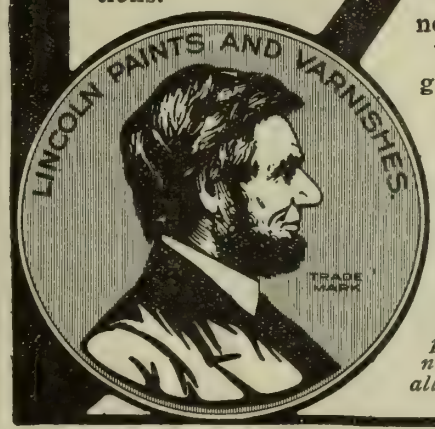

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Water-proofing for Silos

E. R. L., Hudson, Wyo.: I have read your silo articles with great interest. I would be glad to receive a copy of the articles in pamphlet form.

I beg to differ with you on one point. You stated in the last article that "people who have had experience in such matters assert that no satisfactory water-proofing has yet been discovered, and anyone that places any dependence upon such water-proofing material will be disappointed." I have helped build two monolithic silos and both were tarred with No. 7 pitch tar refined from coal tar. This is recommended to be the best for this work. It fills the pores in the concrete and makes it impervious to water.

The Colorado Agricultural College recommends the concrete silo and published full instruction for the construction of the same. They advise the use of pitch tar to prevent the absorption from the silage. They have a monolithic silo on the college farm at Fort Collins.

Editor's Note—Coal tar cut with gasoline is perhaps the cheapest temporary water-proofing for concrete that is known. Parafine similarly treated will perhaps last longer, but is more expensive. The Department of Agriculture at Washington recommends the use of coal tar, so treated, for water-proofing the inside of silos.

This water-proofing is not permanent and will have to be renewed at intervals. What was said in the silo articles with reference to this matter had reference to permanent water-proofing that was being exploited by certain manufacturers. No satisfactory permanent water-proofing for concrete has yet been discovered. There are dozens of different kinds of temporary water-proofing materials, and the coal tar cut with gasoline is, perhaps, the least expensive.

Hogging Down Corn

F. E. M., Center Point, Ia.: I see by your paper that a man wrote about hogging down corn. He took the stand that it was not economy or a success. I think he is mistaken. I have had experience and can say it is the only way in which to fatten hogs. When hogs are done with the field, cattle and horses can be turned into it for early fall pasture. I have four lots of two acres each. I turned in this year on September 5. I feed sixty to seventy head of hogs every year. I sold last year fifty-five head for $800. I figured I received $1 per bushel for corn, with just half the care that the other way of feeding would require. I feed plenty of fine coal and salt, ashes and some copperas.

I never had a disease of any kind among my hogs. I had this year two sows that raised eleven pigs each, without any slop. I have a pasture of rye or wheat and grass in the spring and a rape patch. We raise the Chester Whites. About one-tenth of the hogs are dying here.

Editor's Note—It is uneconomic to feed immature corn. If hogs are turned into a field before the corn is mature, they will get something from the roughage they eat, but the roughage is of little value after the corn has matured. It is uneconomic to feed a hog more than it can use, and the ordinary hog, if it has an opportunity, will eat as much corn again as it can use economically. Hogging down corn requires, of course, less labor. If labor is expensive or impossible to secure, this fact would have some relation to the economy of that method of feeding.

The question is not how heavy you can make a hog, or how quickly he may be fattened for market. The question really is how to produce a given amount of pork at the least expense.

Cut Out the Veal

W. H. H., Butler, Mo.: As there is so much being said lately about meat shortage and the remedy, I wish to offer a suggestion. I can remember when there was no market for veal calves except a local market, and the price offered was so small that it was hardly profitable to sell to the butcher. Now, my plan would be for the state legislatures to make it a finable offense for butchers anywhere to quote prices on or buy for slaughter calves under 1 year old. Just as long as butchers offer high prices for calves, so long will the farmer sell. I can remember when the farmer only kept all the good calves he could raise, but bought any of the good calves that he could pick up about the small towns. If the inducement to make veal calves can be stopped, the supply will soon be equal to the demand. In my mind, this can be done successfully only by preventing butchers in any town or city from buying them.

Editor's Note—This paper is in favor of an educational campaign that would result in striking veal from all bills of fare in hotels or restaurants or in private families, and in this way destroying the demand that leads to the slaughter of calves. It must be borne in mind, however, that a good many calves are not worth raising. Such had better be slaughtered, and the sooner the better.

The educational campaign against the use of veal upon the table should be accompanied by an educational campaign for improved quality of cattle so that all calves will be well worth raising.

Hogs with Weak Back

T. K., Moscow, Ark.: From the Twentieth Century Farmer I learn that Mr. J. W. of Hudson, Wyo., says he has pigs weak in the back. I have had lots of experience with the same trouble. It is called kidney worm. I feed a little arsenic—what will lie on a common penknife blade—in a little bit of slop, and it has never failed to cure them. I also rub a little bit of the spirits of turpentine across the back over the kidneys.

Editor's Note—This kidney worm explanation of broken-down back in hogs has been sadly overworked. There are such things as kidney worms and occasionally an autopsy will show a worm in the kidneys, but in the majority of cases of broken-down back there is no kidney worm present. It is now the generally accepted opinion of the best scientists that this condition in hogs is due, perhaps, to a lack of a

proper supply of phosphates in the food, but more likely to improper breeding.

Care should be used in the use of turpentine, as it sometimes produces strangulation of the ureters.

The Hy-Rib Silo

V. E. F., Lincoln, Neb.: In looking over your articles on the "Truth About Silos," the writer notes the following statement in the paragraph about the hy-rib silo: "It cannot be said to be of as permanent a character or capable of resisting so great a strain." This followed a comparison of the hy-rib silo with the monolithic concrete silo.

Now, we do not know where you received your information, but we heard Prof. Chase of the State University farm make the following statement: "The hy-rib concrete silo is the strongest concrete silo that is on the market at the present time. At times, I think it is even too strong, but, of course, this is not a bad feature." I trust that you will correct this statement, at least in your own mind.

Editor's Note—The statement referred to above was based on the assurances of some of the most celebrated mechanical engineers in this country. The monolithic concrete silo with which the hy-rib silo was compared was supposed to have been properly constructed of the best kind of concrete, mixed and applied in the best manner, and reinforced in the best manner possible. Such mixture, such reinforcing, cannot ordinarily be secured by the ordinary farmer or the ordinary mason. Such work, if it is to be done in the right way, will require the services of an expert. The hy-rib concrete silo, if properly made, would be superior to a monolithic concrete silo improperly made or improperly reinforced.

This paper is not recommending any particular form or make of silo. It is simply trying to tell the truth about silos in such a way as to enable the silo user to use his own judgment in selecting the kind of silo that will best answer his purpose.

Shading Garden Plants

E. J. W., Red Cloud, Neb.: Your first editorial in this week's Farmer attracted my attention. I am not a farmer, but am fond of trying experiments in the garden, and I thought you might be interested in them. Very few tomatoes were raised in this locality, but mine have been splendid all through the hot, dry season. They were watered, and so were other tomato plants belonging to neighbors; and, while mine gave a large yield, the neighbors got nothing. I did not sprinkle the vines, but let the water run along the roots, and gave them plenty. I found that if a stalk was exposed to the sun the plant would in a short time die and no amount of water would save it. But, by shading the stalk with straw, the vine remained green and the yield good. From sixty plants I have already sold over $15 worth of tomatoes, besides having all that a family of five could eat.

I also transplanted strawberries, with the best of success, by watering them only at the time of transplanting and simply by shading the plants from the burning rays of the sun. Radishes also grow well this way, only they do not want so much shade, or they will grow spindling and will not mature. I am aware that this method could not be followed on the farm, but the garden is of much importance to thousands of people in this state of Nebraska, and I am satisfied that all garden truck can be raised in Nebraska during the hottest weather if properly cared for. It is well known that the "actinic" rays of the sun are what burn, but by dipping cheese cloth in creosote these rays will be eliminated, and, with the cloth spread over plants, crops can be grown even without water.

Editor's Note—What this correspondent has to say about cutting off the actinic rays of the sun from growing plants in seasons of drouth or of excessive heat is well worth attention.

In the Near Future

Nebraska Farmers' Institutes

Wallace—October 13-14.
Dickens—October 14-15.
Somerset—October 15-16.
Stockville—October 17.
Spalding—October 20.
Bartlett—October 21.
Ericson—October 22.
Davis Creek Church—October 23.
Wiggle Creek Church—October 24.
Fairbury—October 29-30-31.

Short Courses

Paxton—October 13-17.
Utica—October 20-24.
Farnam—October 27-31.

Sweet Clover for Pasture

E. J. M., Kenneth, Kan.: Sometime ago I noticed an article in your magazine on sweet clover, which stated that the Iowa Experimental Station had published a bulletin on sweet clover. At that time I did not think much about it, but later on I commenced to wonder if I could not sow some of it in a pasture on a side of a hill which is so full of stumps and rock that it can't be cultivated. I want to know if I could get it to grow in such a place; and, if it is a success, I want to sow some in my hog pasture. There seem to be two kinds of sweet clover; one kind has a yellow blossom and the other kind a white blossom. Which kind is the best? When is the best time to sow it?

I should like the address of the Iowa Experimental Station so that I can get one of those bulletins. I keep from fifteen to twenty milch cows and from fifty to 150 head of hogs, and I want to try some sweet clover and see how they will do on it.

Editor's Note—The bulletin referred to may be secured by addressing the Iowa State College, Ames, Ia.

The sweet clover with the white blossom is much to be preferred.

If there is any place where sweet clover will not grow, the writer would like to hear of it. A ranchman in Nebraska sowed sweet clover broadcast in his native pasture without any cultivation. He declares that it quadrupled the feeding value of the pasture.

Try it broadcast on that hill pasture, sowing early in April, and see what success you have.

Getting Rid of Bed Bugs

(CONTINUED FROM PAGE FIFTEEN)

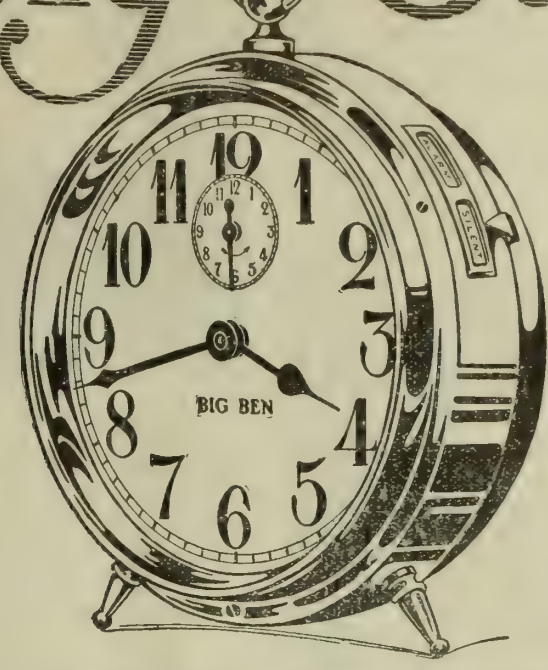
in and around door and window casings with a cheap soap, scraped and applied with an old knife. Bugs do not like soap, and this keeps them out of the wall. When applying the kerosene, I find an oil can such as is used around the separator is the best thing I ever tried. You can reach every crevice and crack without having to drench all the surrounding territory with the kerosene.

I went "through" things about a month ago and have yet to find the first bug where I cleaned. I hope this may appeal to some similarly troubled housewives and that they may be successful in ridding themselves of this pest, as I believe I am.

Nebraska. MRS. R. B. M.

Still, a car shortage is much preferable to a crop shortage.

Big Ben



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Yours truly, DIEHL BROS., Millsdgeville, Ill.

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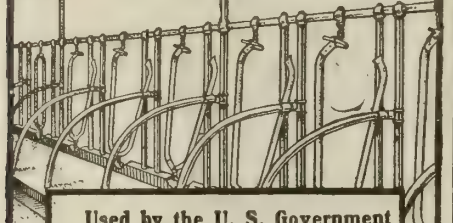

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NATIONAL FUR AND WOOL CO.,
Dept. 141 St. Louis, Mo.

Statement of the ownership, management, circulation, etc., of The Twentieth Century Farmer, published weekly at Omaha, Neb., required by the act of August 24, 1912.

Editor, T. F. Sturgess, Omaha, Neb.

Business managers, Chas. C. Rosewater and N. P. Feil, Omaha, Neb.

Publisher, The Bee Publishing company.

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The Bee Publishing company.

Stockholders:

Victor Rosewater, Omaha, Neb.; Chas. C. Rosewater, Omaha, Neb.; Leah Rosewater, Omaha, Neb.; Leah Rosewater, trustee, Omaha, Neb.; N. P. Feil, Omaha, Neb.; Stella R. Feil, Omaha, Neb.; Blanch R. Newman, Omaha, Neb.; H. A. Haskell, Omaha, Neb.; F. L. Haller, Omaha, Neb.; Joseph Rosewater, Cleveland, O.; Ida Rosenwasser, Cleveland, O.; Paul Rosenwasser, Cleveland, O.; Herman B. Rosenwasser, Cleveland, O.; Alice R. Cohn, Cleveland, O.; S. Meyer Estate, New York City; Antoinette Gerber, Omaha, Neb.; Alice Meyer, Omaha, Neb.; A. L. Meyer, trustee, Omaha, Neb.; Eugene L. Geismer, Cleveland, O.

Known bondholders, mortgagees and other security holders, holding 1 per cent or more of total amount of bonds, mortgagees or other securities:

None.

N. P. FEIL,
Business Manager.

Sworn to and subscribed before me this 30th day of September, 1913.

(Seal) ROBERT HUNTER,
Notary Public.

(My commission expires December 14, 1916.)

Utility of the Automobile

There are practical uses for the automobile on the farm other than that of anihilating distance and giving a larger liberty to the farmer and his family, as shown by the accompanying illustration.

This car was used by Eli De Marce on his farm near Delta, Ia., for sawing his winter supply of stove wood and that of two of his neighbors. The attachment was made by "jacking up" the rear axle until the hind wheels were about four inches from the ground. A rubber belt from one of the wheels to the band wheel of the saw completed the arrangement.

"Settlers Not Tansients"

One of the most unique agricultural development organizations in existence has been evolved in the Ozark region of Missouri. It is known as the Ozark Bankers' Development Committee, and consists of the bankers of the Ozark region of Missouri and their wives.

The purpose of this committee is to deal personally and by mail with those contemplating settling the Ozarks and to aid them in every possible way to become successful and prosperous members of the community.

It has been found that in many instances new comers have either invested more of their capital than they should in the purchase of land or were ignorant of the local and market conditions, with the result that they have not succeeded as they should.

To overcome this the bankers will do everything in their power to protect the prospective settler from these errors, and their wives will also advise the wives of the newcomers upon domestic conditions.

The Bankers' Committee has established offices with the department of development of the St. Louis & San Francisco railroad at St. Louis and has adopted the slogan of "settlers, not transients."

Plowing Motor Contest in Africa

An international motor contest will be held in Tunis, North Africa, during the week of April 15-22, 1914. Good draft animals are rare, the cattle being as a rule undersized. The climate also requires rapid work on large areas. Motor culture is, accordingly, believed to have a great future in this country. Tunis imports each year more than $200,000 worth of agricultural machinery, a large portion of which is of American origin.

Live Stock Notes

Lonergan's Poland-Chinas

D. C. Lonergan of Florence, Neb., is starting an advertisement in this issue of the Twentieth Century Farmer in which he is offering for sale a very choice lot of Poland-China boars of different ages. Mr. Lonergan's herd is too well known to require any particular mention from us at this time. He has been breeding Poland-Chinas for a great many years, and the character of the stuff he has produced, together with his fair methods of dealing with his customers, has brought to him a reputation enjoyed by few men in the business. He has at this time as choice a lot of boars as he has ever offered for sale at private treaty at any one time. To begin with, he has several tried herd boars that should go to head good herds. Among these is Guy's Price Last, a boar of great merit and the winner of first and grand championship at the Douglas county agricultural show. This hog is sired by Guy's Price 2d, and out of the dam, Olin's Choice. Another tried boar is Metal Top, a son of I Am Big Too, and out of the dam Metal Fancy, by Bell Metal, he by old Expansion. This board has proven himself to be an excellent breeder of the big smooth kind. Still another corking good tried boar is King Giant, by Prospector 2d, and out of a Rood's Giantess-Long King dam. Some of the very best gilts in Mr. Lonergan's last spring's sale were sired by him. Besides these tried boars he has a number of big, smooth, growthy, spring males that certainly ought to receive the attention of anyone wanting anything in this line. They are sired by Big Bob I.'s, Quality, Metal Top, Big Bone Jumbo Lakeside Wonder and others. Mr. Lonergan is pricing these hogs worth the money, and we trust that anyone interested will write him, mentioning the Twentieth Century Farmer.

Wille Offers Polands

Fred Wille, the veteran breeder of Poland-China hogs at Columbus, Neb., has a choice lot of spring boars for sale that certainly ought to meet with favor by anyone who is looking for something of this kind. These boars have never been over-crowded, but have just simply been grown with the idea of enhancing their future usefulness as breeders. They are sired by Wayside Jumbo by Wade's Jumbo, and Smooth Wonder by Big Wonder. Mr. Wille is pricing these boars worth the money and we will guarantee that he will stand behind any promises he makes in connection with what he has to offer for sale. If interested, write him for further particulars, mentioning the Twentieth Century Farmer.

The estimated daily average consumption of cigars in the United States is 21,718,448, and of cigarettes 23,736,190.

State Fairs and Expositions for 1913

State Fairs

Name.	Location.	Date.	Secretary.
Arizona	Phoenix	Nov. 3-8	J. R. Henderson
Wyoming	Douglas	Sept. 30-Oct. 3	A. Higby, Basin

Interstate and National Expositions

International	Chicago	Nov. 29-Dec. 7	B. H. Heide
Dry Farming Congress	Tulsa, Okl.	Oct. 22-Nov. 1	John T. Burns
Western National	Denver	Jan. 19-24, 1914	Fred P. Johnson

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It has so many uses that it is a necessity on every farm.

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Review of Live Stock Market

By A. C. Davenport

LAST week cattle values reacted a little, prices being all the way from steady on some kinds to as much as 25@40c lower on others, cows and common, rashy feeder steers suffering the most. n the old days when cattle were selling t extremely low prices a break of 25@ 0c in the market was many times very isastrous to the grower. Now that cat- le are selling on such a high level it equires a break of 50c or $1.00 to excite eneral comment and breaks of that xtent have been very rare the last two ears or more. In times past if a stock- nan came in with cattle and happened o get a 10c break he would bemoan his ard luck. Now prices are so high that ess importance is attached to the ordi- ary fluctuations of the market.

The more one studies into the situation ast month the more apparent it is that September really was a very remarkable nonth so far as the cattle trade was oncerned. Standing out perhaps most onspicuous of all were the heavy re- eipts, approximating 925,000 head for he month at six market points. These igures show a gain of 24,000 head as ompared with September, 1912, 141,000 ompared with 1911, and 137,000 compared vith 1910.

September's large receipts could not be aken as any indication of increased upplies in the country, but were due ntirely to corn crop conditions. The hifting of cattle from short-crop states o states having plenty of feed was re- sponsible for a considerable part of the ncrease. Second only to this influence vas the advance in the price of corn, hich was a big inducement to feeders o cash in their cattle. The fact that fat cattle were so high was a still fur- ther incentive to save feed by selling the cattle.

Prices on Medium Grades Higher

September also was a remarkable month in that it witnessed an active buying demand most of the time and an advancing market in the face of enor- mous receipts. The market was not without sharp breaks, but prices were actually higher on an average the latter part of the month than at the beginning.

At Chicago, where all cattle sales are reduced to an average, the figures showed that the cattle sold at an average of $8.50 for the month, which was 20c higher than for the month of August, and 35c higher than for September of last year. While the market averaged higher this year than last the top beef steers at Chicago reached only $9.50 as against a top of $11 for September last year. At Omaha the best steers sold up to $9.35 as against a top of $10.15 for September a year ago. These figures serve to bring out the important fact that while consumers do not appear so anxious for fancy beef as a year ago, the demand is better for the medium grades. Thus the common to pretty good kinds of cattle are selling higher than a year ago, while the choice or fancy cornfed steers are lower.

In the language of the yards, "the spread on beef cattle has been narrowed." If this means that the consuming public is being educated to use the cheaper cuts and cheaper grades of beef it will be a distinct advantage to the grower, as the making of fancy long-fed beef cattle has always been an expensive and not infrequently a losing game.

Current high prices paid for cows and heifers would indicate that the country is to a very considerable extent conserving its breeding stock.

Breaks such as occurred last week are to be expected as often as receipts of cattle become a little burdensome, but no one anticipates other than a good market throughout the season.

Break in Hogs About Due

Hogs have shown little or no change, being at present writing in practically the same condition as a week ago. The market is simply waiting for the break due to arrive some time this month.

Just when the downward movement in prices will begin remains to be seen, but operators would not be surprised any day should the market begin breaking. As a matter of course, liberal receipts would hasten the movement, but whether they come or not no one expects to see the winter season open November 1 with prices as high as they are at the present time. There have been a few times in the history of the hog trade when the market did not break in October, but the exceptions to the rule have been so few that no one has any faith in the market being able to withstand the time-honored custom.

Receipts at the present time are very liberal, while shippers are complaining of a decrease in the eastern demand—a combination of conditions that if continued very long must have a tendency to weaken values. During the month of September eleven markets received 1,750,000 hogs, being the largest for that month for several years back. The total for the year to date at the same eleven markets shows a loss of 1,085,000 as compared with the corresponding months of last year, but a gain of 570,000 head over the corresponding period of 1911. Last year the market broke sharply at the close of October, being around 75 cents lower than at the opening.

While not having any influence upon the market at the present time, the fact that a great many pigs have been coming forward for some time back must have an important bearing upon values before the close of the winter packing season. Chicago reports 125,000 pigs received during September and other markets were proportionately well supplied. Chicago also experienced a decrease of eleven pounds in the average weight of th hogs received at that point. Thus while everyone is looking for a break in prices in the near future, the outlook is by no means bad for the selling interests. Cool weather has thus far failed to bring relief from the ravages of hog cholera. Within the last few days information has come from the experiment station in Minnesota reporting the cholera epidemic as the worst in the history of the state. This indicates that territory not generally included in the corn belt area is suffering heavily as well as the corn belt itself.

Large Runs of Sheep and Lambs

Prices on sheep and lambs have been holding up remarkably well in the face of large receipts. Most all records for September runs were broken last month, some markets actually showing the largest receipts in their history. As a matter of course, at this season of the year a large percentage of receipts are on the feeder order, but the demand for feeders was so good that it did not seem possible to get too many. At the same time killers were very free buyers, so that no one could ask for a more healthy trade or for a better market than prevailed all last month. Prices on an average have shown comparatively little change during the last two months, but have averaged a little higher than a year ago.

As noted before in these columns, there have been quite a number of bears among the sheep contingent, and they have been predicting all the season a lower range of prices for feeding lambs. While the season is by no means over with, October, as a rule having large receipts, the bears are already beginning to lose hope and some of them have actually given up all expectations of there being any permanent break in the market. Still, a few are hanging on, pointing out that with such enormous receipts as were experienced in September a big percentage of would-be lamb feeders must by this time have secured as many as they require, and that it would not take very much of a falling off in the demand to break the market. They may be right in the assumption, but time only will tell, as there is no possible way of figuring out how many feeders there are in the country still unsupplied, and how long the country will continue to stand up and take everything coming, the way it has during the last two months.

Dairymen, Attention!

A sale on 135 head of high grade Holstein cattle will be held at South Omaha, Neb., on October 21, 1913, by H. C. Glissman proprietor of Rock Brook Farm, Station B, Omaha, Neb. This sale should receive the attention of dairymen in general, as it will contain a class of cattle that should go out and do good for the purchasers. These are all home bred cattle, thoroughly acclimated, and every animal will be subjected to the tuberculin test by state or federal authorities and can be shipped anywhere. The offering will consist of sixty-five head of cows and heifers, all fresh or soon due to freshen. A number of the cows weigh from 1,200 to 1,400 pounds at the present time. There will be fifty head of yearling and coming 2-year-old heifers, mostly bred; fifteen calves of both sexes, and ten registered bulls of the very best breeding and good enough to head any registered herd. Write for catalogue at once, mentioning the Twentieth Century Farmer.

LONERGAN'S TRIED POLANDS

Several tried herd headers for sale. Also a lot of extra choice spring and fall males. They are the big, smooth kind, with quality and bone. Prices reasonable. D. C. LONERGAN, Florence, Neb.

$285 Motorcycle Given Away

YOU see in this picture a boy riding one of the $285 Harley Davidson Motorcycles we are giving away. In other parts of the picture are the faces of several other boys. They are hard to find, but by turning the picture about you will be able to see them. Mark at least two of the faces with a cross (X) and send the picture to me. Be sure to send me your name and address, for I will tell you all about the contest in which you can win the seven horse-power motorcycle and many other prizes.

1500 Votes Free I will send you a special coupon good for 1500 votes toward the motorcycle. All you have to do to get this coupon is to send your name and address at once. **PEOPLE'S CO., 536 Popular Building, Des Moines, Iowa.**

DAIRYMEN ATTENTION!

135 — High Grade Holstein Cattle — 135

AT AUCTION

At South Omaha, Neb., October 21, '13

The offering consists of 65 cows and heifers, all fresh or soon due, all acclimated and bred to registered bulls; 50 heifers 1 to 2 years old, mostly bred; 15 calves of both sexes; **10 registered bulls of the best breeding.**

Every animal tuberculin tested. **H. C. GLISSMAN, Station B, Omaha, Neb.**

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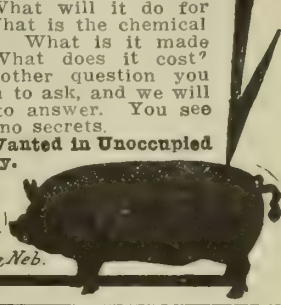
Vegetable Hog Potash

Why wait thirty to ninety days for results. **Grain Belt Brand Vegetable Hog Potash** will put your hogs' appetite on edge in thirty minutes. Add five pounds to one hundred pounds dry weight of grain, and see how much better they clean up their feed. Write and ask us the following questions: What will it do for hogs? What is the chemical analysis? What is it made from? What does it cost? Or any other question you may wish to ask, and we will be glad to answer. You see we have no secrets.

Agents Wanted in Unoccupied Territory.



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High carbon steel frame. All No. 9 galvanized wire mesh. Special hinges. Patented self locking latch. Steel center brace. Fits rough at either end. Sold on 30 days' trial at our special direct-to-you factory price.

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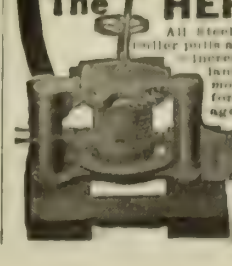

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E. Myers, President, E. Myers Lye Company

An enormous part of the swine plague known as "cholera" that sweeps over the country killing hogs and causing a loss of millions of dollars every year, is not **cholera** at all. It is stomach, intestinal or lung **worms.** The symptoms of hog worms are easy to detect. When you see a hog slinking around with his nose to the ground, hair sticking up, tail down, coughing, off his feed and losing flesh, don't jump to the conclusion that he's getting "cholera". He has **worms,** and if you don't act quickly your whole herd will have them, too. Feed all your hogs **twice daily** according to directions on every can on a ration mixed with

Merry War Powdered Lye

It destroys hog worms quicker than anything else in the world. And, even though there should be an epidemic of **real** hog cholera in your neighborhood, **your** hogs will be healthy and strong to resist it. MERRY WAR POWDERED LYE is the **proven preventive of hog cholera.**

The Folly of Vaccination

Vaccination may be all right for putting a hog's system in a condition to resist the cholera germ. But no amount of vaccination will cure a single hog of worms, nor will it make him well if he's sick. Vaccination will not keep him on his feed, make him fat, sleek, skin free from scurvy, and condition him so that he will be a prime hog at market time. **That's what** MERRY WAR POWDERED LYE does. Feed it to your hogs from weaning time on and you'll have healthy hogs. Cholera won't alarm you and your hogs will weigh in heavy.

Read This Convincing Evidence

C. F. NEWMAN, Lebo, Kan. "Have best results with my hogs and no sickness since I've used Merry War Powdered Lye while our neighbors have lost heavily."

Refuse Substitutes

Don't experiment with ordinary, old-fashioned lye. **It might prove dangerous.** MERRY WAR POWDERED LYE is the specially prepared lye that is **safe** to feed hogs. Experience has **proved** its worth. **Insist** on getting it. **There are no substitutes.**

E. MYERS LYE COMPANY, Dept. 88 ST. LOUIS, MO.

10c A Can—120 Feeds

MERRY WAR POWDERED LYE is for sale at most grocers, druggists and feed dealers. It is convenient to buy in case lots, 4 doz. cans, $4.80. **Order direct from us in case lots (4 doz. cans $4.80) if dealers won't supply you.**

FREE

If your dealers can't supply you write us stating their names. We will see that you are supplied and also send you, **free,** a valuable booklet "How To Get The Biggest Profits From Hog Raising."

POLAND-CHINA HOGS.

POLAND-CHINAS AT AUCTION

AT CENTRAL CITY, NEB.. OCT., 18, '13

This will be an offering of strong merit, consisting of 5 tried boars, 22 spring boars, 2 tried sows and 21 spring gilts. They are the big, smooth kind, with quality, with plenty of stretch and bone, and have been grown in a manner that insures their going out and doing good for those who buy them, if given proper care.

There are 22 yearling boars by Black Giant, one by Longfellow, one fall yearling by Long Giant, and one by Jumbo by Wade's Jumbo. The spring boars and gilts are by Big Bone, Jumbo, and Long Giant. They will speak for themselves sale day.

For catalog address

AUCT., COL. H. C. DUNCAN. FIELDMAN, G. E. HALL.

G. B. VAN KLEECK, CENTRAL CITY, NEB.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. **THOS. F. WALKER & SON, Alexandria, Neb.**

POLAND CHINA BOARS

I have a choice lot of big growthy spring males for sale, sired by Wayside Jumbo by Wade's Jumbo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille Columbus, Neb.

POLAND-CHINA BOARS.

Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

DUROC-JERSEY HOGS

DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.

C. E. CLAUFF, Central City, Neb.

PRIZE WINNING DUROCS.

Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Moderow's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.

GEO. W. SCHWAB, Clay Center, Neb.

KUZEL'S DUROCS

Echo Top King, Model Wonder 3d, Proud Wonder Jr., Crimson Boy and Prince, by Prince of Colonel's, are the sires of my spring pigs. Choice boars for sale at reasonable prices.

L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

Spring boars for sale, sired by Model Goods, Queen's Wonder, Uneeda Wonder and Queen's Wonder Again. They are the kind that win. Correspondence solicited.

O. G. SMITH & SON, Kearney, Neb.

SCHULTZ' DUROC-JERSEYS

Duroc-Jersey boars for sale, that are right, both in breeding and as individuals. I am pricing them worth the money and guarantee them to make good. GEO. W. SCHULTZ, Yutan, Neb.

JERSEY CATTLE

The Jersey

The Jersey gives richer milk and more butter than any other known breed, at a lower keeping cost. She does it continuously and persistently. Her milk and butter bring better prices than the product of any other dairy breed. That's where quality *does* count. Jersey facts free. Write now. We have no cows for sale.

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WINELAND FARM JERSEYS

Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.

H. C. YOUNG. Lincoln, Neb.

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It MAKES YOU FEEL GOOD

showing a stallion when you have the best around. Makes you money, too. Get exactly that stud at breeder's price from my big bunch registered Percherons, weanlings to four years. Early buyers save. Just east of Omaha.

FRED CHANDLER, Rt. 7, Chariton, Iowa

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

Breeders' Notes

Wineland Farm Jerseys

We call attention in this issue to the advertisement of Wineland farm Jerseys, owned by H. C. Young of Lincoln, Neb. At this time Mr. Young is offering a number of choice bulls of serviceable age for sale, and also a few strictly high class females. This farm is known generally over the west as one of the best equipped, best arranged and best managed dairy farms in the country. Mr. Young gives every detail on the farm the closest attention and his many years of experience have enabled him to build up a herd that is second to none. He has always endeavored to maintain the same high character throughout his herd, and a glance over the individuals composing it and their records as producers certainly proves to the observer that he has not fallen short of his ideal. At the present time his herd contains seventeen head of Register of Merit cows. This is probably a larger number than can be found in any other herd in the west. These cows have records from 350 to 625 pounds of butterfat per year. Any one of the bulls he is offering for sale is good enough to go to the head of any pure bred herd. The purchaser can not only see the ancestral lineage of these bulls right in the herd, but he can also see the milk records of dams and grand dams. Besides the bulls, he is offering a number of 2-year-old heifers bred to freshen later on. They are bred to Ona's Gay Lad, a son of the Register of Merit bull, Gunnon's Gay Lad. These cattle are absolutely right in every respect. If you are looking for the right kind at prices that are right, get into communication with Mr. Young. Kindly mention this paper when writing.

Lady Albekirk Golden, Senior Champion Holstein Cow at Nebraska State Fair, Fitted and Shown by the Indian Boys from the United States Indian School at Genoa, Neb.

Van Kleeck's Poland Sale

In this issue of the Twentieth Century Farmer we are running an advertisement for Mr. G. B. Van Kleeck, who will hold a sale of high class Poland-Chinas at Central City, Neb., on October 18. This offering is one that is worthy of the attention of any breeder or farmer who is in the market for a first class Poland-China male or gilt. The offering as a whole will consist of five tried boars, twenty-two spring boars, two tried sows and twenty-one spring gilts. Three of the tried boars are spring yearlings and the other two are fall yearlings. Two of the spring yearlings are by Black Giant and out of a Mauw bred sow. The other spring yearling is a son of Longfellow. Any one of these three is good enough to go to the head of any pure bred herd. The fall males are by Long Giant and Jumbo, Jumbo being a son of the celebrated Wade's Jumbo. The spring males and gilts are sired by Long Giant, Big Bone, Jumbo and others. One of the choicest litters we noticed while here was sired by Long Giant and out of the dam, Winsome Maid 2d. There are six boars and four gilts in this litter going in the sale, and as a whole they are mighty hard to beat. If you are looking for the big, smooth, stretchy kind, with bone and quality, here is a chance to get something good. These pigs have not been crowded, and, as a consequence, are in the right kind of condition to go out and make good for the purchaser, if they are given the right kind of care. Sale will be held at Goetz' livery barn in Central City, and parties from a distance will find free accomodations at either of the leading hotels. Get your name on Mr. Van Kleeck's mailing list for a catalogue and arrange to attend this sale. If you can not do so, send your bids to G. E. Hall, who will represent this paper, and they will receive careful attention. Kindly mention this paper when writing.

Fisher's Hampshires

One of the leading herds of Hampshire hogs in Nebraska is owned by Roy Fisher of Winside. His herd numbers about 200 head, representing the very best blood lines of the breed. Mr. Fisher has always taken a prominent part in Hampshire affairs, and at the present time is president of the Nebraska Hampshire association. The herd boars in service in his herd are Dr. Scott, one of the very best boars in service in the state and the sire of prize winners, he, himself, being never defeated. Other boars in service are Winside Star by Teddy R. B. and out of the dam Lady Morrison, Tatro's Messenger, first prize at Nebraska and Sioux City fairs; Fisher's King 5th, first and champion at Nebraska and first at Sioux City. The spring pigs this year are sired mostly by Winside Star and Long John, he by General Allen. Mr. Fisher will have a bred sow sale on March 18, 1914, at which time he will sell about sixty head of bred sows. At the present time he has a number of very choice boars for sale. If you are in the market for anything of this kind, write him for further particulars, mentioning this paper.

Poland-China Fall Boars

Any one wanting a strictly first class Poland-China fall male will make no mistake in getting into communication with W. A. Lingford of Dannebrog, Neb. Mr. Lingford is offering several of these boars for sale, and from personal observation we are in a position to say that they are absolutely right in every respect. These boars are sired by D's Monarch, he by Gold Dust Hadley; Sampson, a son of Pawnee Lad; and Combination, he by Blue Valley Quality. He is also offering the fourth prize junior yearling boar at the Nebraska state fair this year. This boar is by Revenue Chief, he by Blue Valley Exception. The dam of this boar was sired by Big Hadley. If you are looking for an outstanding boar to go out and do immediate service, here is an exceptional opportunity. Mr. Lingford has a number of mighty choice spring males that he is also offering for sale at this time. They are the big, smooth kind, with plenty of bone and quality. Mr. Lingford was one of the heaviest winners at the Nebraska state fair this year, having the grand champion sow, as well as a large number of other winners. Write him for information as to what he has for sale, mentioning this paper.

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Purebred Registered

HOLSTEIN CATTLE

You can find no way to invest your money and effort so profitably as in the selection and use of a pure-bred Holstein sire of good individuality. In a few years' time you can grade up a very poor herd to a profitable basis.

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FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

TW Stack-

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, October 18, 1913 | Number 671

Traction Farming and Traction Engineering

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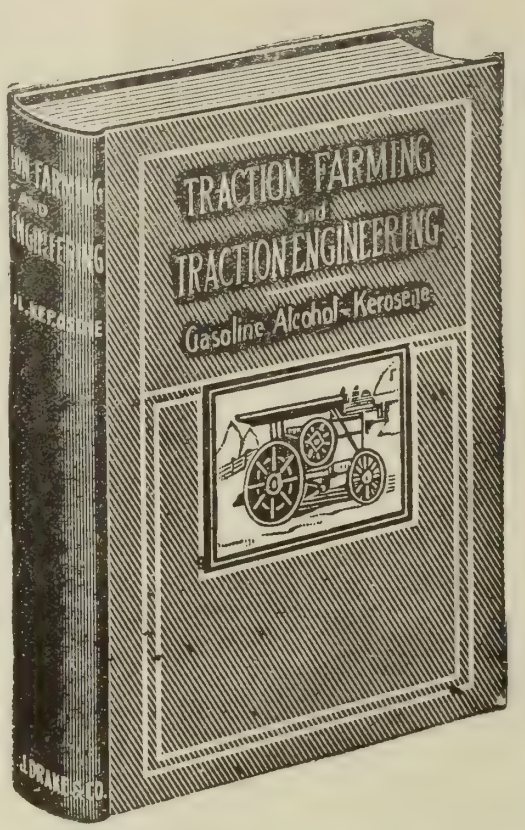

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We offer you this book and the Twentieth Century Farmer one year for $2.00

Address, The Twentieth Century Farmer, Omaha, Neb.

Bright and Breezy

Misunderstood

One morning an old man was busy in the back yard with a saw and hatchet, when the next-door neighbor came to inquire after the health of his wife. The wife, it seems had taken a severe cold.

"Good mornin', Mr. Smith," said the next-door woman. "How is Mrs. Smith this mornin'?"

"Jes' about the same," answered the aged Mr. Smith. "She didn't sleep very well last night."

"Poor dear!" sympathetically remarked the neighbor woman. "I s'pose that's her coughin', ain't it?"

"No, it ain't her coffin," testily replied Smith, still keeping his eyes on his work. "It's a hen house!"

Wisdom of Pat

A son of Erin who had the misfortune to get mixed up in an accident was immediately conveyed to a hospital, where it was found that his only injury was a slight wound. The house surgeon carefully examined him, after which he thus stated the case to the nurse:

"As subcutaneous abrasion is not observable, I think there is little reason to apprehend tegumental cicatrization of the wound. What do you think yourself?" he asked Pat, with a mischievous smile.

"Sure, doctor," replied Pat, "you're a wonderful thought reader. You took the very words out of my mouth. I was just going to say that."

A Problem in Identity

A fishwife entered a tramcar, says the Scottish American, and thought she recognized another passenger as an acquaintance. Accordingly, she bent forward, and with an ingratiating smile said, "That's you, isn't it? I hardly kent ye."

"Aye, that's me," replied the other, "and that's you, isn't it? How are ye?"

"Oh, A'm nae that bad," was the reply.

After this silence ensued, and the first speaker, on further scrutiny, became convinced that the woman opposite was not an acquaintance, after all. Again she bent forward, and with an apologetic smirk, remarked, "But that's nae you at a'!"

"Nae," replied the other. "It's nae nane o' us!"

His Distinguishing Mark

One day a big city bank received the following message from one of its country correspondents: "Pay $25 to John Smith, who will call today."

The cashier became suspicious when a cabman assisted into the bank a drunken "fare," who shouted that he was John Smith and wanted some money. Two clerks pushed, pulled and piloted the boisterous individual into a private room away from the sight and hearing of regular depositors. The cashier wired the country bank:

"Man claiming to be John Smith is here; highly intoxicated. Shall we await identification?"

The answer read: "Identification complete. Pay the money."—Philadelphia Ledger.

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Nebraska Farmers' Congress

THAT the farmers of Nebraska are not afraid to tackle the big, live questions that are before the people of the state is shown by the program prepared for the meeting of the Farmers' Congress to be held December 16, 17, 18 and 19 at Omaha. Each one of the following topics will be given at least a half day for discussion: The rural school from the standpoint of the farmer; rural credits, which will be given an afternoon and evening, the side of the bankers being taken by one of the leading bankers of the country, and the farmers to be represented by a member of the commission that visited Europe; co-operation versus the methods of the centralized creameries; the Nebraska tax commission, which will be given a full day; the question of the reorganization of the Nebraska State Board of Agriculture, which will be discussed by T. F. Sturgess, editor of the Twentieth Century Farmer.

We want the views of our readers on this latter subject, and will be glad to have your opinion on the matter, no matter on which side of the question you may be.

Prattle of the Youngsters

Different

Charlie, aged 6, asked at the soda-water counter for a cone of ice cream. The clerk, not catching his order, asked, "Do you want two cones?"

"I want two," said Charlie, "but I've only got one nickel."

So Much for Mamma

Papa—I hear you were a bad girl today and had to be whipped.

Small Daughter—Mamma is awful strict. If I'd a'known she used to be a school teacher I'd a'told you not to marry her.

How it Feels

Little Eleanor's pretty cousin wore a new engagement ring, and the budding woman regarded the ring and the giver alike with reverent eyes. One night when the happy man had been invited to Eleanor's home for dinner. Eleanor, unconsciously gushing, burst forth with:

"Oh, Mr. Blank, do please tell me. In all the love stories I've read the men propose so sudden. When it's coming on does it—does it feel anything like a sneeze?"

A Shocking Word

Geraldine was a moaning patient, and her twin brother, as physician-in-chief, was dosing her, to their supreme delight, when their mother chanced to observe them. Being a Christian Scientist, she told them they must not "play sick"—they must play pleasant games.

A few days later Geraldine ran to her mother, shocked and horrified, exclaiming: "Mother, Gerald said an awful bad word!"

The mother turned toward the boy, who had sulkily followed his sister, and who now sturdily declared:

"I didn't!"

"Yes, he did, too," protested the girl, dropping her voice to a sepulchral whisper. "He said 'doctor.'"
—Everybody's Magazine.

He Fixed Things

"Say, pop, Johnnie Burton's going to have a party nex' week an' he said he'd invite me. An' I got to take a present."

"A present? What's that for?"

"It's his birthday. All the kids take presents."

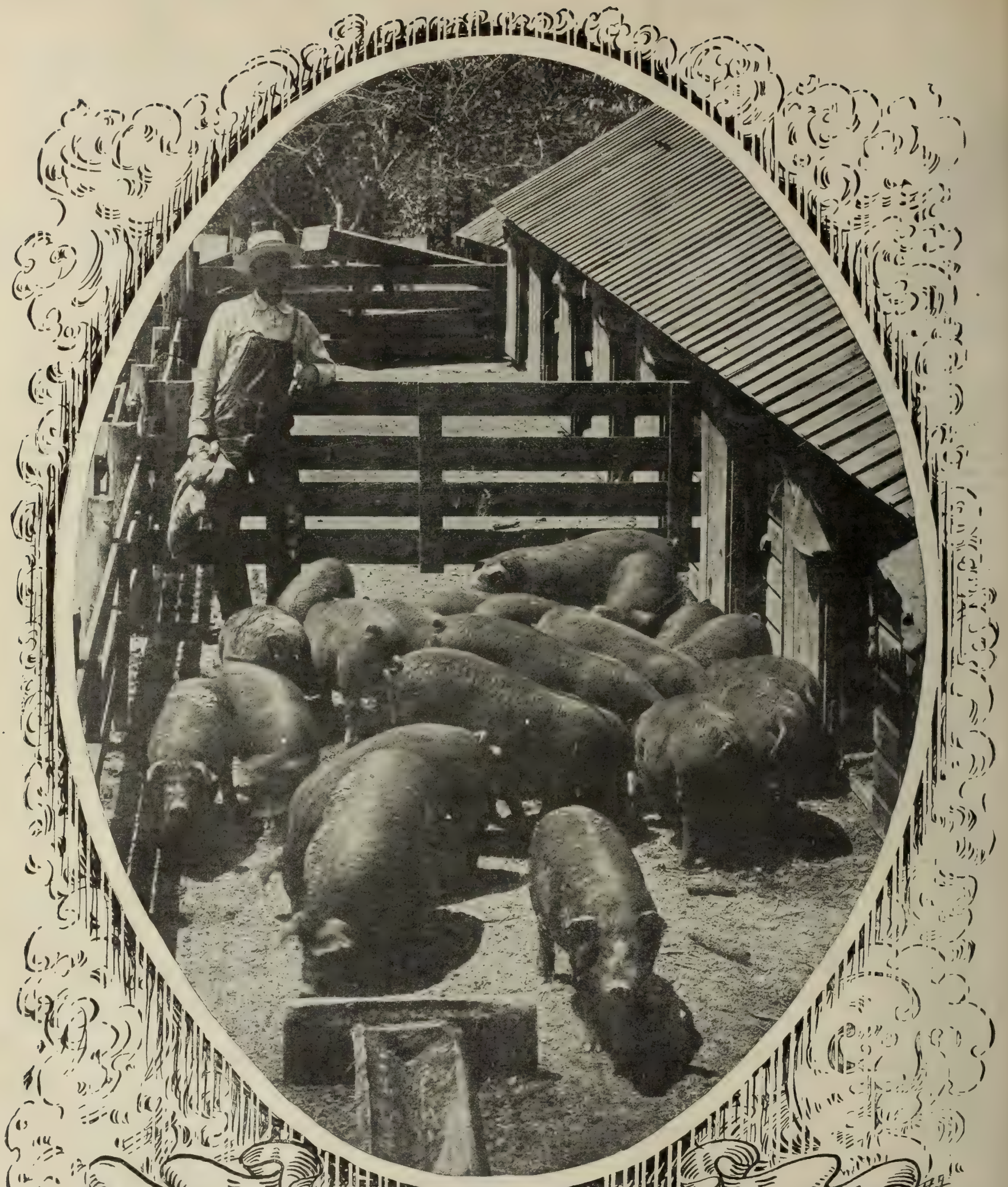
Something had gone wrong at the office that day and pop wasn't in a good humor.

"That's all nonsense," he declared. "Every day or two it's a present here and a present there. If you can't go to a party without taking a present you might as well stay at home."

The next morning pop regretted his hasty words and tried to square matters.

"George," he said, "there's a nice present for your friend Johnnie in my overcoat pocket. You may take it to him."

"Too late, pop," said George, sadly. "I licked him so he wouldn't invite me."—National Food Magazine.



Breakfast Time

THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Better Creamery Butter Now Demanded

The Quality of the Cream Used Must Be Improved if the Dairy Industry is to Thrive

FOR the last few weeks extra creamery butter has commanded in the market a premium of from 3 to 3½ cents a pound over No. 1 creamery butter, and a still larger margin over No. 2 butter.

The demand for such extra butter has been sharp and the market firm. The demand for firsts and seconds has been slack and the market dull. This, taken by itself, shows that there is a sharp increasing, insistent demand for a better grade of butter.

The best butter is used exclusively for the table. Families are becoming more and more particular about the quality of the butter they serve at the table. The lower grades of butter go almost exclusively to bakers and confectioners.

Householders Are Complaining

A fancy package is no longer taken as proof that the contents have a fancy quality. The past season has been a hard one for all connected with the dairy industry. There has been a shortage in the supply of cream, and, owing to weather conditions, the quality of the cream delivered at creameries has been lower than usual, and as a result the quality of butter made has not been of as fine a quality as the public demands. Householders are complaining that it is impossible to secure first-class creamery butter in the local markets.

If the dairy industry is to maintain its position in the commercial world, the quality of the butter that it produces must be improved. Unless this is done, an immense stimulus will be given to the trade in artificial butter. The public, as soon as it acquires a taste for artificial butter and overcomes its natural repugnance to it, will continue to buy it because it is constant in quality, is sanitary and has an agreeable flavor. The creamery men, in order successfully to meet this competition, must improve the quality of their package butter.

Here is another significant fact: Within the last few weeks cargoes of Siberian and New Zealand butter, so the press dispatches state, arrived in New York harbor, to be placed upon the market as soon as the new tariff law went into effect. The present dispatches say that this butter was placed in New York at an expense of between 20 and 21 cents a pound, and that in quality it compares favorably with the creamery butter produced in this country. Already agents of the industry in New Zealand are investigating conditions on the Pacific coast with a view of introducing New Zealand butter there. From this it appears that unless there is a marked improvement in the quality of the creamery butter manufactured here, the creameries in a short time will have to meet with the competition on the open market, afforded by the importation of foreign butter. It is the business of the creameries to take such action as will insure the manufacture of butter of so high a quality that no competition may be feared.

Cream Determines Quality of Butter

The quality of the butter manufactured depends in the last analysis upon the quality of the cream received at the creamery. Good butter cannot be made from poor cream. It behooves the creamery men to take such action as will exclude rotten cream from the market, and will preclude the offering of such cream by the cream producer.

There are three different parties concerned in the delivery at the creamery of a high quality of cream. The best business interests of each of these parties demand the production and offering for sale only of cream of the best quality. These three parties are the cream producer, the creamery and the transportation companies. Each has its share to do in the securing of first-class quality of cream, and each will be benefited in its business by taking such steps as will secure it. The three parties must co-operate. If either of them fails in its share of the necessary work, the work of the other two will prove futile.

Duty of the Cream Producer

The cream producer must take better care of the cream until the time at which it is delivered to the transportation company or to the cream receiving station. The weather conditions during the last season have demonstrated that setting a can of cream in a tank of water is not sufficient protection against deterioration. The cream producer will have to do one of two things—he will have to convert his dairy business into winter dairying; or, if he persists in summer dairying, will have to put up ice, or provide some device for keeping the cream at a low temperature during the heated season.

He cannot be expected to do this unless some inducement is offered to him to take proper care of his cream. As long as the creameries pay the same price for rotten cream that they pay for prime cream the cream producer is not to be blamed for neglecting to take proper precaution to maintain the quality of the cream that he produces. As soon as the creameries adopt the policy of paying for quality rather than quantity, as soon as they pay all they can afford to pay for good, and pay correspondingly less for poor cream, the farmer will find it to his financial advantage to take care of his cream. If he resorts to winter dairying instead, meteorological conditions will accomplish for him all that can be expected from ice during the heated season.

Cream should be shipped only in refrigerator cars that are kept constantly and properly iced. One railway in this territory on its main line and also on several of its more important branch lines, at present transports cream only in refrigerator cars. Cream that is shipped in ordinary cars for long distances of necessity undergoes a marked deterioration in transit, and some measures must be taken to prevent this deterioration, and the refrigerator car is the most feasible means for doing this. Unless the railways of their own notion take this matter in hand, the legislatures of the various states will be liable to take more drastic action in the matter than would be necessary if the railways took the initiative.

The law in some of the states orders that the railways at their several stations make adequate provision for the proper protection of cream from the time at which it is received until it is delivered into the cars. As a rule the railways ignore this requirement of law, and make no such provision as is required. If

The Song of the Silo

The man with the silo has reason to laugh,
His partners—white kafir, the cow and the calf—
Reduce his farm worries by far more than half.

The man with the silo, he's everything's friend;
Fat hogs and slick horses, good sheep and smart hens,
All grow to perfection in silage feed pens

Hard times take to cover; hot winds pass him by,
Calamity shuns him and smothers its cry—
The man with the silo, just ask him now, why?

Though waiting and praying for long delayed rain,
While drouth saps the cotton and withers the grain,
The man with the silo goes on just the same.

He knows the old standbys have wonderful power
To live on just ether for hour and hour;
The man with the silo needs only a shower.

For milo and kafir to spring up and grow,
To make a fine ration to fill his silo,
The man with the silo; this man you should know.

His land is so rich and so prompt to mature,
When others have failures his crops are quite sure;
The man with the silo—his secret's manure.

His debt's but a shadow and interest's but play,
His mortgage on wings appears flying away—
The man with the silo—now what do you say?

For mother and baby his boy and his girl—
Let's kiss their soft cheeks; yes, we love every curl—
The man with the silo, the best in the world
—From the Prairie Visitor.

the best quality of cream is to be delivered at the creamery, the transportation companies must handle it in such a manner as to prevent deterioration in quality while the cream is in their charge.

There are at present in operation in this territory two methods for gathering cream known as the direct shipper method and the cream receiving station method. It is only with the latter method that the duty of the creamery becomes prominent. Adequate means should be provided at every cream receiving station for preserving the quality of the cream received. Every cream receiving station should adopt some method for keeping the received cream at a low temperature so as to prevent fermentation until such time as it is delivered at the railway station. A refrigerating plant at a station where there is relatively only a small amount of cream received would be too expensive. The securing and storing of ice for cooling purposes seems to be the most feasible method for such small receiving stations.

From these stations cream is shipped at intervals. In the meantime it is received and kept in a back room without any protection against summer heat. It ferments, deteriorates and decomposes with frightful rapidity in such places. The farmers' cream can, no matter at what temperature it may be, is emptied into the receiving can that already holds cream, and it is mixed, regardless of the temperature of the mixed elements. This hastens deterioration.

The drayman hauls the cream from the cream receiving station to the railway station. He usually hauls at the time that it is most convenient for him. It may stand, and frequently does, six hours upon the platform of a railway station exposed to the burning heat of a summer sun. No wonder that the best quality of butter cannot be made from such cream. The contract with the drayman should be such as will require him to deliver the cream at the railway station at such a time as will permit its being loaded immediately into the car. This will prevent a great deal of the deterioration in the quality of the cream.

This practice of the drayman, unfortunately is not confined to those stations that receive a small quantity of cream. It applies to all stations, and the deterioration of cream upon the railway platforms in the heat of a summer sun, seriously affects the quality of butter that is to be produced from it.

This is a matter for all persons interested in the development of the dairy industry to take seriously in hand. Unless the quality of creamery butter is improved, the door will be opened both to the domestic competition of artificial butter, and into the competition of imported butter. Every person interested in the dairy industry will be affected by whatever action each of the three parties mentioned may take. Of this, however, all parties may be assured: Unless adequate action is taken to promote the development of the industry throughout this territory, drastic legislative action may be expected at no distant date. Common commercial insight should lead each of the three parties mentioned to take the necessary action to secure the highest possible quality in cream in order that from such cream the highest possible quality of butter may be manufactured, which will meet and supply the present growing, insistent demand.

City Markets Want Mules of Large Size

Proper Breeding and Right Feeding of Colts Produce the Kind of Animal in Demand

By H. J. Gramlich

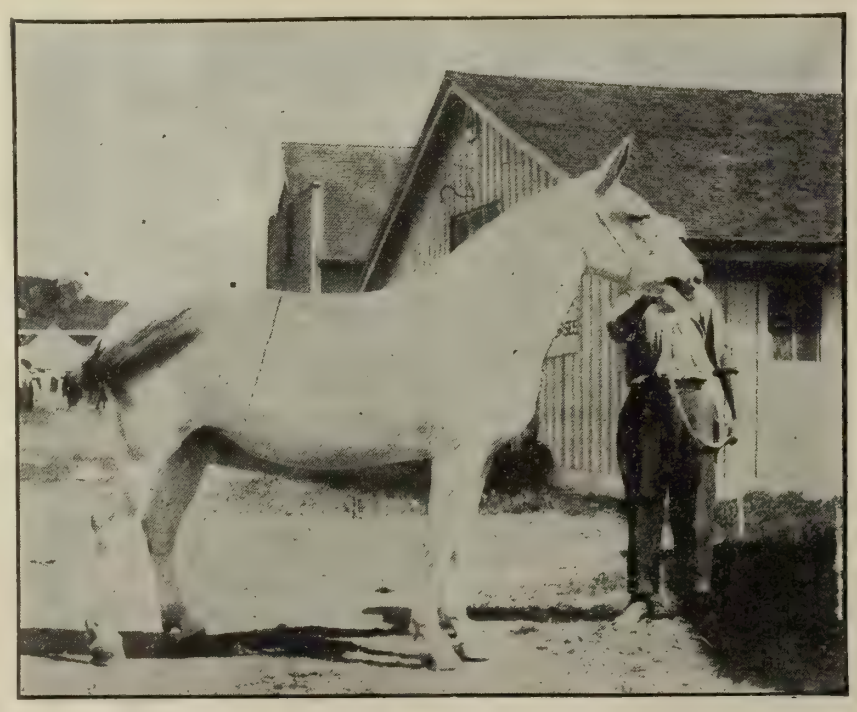
OF RECENT years market demands have popularized the big mule. Not long ago the tiller of the soil counted his thousand-pound mule of ample scale to fulfill all of his requirements in harness, and likewise to please the buyer's eye. In traveling through the upper Missouri valley states today one is surprised at the number of thirteen-hundred-pound mules in evidence; in fact, a mule which does not weigh at least twelve hundred is quite rare and is no longer looked upon with favor.

It is interesting to note the cause for this increase in size in our long-eared, much scorned hybrids. Many a thousand-pound mule has worked beside a sixteen or seventeen hundred-pound horse throughout the crop season and done his share with less complaining than his comrade. Mule teams of this size have often broken heavy doubletrees in attempting to start heavy loads. In fact, there are but few places on the farm where a mule of this size does not prove to be master of the situation, and he certainly can be kept on less feed than one half again as large.

Production Governed by Demand

Bearing these facts in mind, it is hard to realize why demand is so keen for the large size. There is really but one place to lay the blame (or credit, as the case may be) and that is to the city demand. Town markets determine what the producer shall bring forth as surplus stock. Omaha, Kansas City and St. Louis buyers have scoured the fertile agricultural sections tributary to them. Naturally, they have sought good mules, but they had to be large to command top figures. The sugar and cotton fields of the south need them big. The Standard Oil company carries standing orders with many buyers for big mules of the right kind. Innumerable other concerns are ever after the big, heavy-boned mule of ample quality. Many orders have been filled for this class of mule to be shipped to other farming communities. Large land owners, realizing that such motive power furnishes an unhurtable goal for the hired man's wrath and carelessness, are buying many.

Second Prize at Des Moines, 1913, Aged 7 Years, Weight 1900 Pounds Man in Picture is Six Feet One and One-Half Inches Tall



Champion Mule at Des Moines, 1912 and 1913, Aged 5 Years, Weight 1,625 Pounds

Without doubt, you can get a mule too large for usefulness, although they are never too large to suit the market, providing they are good otherwise. A clumsy mule is like a clumsy horse or a clumsy man, and his labor is performed under a handicap.

Comparison of Two Types

The accompanying illustration of the brown mule illustrates this point. This is a 7-year-old mare mule, which weighed 1,900 pounds, shown at the Iowa State Fair in 1913. She was heavy-middled, droop-backed and awkward in her limbs, though shown sound. The white mule is a 5-year-old, weighing 1,625 pounds. He has been champion at Des Moines for two years. By noticing closely, one detects that he is possessed of worlds of quality. His dam is reputed to have been half Arabian, weighing 300 pounds. He is active and gets around much better than the large brown mule. Judges of renown have viewed this mule, and it is their unanimous opinion that he is the best ever seen. Though his head and ears are small, he is extra good in his top line and in his limbs and feet. Aside from small caps on the point of each hock, he is absolutely sound. He was placed above the brown mule in the aged class at Des Moines, and rightfully so, although he lacks 300 pounds of carrying as much scale as she possesses.

A lesson in photography may be gleaned from these two pictures. The white mule stands very poorly. His front legs look to be too fa.

(CONTINUED ON PAGE ELEVEN)

How to Move Farm and Household Goods

Wisdom Gleaned from the Experiences of Three Corn-Belt Farmers Who Moved Out West

The Middle West, Where the Lister is a Most Useful Implement

Land as Innocent of Water as the Sahara Itself

IT IS no little thing to pry one's self and family loose from neighborhood ties, from true and tried friends and loving and loved relatives, and settle for the rest of one's life in a new locality among strangers, perhaps thousands of miles away. Even given the most thoughtful consideration, it is an expensive experience. From any slant through which one can approach the subject, he cannot but feel that he is facing a proposition that should receive serious forethought. Serious as it is, however, there is a surprisingly small per cent of the American people who spend their full allotment of years in one locality. Under the most favorable conditions, it is serious enough, but it takes on added significance when one has thoroughly established himself in his life work and taken unto himself family responsibilities and property interests, and especially if one's life work and property interests lie along the line of well-bred stock to which the whole family is strongly attached. When the determination is once made, however, about the first question that must be decided is whether or not to sell everything and depend on an entirely new equipment purchased at the point of the new location or to charter an emigrant car and take the most cherished movables along.

In This Altitude, Over 3,000 Feet, One Had Better Forget Corn

We Made it Point to See that Our Stock Was in Thrifty Condition as a Preparation for Our Journey

Chartering a Car

A few years ago the writer and two of his neighbors decided on changing from their native location near the Kansas-Nebraska state line to the Boise valley.

After careful investigation we decided to charter a car apiece and load as much of our property as possible. Kansas City rate on emigrant cars was $100. This made allowance for each car to be loaded with ten tons of property and a man to accompany each car. All weight in excess of 20,000 pounds was subject to a 50 cents per one hundred added charge. The cars were weighed at some point enroute, and if one had more than his ten tons he had to make his reckoning before he was permitted to unload.

Among the conditions specified in the contract, ten head of animals is the maximum allowance for each emigrant car and a reasonable amount of feed and grain for seeding the first year. No brand new, unused machinery or vehicles or furniture are allowed. One must at least hitch to his vehicle and run it through a mudhole or otherwise furnish proof of its having been used. It is pretty risky to disregard the stipulations of the contract, as one can find plenty in this western country whose disregard cost them dearly. The dealers in this country are a crafty lot and their interests in selling implements prompt them to be on the alert to put the railroad people wise to any of these little items that might be overlooked by the railroad people themselves.

Certificates of Health for Animals

In some states provisions are made exacting the exhibiting of a bill of health which certifies to the good health of the animals. This inspection must be made by a regularly appointed inspector before the freight agent is allowed to bill the car out. This is a wise provision, as most states require such certificates before allowing the cars to unload, and if the certificate is not attached to the bill of lading the car is held up for such inspection at some point before it is allowed to enter the state in which its objective point is located.

What to Take Along

After one has found out the conditions which the state laws and the railroads exact of him, the next question that follows is relative to what is to his own best interests to load into the car from the standpoint of use and economy. For example, all intermountain valleys are pre-eminently fruit and hay-growing localities. It is obvious, therefore, that one going from the middle west, where the lister is a most useful implement, would not want to take a lister with him to the western slope of the great Rocky mountain watershed, and yet such impractical freight is not so unusual as one might think. Corn planters, however, are coming into some use in this particular part of the west. The altitude of one's intended location has a determining influence on the crop-growing possibilities. In this altitude, when one's location is over 3,000 feet, he had better forget corn. By acquainting himself with current values of implements, grain and live stock in his objective locality the emigrant can often save the price of his car in shipping that which will sell for the highest price, even if he has no use for it himself.

Secure Packing Important

The big issue of the proposition, however, confronts the emigrant in the dividing and packing of the goods to the best possible advantage in utilizing the space available. It is safest to insist on as roomy a car as possible. In our case we were provided with three large furniture cars. We found it to our greatest advantage to pack the heavy machinery and vehicles closely in the bottom of one end of the car and then we poured loose corn over them until they were well nested and covered, then the heaviest of the boxed-up stuff on top of this, with the lightest of all nearest the top of the car, all of which was securely partitioned off to insure it from being jarred loose and falling into the part reserved for the stock.

For the horses, we fastened a strong pole securely across the car high enough for the horses' breasts to butt against in case of a sudden jerk of the car. We headed the horses to the end rather than to the side of the car. While the matured horses did not seem to care to lie down we crated one colt up in such a manner as to not permit it to lie down, with the result

(CONTINUED ON PAGE THIRTY ONE)

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The University of Wisconsin proposes to establish a weekly health service somewhat after the plan employed by the Chicago Tribune in the column headed by Dr. W. A. Evans.

A New York dairyman traced the milk from his farm, where it netted him 2½ cents a quart to the Hotel Waldorf-Astoria in New York, where it brought 20 cents a glass, four glasses to the quart. The producers of milk for the city of New York have some work before them if they propose to get an equitable price for their product.

An American consul on the east African coast reports that a resident of his district desired to receive catalogues on general-purpose plows. The plows desired are to be drawn by one donkey or one bullock. Since these draft animals are of light weight the plows should be correspondingly light. Those weighing from forty to sixty pounds are preferable. They should be strong in material and structure and reasonable in price.

The young people of the farm should be trained for the development of their judgment in all matters relating to farm life. The best way in which to train them is to take them into consultation. Let them feel that their judgment is worth something and they will proceed to make it worth something. It will give them, as no other method can give them, a notion of the dignity and value of good judgment in farm operation.

Select Seed Potatoes Now

October throughout most of this territory is the time for harvesting potatoes. Seed potatoes should be selected at harvest time. Care should be exercised to select seed of the right type, and the tubers so selected should give evidence of vigor and vitality. It is easier to select seed at this time than at any other. Tubers have been thrown out and lie upon the surface of the ground where a simple glance will reveal the qualities most desired.

Potatoes intended for seed should not be stored with the general crop. The best manner in which they can be handled is to ship them at once to the nearest cold storage plant and have them stored in darkness at an average temperature of not more than thirty-four degrees, with a moisture content in the surrounding air of not less than sixty degrees of saturation capacity. This will preserve their full vigor and will prevent either shrinking or sprouting until such time as they are needed for planting. The expense involved by this method of keeping seed potatoes will be doubly repaid in the vigor of productiveness in the crop they produce.

New Plan for Cheap Money

Representative Hulings has introduced in congress a bill for the purpose of providing cheap loans for farmers. It provides that the farmers of any district within a radius of thirty miles from the central point may form a stock association with not less than $25,000 capital. The stock has a par value of $100 per share. Ten per cent of the capital stock must be paid in cash, and for the balance notes must be given by the subscribers, and these notes must be fully secured by mortgages upon the subscribers' real estate. In no case shall the amount of the mortgage exceed one-half of the assessed value of the land. The government, through trustees holds these mortgages and notes as security for the money that it advances. Three per cent government bonds are issued and sold to provide money for loans. The government deposits with the association thus organized the full face value of its stock, whatever that may be, and the association loans this money at a low rate of interest to its stock subscribers.

These loans may be repaid either in lump form at any time within twenty years, or the payments may be so arranged that the low rate of interest, together with a certain per cent of the amount of the loan, may be paid each year.

These associations will operate on a plan somewhat similar to that upon which the Building and Loan associations are operating. The expense of administration will be practically nothing. It is claimed that under this plan each association with a capital stock of $25,000 may have the use of $24,890 for twenty years at an average interest rate of 3.8 per cent. If there is an annual payment of 6 per cent of the sum borrowed, this will pay both debt and interest in twenty years, and will accumulate in the treasury of the association $13,965, a sum equal to 51 per cent of the sum borrowed. If the sum borrowed was for twenty years, at a rate of 6 per cent interest, there would be $29,868 paid during that time in interest alone.

This matter of securing cheap loans for farmers is being seriously agitated and will probably occupy considerable attention at the next session of congress. In order that congress may take intelligent action upon the matter, it is desired that farmers submit their opinion as to the feasibility of such a measure as this. This paper will be glad to hear from any of its subscribers with reference to this matter.

A Suggestion for Silo Users

One of the chief hindrances to a more universal use of the silo is found in the expense involved in purchasing silo filling machinery.

Here is a suggestion that will effectually do away with the hindrance. Let the threshermen add an ensilage cutter of sufficient power and stability to their threshing outfit, and then when the threshing season is over let them go from farm to farm and fill the silos at so much per silo, according to the size of the silo. This will relieve the silo owner of the necessity of becoming a part owner in silo filling machinery.

This suggestion is especially applicable to the co-operative threshing outfits that are multiplying so rapidly throughout this territory. The farmers should join together and purchase a complete outfit for their threshing. They would save money by this method, and have the added advantage of getting their threshing done when they want it done. Each of such co-operative companies might add an ensilage cutter to their outfit.

If this plan could be generally adopted, it would hasten a wider use of the silo throughout this entire territory.

The last season has shown the necessity of the silo; any season will demonstrate its economy. Let the farmers take this matter seriously in mind in preparation for the next season.

Ponds for Storing Water

Kansas is going to have a "pond week." Governor Hodges will set some week, probably in November, for this purpose. The object is for every farmer whose land lies in such a way as to make it adaptable to the purpose to build a pond for the purpose of storing the water that runs off after heavy storms. For every such pond constructed in Kansas there will be a reduction made by the assessor in the assessed value of the land. The amount of the reduction will depend upon the size of the pond and upon the manner in which it is constructed. The state will furnish engineers for the purpose of giving the requisite technical advice to farmers that propose to build such ponds.

Where possible, the water of such ponds may be available for irrigating lands upon lower levels. It will also be invaluable for use by live stock during dry seasons.

Such a pond might be made available for the growing of fish for food. There are several such ponds at present in the Republican valley in the state of Nebraska. The amount of food that they supply to their owners makes them an invaluable investment.

Many farms throughout the Missouri valley have a topography that will permit the building of such ponds at slight expense. They will have a tremendous economic significance, if properly constructed and properly cared for. There is no reason why every state might not grow within its own borders all of its fish food. Every county might in this way provide fish for all its inhabitants. This fact would prove to be not only a revenue producer for the owners of the pond, but would have a decided influence in reducing the high cost of living in the immediate vicinity. It is an experiment well worth trying in any locality. The benefit will far exceed the expense.

Of course, care must be exercised in constructing such a pond, especially in washy soil. Adequate measures must be taken to prevent the loss of water from them by seepage. Such a pond, well built, will last indefinitely.

Butter at a Dollar a Pound

This is no dream; it's a fact. Ipswich farms, in Massachusetts, are making such butter and are actually selling it at such a price. It goes like hot cakes. The entire product is so sold, and that there is plenty of demand for such butter is shown by the large waiting list of "would-be" purchasers.

This should be ample proof to all creamery men that there is ample market at advance prices for first-class butter. The public demands an appetizing, sanitary butter for table use. The methods employed at Ipswich farms guarantee these qualities in the butter they offer for sale.

The milk at Ipswich farms, as soon as it comes from the cows, is clarified, passes directly from the clarifier to a separator, both of which machines are run by electricity, and the cream from the separator runs directly into a vat surrounded by iced water, which keeps it at a low temperature until time for ripening arrives. Then the temperature is raised to the desired point for the ripening. The riper cream then passes to a combined churn and butter worker, and this quality of butter is produced. It is then wrapped in a fancy, sanitary package, each package containing two one-half-pound packages separately wrapped. Utmost sanitary precautions are observed throughout the entire process.

The public is hungry for such butter in such a way. There is not a creamery in the land that might not produce such butter if proper precautions were observed and proper methods employed.

The welfare of the dairy industry depends upon its being managed in such a way as to produce only the highest quality of product.

If such butter is to be made, the care and the precaution required must begin with the cream producer, and be carefully and minutely observed throughout the entire process of manufacture.

The Efficiency Test

The dairy commissioner of Minesota, in his annual report, states hat the co-operative creameries of he state have gained only 17.64 per ent in numbers since 1906, while he number of non-co-operative reameries has gained during the ame period 42.1 per cent.

The reason for this relative increase for numbers in non-co-operative creameries is not far to seek. The man or the company that has money invested in an enterprise will give that enterprise better usiness management than can rdinarily be secured from a manager who has no such financial interests at stake. It is merely a question of efficient business management.

If any co-operative enterprise is o thrive, it must have as efficient usiness management as any privately owned enterprise can secure. he co-operative principle is right. t is fully in accordance with the emands of economic law. It cannot fail except through inefficient usiness management. Whenever a o-operative enterprise fails, the reaon for the failure will inevitably e with the management. Efficiency is the only test.

Every co-operative enterprise ust make thorough, efficient busiess management its first requirement. Unless this is done, the succss of the enterprise will be imaired.

mportance of Good Roads

The necessity for good roads is rowing more urgent each year as arm improvements and farm prouction increase. High-priced lands all for a higher yield per acre and igher prices for the crops than prevailed under old-time low land rices. All these changes which influence to larger production very aturally call the attention of the armer to the need for cheaper, asier and quicker means of transortation to the local markets and ailroad shipping points.

The old mud wagon road that all armers must encounter in getting ny place off the farm is the great andicap in the matter of market elivery of the farm produce, and ill continue to be until there is ome system of public road improvement that will apply to the roads roughout the country.

There can be, and there is, great nprovement in some localities here the farmers and road users ave formed neighborhood clubs, nd each assumes the responsibility f keeping a certain section of the ublic road convenient to his farm n repair and free from mud-holes, ogged ditches, etc. The frequent arrowing, scraping and dragging of he roads, as they may seem to deand it, has brought public roads rom an impassable into a very good ondition in good weather.

Improved roadbeds are just now eing considered in earnest by the rming classes over the western rairie states. Within the next few ears this subject will be discussed n every township, in every county, n every state, that is engaged to ny extent in agricultural production. Time is money and labor is money, and the people are awakening to an estimate of these things for just what they are worth. Besides, the amusement-loving people who use the auto as a pleasure device want good, hard roads and must have them.

The public highway agitation is demanding government, state, county and township appropriation for the construction of better roads, and when the people become interested from a belief that good roads will save them money, we will have good roads. This condition is now near at hand. Transportation is becoming more rapid. The old-time ox team would not compare well with the automobile, street car and overland freight and passenger trains. The farmer must have a good, solid roadbed on which to haul his farm produce to these rapid-transit means of transportation, railroad depots, etc.

This is all coming. The entire country is stirred up over this subject, and public road conventions are being held all over the country. The people are interested; everybody, in fact, is saying a good word for better roads.

Chicago School of Agriculture

There is a plan under way to establish an agricultural colloge in the city of Chicago. This educational enterprise is recommended by prominent city educators, and will be designed with a capacity for 500 students, who will be furnished dormitories and every convenience for boarding and living on the grounds. Living apartments will be necessary for those who come from other parts of the state. It will be a state institution authorized by the legislature.

There are in the plan three departments, agricultural, domestic science and industrial. The use of farm implements and the repair of these will be a feature that will come under the industrial department. There is reported a very marked inclination among the teachers of the city schools of Chicago to study agriculture in many of its varied branches. Especially is horticulture being discussed as a need among the teachers and the pupils of all the schools.

The tendency all over the country is to own land. Even a very small tract of land in or near a town or city is the desire of almost every city man and woman of the present time. This is made manifest by the interest people in all walks of life are taking in agricultural pursuits and studies. The demand for the agricultural college in the large city is not strange or astonishing when one views the daily press in its attitude toward agricultural encouragement. Almost every publication in the country is voicing agricultural sentiment, is expressing approval of agricultural promotion, and is endorsing co-operative measures between the producer and the consumer.

The University of Illinois has a new farmers' convention hall which will serve a multitude of uses and prove a valuable addition to the conveniences afforded by the institution.

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Selection of a Breeding Ram

Determines Quality of the Prospective Flock

IT IS an old saying, and was well said, that "the sire is half the herd or flock." When you select the breeding ram you determine to a very great extent the quality of your prospective flock of lambs. In other words, the better quality you secure of fleece and mutton in the ram the better quality you will get in your lambs. It is not always true that the highest-priced ram proves to be the best breeder. It is generally true, however, that the breeder of a flock of sheep can more accurately select the best rams in his flock than can a stranger just going into the flock. The owner and breeder knows the ram that sired these rams offered for sale; he also knows the dams that produced each. There may be some very excellent hereditary qualities in the ewe, the mother of the ram, and hereditary tendency that will be of value to all her offspring.

***

The breeding ram should be selected early, some weeks or months before he is demanded for service. The fall fair season is a very good time to look over the best flocks of the country, in view of making a choice of rams. The fair visitor has a good opportunity to see the best specimens of the best flocks. It is a very poor plan to delay the purchase of a ram until the choice ones are sold out of these supply flocks. Buy the best if you can. If you cannot, then take the next best.

***

Remember in buying a ram that this animal is supposed to set the pace of improvement in your flock. No matter what your ewes are, you must depend to a large extent on getting uniformity and similarity in the produce of your flock from the strength of breeding character that your ram is capable of influencing. As said in a former article, try to start with a ewe flock possessing a sameness of appearance and a sameness of fleece and mutton qualities. You are just that much ahead in your start, for this is exactly what you will aim to accomplish.

Did you ever hear of a flockmaster who used rams of one breed one year and the next year changed to another breed, and so on each succeeding year? Uniformity of fleece and uniformity of mutton quality is the ambition of every breeder. This can only be had by careful and systematic selection of the breeding flock in both ewes and rams.

The beginner in sheep breeding should have two pronounced qualities in view—mutton and wool. It is not good business sense to omit either in the building of a desirable flock. The creation of a flock possessing desirable qualities that please the sheep judge should be the ambition of every breeder. It is necessary to have a flock that sheep men will admire, a flock that finds a market every day in the year, sheep that are acceptable to the sheep-buying public.

***

Is it possible to get a sheep with too large a fleece of nice, stylish quality of wool? Is it possible to get a sheep with too large a carcass of extra fine quality of mutton? Is it possible to get a sheep with both of these qualities combined, and to the highest possible degree? This is exactly what many breeders have spent their lives in striving to create in their flocks—a large, finely formed mutton sheep, carrying a large, desirable fleece of wool. This is an idea that the beginner may take up with profit, in determining the sheep he should start with.

***

The care of the breeding ram is one of the most important matters in flock management. The ram should not be pampered or overfed. This tends to barrenness and lack of breeding vitality, and should be guarded against. The ram should have a summer pasture where he can have all the grass he can consume by traveling for it. He should be

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A lady doctor writes:

"Though busy hourly with my own affairs, I will not deny myself the pleasure of taking a few minutes to tell of my enjoyment daily obtained from my morning cup of Postum. It is a food beverage, not an irritant like coffee.

"I began to use Postum eight years ago, not because I wanted to, but because coffee, which I dearly loved, made my nights long, weary periods to be dreaded and unfitting me for business during the day.

"On advice of a friend, I first tried Postum, making it carefully as suggested on the package. As I had always used "cream and no sugar," I mixed my Postum so. It looked good, was clear and fragrant, and it was a pleasure to see the cream color it as my Kentucky friend wanted her coffee to look—'like a new saddle.'

"Then I tasted it critically, for I had tried many "substitutes" for coffee. I was pleased, yes, satisfied, with my Postum in taste and effect, and am yet, being a constant user of it all these years. I continually assure my friends and acquaintances that they will like it in place of coffee, and receive benefit from its use. I have gained weight, can sleep and am not nervous."

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given a light grain feed once a day, just enough to build him up strong and solid, with the grass feed he consumes. A gill of equal parts of oats and corn will be found sufficient for the ram, if other conditions are favorable. Water is, of course, an every-day necessity for the ram, and should be fresh and cool and where he can get it at will. The ram pasture should be rather roomy, so as to encourage traveling. Exercise is very important. Keep a wether or two with the ram for company.

***

The very objectionable practice on some farms is to let the ram run with the general flock the greater part of the year. This means flock retrogression, and the sheep owner who practices such careless habits is not worthy the name of flock owner or shepherd; he should sell out and devote his time where no care or lack of care can influence in results. The ram pasture should not be near where other sheep are pastured or kept. This tends to excite the ram and causes nervousness in his traveling up and down the pasture fence and results in loss of flesh and injury to the ram.

***

The ram should be kept as quiet as possible up to the breeding season and be in good flesh, strong and vigorous when the season starts. It will be found most desirable to confine the ram to a box stall during the breeding period, a stall or pen that he cannot see through and cannot see over by rearing up on his hind legs. He should have all the alfalfa or clover hay he wants, and a grain ration twice a day, just enough to keep him in good appetite. Vegetables, cabbage, carrots, turnips, sugar beets, in moderation, may be fed during the period of breeding. The old-time custom of turning the ram in the flock and letting him take his chances is ruinous, both to ram and the best results in securing a good lot of lambs.

The World's Champion Jersey Cow

Eminent's Bess, owned by Roycroft Farm, Michigan—18,782 pounds 15.6 ounces milk, 962 pounds 13.6 ounces fat, 1,132 pounds 12 ounces butter in one year—world's record for both Jersey and Guernsey breeds.

City Markets Want Mules of Large Size

(CONTINUED FROM PAGE SIX.)

under him, while his hind legs are spread badly. The other mule stands almost perfectly to show herself off. Were she not standing so well, there would be several faults in evidence.

Breed and Feed Right

Dry weather may have hurt the market for ordinary mules, but the big kind are as much sought after as ever. The first-prize team at the Nebraska State Fair the last two years were recently sold to the Standard Oil company at the reported figure of $975. They were heavy-boned mare mules, 5 and 6 years old, weighing better than 1,700 pounds apiece.

Big mules are secured by fulfilling two requirements—namely, they must be bred right and fed right. As to the former, one cannot breed to too large a jack, providing he has the bone and other requirements. The large, drafty mare is generally required also, although in the case of the white mule, a mare of exceptional quality, crossed with a heavy-boned jack, may produce a mule of much greater scale than either parent.

A mule must be free from puffs around the joints, especially the hocks, if he is to command a high figure. The use of a mare of Clyde or trotting blood will do much toward producing the sound-limbed mule.

Feeding right is a thing entirely under control of the man. The colt must be kept growing from the start. Oats, bran and good alfalfa or clover hay, fed with judgment from weaning time till maturity, will keep the youngster thrifty and develop a framework that will withstand lots of grief later on in the harness.

The giraffe is the only animal that is really dumb. It is unable to express itself by any sound whatever.

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Send us your bill of materials even if you aren't ready to build. No charge or obligation for this work. If we can help you plan your building, let us know. Our staff of architects is at your service. At least mail the coupon today for catalog and general price list.

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Saved $125 to $150

I find lumber better than I have been able to get at our yards here. I saved $125 to $150 on that bill.

L. H. Willrodt, Chamberlain, S.D.
April, 29, 1913

More Than Satisfactory

I am more than satisfied with quality of lumber and am highly recommending it to all my friends.

Julius Meyer, Baldwin, N. D.
June 18, 1913

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(BE SURE TO WRITE PLAINLY)

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NOTE: When are you planning to build? _____
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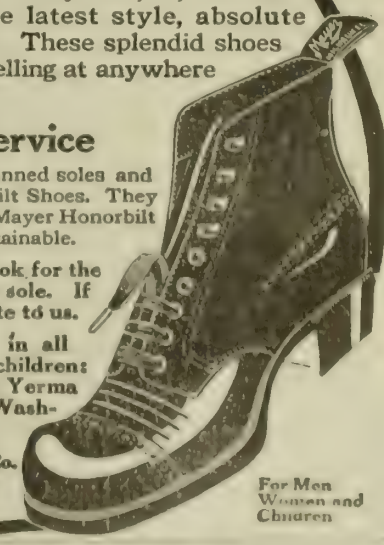

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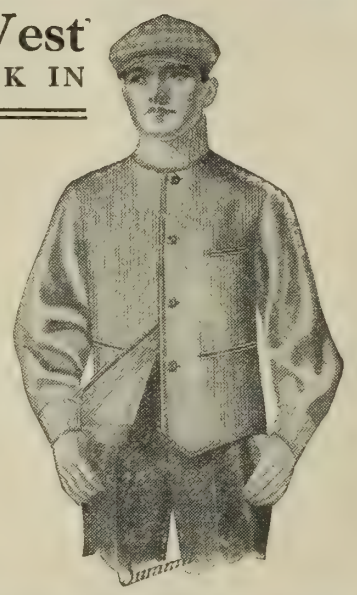

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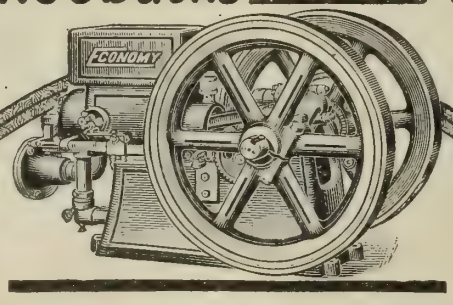

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Our Young People on the Farm

A Legend of the Northland

Away, away in the Northland,
Where the hours of the day are few,
And the nights are so long in winter
They cannot sleep them through,

Where they harness the swift reindeer
To the sledges, when it snows;
And the children look like bear's cubs
In their furry, funny clothes;

They tell them a curious story—
I don't believe 'tis true,
And yet you may learn a lesson
If I tell the tale to you.

Once, when the good Saint Peter
Lived in the world below,
And walked about it preaching,
Just as he did, you know;

He came to the door of a cottage,
In traveling 'round the earth,
Where a little woman was making cakes
And baking them on the hearth.

And, being faint with fasting,
For the day was almost done,
He asked her, from her store of cakes,
To give him a single one.

So she made a very little cake,
But, as it baking lay,
She looked at it and thought it seemed
Too large to give away.

Therefore she kneaded another,
And still a smaller one;
But it looked, when she turned it over,
As large as the first had done.

Then she took a tiny scrap of dough,
And rolled and rolled it flat,
And baked it thin as a wafer—
But she couldn't part with that.

For she said, "My cakes that seem too small
When I eat of them myself,
Are yet too large to give away,"
So she put them on the shelf.

Then good Saint Peter grew angry,
For he was hungry and faint,
And surely such a woman
Was enough to provoke a saint.

And he said, "You are far too selfish
To dwell in a human form,
To have both food and shelter
And a fire to keep you warm.

"Now, you shall build as the birds do,
And shall get your scanty food
By boring and boring and boring
All day in the hard, dry wood."

Then up she went through the chimney,
Never speaking a word,
And out of the top flew a woodpecker,
For she was changed to a bird.

She had a scarlet cap on her head,
And that was left the same.
But all the rest of her clothes were burned
Black as a coal in the flame.

And every country schoolboy
Has seen her in the wood,
Where she lives in the trees till this very day,
Boring and boring for food.

And this is the lesson she teaches—
Live not for yourself alone,
Lest the needs you will not pity
Shall one day be your own.

Give plenty of what is given to you,
Listen to pity's call;
Don't think the little you give is great,
And the much you get is small.

Now, my little boy, remember this,
And try to be kind and good,
When you see the woodpecker's sooty dress
And see her scarlet hood.

You mayn't be changed to a bird, though you live
As selfishly as you can,
But you will be changed to a smaller thing—
A mean and selfish man.

—Phoebe Cary.

The Woodpecker

So many kinds of woodpecker exist that it is almost impossible to give a general description. There are two kinds that have yellow breasts, the flicker and the sapsucker. These we have described, telling you that the flicker is one of our most valuable friends, and that the sapsucker, while he eats many bugs, sometimes girdles and kills young trees.

The hairy woodpecker, the downy and the common red-headed woodpecker are hard to tell apart, but easy to distinguish from the other birds. They are all black and white and red, with long bills and four toes on each foot, two in front and two behind, an arrangement which enables them to cling to the bark of the tree.

These birds are all very valuable, the government estimating that each one is worth about $20 to the person whose premises he honors with his presence. They go about the wood or orchard tapping the tree bark until a hollow sound warns them that a borer is underneath. Then "tap, tap" goes the long bill until the borer is dug out and eaten.

Red-Headed Woodpecker

The coddling moth and its larva, the apple worm, are the woodpecker's favorite food, although any other kind of bug, moth, worm, grasshopper or ant, is appreciated.

Many years ago the elm trees in Cleveland, O., were threatened with destruction by the tussock moth, and on one seemed able to do anything about it. Finally the hairy woodpeckers appeared in great numbers and before the summer was over the trees were saved.

The eggs of these woodpeckers are laid in hollows in the trees, and these hollows the parent birds keep continually visiting in turn during the nesting season with insects for their squawking youngsters. The woodpecker eats a little fruit and some vegetables, but not enough to hurt anything. In the winter he lives on dried berries, cocoons and worm eggs.

We only know of one fault the woodpecker has, and that is he loves to pound on a tin roof with that hard bill of his, especially early in the morning. This is all right when you were going to get up anyhow, but when you weren't it makes you quite provoked.

The poem published herewith is rather unjust to this good little bird, but since you understand that it is only a sort of fairy poem of course it will not prejudice you against him. THE EDITOR.

(Prize Story)

Rover Was My Dog's Name

Lydia Doberstine, Aged 10, Tobias, Nebraska.

Rover was my dog's name, and we spent many happy hours play-

ing in the sand by the river. Building castles of sand, with sticks for soldiers, we had many a pleasant time together. The greatest fun we had was watching the ripples on the stream and watching the birds build their nests.

Rover was my nicest pet of all my things. Father bought him at the State Fair at Lincoln for $5. He was a tiny dog when I got him. Father made Rover a little house to sleep in and I put in straw for quilts. He was about two feet high and his hair was like the wool of a sheep.

One day Rover was running after an auto and got killed. The auto ran over his head, which killed him instantly. I felt very sorry, and when I buried him I sang a song, which is named "Keep on the Sunny Side:"

I had a dog; his name was Rover.
When he died, he died all over,
So I buried him in clover.
This was the end of my dear Rover.

(Honorable Mention)

Our Trip

By Alvah Nelson, Aged 14, Curtis, Nebraska

Four years ago this spring I went with my grandmother and aunt to visit my cousin in Iowa. We saw many interesting things on the way, and crossed the Missouri river. When we got there we 'phoned for my uncle to meet us at the depot. He lives on a farm eight miles from town.

When we arrived at my uncle's house it was late at night and we were all very tired, but the next morning we were ready for a big time. My cousin had a little Shetland pony, which we rode and drove. We had very much fun with it. She had a little colt and we were trying to catch it, when it kicked me and broke my jaw. That stopped my fun in Iowa. We then started home the next week. When I got home I was glad to see my folks.

Additional Stories

Winifred Dell Smith, Diamondville, Wyo.; Elva Smith, Diamondville, Wyo.; Cedric Lucas, Foster, Neb., and two stories called "Ned's Good Luck" and "Carlo's Bravery," neither of which had any name attached.

An Error in Latin

A small blunder often leads to far-reaching consequences. In the fifteenth century, it is said, a certain printer helped to print the "Te Deum," which had been passed down for centuries in manuscript form. By mistake, he set up the word numerari instead of munerari. This transposition of an "m" and "n" changed "to be rewarded" into "to be numbered," and so generation after generation has sung, "Make them to be numbered with Thy saints." However, since those who are numbered with the saints will be rewarded with them, the error is not of great consequence.—Youth's Companion.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

Write plainly at top of story your name, age, address and the title of the story.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

Picture Contest No. 7

Write a verse of four lines about this picture. The two children writing the best verses will each receive a book as a prize. Write plainly in ink, giving your name, address and age, and send the verse to the Picture Contest Editor, Twentieth Century Farmer, Omaha. Remember, that the prizes will be awarded to the writers of the best verses, which means the ones having the best ideas, being most correct as a meter and being most neatly written and the best spelled and punctuated. This is a good chance for you to practice all those rules of composition you are learning at school.

All verses must be received at this office on or before the 15th day of November. Awards in Picture Contest No. 6 will be announced in the next issue.

Something to Think About

It isn't very much work to stoop and pick something from the floor once, but, some day when you haven't anything else to do, try it 500 times in succession. There are few boys who do not thoughtlessly leave something lying about on the floor for their mothers to pick up. Suppose you make your mother stoop over but twice a day. That means 730 times a year. Doesn't this give you an idea?—American Boy.

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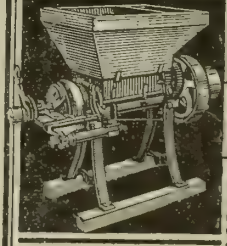

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Of Interest to Our Women Readers

Once in a While

It is easy enough to be pleasant
When life flows by like a song,
But the man worth while is one who can smile
When everything goes wrong.
For the test of the heart is trouble,
And it always comes with the years,
And the smile that is worth the praises of earth
Is the smile that shines through tears.

It is easy enough to be prudent
When nothing tempts you to stray,
When without or within no voice of sin
Is luring your soul away.
But it's only a negative virtue
Until it is tried by fire,
And the life that is worth the honor of earth
Is the one that resists desire.

By the cynic, the sad, the fallen,
Who had no strength for the strife,
The world's highway is cumbered today;
They make up the item of life.
But the virtue that conquers passion,
And the sorrow that hides in a smile,
It is these that are worth the homage of earth,
For we find them but once in a while.
—Ella Wheeler Wilcox.

Our Home Chat

Not long ago an editorial appeared in a small stock journal complaining of the fact that city laws forbid people keeping pigs and attributing to this a large per cent of the difficulties with our famous "high cost of living." This is a new idea. The writer says that the time was when every city dweller kept a pig, whereby the waste from the kitchens was utilized, and adds that since sanitary laws have forbidden this, the health of the public has not improved.

This is a misstatement. The general health of the public has improved a great deal in the last few years, as statistics show. However, there is another reason why people should not keep pigs, cows and chickens in town. They are a nuisance to the neighbors. Their grunting, cackling and lowing are annoying to the people who are forced to live within a few feet of them, and the odors from barn and chicken yard are most unpleasant. The farm is the place for farm animals.

Often the farmer who has made a little fortune moves to town to educate the children, or merely because he wants a change himself. All goes well for a time, and then he begins to miss the cows and his wife feels lonesome without her chickens; so they buy a cow and some hens. Right here they begin to be unpopular with their neighbors. Members of the family next door do not like to have their early flower gardens scratched up by the hens, nor do they like, when dining on their back porch, to have their meals spoiled by the odor from the cow yard.

On the farm there is room for all the animals. The sounds and odors are not annoying in the open country, where the fresh breezes can carry them away. There are many advantages in city life, but there are also disadvantages. One of these latter is the fact that you cannot be a good citizen in the city if you keep live stock. If you cannot get along without it, stay on the farm.

THE EDITOR.

Spoiling the Children

Who has not known the kind-hearted, hard-working, easy-going woman who loves her children and works her life away for them? In every community there is a woman or so of this type. She loves her children so much and waits on them so much that she has no time to see the harm she is doing them. She does not require a thing of them, controls them not at all and gives her life to them. She expects the time to come when she will be loved by them and waited upon. She sees pictures of a future where she will be the central figure and her children will be a joy to her, when she will receive consideration and love from them in the same measure in which she bestows it on them now. Does that time ever come?

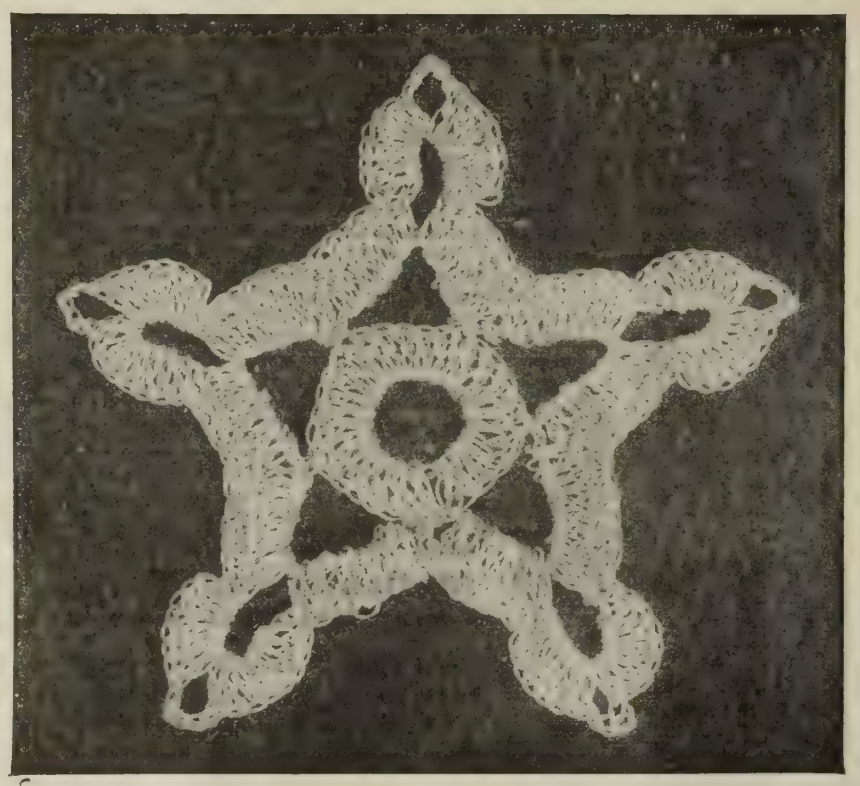
Then, in the same community, you will find the woman whose children wait on her and consider her wishes first. She controls them and requires strict obedience, yet they love her greatly. Her love for them is deeper than the surface. She is trying to avoid the breakers on life's sea, and she usually succeeds. As they grow up these children respect their mother and are proud of her. They speak with pride of what their mother used to do when they were unruly. They love her, wait on her, above all, they consider her wishes first, for they have been taught to do so from babyhood.

How about the other little woman who loved her babies and waited on them and worked her life away for them? She is still working for them and waiting on them and loving them, but the expression of her face has changed. She looks wistful; something is lacking and she cannot understand it. Things are not measured out to her in the same measure in which she gave. Poor little woman! She loved her children too much, you say? No, indeed, but she loved them in a short-sighted way, for she did not consider their characters; she did not think of their future welfare, but loved them from day to day. She is experiencing the breakers on the sea of life which the other woman saw ahead and avoided. If our children are to love us and respect us, they must be taught to do so; there seems to be no other way.

MRS. A. T. M'CULLO.

Nebraska.

Crocheted Medallions



Make 15 chain; join to form a ring.

First Round—ch. 3, 30 d. c. over ring and join with a sl. st.

Second Round—12 ch. and catch in the 5th d. c. from ch. Make and catch 4 more chs. like this, 5 in all.

Third Round—2 ch. to take the place of a d. c.; then make 9 d. c. over the 12 ch. underneath, 8 ch. and 10 d. c. over the other half of the chain. Repeat 10 d. c., 8 ch., and 10 d. c. over each of the next 5 12-chs.

Fourth Round—1 s. c. in back part of each of 10 d. c. underneath, 8 d. c. over 1st half of 8-ch., one point made thus: 5 ch. and catch under 8 ch. with d. c., then 7 d. c. over remainder of 8 ch., 1 s. c. in each of next 10 d. c. (as before) and repeat in remaining five points.

MRS. GILBERT.

Rice Pudding

Dear Editor: In the Twentieth Century Farmer, dated September 6, I notice an item of yours in regard to rice pudding. This is the way I cook it, which is similar to the method you speak of. We are very fond of it cooked this way, and it is the only way I like rice:

Take four tablespoons of rice, four of sugar, a little salt, raisins if you wish, and two quarts of milk. Cook slowly in an oven three or four hours, stirring frequently the first hour or more. Keep covered until you wish to brown it.

We eat it with cream and it is delicious. MRS. S. H. B.

Pagosa Springs, Colo.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6110 — Children's Apron—As illustrated, this apron is developed in white linen embroidered around the top with white floss. Gingham, percale or chambray can also be used to good advantage. A small patch pocket is attached at each side of the front. The pattern 6110 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 1⅞ yards of 36-inch material.

5908—Girls' Dress—Any little girl would look nice in such a clever frock as the one given in this design. It is easy to make and can be developed at small expense in any of the pretty woolen materials. The garment closes at the front and the shield is removable. The pattern 5908 is cut in sizes 6 to 12 years. Medium size requires 3½ yards of 36-inch material and ⅞ yard of 24-inch contrasting goods.

6103—Misses' Dress—This charming and youthful frock shows several of fashion's latest features. It is a simple but altogether delightful model, and one suitable for dressy wear or for general service. The dress closes at the front and the skirt is cut in three gores. The pattern 6103 is cut in sizes 14, 16 and 18 years. Medium size requires 4⅞ yards of 36-inch material.

6104—Ladies' Dress—This stylish frock closes at the front and may have long or short sleeves. The three-gored skirt may be made with empire or regulation waistline. Serge, messaline or cheviot can be used for this dress. The pattern 6104 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5 yards of 36-inch material.

5956 — Ladies' Dress—This fascinating model is one of the season's cleverest styles. It is nicely tucked at the shoulders at the front and has the fashionable Robespierre collar. The trimming of buttons following the closing line is quite attractive. The pattern 5956 is cut in sizes 32 to 42 inches bust measure. Medium size requires 5¼ yards of 36-inch material and ½ yard of 24-inch satin.

6148—Children's Coat—Serge or cheviot can be used to make this coat. It can be made with either the straight or circular fronts and with either the notched or round collar. The plain or full sleeve can be used. The pattern 6148 is cut in sizes 2, 4, 6, 8 and 10 years. Medium size requires 2¼ yards of 44-inch material, with 2⅝ yards of braid.

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A new Fall model Flannel waist.....87
A new stylish long coat Suit for.....8.98
etc., etc., etc.

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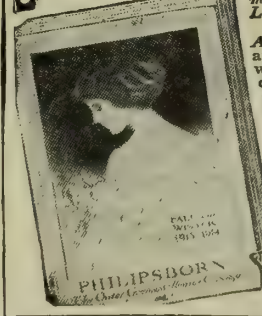

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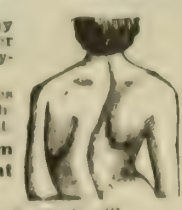

CLUB FEET of any variety, and at any reasonable age, can be made straight, natural and useful. No plaster paris, no severe surgical operation, and the result is assured.

POTTS DISEASE when treated in time should result in no deformity; paralysis can be prevented and the growth not interfered with. Write for information and references.

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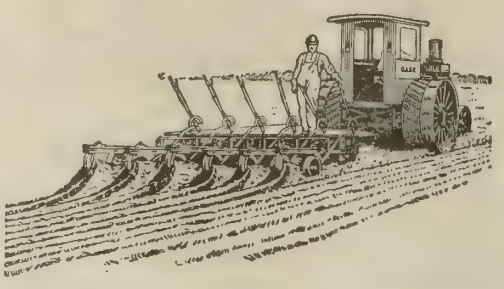
THE McLAIN ORTHOPEDIC SANITARIUM

940 Aubert Avenue ST. LOUIS, MO.

CASE Wins World Honors

Awarded 9 Out of 10 Gold Medals at Winnipeg



The Standard of Mechanical Excellence the World Over

With our Steam, Gas and Oil Tractors and Tractor Gang Plows, Case won 9 out of a possible 10 Gold Medals and Grand Sweepstakes Honors, and established new World's Records at the 1913 Winnipeg International Motor Contest. Even its own amazing records were splendidly surpassed—the result of the Case policy of *continuous improvement.*

The data of this contest enables every farm power user to make practical comparisons of the various makes and types of tractors and tractor gang plows, based on the official tests made under direct supervision of the Canadian Government.

CASE Entries Notably Superior in All Classes

Steam Case won three Gold Medals, for 110 H. P., 80 H. P. and 40 H. P. Steam Tractors.

The 110 H. P., four times entered, four times Gold Medal winner, four times awarded Sweepstakes Honors.

The 80 H. P., three times entered, three times winner.

Oil Case 60 H. P. Tractor, in its Gold Medal winning series, was given 79.15 points, out of a possible 100, on Design and Construction. This tractor has always won a higher score on accessibility, protection of working parts and ease of manipulation than any other make, in any international combustion class, entered at Winnipeg.

Gas Case 40 Gas and Oil Tractor captured the Gold Medals in both Gasoline and Kerosene classes.

The performance of this tractor, burning *kerosene*, was the *sensation* of the Contest. Its nearest competitor required 42 per cent more gasoline and 32 per cent more kerosene to do the same work.

Case 25 won Gold Medal, scoring 36 per cent more points than its nearest competitor. This was the first public appearance of this new model. Its winning the Gold Medal was a most satisfying endorsement of our policy to do no experimenting at the cost of our customers.

Plows Our Tractor Gang Plows won both Gold Medals and Sweepstakes Honors in large and small classes.

Our new automatic-lift plow demonstrated that the plow that needs no plowman is now a certainty. The man in the cab with this outfit can easily and accurately care for the tractor and plows. Does this economy interest you?

Shall we send you a copy of special *Gold Medal Bulletin*, on the amazing results of the Winnipeg Contest, also catalog of our Tractors and Tractor Gang Plows?

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AUTO TOM, 571 S. 16th St., Omaha, Neb.

Our Catacomb Money Vaults

By Frank G. Carpenter

WASHINGTON, Oct. 11. — I have spent today in Uncle Sam's catacombs. They lie under the great Department of the Treasury, twenty or thirty feet below the level of the White House and 200 feet below the floors of the halls of congress, where our statesmen sit and juggle with Uncle Sam's finances. I refer to the vaults in which Uncle Sam's money is kept and where are stored away more real hard coin and valuable paper than in any other place upon earth. The vaults contain millions in gold and silver, and their coin and securities, all told, will run considerably over $1,000,000,000. They have so many silver dollars that if you should load them upon four-horse wagons, and put the team's nose to tailboards, the train required to haul them would reach from New York to Cincinnati. The currency alone runs high into the hundreds of millions. During my stay there today I held $1,000,000 in $10,000 notes in my good right hand, and I saw $90,000,000 more in three packages so small that I could crowd them into a half-bushel basket. You have all heard of the $500,000,000 worth of treasury notes which Secretary McAdoo lifted up and shook in the face of the panic mongers of Wall street. They are all stored here, and there is one great vault which is packed with them almost to bursting.

Hundreds of Millions in Silver Certificates

Looks Like a Tomb

I have called these vaults catacombs. The title fits the whole Treasury department. The building is the personification of gloom. It looks like a tomb and it would be a fine home for a suicide club. Long and squatty, with a massive roof and walls of gray granite many feet thick, it makes one think of a sarcophagus of the gods, and its surroundings are those of a cemetery. The Treasury department lies in a hollow just across the street from the White House, whose gaiety is accentuated by its gloom. Its front yard is a pit, the walls of which are covered with ivy. The lawn itself is as smooth as velvet, but it takes a score of grave-digging gardeners to keep out the weeds.

The treasury itself is more dreary than any picture ever painted by Dante. As you look at the cave-like doors which lead into the basement you are reminded of the quotation of that poet engraved above his gates to hell: "All hope abandon ye who enter here!"

The doors are covered with iron bars as thick as your wrist, and the windows behind are sad and dreary, making one think of the rheumy eyes of dying giants looking out through the steel network with which they are veiled.

In the second and third stories the windows are cleaner, but they are deep set and gloomy. Entering the buildings, you find the interior quite as depressing. The narrow corridors are so dark that they have to be lighted by electricity throughout the day. The lower passageways make you feel as though you were in a burial vault, and when the doors silently open you shudder at the thought of the coffins which one feels must be piled up within. It is the same throughout the building from the basement to the attic, and it is only the south rooms on the second floor, where Secretary McAdoo has his offices, that are at all cheery.

Secretary Bright and Cheerful

I shall not discuss the job of the secretary of the treasury in this letter. I may write of that in the future. So far, Mr. McAdoo is in good health and spirits. His eye is bright, his step firm and he looks ten years younger than the half century which his modest autobiography in the congressional directory puts to his credit. Still, let him beware! He is now between the upper and nether millstones of this mighty department. He is in the mill which killed Secretary Folger, which ground the life out of Daniel Manning, and which when Secretary Windom in the pride of his strength grappled with it laid him low. It did the same with Charles W. Foster, the lusty treasurer under Benjamin Harrison, and it has just succeeded in sucking out what little juice Franklin MacVeagh had in his bones.

I shiver when I think of the job. When Mr. McAdoo first came, Treasurer Burke, Uncle Sam's new watchdog, who lies at the doors of the vaults and takes charge of the moneys, wrote out a receipt for the sums then on hand. That receipt gives some idea of the responsibilities of Secretary McAdoo. It represents the largest sum ever taken over by mortal man at one single time.

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It represents almost $1,500,000,000, and its actual figures were $1,426,422,051.48⅔; yes, two-thirds. The money was figured out to the thirds of a cent and Secretary McAdoo has to make the accounts come even to the smallest fraction. Do you wonder that such work preyed upon the minds of his predecessors?

Money Beyond Understanding

Have you any idea how much fifteen hundred millions of dollars means? It represents more than one-tenth of all the money value of all the gold taken out of all the mines of the earth since the discovery of America, and of the vast amount thus receipted for the greater part was in gold. Much of the gold is not stored away here at the Treasury department; it is kept at New York, Denver or San Francisco, where it lies in the vaults of the subtreasuries and in those of the mints in tons of golden bricks ready for coinage at a moment's notice. The gold in the treasury proper is not in bullion. It is only a bagatelle of a few million dollars, and these millions are mostly in the shape of eagles and double eagles. I saw a little box of them in the cash vault this afternoon. It was made of steel and seemed to be only for show. It was not bigger than a cigar box, and still it contained 500 double eagles. I took both hands and raised it from the table. It weighed thirty-eight pounds, and you could have put its contents into a one-quart measure. Still, its value was $10,000. That will show you how heavy the previous metal is, I can hold $1,000 in loose gold coins in one hand, and that amount of money weighs just about four pounds. At the same time I lifted notes, each of which was lighter than the smallest feather on a pigeon's tail, whose denomination was $10,000, and held up a bundle of them, no thicker than a euchre deck, and so small that you could put it in an official envelope, which was worth $1,000,000, and which would pass for that in almost any bank upon this big, round earth.

Getting Into the Vaults

But I want to take you down into the catacombs. To get there I was passed from the office of Secretary McAdoo to that of the treasurer of the United States, Mr. John Burke, and from him to the cashier, James A. Semple, who has charge of the cash Uncle Sam keeps on hand. He is now carrying a balance of over $165,000,000, and millions go in and out every day. He has charge of the vaults, as well as the cash, and his office, which is lined with marble from the four quarters of the world, looks like a bank. There are great vaults on the same floor in which the ready money is kept, and we passed through these on our way to the little elevator, not more than four feet square, which dropped us down into the cave of Aladdin. Major Quaiffe went with us. The major has been one of the treasury watchdogs for almost fifty years. He was appointed by Treasurer Spinner at the close of the civil war, and since then he has been one of the confidential clerks in charge of Uncle Sam's treasures. He carries one of the keys to the vaults and he alone knows the combination.

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Improved and broadened in its scope. Enlarged by the addition of a Special Family Page, Boys' Page, Girls' Page and Children's Page. Great serial stories, 250 short stories. A remarkable Editorial Page. Current Events and Science. A wealth of variety and quality, and all of it *the best.*

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Colonization and Industrial Agent, Union Pacific Railroad Co., Room 1107 Union Pacific Building,
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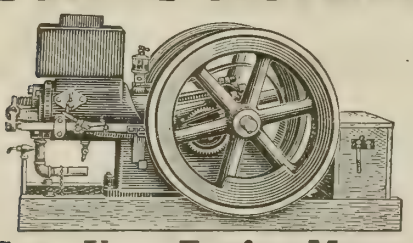

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W. O. NELSON,
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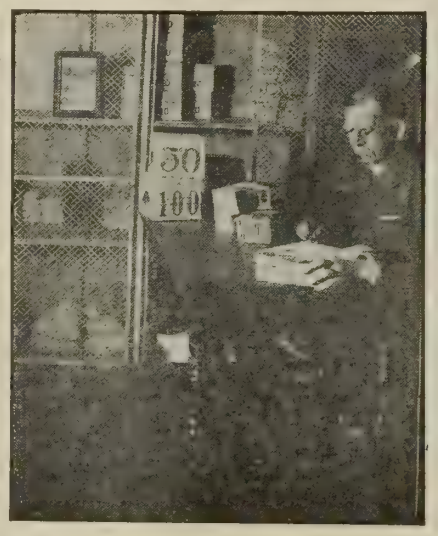
THE TWENTIETH CENTURY FARMER will not **knowingly** publish an advertisement of an **unreliable firm**, nor one which does not do **exactly as it advertises.** Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Cashier Semple carries another to a different lock, and the two have to work together in order to open any one of the doors.

Inside the Treasure Room

The first vault I looked at contained $111,000,000, enough to give every man, woman and child in the United States a silver dollar and leave ten or twenty millions to spare. The door to it weighs six tons, but it is so carefully balanced that a boy could swing it back when the combinations are properly made, and Major Quaiffe threw it open with one hand. The vault itself is about as large as a good-sized garden patch. It covers one-fourth of an acre and from floor to top is just twelve feet high. It is a great cage of steel bars riveted together with red-hot



In the Cash Vault—Major Quaiffe, Watch Dog of the Treasury

rivets, which were pounded to place. The bars cross like lattice work, with hundreds of diamond-shaped eye-holes, through which you can look and see the vast treasures stored within. It bulges out at the sides, and at first I thought this had come from the weight of the silver against the walls. Cashier Semple tells me this is not so. The money is so carefully piled that it would remain in place if there were no walls to hold it. The inner walls of the vault are backed with boxes not much larger than that used by a bootblack when he shines your shoes.

There are two rows of these boxes rising from the floor almost to the roof and running clear around the inside of the vault. Each box contains two bags of silver dollars, just like the thousands of bags which lie within. The money is all stored in bags of white canvas; each bag will hold about a peck and it contains just 1,000 silver dollars. The bags are about as large as those with which boys go chestnutting, and as they lie there in the vault they look for all the world like so many little bags of wheat. Each bag has a seal upon it, and it would be impossible to get at the money without breaking the seal.

The question as to whether the money in the treasury is safe has often been discussed. This big vault is practically burglar proof. It is guarded by the iron bars and is also walled in cement and stone, with a wide aisle running around it, which would prevent anyone attempting to remove the money without being seen. There is no doubt that some of the other vaults are behind the times in their safety appliances. I remember that one of the treasurers became alarmed as to their condition some years ago. He went to New York and asked for the most expert safe-breaker and lock-picker on earth. All of the banks recommended the same man. He found him and brought him to Washington; the man wrote out a report and as he presented it said:

"I have here a detailed account of the vaults, but before you read it I want to give you a practical demonstration that I know whereof I speak. If you will go with me into certain of them I will leave my workmen on the outside. We will enter the vaults and your men can then lock the doors and my workmen will let us out inside of an hour."

The treasurer consented. They picked out a vault which had $8,000,000 in it. They went inside and the doors were duly locked, although the time lock was left off. It took just twelve minutes to throw the doors open. This was done without the use of explosives of any sort and merely by driving wedges in between the doors and safe. In company with this man the treasurer then went to the committees of congress and by their representations the matter was remedied. There is no doubt but that the vaults are absolutely safe now.

Guards Are Vigilant

Anyhow, it would be a very brave man who would try to rob the treasury. A tunnel might be dug from somewhere near the treasury building, but the robbers would have to drill, and they would have to have a railroad to carry away the silver. After they had taken a few thousand dollars the bags and boxes containing the remainder would tumble about with such a noise as to apprise the treasury guards of their action, and, as all these guards are on hand day and night, it would be almost impossible to get anything to speak of without discovery.

There might be a combination with the guards, and a fortune in greenbacks or silver certificates taken, but these are all numbered, and the thieves would be sure to be identified. There is a goodly corps of guards in the Treasury department, and these are divided into different watches. They have to salute each other from time to time, and a whistle would bring an army of guards to any part of the treasury at any moment.

Greenbacks Well Protected

But I am getting away from Uncle Sam's catacombs. I want to tell you about this $500,000,000 in bank notes which Uncle Sam has ready in case of a panic. It is now several years since they were stored away, and when they were made a brand new vault was made for them. This is nothing like the silver vault which I have described. It is more like a safety deposit establishment. It is a two-story structure furnished with steel racks. The interior walls are of Harveyized steel half an inch thick and outside them are walls of masonry and cement more than two feet in thickness.

(Copyright, 1913, by Frank G. Carpenter)

Men Wanted for Big Jobs

The newspapers of the cities are crowded with advertisements for trained men at big salaries. Equal opportunities for earning more money are found everywhere.

Why don't YOU train yourself to qualify for one of these big salaried positions?

What if you DO live in the country or in a small town—you surely live near some manufacturing plant—a railroad—a telephone company—or you own a farm that will produce greater profit under scientific management.

The International Correspondence Schools make it possible for you to receive a thorough training at home in any occupation, trade, or profession listed in the coupon below.

To learn all about this method of training just mark the coupon opposite the occupation you prefer, and mail it to I. C. S. TODAY. They will send you full particulars free of charge.

INTERNATIONAL CORRESPONDENCE SCHOOLS
Box 1156 SCRANTON, PA.

Explain, without any obligation on my part, how I can qualify for the position before which I mark X.

Automobile Running	Agriculture
Stationary Engineer	Livestock & Dairying
Locomotive Fireman	Poultry Farming
Electrical Engineer	Salesmanship
Electric Lighting	Advertising Man
Electric Wiring	Bookkeeper
Telephone Expert	Stenographer
Mechanical Engineer	Civil Service Examinations
Mechanical Draftsman	Good English For Every One
Architecture	English Branches
Contracting and Building	Lettering and Sign Painting
Concrete Construction	Plumbing and Steam Fitting
Civil Engineer	Surveying and Mapping
Foundry Work	Railroad Construction
Blacksmithing	
Gas Engineer	
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EARN WHILE YOU LEARN

BE A WATCHMAKER

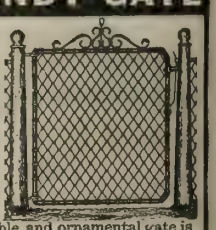
They're in demand now—big pay—we get positions for our graduates. Take our course—it's interesting, thorough, and teaches every detail of watchmaking and jewelry repairing.

FREE BOOK Send for our book "The Artisan." It explains everything thoroughly.

Stone's School of Watchmaking,
907 Globe Bldg. St. Paul, Minn.

$1 90 FOR THIS DANDY GATE

These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our **triple-galvanized, high-carbon steel**



Iowa Gates

The filling of this serviceable and ornamental gate is extra close diamond mesh. Gate has strong frame, patent latch, etc. Comes in all sizes; plain and fancy tops.

Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

IOWA GATE CO., 21st St., Cedar Falls, Ia.

When communicating with advertisers on this page, don't forget to mention the Twentieth Century Farmer. It will be appreciated by both advertiser and publisher.

Timely Items of Interest to Poultry Raisers and Fanciers

Chickens in Wyoming

Mrs. R. R. McK., Fremont, Neb.: I am intending moving to northeastern Wyoming in the spring, and have a nice flock of White Wyandottes that I want very much to take with me. However, I have heard they will do no good if I take them. They say that chickens moved to such an altitude will neither sit nor lay for a year, and maybe never. Is this a fact or a mere say so? Would like to have your opinion.

Answer—This is a question that I give to our readers, as it is the first time I have ever heard it. That, despite the altitude, chickens are raised in this climate named I know, as letters to me have shown this. Incubator troubles seem to be the main theme of these letters, nothing being said about shipped-in chickens giving trouble. Have we any readers now in this region who could tell us whether the above statement holds any truth or not?

Building Poultry House

Mrs. E. G., Burwell, Neb.: Will you kindly answer these questions? What kind of a roof would be best for a hollow-tile poultry house? How many chickens can be successfully housed together? What size houses and how many and how built would be best for 500 or 1,000 chickens? These would be on free range.

Answer—As the hollow-tile poultry house requires rafters to finish it, any kind of roofing handiest can be put on it. Those I have seen were sheathed and covered with the prepared roofing, which comes in rolls. Heighth and size depends upon the model you use in building, and the number of chickens housed. Don't make it higher than handy to get about in without bumping your head. A high house is a cold house. The least floor space given a chicken should be two square feet. An 8x10-foot house is considered enough for twenty-five hens, and fifty can be housed comfortably in a house 12x15. Not more than fifty should be kept in one compartment to insure good health. A house for 500 hens could be all made under one roof and with one floor. The house should be made long enough to divide into ten compartments. Whether you build but one house or more for the number of hens kept depends upon your taste in the matter. In building your house get it wide enough. Better have it twenty feet wide than fifteen. The ends and a little extra roofing is all of the extra lumber needed in making it wide enough. The Iowa State College at Ames, Ia., has out an excellent book on farm poultry houses. It illustrates a tile poultry house and gives cost of material. For 1,000 hens you must measure space in proportion to that measured for 500. Successful poultrymen claim better results if several separate houses are built for this number, and a certain number only allowed to range together.

Forced Birds Poor Breeders

To force poultry to growing fast for market, as forcing it to early laying, means stock not fit for breeders. Some poultry keepers force the young into market, then sell the cockerels for broilers and the hurried-up pullets for breeders. This is a bad practice, because a forced fowl allowed to live on is a weakened fowl and lays a weak foundation from which to start hardy flocks from the breeding pen. The ideal breeder must be a hen that has never been sick or off her feed a day. She must be close to standard in weight; she must have laid at least 150 eggs in the year following the laying of her first egg, and have begun laying at 6 months of age. Of course, we must in cases modify both of the last, as, if she be one of the large breeds, she may not have come to maturity at 6 months of age. She should, to be ideal, be a layer of winter eggs. The ideal breeder must be fed and cared for aright, but forced, not at all. Health all the way through is first essential.

Squab Questions

An Old Reader, Iowa: Will you kindly answer on the page the questions below? How long must I expect pigeons to live and make a profit? How much feed a day will they need, and how long are they hatching, and what is a good weight per dozen for squabs? Do they breed all the year? Is one nest enough for a pair of birds? If well mated, do the birds do well from the start? Do they require salt and grit? Must one stand and watch them eat?

Answer — Pigeons — that is, the homers—if all goes well, and you keep disease from them, should be profitable from seven to eight years. It is said that each bird should not have less than one ounce of feed a day. It is best to not watch them eat. They get nervous and forgetful of their young if even the owner fusses too much around them, and strangers get them badly off at times. A good weight for squabs is eight pounds to the dozen. It takes eighteen days for a pigeon to hatch. When mated they build their nests, for which two nest pans should be provided. They do not lay immediately after making the nest. It may not be for fourteen days after. The breeding season is surest from March to October. They will not do quite so well their first laying year as the years that follow. Yes, they require plenty of fine grit and some salt. This helps keep them well. Squabs are not like chicks; they are like kittens, blind for about as long after hatching.

Any other questions in this line you care to ask I will try to answer to the best of my knowledge, and by speedy letter, if you give me clear directions, which you did not do in this letter. IDA M. SHEPLER.

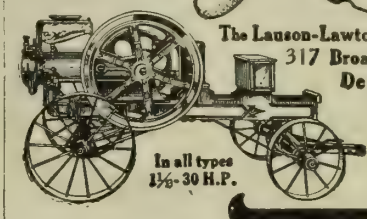
The Wisconsin ENGINE

because of its perfect balance and freedom from repair bills—high reserve power—simple construction—low first cost—and small fuel cost—is bound to be

THE WISE MAN'S CHOICE

if given half a chance. There is a wrong and a right way to farm. Begin now to farm with factory methods, at factory profits. Get a "Wisconsin."

Write for Details



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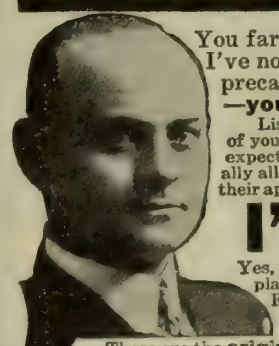
Save $8.00 to $22.00 on

Hoosier Heaters and Ranges

Base Burner

Why not buy the Best when you can buy them at such low unheard-of Factory Prices. Our new improvements absolutely surpass anything ever produced. Save enough on a single stove to buy your winter's fuel. Thirty Days Free Trial in your own home before you buy. **Send postal today for large free catalog and prices.** HOOSIER STOVE CO. **298** State St., Marion, Ind.

Worms Will Get Your Hogs If You Don't Let Me Kill The Worms



You farmers are being advised to vaccinate your hogs as a preventive and cure of hog cholera. I've not a word to say against it. But I want to tell you this: that if you will take the simple precaution of feeding Columbian Stock Powders there will be no need for you to vaccinate **—your hogs will not be in the slightest danger of cholera.**

Listen, men! Fully nine-tenths of all hog losses are caused by worms. These parasites sap the very life blood of your hogs and so weaken them that they are easy victims of cholera or any other swine disease. How can you expect a hog to keep well and take on weight when a wriggling mass of stomach worms keep absorbing practically all the nourishment from the food the hog eats? Is it any wonder that worm-infested hogs take sick, lose their appetites, slink off and die? But remember that nine times out of ten cholera hasn't a thing to do with it.

I'll Rid Your Hogs of Worms

Yes, **your** hogs have worms, too. Practically all hogs have. That's why there are so many epidemics of swine plague—why hog losses mount up into the millions of dollars every year.

Feed **Columbian Stock Powders** and inside of 12 hours you will **see** the dead worms that have been expelled. These powders are not a food, but a **highly efficient medicated preparation** that not only positively **kills** but also **expels** all stomach, tape, intestinal and lung worms.

These are the **original** Stock Powders. They have been on the market for the past 25 years and all that time they have been recognized as the **best**—the **standard**—powders, by the largest, most progressive stock raisers of the country. They will put a speedy end to all digestive troubles in hogs, horses and sheep. They sharpen the appetite—keep the animals on their feed—so strengthen the digestive system that there is absolutely no waste of food—the fattening period is greatly shortened—your hogs will bring highest market prices—you will be constantly turning your former losses into profits.

Best Conditioner For Brood Sows

Feed **Columbian Stock Powders** to your brood sows and see the strong, thrifty litters they farrow. Keep the sows in finest condition, strong, healthy, free from fever and insures an abundant flow of pure milk.

"Hogs Dying By Hundreds—COLUMBIAN Saved Ours"

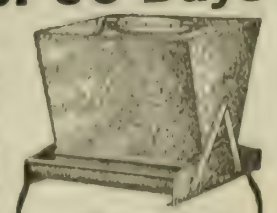
"Please ship F. W. Diehl at Shannon, Ill., 500 lbs. Columbian Stock Powder in 250-lb. lots; and Geo. Diehl, Milledgeville, Ill., 300 lbs. in 100-lb. lots. Please RUSH the above orders as the hog cholera is something fierce all over the neighborhood. Hogs are sick and dying by hundreds. Ours were sick but Columbian saved them. Yours truly, DIEHL BROS. Milledgeville, Ill."

Try Columbian Powders for 90 Days Before You Pay a Cent

I don't want you farmers and stockmen to pay me a cent until I positively prove to you that **Columbian Stock Powders** are the quickest, surest and biggest profit makers you ever tried. Just mail coupon, stating how many hogs, horses and sheep you are feeding and I'll make you a free trial offer that gives you 90 days before paying a cent.

Get My Free Book Handsomely illustrated and the most interesting and instructive book on hog and stock raising ever published. Write for your free copy.

Be sure to mail coupon today for my 90 Days Free Trial Offer.



Columbian Self Feeder

Regular price is $5, but if you will write or mail coupon, at once, we will tell you how to get one **FREE**

MAIL THIS COUPON TODAY

Columbian Hog & Cattle Powder C.., Dept. 6 Kansas City, Mo.

Gentlemen:—Without obligating myself in any way to buy, you may send me particulars of your offer to let me give Columbian Stock Powders a 90 Days' Free Trial before paying you a cent. At present I am feeding .... Hogs; .... Cattle; .... Horses; .... Sheep. Also send me, free, a copy of your book, "Make More Money On Your Live Stock" and particulars as to how to get a Columbian Self Feeder FREE.

Name.....

Address.....

AGENTS WANTED

I want a few good responsible farmers of ability to represent me in every community. I'll pay big money for the right men. My proposition is a winner and a big money maker. Write for full particulars.

Address Frank R. McDermand, Pres.

Columbian Hog & Cattle Powder Co.
1454 GENESEE ST., Dept. 6 KANSAS CITY, MO.

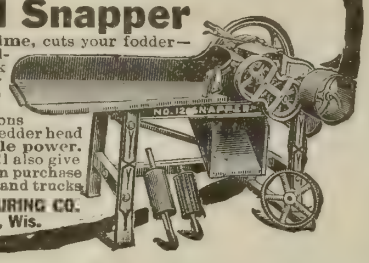
Don't Waste Fodder!

Let This Magic Machine Cut Every Corn Stalk Into Rich Feed for Your Live Stock

Up-to-date farmers no longer allow their cattle and other stock to tramp down and ruin half their fodder. Instead, they take corn stalks (ears and all) run them into this marvelous machine, which not only cuts the fodder into rich, succulent morsels but also husks 50% of the ears in many localities. Thus, all dry fodder is saved and turned into money (milk, butter, cheese, beef or veal).

SMALLEY Cutter and Snapper

This machine snaps off the ears and, at the same time, cuts your fodder—does it clean as a whistle. With this machine you will always have plenty of fresh feed that will keep your stock in first-class condition. When the weather is too cold for field husking, haul in a few loads of corn stalks and do part of your husking and fodder cutting in the barn. Capacity, 15 to 30 bushels snapped corn and 1½ to 3½ tons dry fodder; 1 to 1½ tons corn hay per hour when shredder head is used. **Small gas engine furnishes ample power.** The Powerful Smalley force feed cutter will also give you fine results in dry feed cutting. You can purchase the plain machine now and the blower and trucks next fall.

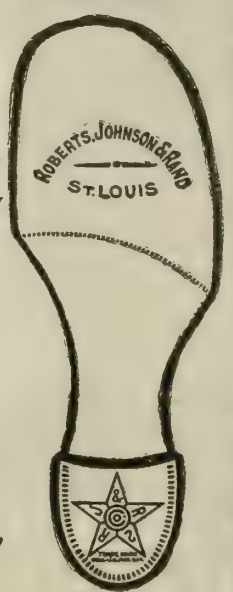


SMALLEY MANUFACTURING CO.
Box 19, Manitowoc, Wis.

Catalog FREE! Look into this winter cutting proposition. Just send your name on postal and by return mail you'll get our latest catalog.

Be Sure You Get The Genuine "Star Brand" Shoes

Study this illustration so you will know a genuine "Star Brand" Shoe when you see it. Don't be fooled into buying something represented to be "just as good".



There are several kinds of star trade-marks used on shoes. Many dealers will try to sell you an inferior shoe by claiming it is a "Star Brand" Shoe.

Don't be fooled on the wrong star.

"Star Brand" Shoes are made in over 750 styles—in our own 23 big factories. Every pair is honestly made of good leather. No substitutes for leather are ever used.

We heartily favor the Oldfield Pure Shoe Bill now before Congress. It requires that adulterated shoes be so stamped. It will give you a square deal on your shoes.

We have built up the greatest shoe business in existence on honest leather construction. If any manufacturer wants to use paper soles he should be forced to make that fact known.

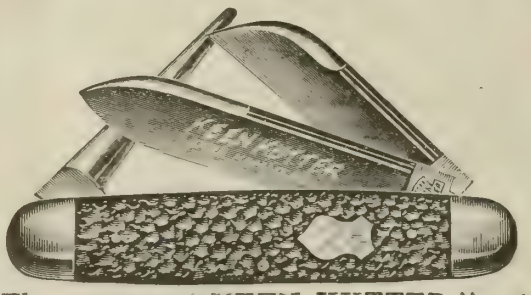
The "Patriot", "Pilgrim", "Pluck", "Society", "Mayflower", "Tess-Ted", "Our Family", "Stronger-Than-The-Law", "Soft and Good", etc., are all "Star Brand" Shoes.

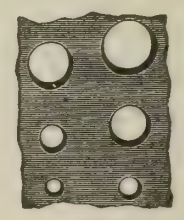
Look up the "Star Brand" dealer. Be sure you get the genuine "Star Brand" Shoe with our name on the sole and our "Star" on the heel, then you will know why—

"Star Brand Shoes Are Better"

ROBERTS, JOHNSON & RAND
MANUFACTURERS Branch of International Shoe Co. ST. LOUIS

Do You Know the Value of a KEEN KUTTER Pocketknife?





The name, "KEEN KUTTER," stamped on every blade, is a positive guarantee of its unexcelled quality.

The regular selling price of this knife is $1.50. Ask any dealer; he will tell you the same.

This particular knife is designed for the special use of farmers, stockmen and sportsmen, on account of the Leather Belt Punch Blade for making various-sized holes in leather for buckles, rivets, belt lacing, etc.

WE WANT YOU TO HAVE ONE

Send us $1.50 for a year's subscription to THE TWENTIETH CENTURY FARMER and we will send you the KNIFE FREE.

The Twentieth Century Farmer, Omaha, Neb.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Ingenious Use of a Tractor

H. W. G., Washington, Neb.: I am sending you a photograph that pictures the work of a traction engine such as I have never seen mentioned in any farm paper. A heavy steel, air-pressure tank, four feet by twenty feet, is being lowered into a pit eight feet deep so as to be protected from freezing. Heavy wire cables were put around the tank in such a way that they would slip as the tank rolled down into the pit. The other end of the cables were attached to a traction engine. The tank was started down the incline with a lifting jack, and the engine held it as it rolled into the pit. The work was done by three men without a jar. This was on the Gelston brothers' farm, Elk City, Neb.

Editor's Note—No one without an engine can form an adequate estimate of the work and help that may be derived from one. Wherever power is needed on the farm, an ingenious man will devise some way by which the engine may be made of efficient help.

Forage Crops Injurious to Cattle

G. S. McL., Glade Park, Colo.: I am writing to ask you to please inform me if the sprouts of amber cane (after the crops have been harvested) are injurious to cattle, as is sorghum?

Answer—All varieties of cane or kaffir when grown during a period of drouth are dangerous to cattle when pastured, but after being cut and well cured can be fed with safety.

Calf Has Trouble Breathing

H. E., Bridgeport, Neb.: I have a suckling calf that is affected as to its breathing. It can hardly breathe when it tries to eat or suck. Once in a while it coughs as though its throat were sore or its lungs affected. There is no swelling about it. It has been that way since May. It lies around now and will not eat or drink, and can hardly get its breath at all. Please tell me, if you can, what is the matter with it, and what to do for it. There are two of our yearlings that seem to be getting the same way. It may be a contagious disease.

Answer—Without making a careful examination, it would be impossible to say what this trouble is. It might be a case of chronic pneumonia, or it might be tuberculosis. It might also be possible that a post-mortem would be necessary to determine the cause of trouble. If you have a local veterinarian, I would suggest that you call him. If the trouble develops further, and seems of a contagious nature, write the state veterinarian of Lincoln.

Peculiar Joint Affection

A. C., Neligh, Neb.: I am following the rest of the crowd and bringing my troubles to you. We have a mare mule 4 years old and she is a beauty; but let her stand over night in the barn and sometimes one or the other of her hind legs seems to stick to the ground just as if it were glued down. She doesn't seem able to raise it a step. Finally she gets it up, and it will give a crack, and after a few steps she is all right. Now whether it's in the hock or stifle, we can't find out. And sometimes for weeks she won't be bothered with it and then maybe it will happen every morning—sometimes in the left leg and sometimes in the right one. Is there anything to do for it? Would blistering do any good, and where should the blister be put on? Would caustic balsam be all right? Will be many times obliged if you can help us, as the mule is quite valuable and so gentle.

Answer—This is a peculiar affection of the joint and should not injure the usefulness of the animal in any way. There is no treatment that would be of benefit.

Durum and Winter Wheat

D. B. B., Wilcox, Neb.: Is there any variety of durum wheat that can be successively raised in Nebraska, in this western part, and is it developing into a winter wheat? The red turkey wheat is not doing as well here as in former years.

Editor's Note—No wheat does well when grown successively; that is, wheat after wheat.

Perhaps the correspondent meant to ask if durum wheat is being successfully grown. If so, it may be stated that there is not as much durum wheat grown in Nebraska today as there was ten years ago. Where grown, it is grown almost exclusively for feed because it is not a good milling wheat, and the millers fight shy of it.

No attempt is being made to develop it into a winter wheat.

Turkey red wheat, it is generally conceded, is the best variety for this territory. In order to get the best results with it, however, care must be used in the selection of seed and

in grading up instead of allowing its vitality practically to run out. The season has not been favorable for wheat in the Republican valley territory and in southern Nebraska for a few years. The fact that turkey red wheat is not doing as well, is probably due to both these causes—to the poor selection of seed and to unfavorable climatic conditions.

Preventive for Cornstalk Disease

W. H. H. R., Holdrege, Neb.: Mr. Curry, an old resident of Phelps county, says: "If the farmers will feed their cattle flaxseed and salt in equal parts, they can turn their cattle in their cornfields without fear of loss from the effects of the unknown and incurable disease which is so prevalent among cattle that are fed cornstalks during the winter months."

"I found," says Mr. Curry, "by a careful diagnosis of the carcasses, that the diagnostic of the disease is a continued inflating of the stomach and bowels, until the size of the animal in many instances before death relieves it reaches to twice its normal proportions. This, and the fact that in every case the stomach of the dead animal was so tightly packed with dry corn fodder, and the bowels so inflated with gases, convinced me that the immediate cause of death was constipation caused by indigestion. In an effort to prevent the recurrence of this disease in my herd, I prepared the foregoing mixture, and have used it for the last ten years, not as a cure, for I am of the opinion that once the animal gets the disease there is no cure, but as a preventive, and have not lost a single head by fodder feeding.

The troughs in which I keep the mixture are so arranged that when the cattle go to the drinking tanks they are attracted to the mixture and take enough of it each day to keep their bowels loose and to furnish their stomachs with a sufficient amount of saliva with which to prevent the fodder-packing process which so frequently takes place."

Sufficient Inflation Saves Tires

Possibly three-fourths of the tires returned to the automobile manufacturers for repairs have been ridden insufficiently inflated. Insufficient inflation is responsible to a greater extent than perhaps anything else for blowouts and quick disintegration.

How to Move the Farm and Household Goods

(CONTINUED FROM PAGE SEVEN)

that it died before the trip was half made. Two or three other colts were allowed their liberty, with the result that they spent much of their time lying down and they came through all right.

Transporting the Stock

One end of one of the cars was devoted to eight head of Jersey cows and heifers, several of which were milked regularly. Neither the ones that were giving milk, nor the ones that calved soon after arrival seemed to suffer any bad results.

Stock transported in an emigrant car must be provided with ways and means for feeding and watering within the car, as it cannot be unloaded for that purpose. We double-decked the end that had the cows in and put our baled alfalfa and wild hay and our chicken crates on the upper deck. We had a small tank in this car, which proved to be a great convenience in making it possible to carry a considerable supply of water. On some occasions the trainmen were prevailed upon to "spot" the car where the water could be pumped or piped right into this tank. It was located between the car doors, which made it convenient to carry the water in buckets to the stock in the other cars.

Plenty of Ventilation Provided

Although this journey was made in January, care was taken to see that one of the doors was allowed to be open as much as possible. Not both doors, however, because of the danger of a draft chilling the animals. Ventilation is an item that cannot be neglected without danger of serious results. Keeping the animals too warm and in the polluted atmosphere of a close car causes their powers of resistance to be so much lowered as to give rise to the danger of an attack of lung trouble when the animals are unloaded and brought in contact with the cold and perhaps damp air. Lung fever in some of the animals is often the result of too little care in this particular.

We made it a point to see to it that our stock was in a thrifty condition as one of our preparations for the journey. Grain was used rather sparingly in the ration before and during the journey, as it was considered safer to depend upon good, bright hay, as the excitement and nervousness naturally caused by such an unusual procedure would cause more or less of a deranged digestive process. Upon our arrival and for a time thereafter, we took care to protect the animals from any sudden change of conditions, but worked them moderately from the start and thus the acclimating was made without any bad results.

Know to What You Are Going

There is one more observation that, in this age of much moving and investing under unfamiliar conditions, perhaps, is quite relevant to this subject. This country, like most others, has considerable land that has better qualifications for giving the newcomer "cold feet" than for home building and farming operations. Some of it is water-logged and alkalied. Some of it has unsatisfactory ditch accommodations and expensive water rights. Some of it lies under ditches that were actually made to sell the land and are as innocent of water as the Sahara itself. Then, again, some of it only has the survey stakes set for ditches and the real estate dealer is sure to forget to allude to the very pertinent fact that homesteaders under these projects were just as sure of an early water supply a dozen years ago as he pretends to be today. The safest course for this or any other section of far-flung opportunities, is for the prospective locater to mix freely with the people who are getting their living and paying their water charges and taxes from farming operations at first hand instead of by practicing the wind artist, bunco-steering stunt on unsophisticated tender feet.

A. CORNELL.

Easy on Man and Team

Low Down
Short Coupled

There is no argument as to the value of the Manure Spreader, neither as to the saving in time and labor nor in the increase in yield, resulting from proper spreading of fertilizer.

The most profitable investment you can make is—

The Flying Dutchman Spreader

A Steel Frame, Low Down, Close Coupled, Endless Apron Spreader, of the most modern construction, greatest convenience and lightest draft.

Easy to Load—The top of the Box being only 42 inches high, it is easy and quickly loaded, without that back-breaking lift.

Runs Easy—The box being higher in front than in rear, the apron runs down hill, giving lighter draft—you know it's easier to pull a load down hill than up. It is also equipped with Roller Bearings—reducing friction.

Wheels Under the Load—Just where they should be to secure the lightest draft—most convenience in turning and plenty of traction power on the rear wheels, without the use of lugs.

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No other Spreader is so strong and well built. The Apron runs on three sets of steel rollers, safely carries 5,000 pounds without sagging.

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We also build the MOLINE SPREADER which is of the same general construction, except it has a Return Apron.

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MOLINE PLOW CO.

Dept. 7 MOLINE, ILL.

POLAND-CHINA HOGS.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. **THOS. F. WALKER & SON, Alexandria, Neb.**

POLAND CHINA BOARS

I have a choice lot of big growthy spring males for sale, sired by Wayside Jumbo by Wade's Jumoo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille Columbus, Neb.

POLAND-CHINA BOARS.

Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Clarton, Neb.

JERSEY CATTLE

WINELAND FARM JERSEYS

Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.

H. C. YOUNG, Lincoln, Neb.

LONERGAN'S TRIED POLANDS

Several tried herd headers for sale. Also a lot of extra choice spring and fall males. They are the big, smooth kind, with quality and bone. Prices reasonable. D. C. LONERGAN, Florence, Neb

HORSES AND MULES

DOLLARS THAT GREW and GREW

Good judgment makes men rich. Have studs FROM A FARMER, pass no town-farm expenses. My big bunch reg. Percheron studs, weanlings to 4 years, have bone and weight with pep of them, cost you half as much but make you twice the money. Good judgment buys early.

FRED CHANDLER, Rt. 7, Chariton Iowa

DUROC-JERSEY HOGS

DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.

C. E. CLAUFF, Central City, Neb

HOLSTEIN-FRIESIAN

Purebred Registered

HOLSTEIN CATTLE

Large sums are put into land, buildings, horses, machinery and labor in order to maintain cows that are utterly unable to return a profit.

On a dairy farm the efficiency of the herd should be the first consideration. With good purebred Holsteins you are sure to earn a generous profit on any intelligent investment of your money, time and labor.

After the cost of her feed is deducted a good Holstein will return a profit of $60 to $100 per year in addition to a valuable calf.

Send for FREE Illustrated Descriptive Booklets.

Holstein-Friesian Asso., F. L. Houghton, Sec'y Box 179 Brattleboro, Vt.

PRIZE WINNING DUROCS.

Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Modern W's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale, sired by Buddy K 4th, Wide Awake Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.

GEO. W. SCHWAB, Clay Center, Neb.

KUZEL'S DUROCS

Echo Top King, Model Wonder 3d, Proud Wonder Jr., Crimson Rex and Prince by Prince of Colonel's, are the sires of my spring pigs. Choice boars for sale at reasonable prices.

L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

Spring boars for sale, sired by Model Goods, Queen's Wonder, Uncle Wonder and Queen's Wonder Again. They are the kind that will correspondence solicited.

O. G. SMITH & SON, Kearney, Neb.

SCHULTZ' DUROC-JERSEYS

Top Crimson Lads for sale that are right in breeding and as individuals. Come see them, write the money and guarantee them to be good. GEO. W. SCHULTZ, Yutan, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

DAIRYMEN ATTENTION!

135 — High Grade Holstein Cattle — 135

AT AUCTION

At South Omaha, Neb., October 21, '13

The offering consists of 65 cows and heifers, all fresh or soon due, all acclimated and bred to registered bulls. 50 heifers 1 to 2 years old, mostly bred; 15 calves of both sexes; **10 registered bulls of the best breeding.**

Every animal tuberculin tested. **H. C. GLISSMAN, Station B, Omaha, Neb.**

Review of Live Stock Market

By A. C. Davenport

THE break in hogs predicted in these columns as due to arrive some time in October put in an appearance last week. Operators on the market had been watching and waiting for the packers to begin hammering the market, according to the time-honored custom, everyone feeling sure that the break would come, but no one knowing exactly when. The suspense was ended last week when buyers broke the market in two days 25@35c. Some of this loss was regained later when receipts became lighter by reason of the lower range of prices.

No one believes for a minute that the break is over with, but on the contrary, most operators on the market look upon the downward movement of prices as only just begun. It has been demonstrated many times before that when the packers all think about alike, and hence act in unison, they can break the market in spite of anything that sellers can do.

Unfortunately for the selling interests, the packers just at present appear to be all of about the same mind, that is, they all are bears and they are all talking that the market ought to go to $7 on the basis of Omaha. They may not succeed in getting it down quite that low, but most operators are willing to concede that the market will at least drop as low as $7.50, even if it goes no lower. Just when the market will reach the low point is entirely a matter of conjecture, but the feeling is that the most of the decline will take place between now and the early part of November.

Liberal shipments of hogs, forced to market prematurely by the prevalence of cholera in most of the hog producing states, is likely to make it much easier for the packers to force values down. While the packers have frequently demonstrated that they could break the market in spite of moderate receipts, it is a self-evident fact that liberal receipts simplify matters very much. The heavy reduction in the buying demand from Atlantic coast points also is of great assistance to those who are pounding the market. Reactions may be expected to follow severe breaks, but the trade will not regard them as an indication of strength for some little time to come, as everyone seems to have accepted the belief that prices are bound to suffer a decided reduction during the coming three or four weeks.

Low Prices Probably Temporary

It must not be understood from this that the bulls are all dead or that they have all gone over to the camp of the enemy. On the contrary, the bulls are still very much alive and although forced to bow to the inevitable are still full of confidence for the future. While some of them admit that there is a possibility that the market may go even as low as $7 at Omaha, they refuse to believe that it will remain there long. On the contrary, they take the stand that the favorable business conditions prevailing over the country as a whole will continue the good buying demand for all forms of hog products that has prevailed throughout the year to date. At the same time they are very positive in their assertions that there will be a big shortage in hog supplies before next spring's pig crop can be made available. To prove this latter assertion they are pointing to the persistent reports of hog cholera and the consequent heavy losses of hogs in the country. As a proof that these reports are not exaggerated they are calling attention to the heavy receipts of immature pigs weighing around 100 pounds at all the big market centers. On Monday of last week Chicago reported some 14,000 pigs received, which constituted in round numbers a third of the total receipts of hogs for that day. While other markets have not received quite such a large proportion as that, they are nevertheless all of them getting large runs. Under normal conditions these pigs would be held until late in the spring and would not commence coming much before March. It is very easy to see from this that the present liberal receipts that are so helpful in enabling the packers to break the market are really at the expense of next spring's run, when, according to the bulls, the shortage will begin to be felt and will continue in a more acute form as the summer advances.

If the bulls are correct in their prognostications the man with healthy hogs not yet ready for market need lose no sleep, but can await confidently the time when the packers will need what he has and be willing to pay for it. The feeling is so general that the break will be only temporary and that prices the coming spring and summer probably will be higher than ever, that one hears now and then some venturesome bull giving utterance to doubts as to whether, in the face of such sentiment, the packers really will be able to break the market as badly as a good many believe. Time only can tell, but at present there is every indication that the market during the next few weeks will be full of interest both to buyers and sellers and may even have some surprises in store.

The cattle market last week moved along in a very satisfactory fashion so far as the selling interests were concerned. Buyers of both killing and feeder cattle seem to have had use for everything in sight and the markets at all points were generally in a good healthy condition. Such changes in prices as took place were generally of slight importance, being only the swinging back and forth of the pendulum. As pointed out before in these columns the best cattle are not selling so high as a year ago, while the common to medium grades are higher.

Sheep and Lambs Coming Freely

Sheep and lambs have been coming forward from the western range very freely of late, while there has been in eastern markets a liberal supply of natives. In spite of this fact the demand has been so active that the market has continued in a good healthy condition, the same as all the season. Prices on feeding lambs showed a little weakness, just enough to encourage buyers in a belief that prices might be lower before the end of the season, but not enough to worry sellers. Taking the large receipts and the high prices of feed into consideration, the market has been remarkably good all the season.

An Exceptional Land Locality

Improved Farm Home in Wisconsin

Note Character of Land Plowed by Tractor

Everybody knows that bottom lands, or those that lie along the rivers, are the most productive of any. Many know that the old marshes and meadows of Iowa and central Wisconsin that have been preperly drained are equally as rich and susceptible to cultivation, as shown by the two illustrations herewith, in Juneau county, Wisconsin.

The most notable of these lands can be found in central Wisconsn. about midway on a direct line from Chicago to St. Paul, where actual settlement is now going on. That this is an exceptional land locality is shown by the soil, which runs from two to four feet in depth, and by having the two great railroad systems that thoroughly cover the state, which supply the great markets, consisting of the immense lumber industry, the wonderful iron and copper mines, the commerce of the great lakes and the millions of people in the large cities within easy reach who must be fed. Now, all this means that the farmer there will generally get Chicago prices for his products, less the freight.

The healthfulness of the country is conclusively shown by the hundreds of thousands who every year go to Wisconsin to rest and recuperate. This is very natural, becausé the water is noted for its abundance and purity, no matter where found, and besides, the climate is a most inviting one, which makes fishing, boating, bathing and camping most enjoyable.

Breeders' Notes

Poland-China Herd Headers

We take pleasure in calling attention to the advertisement of Thomas F. Walker of Alexandria, Neb., on another page of this issue of the Twentieth Century Farmer. Mr. Walker recently called off his fall sale and is offering Poland-China boars at private treaty. In this connection, we want to say that we believe they have one of the choicest lots of boars to pick from that can be found anywhere. They are the great, big, smooth kind, with plenty of bone and quality and are right up on their feet. They are sired by his own herd boars, Blue Valley and Blue Valley Orange, one litter being sired by Columbus, the sensational show boar of last year. Some of the biggest of these boars weigh around 300 pounds at this time. Among these is one that Mr. Walker considers to be the best prospect that he has ever raised for a real herd header. This boar is sired by Blue Valley. If you are in the market for something really good, write Mr. Walker, mentioning the Twentieth Century Farmer.

Alfalfa Herd Durocs

O G. Smith & Son of Kearney, Neb., proprietors of Alfalfa Herd Durocs, are offering a number of mighty choice spring males for sale, sired by Model Goods by Golden Model 2d, Queen's Wonder by Crimson Wonder Again, Uneeda Wonder by Uneeda Crimson Wonder, and Queen's Wonder Again by Queen's Wonder. These boars are bred in the purple and they have been grown in a way that insures their future usefulness as breeders. Messrs. Smith & Son have been consistent purchasers of the very best breeding stock obtainable and by careful selection and mating they have succeeded in building up one of the good herds of the west. Write them for further information regarding what they have to offer for sale. Kindly mention this paper when writing.

Holsteins for Sale

We call attention in this issue to the advertisement of Crossland Stock farm of Sextonville, Wis. This well known farm is offering several registered Holstein bulls of serviceable age for sale; also some splendid young heifers and a number of calves. If you are in the market for something in the dairy line and want to start right, get into communication with this farm at once. Kindly mention the Twentieth Century Farmer when writing.

SAVE-THE-HORSE

Trade-Mark

There is no better time than while the horse is working and sweating for our treatment; which penetrates both bone and tissue — reaching the cause — and cures without blistering or loss of hair.

We Originated the treatment of horses—Under Signed Contract to Return Money if Remedy Fails.

Our Latest Save-The-Horse BOOK is our 18 Years' Discoveries. Fully describes how to locate and treat 58 forms of lameness—Illustrated.

This BOOK—Sample Contract and Advice—ALL Free to (Horse Owners and Managers only). Address

TROY CHEMICAL CO., 16 Commerce Ave., Binghamton, N. Y.

Druggists everywhere sell Save-The-Horse WITH CONTRACT or we send by Parcel Post or Express paid.

GRAIN BELT BRAND

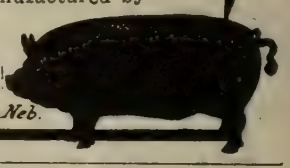
Vegetable Hog Potash

Don't starve your hogs to remove worms; try this: Send for sample of our product; then select six growing pigs, feed them all the grain, oil meal, tankage and milk they can eat, then place before them in dry trough sample of Hog Potash and see how they eat it. Worms cannot live where it is fed regularly. Sold at prices of good salt. Send today for sample and descriptive circulars.

Agents wanted in unoccupied territory.

Manufactured by

UNION STOCK YARDS COMPANY South Omaha, Neb.



HOLSTEINS

To reduce our stock, we offer two young registered bulls, five choice well marked heifers and eight spring calves.

Crossdale Stock Farm, Sextonville, Wis.

Farmers Wanted In Minnesota where big crops are produced. Homes for thousands. Improved farms for corn, small grains and live stock. Dairy farms with pure water, clover, timothy and alfalfa. Maps and literature telling all about Minnesota sent free upon application to Fred D. Sherman, Commissioner Immigration, Room 212, State Capitol, St. Paul, Minn.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, October 25, 1913 | Number 672

Traction Farming and Traction Engineering

(Gasoline—Kerosene—Alcohol)

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This book is issued in response to an urgent demand by farmers for a thoroughly up-to-date, practical book. It explains in simple language without mathematics or technical terms, just what everybody who has anything to do with Traction Farm machinery should know.

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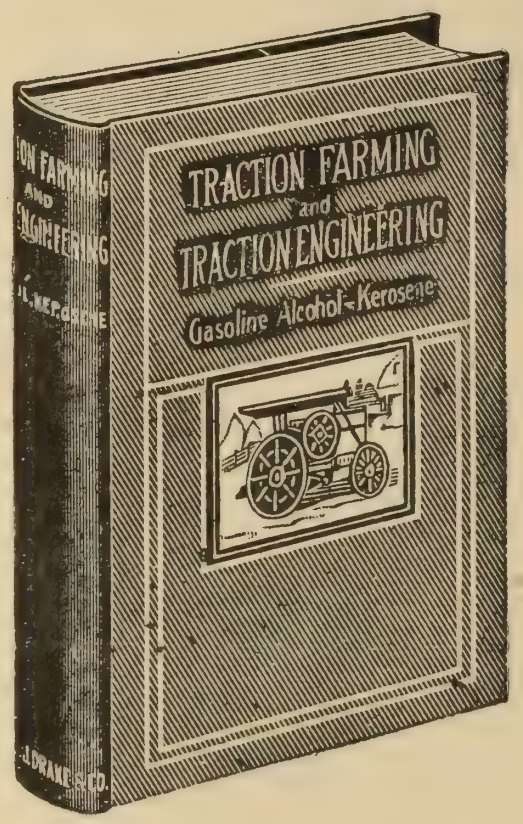

This is Exactly The Book You've Been Looking For

Part I—Farm Tractors.

Part II—Water Supply and Electric Lighting Systems for Farm Homes.

Part III—The Science of Threshing and Types of Threshing Machines.

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What It Tells About and Why: This book gives you what you want in the way you want it, and is written so you can understand. It treats in a thoroughly practical manner all there is to know of Traction Engineering. It explains all about the operation of Gasoline and Oil Traction Engines; Pulling Plows; Threshing Machines; Farm Pumping Stations and Lighting Plants, Etc. Everything is clearly described and explained and illustrated. Explains the principle of the action of the two and four-cycle Gas Engines. Tells about Gas Engine Cylinders and Pistons,—their construction and care;—Valves; Valve Chambers; Carbureters; Spark Coils; Magnetos; Dry Batteries, etc. Explains in an **understanding way** How to Adjust Valves; how to test for the best grades of either Gasoline, Kerosene or Alcohol, and also How to Vaporize either of these liquid fuels. Tells of the best methods of Modern Ignition, etc. Describes how Storage Batteries used for ignition purposes are constructed and how to care for them properly. Gives directions how to charge with fluid batteries when an Electric Lighting Circuit is not available; describes various Cooling Systems, etc., etc. Simple rules are given for figuring the horse power of traction engines; the various systems of Lubrication are described; and a large number of things not to do are told under the heading, "Don'ts."

We offer you this book and the Twentieth Century Farmer one year for $2.00

Address, The Twentieth Century Farmer, Omaha, Neb.

Bright and Breezy

Politics and Cucumbers

"And what," asked a visitor at the North Dakota State Fair, "do you call that kind of cucumber?"

"That," replied a Fargo politician, "is the Insurgent cucumber; it doesn't always agree with a party."
—Everybody's Magazine.

Strictly Truthful

The wayward young man, broken in health, was sent to the southwest to recuperate. He was in jail in Arizona for stealing a hind quarter of beef. He wrote home: "Dear Father—I've picked up some flesh since I came here, but am still confined to my room. Please send me $100."

Self-Confessed

"Wise men hesitate; only fools are certain," he observed in the course of a conversation with his tender spouse.

"I don't know about that," she said.

"Well, I am certain of it!" he exclaimed. And for a long time he was puzzled to understand why she burst out laughing at him.

A Puzzle to Him

A man who went away from home some time ago to attend a convention of church people was struck with the beauty of the little town in which the gathering was held. He had plenty of time, and while wandering about walked into the village cemetery. It was a beautiful place, and he walked around among the graves. He saw a monument, one of the largest in the cemetery, and read with surprise the inscription on it—"A Lawyer and an Honest Man."

The man scratched his head and looked at the monument again. He read the inscription over and over, then he walked all around the monument and examined the grave closely. Another man in the cemetery approached and asked him:

"Have you found the grave of an old friend?"

"No," said the man, "but I was wondering how they came to bury those two fellows in one grave."

Where He Drew the Line

A farmer in one of the neighboring townships who had gone into scientific poultry raising hit upon the scheme of marking each egg with certain data in indelible ink. His idea was to find which variety of chickens laid best, and then, when the eggs were hatched, attach a tag to the chicken's legs. He soon found that his hired man was negligent about properly inscribing the eggs. One day not an egg was marked, and the farmer read him the riot act.

The hired man listened in sullen silence until the boss finished, then he said: "See here! You'll have to get another man!"

"Why, Jim, you're not going to leave me after working for me six years?"

"Yes, I am," returned the hired man. "I've done all sorts of odd chores for you without a whimper, but I'm durned if I'm going to stay here and be secretary to any durned hen!"

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Crops for the Season of 1913

NEXT week we will give considerable space to the reports of the crop yields in the Missouri valley states. The past season has been unusual in many respects. We will not only make an inventory of what has been produced, with the approximate value in dollars and cents, but we will also try to draw some lessons from the drouth conditions which prevailed in a portion of this territory. To farm intelligently it is necessary for the farmer to compare the experiences of one year with another, as it is very seldom that succeeding years are the same. Our purpose in giving our readers this information is to offer the man who thinks an opportunity to begin laying plans for next season. The successful strategist, or general, has his victory won before the first shot is fired.

Prattle of the Youngsters

Not on Exhibition

Dan's mother told him he must wash his face before going to bed.

"Oh, mamma," said Dan, "I'll wash it in the morning. Nobody sees me when I am in bed, anyway."
—A Subscriber.

Warning

The minister was coming to dinner, and the lady of the house killed a rooster in his honor. Her little boy was very much annoyed, and thought it cruel.

Some time after this the lad saw the minister coming up the road. He ran into the yard and began putting all the hens and chickens into the roosting place, saying all the time:

"Shoo, shoo! Here comes the man that ate yer father!"

At Home

Bessie and Bertie were at a loss for a game to play.

"Oh, let's play being 'at home' and have 'a day,'" suggested Bessie.

"'A day'?" queried Bertie. "What does that mean?"

"Why, don't you know?" said Bessie, wisely. "All the fashionable people have 'days.' God's day is Sunday, and mother's is Tuesday."
—Harper's Magazine.

Helping the Minister

A young minister, unexpectedly called upon to address a Sunday asked, to gain time: "Children, what shall I speak about?"

A little girl on the front seat, who was in the habit of reciting at entertainments, had committed to memory several declamations so that she was always prepared for any occasion. Sympathy and interest shone in her face as she held up her hand and in a shrill voice inquired: "What do you know best?"

Negligent Manufacturer

A little girl was walking along the street with her mother, when she saw a one-armed man. It was the first time in her life that she had ever seen a man without an arm, and she wanted to know all about it. Her mother explained, in answer to her questions, that the man had probably met with an accident of some kind and that his arm would never grow back. The little girl thought for a moment and then said, "Well, if the Lord made us, it seems to me like He ought to keep us in repair."—Judge.

Certainly Glad

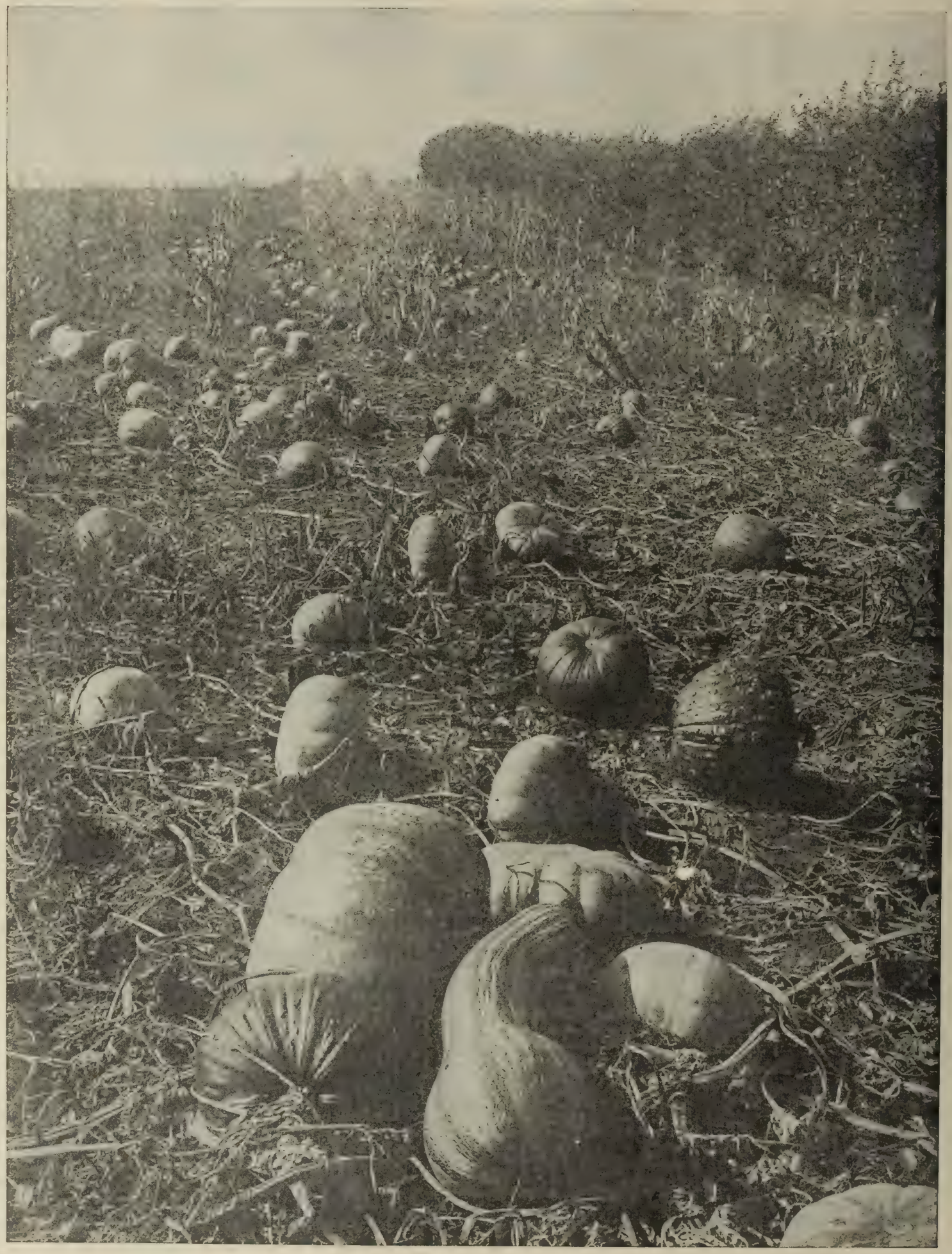
A little city boy was sent to the farm of his uncle to spend three weeks, but it was two months before the youngster got back.

"Well, Willie," smilingly remarked papa, "how do you like farm life?"

"Fine!" declared little Willie. "There is room enough out there to whoop it up and play ball without giving the neighbors a twisty look in the face."

"I suppose so," returned papa. "Was your Uncle Hiram very glad to see you?"

"Well, I should say so!" enthusiastically replied Willie. "He wanted to know why we didn't bring you and mother and the cook and the maid and the dog."



Material for Pies and Jack-o'-Lanterns

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Intrinsic Value of Manure on the Farm

Article I—The Uses it Subserves Make it of Vast Economic Importance

IT IS impossible accurately to estimate the full money value of farm manure. Its value as a fertilizer; that is, the money value of the plant food that it adds to the soil, may easily be computed from a chemical analysis. But throughout the middle west, as a general rule, its value as a fertilizer requires much less consideration than its other values. Its effect upon the soil far transcends in value the value of the plant food that it adds to the soil. These other uses of farm manure are of prime importance to the producing capacity of most soils of the Missouri valley. They have not been given sufficient consideration, and as a result the producing capacity of these soils has not been made what it might easily have been made.

Nearly all soils of the middle west are seriously lacking in vegetable content. Vegetable growth uses up the vegetable content of the soil. After land has been successively cropped for a number of years the decayed vegetable matter in the soil becomes more or less exhausted, and the producing capacity of the soil depends more largely upon this than upon anything else. If the soil is to be kept in condition for heavy production, it can be done only through the addition of a sufficient amount of vegetable matter. Manure is vegetable matter in the process of disintegration and decay.

Manure Adds to Water-Holding Capacity of Soil

Water in the soil is necessary in order to enable plants to take their plant food from the soil. The only manner in which a plant can take its soil food is to have this soil food dissolved in water, and to have this solution sucked up by the feeding rootlets of the plants. Unless there is sufficient water in the soil for this purpose, the plant cannot take its food and will die of starvation. A soil that contains no vegetable matter has a minimum capacity for the retention of water. Most of the rainfall on such soil must of necessity run off and be lost because the soil cannot retain it. The addition of vegetable matter to such a soil gives it more or less of a spongy character. The degree of sponginess in such soil will depend upon the amount of vegetable matter that it contains. If common prairie soil, practically devoid of vegetable matter, be evaporated to perfect dryness, it will be found that 100 pounds of such dried soil will hold at its saturation point only from forty-seven to forty-nine pounds of water. One hundred pounds of ordinary manure treated in the same way will hold 144 pounds of water at the saturation point. From this it will be evident that mixing the manure with a soil that lacks vegetable matter will vastly increase its water-holding capacity. Of course, it must be understood that the capacity of a soil mixed with manure to hold water depends upon the thoroughness with which the two are mixed.

Along the southern edge of the corn belt during the last season crops failed for lack of sufficient water in the soil. The loss to the country at large from this source was almost inestimable. This loss should teach everybody the importance of increasing the water-holding capacity of the soil. There was adequate precipitation during the preceding fall, winter and spring. Plant food is of no use in the soil unless there is sufficient water there to enable the plant to take it. Fertilizer of any kind will fail to produce results in the absence of sufficient soil water. Every farmer, by the proper use of manure, may be certain of retaining a much larger amount of water in the soil than is possible without it.

Adds to Soil's Capacity to Retain Water

A soil in which there is a difficiency of vegetable matter when it dries cracks and opens fissures throughout the surface through which immense quantities of soil water are lost through evaporation. If the soil can be so treated as to prevent this cracking, very little water will be lost through evaporation except from the immediate surface. If soil contains plenty of vegetable matter, or, in other words, has received an adequate amount of farm manure, and has been changed, as has already been stated, into a spongy condition, such spongy soil never cracks, and for this reason such soil will lose a minimum in moisture through evaporation. If crops are to be successfully grown, some means must be adopted to enable the soil to hold what water it receives from the rainfall. Nothing will do this as well as a liberal application of farm manure.

Of course, from the very nature of the case, it is impossible to estimate or to express the money value of manure as it is related to the moisture of the soil.

Changes Physical Condition of the Soil

When manure is applied to a sandy soil, it gives it body and coherence, both of which make it more friendly to plant growth. When applied to heavy clay soil, and thoroughly incorporated with it, it disintegrates the clay, gives it a lighter character and makes it much more genial to vegetable growth. There are many places in the Missouri valley where soil that contained too much sand for production has been made highly productive through a liberal application of manure. In the same way heavy clay soils have been converted to productivity. The clay soil is unproductive when it becomes so compacted as practically to exclude the air. Air in the soil is necessary to plant growth. The addition of manure to such a soil not only increases its water holding and water retaining capacity, but makes more thorough aeration possible, and this aeration is indispensable to profitable production.

Helps to Make Soil Food Available

It is largely through the action of bacteria in the soil that the crude plant food in the soil is oxidized and made available for the use of plants. In the process of disintegration and decay of the manure in the soil the number of these soil bacteria is indefinitely multiplied and their activity indefinitely increased. Without these soil bacteria profitable production would be impossible. Anything that stimulates bacterial activity has a value that cannot well be estimated. These bacteria, in order successfully to do their work, must be supplied with air. The manure, when thoroughly mixed with the soil, gives it a lighter, more porous condition, and in this way serves to supply the necessary amount of air for the development and activity of soil bacteria.

Let it be repeated that no amount of fertility in the soil would be of any use to growing plants unless there were sufficient water in the soil to enable the plants to make use of it and unless there were sufficient air in the soil to permit the development and activity of soil bacteria.

Manure Adds Fertility to the Soil

There are very few soils throughout this territory that might not be benefited by increasing the amount of plant food that they contain. Virgin soil is generally productive, generally contains plant food in sufficient quantity to make production profitable. Every crop that is grown takes a certain amount of plant food from the soil. Continued production will exhaust the supply of available plant food. This supply may be renewed by a liberal use of manure. It is estimated that a ton of the average quality of farm manure contains plant food to the value of about $3. It may be a little more than this, or it may be a little less, depending upon the material that enters into the composition of the manure. Every farmer that applies a ton of average barn-lot manure to his soil gives to the soil plant food which, if bought in the general market, would cost him not less than $3. From this it follows that there are very few easier ways in which to make money than in the making and application of farm manure.

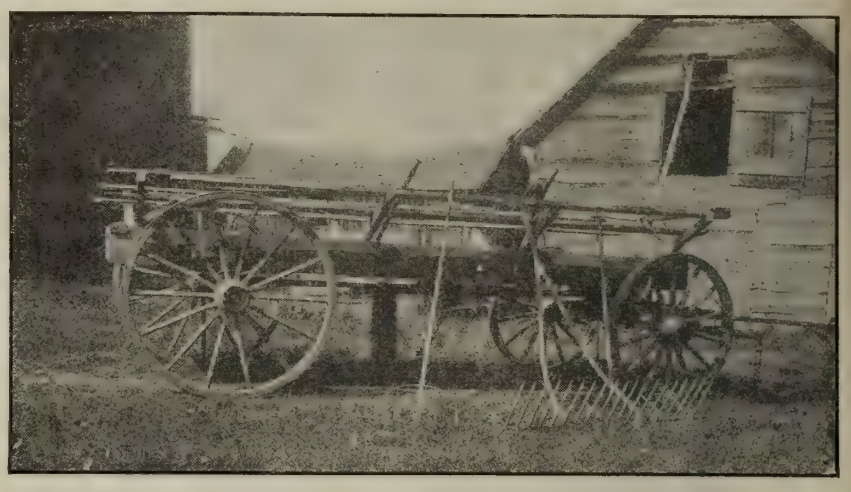
The materials for such manure throughout the Missouri valley which might be utilized for such purpose are now, to a large extent, permitted to go to waste. Strawstacks are burned or, what is almost as bad, are permitted to rot down in the field and a large part of their value becomes lost. Every bit of roughage or vegetable waste on the farm should be taken to the barn lot and there used for conversion into farm manure. The average farmer grows enough to make him prosperous if he would

(Continued on page 3)

Farming Methods Used in New England

Conditions on the Average Vermont Farm Quite Different from Those Confronting Farmer of the Middle West

Barnyard Sheltered by Buildings from New England's Cold Winter Winds, Showing "Cart"



Hay Cart, Drag Rake, Wooden Rake and the Two-Tined Forks

EARLY last June I went to Vermont to spend the summer with some relatives on their farm in the beautiful Connecticut valley. Aunt Irma calls it "Waveland," because the land rises and falls in gentle billows or waves—smooth, rounded knolls covered with the vivid green hayfields. All summer I kept my eyes and ears open and asked questions, for farming there is so different from what I know in our middle west.

"How many acres have you, Uncle Eldrige?" I asked, after walking over what seemed to me a very long stretch of pasture, certainly half a mile to the upper end.

"One hundred and twenty acres about."

"Only 120 acres? I should have said there were 200."

"Well, I suppose the farm seems large to you because we get both sides of the hill when we buy an acre; then, they are very irregular, and when you can't see straight ahead, because of the hills and the woods, it seems bigger. Our land is not sold by sections as yours is. They say 'so many rods east from such a stone or ledge or tree to such a one, and so many rods south,' and so on. This is a hay and grain farm; we've no stones as they do up on the hill farms, and yet the soil is not sandy like it is nearer the river."

New England Home, Having Horse and Carriage Barns Attached to Dwelling

View of the Beautiful Connecticut River from Waveland

Fields Seem Small to Westerner

"How much do you cultivate?"

"Oh, perhaps there are fifty acres of tillage fields. I usually have four acres in corn, six in oats and half an acre each of beans, potatoes and fodder corn, one acre in millet and forty acres or thereabouts in hay. We call hay land tillage fields. This country was all forest and has been cleared. The hay land is seeded every six or eight years to red clover, herd's grass—you call it timothy, I believe—and grass seed; I use red top. The way we do is to sow corn on a certain plot the first year. To each acre I use twenty-five loads of barnyard manure, and then 150 pounds of commercial fertilizer, put in the corn rows. I keep the manure under cover; I should say half the value of the manure would be lost if we left it out. I even dig up the earth in the barnyard and haul it out on the land, then fill in with loads of sand." (The sand was obtained from "Sand hill," a knoll of a fine grade of sand beside the river road, which the selectmen were glad to have taken away to prevent its sliding over the road; it was hauled in the general utility wagon, or "cart," so called because the wagon box rested on the two large hind wheels.) "The sand lightens and sweetens the soil. The corn is plowed with a single horse and then hoed. We cut it just as it is beginning to sear, let it dry and ripen in the shock a while, then husk it in the barn, and feed the stalks to the cattle, who eat it up clean. Well, in the fall that land is plowed up, and early next spring it is sowed to oats—sowed by hand, and some of us can do it as evenly as any machine—with the hay mixture I told you about. The oats act as a nursery crop and are harvested and used as feed. I believe in raising everything on the farm that is needed for feed, though some buy their grain. Next year the hay will be largely clover, and after that timothy will predominate, and then the red top, which, I am told, is much like Kentucky bluegrass; then, a year or two later, I plow it all up, fertilize and plant corn again. I keep the fields around the house up the best."

Stock Gets Good Care

"Your stock looks fat and prosperous and well cared for."

"Well, I always was one to want my animals to look as if they had enough to eat. They accuse me of slipping down extra hay for the horses at noon when no one is looking, though I aim to give them hay only night and morning. I have the corn and oats ground at the grist mill, the one by Bloody Brook that's run by water power. We think the stock gets the good of the feed more if it is cracked up. They charge 10 cents a barrel for grinding, though in the old days they used to take toll. Like most New England farmers hereabouts, I keep three horses, two to do the farm work and one for driving. The extra horse draws the rake in haying and carries the milk to the creamery. Dick I raised from a colt. His mother was a Morgan mare and I sold $975 worth of colts from her and had Dick left. Dick is 26 years old, but there's a good deal of work in him yet."

The horses are kept in a separate barn with very narrow stalls, and many of them get shoe boils from lying on their shoes, and they have no windows. They are never allowed in the pasture, Dick scarcely having tasted grass since he was a colt; so Vermont horses seem to miss a good many of the pleasures of living that our horses enjoy.

"Doesn't your water trough ever freeze up?"

"No, I pack it around with manure there in the barnyard. Of course, it gets a coating of ice on top and I have to chop it loose, but it never freezes clear down."

This watering trough extended half inside the horse barn and half outside in the barnyard. It was supplied from a spring of clear, cold water, which flowed continuously, running off over the land and finally finding its way down to the river. In most places the soil is so sandy that it sinks down immediately. Prac-

tically all the farms I have visited, as well as the houses in the villages—they say "village," while "town" means a whole township—are supplied with never-failing spring water. The rain and snow appear to soak down the hills until they reach the "hard pan," or rock, in those "granite hills of Vermont," where the water collects in natural basins, from which it bubbles out as springs here and there. It is most convenient to have them above, as they always are, for then the pressure is good all over the house and barns.

Good Market for Dairy Products

"I keep only twelve cows," said my uncle; "the barn is fitted with stanchions for twelve. My cows are all native Jersey stock; that is, both parents are Jersey, not registered, however. They usually live off the pasture entirely during the summer, but this year I have to give them some hay, and later will feed fodder, because we had a cold spring and the summer has been unusually dry, which makes the pasture poor. My hay crop is short, too, this year, and the clover was mostly winter killed. When it thaws and then a freeze comes on, ice forms on the fields and that kills out the roots. I sell my butter-fat to the creamery. I average about 220 pounds of milk daily, which tests about 5 per cent. The creamery returns eighty-five pounds of skim milk for each hundred pounds of whole milk, which I feed to the pigs and the heifers. I raise two heifers each year, but lately I have been getting a cent a quart for my skim milk. It doesn't pay to raise calves when you get that much for skim milk. I don't raise hogs for market now; just what we want for ourselves, and perhaps for one neighbor. It doesn't cost much of anything to raise two hogs. Irma has her hens and eggs. She sells some eggs, but we use a good many."

Garden an Important Factor

"And your garden is great. I don't think I ever tasted more delicious vegetables."

"Yes, we depend a good deal on our garden for the best of our living. I don't know what we should do without it. Irma plants it generally, but we men folks do the spading and weeding. Perhaps you don't know what fighting the pusley and the witch-grass means. See that hard-pointed root on the witch-grass! I've known it to bore into a hemlock post, and it does get around the roots of things pretty tight. The woodchucks—the 'ground-hog' of the weather proverb— are an awful nuisance; they eat the seeds and young plants, and in dry years things don't develop as they should, but on the whole we make out pretty well."

I should think they did! When we first came the asparagus and strawberries were still in season, and of the finest flavor; then peas, the best ever; and lettuce and spinach, onions and beets, salsify and string beans and wax beans, and then the shell beans of all kinds—lima, cranberry, soldier and butter beans. I don't know of anything more satisfying than the butter beans, and the sweetest and tenderest sweet corn imaginable, cucumbers and tomatoes, and I don't know what more. The New England hoe is quite different from ours, being very broad and low, with a short handle and very keen edge.

"I can't get used to the idea that this is a public road right here in your dooryard," I remarked as a team drove by.

"Most New England farmers have things this way; that is, they own the land on both sides of the road and have the buildings somewhere near the center of the farm. It saves a lot of time not to have to drive or walk half a mile or climb a lot of hills every time you want to work in a field. The big hill on that side is out of the way and is growing a fine crop of white pine timber; the land isn't good for anything else."

"You have so many barns and buildings of all kinds; I should think it would be a great expense to keep the roofs in repair."

"Yes, it is. Roofs begin to leak in about twelve years, but they can be patched almost indefinitely. We New England farmers keep everything under cover, you know—all the hay, fodder, implements and so on. That big middle barn will hold forty tons of hay. You notice, the barns are built around a quadrangle, or three sides of a quadrangle, with the open side toward the south; that is to form a sheltered barnyard for the stock in winter. On nice days the cows go out into the barnyard, and when we used to keep sheep they stayed under the big barn, and we threw hay down to them through the floor. The barns are connected, so that we can pass from one to another without going outdoors, which is a great advantage in cold, snowy weather. Besides the hay barns, I have a fodder barn, corn barn, horse and carriage barn, hog house, hen houses and an ice house. We always get plenty of ice from the river. In the carriage house I have a good lot of tools, a work bench, grindstone, etc."

"How about the help question?"

"Well, there I am rather up against it. I haven't enough work to keep a man busy all the time, and it is too much for me to carry on alone. My cousin, who runs a big dairy, keeps three men. The head man has a family, and receives $50 a month and the use of a house and garden plot; the second man is also married, has a house and $35 a month, and the third is a single man, getting $30 and his board and room. I generally pay $26 a month for a man during the summer, and find the French—'Canucks,' we call them—good help. They are quick and industrious, but not very reliable. I had a man leave me in the middle of haying, and had to hire help by the day, $1.75 for ten hours. Help is getting scarcer and scarcer; the men are flocking to the cities because they find the country too lonesome and monotonous.

Haying Biggest Part of Work

"We keep pretty busy haying most of July and a part of August. We cut a second crop in places in September; we call it 'rowan.'"

Early in the morning of a good day for haying, clear and sunny, and preferably with a light breeze, Uncle Eldrige starts out with a team and the mowing machine, and either mows a piece himself or "marks out" what he wants the hired man to mow. A man with a scythe mows around the edges, in the fence corners and in the "draws," but it is astonishing to see what steep hillsides can be cut with the mowing machine.

The cut grass lies in the field the rest of the morning, and, if not too heavy, is dry enough by afternoon. A boy, or often a girl, with a sedate old horse and hay rake, rakes the hay into long windrows, the length varying with the size and shape of the field; then a man comes along with a fork—Uncle Eldrige always uses a two-tined fork—and "rolls" the hay into cocks—two, three or four, according to the length of the windrow. A team hitched to the "hay cart," as it is called, though it is a rack mounted on four wheels, is driven along beside the cocks, and one man pitches the hay up, while another stands on the cart and forks it in place. The "cart" has sides, which keep the hay from slipping off on the steep hillsides. Pitching the hay is probably the hardest part of the work. After the hay is loaded, a boy comes along with a peculiar looking rake, called a "drag rake," and gathers up every wisp of hay left after the hay cocks, for the New England farmer wastes nothing. The cart, loaded with a ton or a little more of hay, is driven slowly to the barns and in on the barn floor, from where it is unloaded on either side or on galleries above. To cut, rake, load and stow away four loads of hay is a good day's work for two men and a boy. When the hay is heavy, or has much clover in it, of course it cannot be hauled in until the day after it is cut. It would seem that the hay might mold, being taken in so green, but Uncle Eldrige says it never has yet for him, and the stock like it better than when so dry. The horses get a certain kind of hay, cleaner and without clover, which is mowed away in the horse barn.

Comfort of Housewife Considered

Indoors, Aunt Irma has everything very convenient and very pleasant, it seems to me. The spring water is piped into the kitchen, and she has a sink and drain, so that dishwashing is as easy as in a city home. In a closet she has a tub arranged with a waste pipe for bathing. She has a well behaved cook stove, which burns wood—the men see to it that she always has plenty of kindling and firewood in the woodshed nearby. Wood makes a clean, bright,

(CONTINUED ON PAGE TWENTY-ONE)

Nebraska's First State Dairy Special

On the 27th of September the first state dairy train in Nebraska completed its two weeks' run. The train equipment consisted of a stock car carrying the specimen cattle, flat car for demonstration work, a baggage car filled with exhibits, two coaches and a business car. This train traveled over 1,600 miles on the Northwestern and Burlington lines, making stops of from one to two hours at various points for lectures and demonstrations. They carried three pure-bred cows, a Holstein, a Jersey and a Shorthorn and also a grade Holstein; the university farm pure-bred Holstein bull was also taken along. Silos, ensilage, alfalfa, dairy methods and dairy cattle were discussed by competent lecturers and demonstrations given to large and interested crowds at every stop. At no place was there a crowd of less than 100, no matter how small the town nor how early the hour, and in some places there were as many as a thousand, the majority being farmers and cattle growers, proving that this venture on the part of the State University and those co-operating with it was an unqualified success and met with ample appreciation.

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The Department of Agriculture has suspended the tuberculin test requirements as far as regards Canadian cattle sent for exhibition at the National Dairy Show in Chicago.

The British Board of Agriculture has so well succeeded in stamping out foot and mouth disease in British cattle that hereafter cattle shipped from British ports will be admitted to this country.

The Department of Agriculture is preparing an exhibit, for the International Dry Farming Congress to be held in Oklahoma, for the purpose of showing the food value of dry farming products, such as Indian corn, kaffir, cow-peas, etc.

Crop rotation is the best preventive of the corn-root worm. These have to have corn every year in order to live. Changing of the land from corn to wheat, or any other small grain crop, will kill them. Corn should in no case follow corn but once, if the grower wishes to escape the ravages of the root worm.

Pennsylvania's new milk law fixes the standard for milk-fat at 3.25 per cent and that for total milk solids at 12 per cent, these being the percentages below which milk sold for household use, and to be served in hotels, restaurants and boarding houses, may not go. This is the first law enacted in Pennsylvania in which a milk standard for the entire state has been fixed. This standard is identical with the national milk standard governing the milk trade between the states.

Preparing for Winter

The essential thing at this season of the year is to dispose of all the live stock that are not fully provided with an abundance of feed for carrying them over the winter. Feed will be scarce and prices will rule high over the greater portion of the country that suffered from dry weather during the summer just passed.

There is a shortage of hay in the hay-producing states—a very decided reduction below the normal supply. There is a large fodder supply, but this is of little value unless now in shock. Green-cut corn fodder, well shocked, can safely be counted on as a feed. The better it is handled and the better prepared for consumption, the more valuable it becomes as a stock feed. The feed cutter or corn shredder is almost a necessity in order to get the best results from the feeding of fodder.

The higher priced the feed crops become, the greater the necessity for saving and economizing in preparation of the rough feeds that they may be fed without waste or loss. An abundance of feed on the farm tends to carelessness in its use. The corn crop will not have the usual feeding value in it. It will be light and chaffy in many fields, in many states. It will not only be a disappointment in the quantity, but it will be a disappointment in quality in its feeding value. It will not go nearly so far as estimated before it is tested. Arrange to feed with economy and check all tendency leading toward waste.

Hereford Breeders Elect

The annual meeting of the American Hereford Cattle Breeders' Association was held during the week of the American Royal show at Kansas City, Mo., and the following officers and directors elected: Warren T. McCray of Kentland, Ind., president; O. Harris of Harris, Mo., vice president; R. J. Kinzer, secretary (re-elected); Robert H. Hazelett of Eldorado, Kan., treasurer (re-elected). The members of the new board of directors are: Phil Lee of San Angelo, Tex.; Henry Moxley of Eminence, Ky., and W. J. Davis of Jackson, Miss. Annual receipts for the closing year were $11,000 in excess of the previous year; the operating expenses were $60 less than the previous year, and the registration was 30 per cent greater. The salary of the secretary was increased from $5,000 to $6,000 per year.

Water in the Farm Home

There cannot be too many conveniences for the farm home, provided they are real conveniences for the average home. Some recommended conveniences are merely luxuries and require as much labor to operate them as it would to do the work without them. But water is a necessity in every kitchen. No farmer's wife should be obliged to carry either water to the house or slop away from it.

Some of the conveniences recommended for water in the house are too expensive for general adoption, and require too much protection against frost. They would be exceedingly convenient in semi-tropical climates, where no danger from frost was to be apprehended. A simple, convenient and inexpensive method is to connect a cistern pump located above a sink, with a drain that carries all the waste water away. This would be a great labor and time saver, and might give sunshine and smiles to the women of the farm instead of clouds and somber faces.

Wheat Acreage Increasing

Reports from many wheat districts indicate a largely increased acreage, with excellent prospects of a fall growth that will insure a good chance for winter pasturage. The pasturing of cattle on the fall growth of wheat is regarded as a great advantage in winter feeding, and is also a help, rather than an injury to the wheat. The Texas wheat seeding was about finished before the rains set in, which has resulted in a rank, green growth, which means good grazing for all winter. Other districts south of the center of Nebraska will afford winter feed in case good growing weather continues as late as usual.

Are You Testing Your Cows?

Several months ago, in answer to a request from this paper, creameries in this territory agreed to test milk for the farmers without expense to them. This was for the purpose of enabling every farmer to find out which of his cows were producing a profit.

No farmer can afford to keep cows that do not pay for their board. Without a test of each cow it is impossible for any farmer to know which of his cows produce a profit. The farmer cannot afford to keep any but profit producers.

How many readers of this paper are taking advantage of the opportunity offered them to cut out from their herds the loss producers and put into their places individuals that are producing a profit? Of course, if the farmer wishes to feed cows at a loss, it is none of the writer's business. But every farmer owes a duty to the public, and that duty should prompt him to the greatest possible production at the least expense. He cannot know whether he is doing his duty to the public or to himself or to his family unless he follows the suggestion that is here put forth.

The Department of Agriculture will continue indefinitely the quarantine against potatoes grown in the British Isles, Germany, Austria-Hungary, Newfoundland and the Islands of St. Pierre and Miquelon in the St. Lawrence river. This is for the purpose of preventing the introduction into this country of a potato disease known by the various names of potato wart, potato canker and black scab.

Kansas has two offices for inspection of swine. These two seem to have co-ordinate powers, and yet work by entirely different methods. Swine inspection must of necessity be a good deal of a farce, and when administered according to the Kansas method, it can hardly claim the dignity of being a farce.

Nebraska Farmers' Congress

The special attention of all readers is called to the meeting of the Nebraska Farmers' Congress which will be held in Omaha in December. Never before has a program been so filled with live topics that intimately concern the welfare of all farmers. The discussions will develop a public sentiment that must bear fruit in the immediate future. There will be no cut-and-dried, perfunctory addresses. The discussion of each topic will be opened with a set speech by a man who has given careful attention to the matter and knows whereof he speaks. Then will follow a general discussion by individuals who are acquainted with the subject matter and have made special preparation.

The program contemplates the discussion of five special topics—rural credits, the rural school system from the standpoint of the patron, the need of the reorganization of the State Board of Agriculture, the centralized creameries, with their methods and results, as compared with co-operative creameries, and State University consolidation.

Each of these topics bears a special relation to the prosperity of farming communities. The need for a full discussion cannot be overestimated. Sunlight is the great disinfectant. Publicity is the best advertisement for anything that is worth advertising.

There are abuses in the methods of the centralized creameries that must be corrected in the interest both of the consuming public and of the cream producer. There are abuses in the administration of the State Board of Agriculture which must be corrected in the interest of the public. It must be made an active, efficient aid to agriculture, rather than be used as a political machine or to pay political debts.

The rural schools must be reorganized if efficient work in education is to be done. The ordinary rural school has eight grades, and these include more than thirty different subjects. How can any teacher teach thirty different subjects in a single day and have such teaching amount to anything? As an organization, the Nebraska educational system is a perfect machine when viewed from above. But the patrons are wondering how much good this machine is doing their children. They are going to try to have the machine modified so that the children can get out of it what they should receive.

No farmer should be without interest in all these discussions. Each of them will be handled with vigor and conciseness. There should be a full attendance at the congress.

Last year the North Pacific Fruit Distributers' organization was perfected at Spokane. This is a co-operative, non-profit company, owned by the growers themselves, and controls 60 per cent of the fruit tonnage of the northwest. This year they propose to strengthen their organization. They will take the marketing of fruit into their own hands, and will secure for the growers the highest possible prices.

Lessons of the Fairs

The agricultural fair season has closed, and with it there have been garnered many lessons of practical information for the people. The county fair is in many respects the equal of the larger fair in educational results. To the beginner the county fair offers great opportunities and inducements for learning. It is the kindergarten, so to speak, in comparison to the state fair. In the county fair the first lessons of the art of display are taught and learned by the novice in exhibition in the various lines of exhibition contest. It is easy to start in where you know that your competitors and neighbors have had but little experience in the producing and fitting of exhibition articles or stock.

The county fair is the foundation of the state fair and district fair. Without these subordinate associations and societies, the state fair would be short of exhibitors and short of attendance. The county fair stimulates the disposition among its patrons to attend the larger fairs. The successful exhibitor at the county fair is a prospective exhibitor for the state fair. The exhibition spirit is something hard to suppress when one commences to realize that he is producing stuff that has the quality and excellence to make a creditable and successful contest in the show ring.

There is no better evidence of ability to improve than the exhibition spirit that is manifest in the individual or community of citizens. The visitor should set his standard high and not be satisfied with producing the ordinary or common things of production. A very good plan is to compare all you see at the fair with what you have at home and ask yourself for an earnest and unbiased opinion of how the various displays compare with what you have at home. "Where can I improve on what I have?" This question can be very profitably asked, and you can surely answer it to your own satisfaction.

The county, district or state fair should be viewed first as an educational proposition, and every feature of interest carefully studied on this basis. The fair must be built upon principles of instruction, and if artistic exhibition features are added as a matter of making the exhibit more pleasing to the eye of the visitor, so much the better. Beauty and artistic design often lend enchantment to the display. Everything exhibited should be put in its best possible condition, cleaned and made to be as acceptable and attractive as possible.

Every fair visitor has learned some valuable lesson or lessons while at the recent fairs. If you have seen better bred and better conditioned animals than you have at home, this is a prompter for you to do better. There is no one now growing or producing anything but what understands the difference in quality of articles when they see them compared. You are capable of understanding and judging between the good and poor qualities exhibited; and right here is the point at which reform commences. It is this disposition to discriminate that starts persons to improving in their production. The fair is the best opportunity for this feature of information that can be found anywhere. It might be made more educational in its work, and in its deliberations in the matter of judging and the defining of why each award is made to the article or animal.

Farmers Must Organize

One of the states of the union has for a motto, "United, we stand; divided, we fall." "In union there is strength." If this means anything, it means that the lack of union produces weakness.

Farmers can never accomplish anything for bettering their condition unless they get together and work together. Every other branch of business is thoroughly organized, and can bring all its influence to bear wherever and whenever such influence is needed. The farmers are working altogther too much separately as individuals. Nothing can ever be accomplished by this method of work. They must mass their forces in order to make them powerful and effective.

No two persons in any kind of business think exactly alike. Each has opinions peculiar to himself. In forming an efficient organization each must surrender, or at least hold in abeyance his peculiar personal opinions in which the other members of the organization do not share. Many men know more than one man. The one man should always yield to the opinion of the many.

As long as farmers act separately and individually, they will not improve present conditions. They must organize in order to bring proper influences to bear and in order to make efficient a proper degree of force.

There is much talk in these days about co-operation among farmers—co-operation in work, co-operation in production, co-operation in marketing their products. This agitation should not end in mere talk. It should result in establishing organizations to direct and finance and control all co-operative effort. Such an organization will need a practical, efficient, intelligent leader without whom nothing of importance will be accomplished. But without organization all agitation for improvement of conditions through co-operation will end in mere talk.

The Riverton (Neb.) co-operative creamery during January paid patrons 34 cents per pound for butter-fat; during February, 34 cents, and during March 31 cents. The cream shippers at the same town paid an average for the same month, respectively, of 29.5 cents, 30 cents and 31 cents. This shows a difference of from 3 to 4½ cents in favor of the co-operative creamery. Had the farmers rather have this difference for their own pockets or had they rather have the creamery men have it? That is also about the difference that they would receive by the direct shipper method as compared with the cream receiving station method.

Do You Know Where "Ladies' Home Journalville" Is?

That is what a suburb of a Southern city is called, because it is built up entirely of the small house-plans published in *The Ladies' Home Journal.* And all say it is "one of the prettiest suburbs" they have ever seen!

Over 25,000 houses have been built in the United States from plans published in *The Ladies' Home Journal.*

For 20 years these plans have been published and new ones are constantly being given now.

Then, there is an Architectural Editor attached to *The Ladies' Home Journal*, who answers by mail, free of charge, any question about house-building, and an Interior Decoration Editor, who solves all problems about how to make a home pretty inside.

Last year these two editors answered 11,000 letters—quickly, fully and authoritatively: not in print or in the magazine, but by mail: a personal service direct and intelligent.

What these editors have learned in 20 years about house plans is at your service. A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

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Improved and broadened in its scope. Enlarged by the addition of a Special Family Page, Boys' Page, Girls' Page and Children's Page. Great serial stories, 250 short stories. A remarkable Editorial Page. Current Events and Science. A wealth of variety and quality, and all of it *the best.*

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Cut this out and send it with $2.00 for The Companion for 1914, and we will send FREE all the issues for November and December, 1913, and The Youth's Companion Practical Home Calendar for 1914.
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Illustrated Announcement for 1914 free on request.

Remember — 52 Times a Year, Not 12

Worms Will Get Your Hogs If You Don't Let Me Kill The Worms

Fully nine-tenths of all hog losses are caused by worms. These parasites sap the very life blood of your hogs, rob them of nourishment, and so weaken them that they are easy victims of cholera or any other swine disease. Get your hogs worm-free and keep their digestive organs in proper working order and they will be **Cholera proof.**

I'll Rid Your Hogs of Worms!

Feed **Columbian Stock Powders** to your hogs and inside of 12 hours you will **see** the dead worms that have been expelled. These powders are not a food but a highly efficient **medicated** preparation that not only **kills** but also **expels** all worms. These are the **original** Stock Powders. They have been on the market for the past 25 years and all that time they have been recognized as **best** by the largest, most progressive stock raisers of the country. They will put a speedy end to all digestive troubles in hogs, sharpen the appetite—keep the animals on their feed—so strengthen the digestive system that there is absolutely no waste of food—greatly shorten the fattening period with 25 per cent less feed.

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"Please ship F. W. Diehl at Shannon, Ill., 500 lbs. Columbian Stock Powders in 250-lb. lots; and Geo. Diehl, Milledgeville, Ill., 300 lbs. in 100-lb. lots. Please RUSH the above orders as the hog cholera is something fierce all over the neighborhood. Hogs are sick and dying by hundreds. Ours were sick but Columbian saved them.
Yours truly, DIEHL BROS., Milledgeville, Ill.

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I don't want you to pay me a cent until I positively prove to you that **Columbian Stock Powders** are the quickest, surest and biggest profit makers you ever tried. Just mail coupon, stating how many hogs you are feeding and I'll make a free trial offer that gives you 90 days' feeding before paying a cent.

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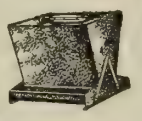
Regular price is $5; but if you will write or mail the coupon at once, I will tell you how to get one **FREE.**



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Send me particulars of your "90 days before paying" offer. I am feeding.....hogs; .....sheep;.....cattle;.....horses.

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The Government formula, with additions by us.

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Contains no meal as filler

Good for **Worms, Coughs, Fevers, Indigestion, Bowel Trouble** and as a **general conditioner** for disease prevention.

Sold by most Lee agents in the Central West.

25 lb. pail $2.00; 100 lb. box $6.00.

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You can buy any cut in The Twentieth Century Farmer for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as we have only one of each kind.

YOU can EARN an AUTO

HERE'S YOUR CHANCE TO GET A NEW FORD TOURING CAR FOR A FEW WEEKS' WORK.

By my new easy plan anyone over 16 years old can get a brand-new Ford Touring Car for a little easy, respectable work among neighbors. **FREE BOOK** tells all about it—**Postal brings it. SEND.**
AUTO TOM, 571 **S. 16th St., Omaha, Neb.**

American Royal at Kansas City

Fine Animals Exhibited Before Interested Crowds

THE American Royal Live Stock Show has completed its fifteenth annual exhibition, with the most encouraging results as to exhibition of stock and attendance of interested patrons. This exposition has attained a position and reputation among the breeders, dealers and growers of improved live stock throughout the country that has fixed its influence as a standard authority for the best that the country produces. The American Royal Live Stock show has won the distinction of presenting the greatest exhibition of Hereford cattle of any fair or cattle show in America, and this may consistently extend to a challenge of the entire beef cattle-producing world.

The American Royal is located in the center of the greatest Hereford breeding district this country has ever known. Years ago, when breeders of other varieties of beef cattle were inactive and indifferent to the organization and promotion of their breeds, the Hereford breeders of this district were awake, active, interested, advertising and sounding the praises of the Hereford cattle. This spirit of breeding and improvement has been consistently maintained by the Hereford promoters, until these cattle have not only attained their reputation in America as a successful range breed, but are a contestant for the highest honors as a farm beef breed.

Fine Hereford Exhibit

While the American Royal was primarily a Hereford cattle breeders' organization and exposition, it has always invited and encouraged breeders of other beef breeds to participate, which they have been doing to a greater or less extent during these years of exhibition and activity. There is no evidence now of breed preference at this show, except as the Hereford breeders predominate, and the Hereford cattle are more numerous than all other breeds combined. There were 481 cattle exhibited in the breeding classes, of which 242 were Herefords, ninety-four Shorthorns, fifty-five Angus, twenty-five Galloway and sixty-five Jersey. The Herefords, it will be observed, exceeded in numbers all other breeds by three head. This again emphasizes the strength of the Hereford cattle breeders in this district of the southwest. The exhibitors and patrons, however, are pretty well distributed, representing many states and districts of country remote from the American Royal.

The quality, condition and general features of excellence that this breed now possesses have never been exhibited to better effect than at the Royal show of 1913. Type and breed characteristics that lead to the perfecting of animal quality have been so closely studied and so perfectly harmonized in what is called breed type that the entire Hereford exhibit presented the appearance of one man's breeding—a herd similarity that closely resembled the get of one sire, the progeny of one dam. Whole classes of fifteen or twenty were so near alike that the stranger was obliged to keep his eye and mind strictly on the work of the judge or he was very likely to get confused as to which end of some of the rings represented the head of the class. The degree of perfection arrived at by many breeders and the high standard now set by the Hereford breeders of the country is a feature that every citizen should take pride in complimenting. T. E. Robinson of London, Ontario, judged the Herefords.

Shorthorns Good in Quality

The Shorthorn display at this show, while considerably behind in numbers, was pretty evenly balanced in point of quality and condition. Many ringside critics pronounced it the best Shorthorn show, in point of quality in the younger classes, that they had ever witnessed. There was no tail end at this show; there were no tail-end breeders exhibiting. Each animal was a winner from a good show, or had the best of expert endorsement before it left home. The day of tail-enders at the American Royal has passed. Exhibitors have learned this one very important feature of exhibition—unless they have something distinctly excellent, and have this judgment endorsed by good, disinterested expert opinion, they know enough to leave it at home. It almost necessitates a championship award in some good exhibition to risk taking a place in the ring at the American Royal. This is the roundup of the first-prize animals of the various state fairs over the cattle-breeding districts of the country. It is high-class company and high-class stuff, with high-class finish. This is the demand.

There were many Shorthorn classes that bothered the judge to know where he wanted to place the ribbons, to say nothing of bewildering the judgment of the onlookers. The junior heifer class was a puzzle from beginning to finish. Many expressed the desire to own the whole bunch, then challenge the world for their equal. These features of sameness in quality and condition stimulated a sort of gamboling spirit among the lookers-on, and the prospective prize winners were selected, mentally, by the ringside fancier as a test of judgment, subject to revision, of course, when the judge finished placing the winners according to his opinion. The judge was W. A. Dryden of Brookline, Ontario.

Few Galloway and Angus Cattle

The Galloway breeding classes were not represented by any great army of exhibitors, yet there was competition sufficient to create some interest in the ring. The judge was J. Calvin Ewing, Youngstown, O.

The Angus division was also an unusually light exhibit in numbers, but showed up in the usual quality and finish of this breed, which it always carries when there is an op-

portunity for contest in the show ring. The judge was P. J. Donhoe, Holbrook, Ia.

Jerseys Attract Attention

The Jersey cattle, in fact all dairy breeds, have not been encouraged in attending the American Royal, it being considered a beef cattle show. This year was the first effort in securing a dairy exhibit, and it has proved a great success, and no doubt next year will see one of the largest and best displays of dairy breeds ever shown in the western country. The Jerseys were judged by R. L. Forbes, Washington, D. C.

The Lasater herd from Texas is the largest Jersey herd in the United States, numbering above 1,000 cows. The animals from this herd on exhibition at the Royal were a great attraction, showing every fine quality and every evidence of large production. This exhibit alone made a fine and very interesting study for those interested in the dairy breeds of cattle. Claims of twenty to thirty-five quarts of milk per day were not regarded as extravagant estimates from many of these cows, and their appearance was a strong endorsement. This division of the cattle barn was crowded with visitors admiring the delicately formed little cows that produced the "Jersey cream" so much talked about, advertised by every milk man and read about by all city housewives.

Horses and Mules

The horse show was estimated good in quality, but not so many entries as in some former years, when the draft horse competition ran high among breeders, dealers and importers. The Percheron and Belgian show was up to the present-day trend of high-class, practical horses. Prof. W. L. Carlyle of Idaho was judge of all classes in the horse department.

The mule is not neglected in the affairs of the American Royal; in fact, the big Missouri mule is entirely at home in the show ring and takes all the compliments on his beauty, intelligence, fine ears and shaved tail as though he approved of them. The greatest of evidence that the mule is worth while bothering with was demonstrated the second day of the show, when W. R. Crackel of Vincennes, Ind., bought of W. A. Elgin of Platte City, Mo., two teams of mare mules, paying $800 for one pair and $1,000 for the other. This little incident seemed to put more ginger into the mule as he was lead into the show ring. It means something to be a big Missouri mule in these times of mule popularity, and it counts for something to be a mule raiser also. If you want to see fine, big mules, you can have this ambition gratified any day by visiting the Kansas City mule market.

Sheep and Swine

The sheep division was not up to former years in some respects. The quality could not be excelled, however, as the latest importations by two of the leading exhibitors of this country were present—F. W. Harding of Waukesha, Wis., and George McKerrow & Sons of Pewaukee. These two noted flocks, with that of R. McEwen of Ontario, comprised the main features of the sheep division. There were no fine-wool sheep shown. The accommodations at the Royal for the sheep show are excellent, and large, interested crowds were present. Sheep breeders miss a good advertising opportunity when they stay away from the American Royal, and mutton production is a good business, independent of the wool.

The swine department was an average display. The quality was highly commented on by some swine fanciers. The Berkshires were especially good. Prof. W. A. Cochel of Manhattan, Kan., was judge. The Chester White breed was also well represented in quality, but few exhibitors. The judge was J. H. Harvey of Maryville, Mo. The Jersey Reds and Poland-Chinas were fully up to their usual average in the show ring. Many swine breeders are scarey about cholera and will not exhibit where they think there is any chance of contracting the disease. This opinion cuts down a stock yards location in the swine exhibit.

Carlot Awards

The carlot exhibit, which is, after all, the real demonstration of all the fitting and fussing in preparation of the prize-winning champions and grand champions of the pure-bred show, was one of the great features of interest, though not half so large as usual, owing to the dry weather over the country where this class of cattle are produced. In Herefords, the championship carload of feeders was from the T. C. Ward ranch, Canyon, Tex., on 2-year-old steers. The championship in the Galloway division was won by J. F. Meserve on a carload of steer calves. There were only two competitors in the Angus division, the championship going to Sutton & Workman of Russell, Kan., with a carlot of heifer calves. The grand championship was won by the T. C. Ward 2-year-old Hereford steers.

The grand championship load of fat cattle exhibited by K. G. Gigstad of Lancaster, Kan., was sold at auction to C. A. Saunders of Manilla, Ia., the noted Shorthorn breeder and exhibitor, who will finish them out and show them at the International. These steers were sired by a son of Golden Goods, the bull that H. C. Duncan of Osborn, Mo., sold for $3,500. Golden Goods was reserve grand champion at the Alaska-Yukon-Pacific exposition in Seattle.

Other Departments

The poultry department at the Royal has had the reputation of being one of the largest and best shows in the country, and this year is no exception. Every conceivable variety of farm or fancy fowl was on exhibition, and the display a model of neatness and order.

A very large exhibit of cats of the various breeds was a feature this year, and coupled with the poultry display.

The exhibition of machinery was larger than at any former show. The silo was a strong exhibit and attracted a great deal of interest. The feed cutters were also getting more attention than has heretofore been paid them.

The attendance at the stock show, both day and night, has never been exceeded. The weather was exceptionally good, and the people came to the show from all directions for hundreds of miles. Stockmen, farmers and their families have acquired the habit of attending the Royal show, and they feel that they cannot afford to stay away.

Irrigation Pumping Power

In choosing the form of plant for pumping, the questions of first cost, operating expense and reliability receive first consideration. The conditions under which and purposes for which the water is to be used will determine which of these is more important.

Four sources of power may be considered. For a small plant with low lift, a windmill may be worthy of consideration. Where any but a very small amount of power is required, or the conditions as to time are at all exacting, wind pumping is out of the question.

If a large plant is required, the field is open to steam, gas or electric power, while for a small plant the gas engine or electric motor is best.

Generally speaking, the gasoline, oil and producers' gas engines should receive first consideration where a pumping plant is to be installed. An electric plant, backed by a good, reliable power company, may be a healthy competitor to any of these, but not under the isolated conditions usually met.

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Colorado Agricultural College.

Breakfast Sunshine

Post Toasties

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There's a delicious smack in these crisp, appetizing bits of toasted corn that brings brightness and good cheer to many and many a breakfast table.

Toasties are untouched by hand in making; and come in tightly sealed packages—clean and sweet—ready to eat with cream and sugar.

Wholesome
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HOG CHOLERA

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KRESO DIP No. 1 has been used successfully by the best breeders to prevent Hog Cholera and other contagious diseases of all kinds.

DON'T WAIT UNTIL YOUR HOGS HAVE CHOLERA.

Guard against it by using

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Send for free booklet on diseases of hogs and the prevention of Hog Cholera.

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Get my latest **Reduced Factory Prices**, and my great **new Free Book** before you buy any engine. **Be your own dealer**, and make all middlemen's profits. I quote you **direct, under** all other good engines and save you half the usual prices.

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54 styles and sizes, 1½ to 40 H.P. Standard for 27 years. Recommended by users in all parts of the world. Use kerosene and other low grade fuels, besides gasoline and gas. Cheaper power. No watching. **No Cranking to Start.** Electric apparatus insures easy starting. Continuous running, summer or winter, day and night, if necessary.

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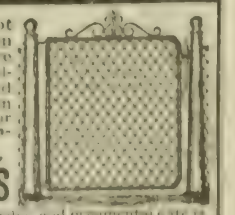

These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our **triple-galvanized, high-carbon steel**

Iowa Gates

The filling of this gate is made of galvanized wire in extra close diamond mesh. Gate has heavy frame, patent latch, etc. Comes in many sizes, plain and fancy tops.

Style E Farm Gate, illustrated below, in another heavier weight at a much lower price than asked for other gates of the kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

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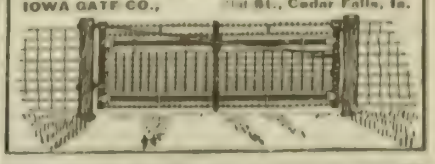

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Fairy Magic—Telephone Reality

A tent large enough to shelter his vast army, yet so small that he could fold it in his hand, was the gift demanded by a certain sultan of India of his son, the prince who married the fairy Pari-Banou.

It was not difficult for the fairy to produce the tent. When it was stretched out, the sultan's army conveniently encamped under it and, as the army grew, the tent extended of its own accord.

A reality more wonderful than Prince Ahmed's magic tent is the Bell Telephone. It occupies but a few square inches of space on your desk or table, and yet extends over the entire country.

When you grasp it in your hand, it is as easily possible to talk a hundred or a thousand miles away as to the nearest town or city.

In the Bell System, 7,500,000 telephones are connected and work together to take care of the telephone needs of the people of this country.

As these needs grow, and as the number of telephone users increases, the system must inevitably expand. For the Bell System must always provide a service adequate to the demands of the people.

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One Policy *One System* *Universal Service*

A Big Hot Spark—
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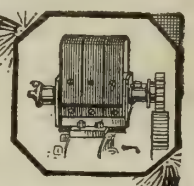
No More Battery Troubles
—or expense, either, when you own a Lauson Frost King Engine. New Sumter Gear Driven Magneto built into the engine entirely eliminates batteries, their expense and troubles.



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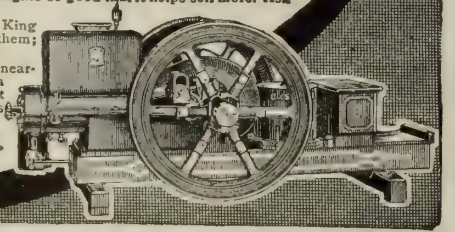
We are the pioneer users of a built-in gear driven magneto on farm engines. Others have followed our lead, but use a cheaper magneto for their cheap engines. Like all other Frost King Parts, the magneto is high grade and designed for long and satisfactory service. You take no chances when you buy the Lauson Frost King, for our policy is to build every engine so good that it helps sell more. Ask us about Lauson Service to users.

Guaranteed.—We absolutely guarantee Lauson Frost King engines to make good on every claim we make for them; also as to workmanship and material.

Write for New Engine Book and name of nearest dealer who will be glad to give you a demonstration of the Frost King without obligation on your part. In writing us state size engine you need.

The John Lauson Mfg. Co.
204N.W. St., New Holstein, Wis.



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The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Pump with a Farm Cushman
4-H. P. All-Purpose 4-Cycle Engine

Does everything any 4-H. P. engine will do and some work no other 4-H. P. can do. An ALL-PURPOSE, all-season engine AND will run any binder. Weighs 190 lbs. Throttle governor. Guaranteed 10 years. Also 2-cylinder 6 H. P. up to 20 H. P. Get catalog and trial offer.

CUSHMAN MOTOR WORKS, 2037 N St., Lincoln, Neb.

Our Young People on the Farm

Pumpkin Time

Now the autumn leaves are falling
And the chilling breezes blow,
And the clouds that sail above us
Tell of ice and sleet and snow;
Yet the children all are happy,
Singing many a cheery rhyme,—
Need you ask of me the reason?
Boys and girls, 't is pumpkin time!
Here they come with song and laughter,
Merry elves with face aglow!
Each one, from small, chubby fingers,
Swings a pumpkin to and fro.
As you look across the corn-field,
Smiling fairies may be seen;—
Need you ask of me the reason?
Boys and girls, 't is Hallowe'en!

Edith Mallery in St. Nicholas.

The Editor's Corner

HALLOWE'EN is almost here again, and most of us are either planning to go to a party or to give one. If we go to one there is nothing to do but to decide what we are going to wear and how we are going to get there, but for the party giver, there are many things to decide. Of course apples, pop corn and pumpkin pie will be in evidence. They always are, but we want something different to do from what they had at the party last year. There is nothing really new in the way of a Hallowe'en party, but there are things that are new to each community—ideas that have not been carried out in that locality before.

Mrs. Gilbert suggests the use of little paper plates for place cards if you have a dinner or supper party, each plate decorated with silhouettes of pumpkins, witches, etc., cut from black and orange paper.

For choosing partners she writes about vegetable dolls and tells how to make them. Anything may be used—parsnips, carrots, beets, radishes, turnips, apples, potatoes, making two of each kind. Thrust a rather heavy wire into the vegetable, push it through and bend it back like a hairpin. Make a cone of heavy paper and fasten it about the wire,

making a firm base for the doll to stand on and to which to attach its clothes. Capes and skirts of gay tissue paper and hats trimmed with chicken feathers comprise the the clothes and the features may be made with ink for nose and mouth and cloves stuck in for eyes.

Another way to make favors is to have a potato menagerie. Every animal in the zoo may be made with the aid of knobby potatoes and toothpicks. The knobs make the heads. If there are too many knobs, some may be cut off.. Bits of gray cardboard may be stuck in for ears, and pieces of twine fastened on for tails, and the toothpicks make the legs. These may be made beforehand and used to choose partners, making two of a kind, as in the ark, or the guests may make them, a simple prize being given for the best.

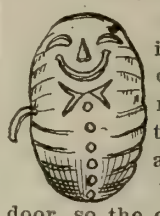
Another interesting contest consists in giving each guest a bristol board card and a piece of gum. The gum is to be chewed and placed on the card and moulded with a toothpick into the shape of a cat. Much hilarity is caused by the peculiar cats that result. THE EDITOR.

(Prize Story)

A Very Kind Old Mule

By Orrie Campbell, Aged 14, Hubbard, Neb.

Once upon a time a farmer had an old mule. He always thought so much of the farmer's children that he used to go and meet them coming home from school. Once in the winter time the mule saw a large black cloud coming up in the north and became scared at its rumbling. He ran up to the school house and whinnied around the windows and the door, so the children couldn't study, so the teacher told the children to take him home and then come back.



The children got on him and rode him home. When they got there it started to snow so hard that they could not go back to school, and it snowed all that day and night, so that the school teacher and the other children could not go home that night, and they had to stay in the school house all night with nothing to eat.

The father and mother thought so much of this old mule after that, that when he died they put him in a wooden box and buried him in their yard and put flowers on his grave. Don't you think that mule was a very brave animal?

Note—This story is very interesting, although our ex-president would probably call it a "nature fake." However, we give the author credit for not claiming that it is true. As this is the second time Orrie Campbell has won a prize for the best story, he becomes the second member of the Honor department. The stories are coming in better all the time now. Keep it up.

(Honorable Mention)

Rena's Visit to Sherman

By Rena Hester, Aged 7, Sherman, Texas.

I live in the country, but mother let me come to town to see my married sister. I am certainly enjoying myself, there are so many pretty things to see. We went to a show the other night, and it sure was fine, and we came back by the ice cream parlor and got some cream. I do like cream. Sister and her baby and I went to the park one evening. It is a pretty place. I will have to go back home before long and start to school, and then maybe I can learn to write better with a pen. I guess I had better quit and play with my little niece, as she is standing by me.

Where Pins Go.

What becomes of all the pins that are annually turned out in millions of millions by the pin factories? A Paris scientist, Dr. Xavier, has been experimenting on pins, hairpins and needles by the simple process of watching a few. He states that they practically disappear into thin air by changing into ferrous oxide, a brownish rust that soon blows away in dust. An ordinary hairpin took only 154 days to blow away. A steel pin lasted just fifteen months. A

common pin took eighteen months to vanish. A polished steel needle defied the ravages of the atmosphere longest, taking two and a half years to disappear.

Hints About Wood Carving

Nearly every boy who has done any wood work at all is ambitious to do some wood carving. This study is not as difficult as the average boy is apt to think it is, the main requirement being a good, natural idea of proportion and form. Tools are not always the things that bring results. For example, haven't you seen old sailors or shoemakers cut out, with an ordinary jackknife link chains, ship models, paper knives, etc.? At the same time, the more complete the set of tools the better work the average boy can do, and the more satisfactory is that work bound to be.

For the first work a flat and curved chisel, a flat and curved gouge, each half inch size; a narrow, deep gouge, and a parting tool, are all that are required. These tools should be kept just as sharp as possible in order to secure the smoothest possible work and prevent raising splinters in the wood. Suitable oil stones, sometimes called slips, can be secured from any hardware store.

For the amateur soft woods, like the pine, white wood and cedar, are best to use. After a little while the harder woods, like pear, oak, walnut, etc., can be used with little waste. The subjects or designs should be the very simplest at first. This design is to be marked on the wood, and great care and patience should be used to insure cutting or carving in places where lines cross. Oftentimes a good piece of work is spoiled just here, by the beginner cutting across lines that he should have left whole. If you are bothered in that way, it is not a bad idea to take colored pencil and mark those parts that are to be chiselled or gouged out.

It is a good idea also to take carvings and copy them, always having the original work in front of you for reference. In this way you can see just what ought to be done. It does not pay to guess at what you ought to do, or, in other words, it pays to take a little more time and "make haste slowly." Do not be discouraged if you do not get at first exactly the forms you desire. Progress will surely be made with each subsequent attempt, and it will not be long before your work will be really worth while. Above all things, do not try to patch up work with putty or by the use of sandpaper. Be "fussy" and do not be satisfied with what you have done until it has been made as nearly perfect as you are able to make it. This is one of the great lessons of the work, and is one of the best tonics, so to speak, for promoting patience, and consequently success. Do not cut too deeply; a little at a time is best. Don't gouge too much, especially when the carving is done in low relief, as in such work gouges with the smallest curvature are best for producing finished work. And so one might go on with any quantity of "don'ts," but, as this is the age of "do's," a last word will suffice—do your best and make up your mind that you can do what you set out to accomplish; then you will succeed.

WALTER K. PUTNEY.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

Write plainly at top of story your name, age, address and the title of the story.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

Parrot Talks Over Phone

Loro, a parrot, held a five-minute conversation with his former mistress recently over the long-distance 'phone. The bird laughed in glee as it heard her speaking; it recognized the voice immediately.

Spectators say Loro quickly learned the use of the telephone and chatted away unconcernedly.

BUILT RIGHT

Stomach, Nerves and Thinker Restored by Grape-Nuts Food.

The number of persons whose ailments were such that no other food could be retained at all is large and reports are on the increase.

"For twelve years I suffered from dyspepsia, finding no food that did not distress me," writes a Wis. lady. "I was reduced from 145 to 90 lbs., gradually growing weaker until I could leave my bed only a short while at a time, and became unable to speak aloud.

"Three years ago I was attracted by an article on Grape-Nuts and decided to try it.

"My stomach was so weak I could not take cream, but I used Grape-Nuts with milk and lime water. It helped me from the first, building up my system in a manner most astonishing to the friends who had thought my recovery impossible.

"Soon I was able to take Grape-Nuts and cream for breakfast and lunch at night, with an egg and Grape-Nuts for dinner.

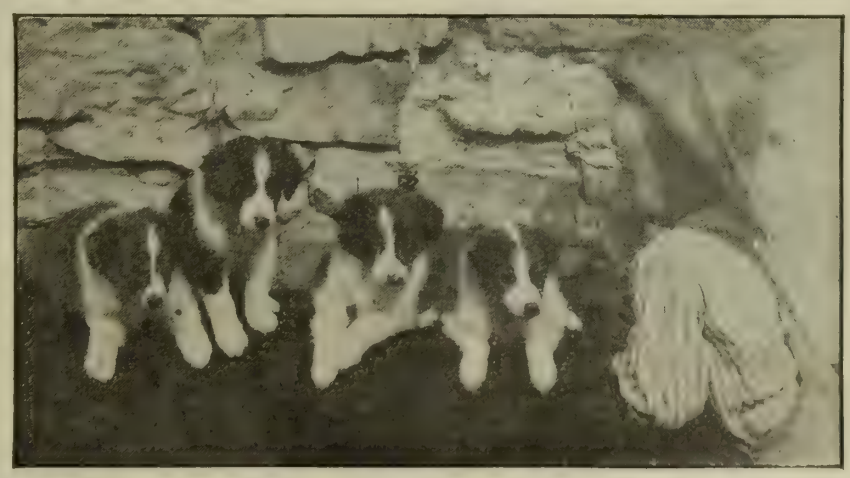
"I am now able to eat fruit, meat and nearly all vegetables for dinner, but fondly continue Grape-Nuts for breakfast and supper.

"At the time of beginning Grape-Nuts I could scarcely speak a sentence without changing words around or 'talking crooked in some way, but I have become so strengthened that I no longer have that trouble." Name given by Postum Co., Battle Creek, Mich.

"There's a reason," and it is explained in the little book, "The Road td Wellville," in pkgs.

Ever read the above letter?. A new one appears from time to time. They are genuine, true, and full of human interest.

Awards in Picture Contest No. 6



THE sixth picture contest is over, with its scores of answers, and we have chosen the best in thought, meter, neatness, spelling, and in every other way always considering the age of the writer. The meter was much better in these verses than in the verses in contest number 5. In many of them it was perfect. We are glad to see that you are giving more care to writing. Contest number 7 has now begun. Let us have verses from all the readers of Our Young People's corner.

(First Prize)

Elva Roush, Aged 12, Loup City, Neb.

O, I love my little pony and I ride her every day,
And I truly love my kitten, though she scratches,
But I'd rather have my little dogs, who are so very gay.
Though they tear my clothes and cause me to wear patches.

(Second Prize)

Herbert North, Aged 13, Plainview, Neb.

Four little pups!
O, what joy
Four little pups
Give one boy!

Otis Makepeace, Aged 11, Little Cedar, Ia.

Willie thinks it's lots of fun
To watch these puppies four
Roll and tumble, snarl and bite,
Upon the drive-way floor.

Thelma D. Shafer, Aged 8, Oroville, Wash.

Four little puppies in a row!
When master whistles off they go!
When they got there, what do you think?
A nice big pan of milk to drink!

Wallace White, Aged 11, Sedgwick, Kas.

Four little puppies I can see;
All are as cute as they can be.
Little Willie's by the wall,
Wishing that he had them all.

Hilda Higel, Aged 10, Bruning, Neb.

Four little puppies in a row;
Little Howard wants them so!
There's Bruno, Fido, Bess and Nick
Now which of them would you pick?

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Fleece-Lined Underwear

is easily good for two seasons' wear. Its lasting qualities cut your underwear-bills in half.

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Made for Men and Boys

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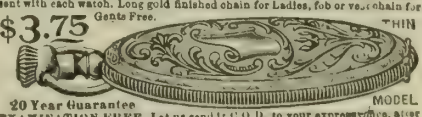

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The Question of the Day is the High Cost of Living

If you would reduce same, put up your own hams and bacon. Here is a recipe that has been used for over forty years and is said to be excellent:

THE OLD DUTCH PROCESS SUGAR-CURED HAM AND BACON.

First pack your meat in large stoneware jars—20 to 30 gallon size. To each one gallon of boiling water add 1½ pounds salt, ½ pound brown sugar, scant ½ ounce salt peter. Boil, skim and let cool, then submerge the meat. Leave same in the liquid for from 5 to 7 weeks, according to size. Do not add the ingredients to the water until the water boils. After removing the meat from the brine, smoke either in the old-fashioned way, or use liquid smoke, which is equally as good. If the latter is used, the meat should be coated twice. We recommend the use of stoneware jars, as they are more sanitary and will not absorb the brine and can be used indefinitely.—Advertisement.

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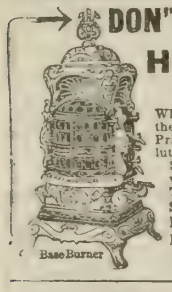

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Base Burner

The readers of the Twentieth Century Farmer have faith in its advertisers, because this paper refuses to print ads known to be dishonest and misleading.

Of Interest to Our Women Readers

When Grandma Shuts Her Eyes

Within the chimney corner snug,
Dear Grandma gently rocks,
And knits her daughter's baby boy
A tiny pair of socks.
But, sometimes Grandma shuts her eyes
And sings the softest lullabies.

Across her face the happy smiles
All play at hide and seek,
And kiss the faint and faded rose
That lingers on her cheek,
While thoughts too sweet for words arise
When dear old Grandma shuts her eyes.

Yet, sometimes, pictures in her face
Have just a shade of pain,
As golden April sunshine when
It mingles with the rain;
And then, perchance, she softly sighs,
Does Grandma, when she shuts her eyes.

She's growing younger every day,
She's quite a child again;
And those she knew in girlhood's years
She speaks of now and then;
And sweet old love songs feebly tries,
Does Grandma, when she shuts her eyes.

I used to wonder why her eyes
She closed, but not in sleep,
The while the smiles would all about
Her wrinkled visage creep,
But I have guessed the truth at last;
She shuts her eyes to view the past.

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Our Home Chat

"Please, Mrs. Neighbor, my mother says can she borrow some baking powder and a cup of molasses till we go to town, an' she says if you can let her have a loaf of bread she would like it, too, 'cause hers didn't rise so she could get it baked in time for dinner." Thus the small boy or girl, interrupting your morning work and causing you to think unkind thoughts of those whom you are commanded to love.

There is always some neighbor who cannot or will not take time to plan and is consequently running out of something just when she needs it most. So she sends one of the children over to your house and you are lucky indeed if she ever remembers to send the child back again to return the many things he carries away.

We have always liked to use a good quality of everything at our house, because we think it is the only true economy, but we have had neighbors who apparently thought differently. Many a time these neighbors—and there was one in particular—have borrowed things and then either failed to return them at all or returned such an inferior grade of material that we would not use it. We like to loan things and there is no feeling better than the glow of satisfaction that comes when we feel that we have been able to help some friend out of a difficulty, but none of us likes to be imposed upon and used as a convenience by a careless neighbor.

Now and then there is a good reason for being out of the things one needs, but in all too many cases of borrowing, the borrower might just as well have planned ahead and seen that she was likely to run short of certain articles. And when she did, there is certainly no excuse for not buying as good as she borrowed to return, even though she may not think it necessary to buy such good quality for her own use.

THE EDITOR.

Helpful Hints for the Home

When the hands are stained with fruit or vegetables, stains can be removed with sour milk or vinegar, if done before using soap and water.

To remove grass stains, cover with common cooking molasses and let stand for two or three hours. Wash in lukewarm water. Repeat if necessary.

Cornmeal mush will brown very quickly when fried, if a little sugar is put in the water when boiling.

To prevent raisins or currents from sinking to the bottom of your cake, have them well warmed in the oven before adding them to the batter.

To keep cheese moist, cut it in pieces and place in a glass jar, screwing the lid on tight. It will keep fresh until used.

To pop new or damp pop corn, shell a few ears and place in a bowl of water for ten minutes. It will pop readily, and the flakes will be crisp and nice.

A pinch of soda, put in green vegetables while they are boiling acts like magic. It makes string-beans nice and tender; it keeps the fine color of peas, and makes cabbage tender in a very short time.

After boiling salt ham remove it from the fire and plunge it in cold water at once. This loosens the skin, which then pulls off without any trouble. SARAH E. LYTLE.

A Breath From the South

Harvest time has again passed, and it has proven, indeed, a glorious harvest, for this has been an exceptional crop year. It is claimed that Louisiana has made 70,000,000 barrels of corn this year, and that about doubles any previous year, so you can see that if it keeps on at this rate the "corn belt" must soon be taken off and buckled around our old Creole state. We are growing corn, as well as sugar and cotton. Any of the southern crops do well here, and the farmers are trying the intensive rather than so much extensive farming, and they find our soil and climate ready to respond to the call of, "get out and hustle."

We have had too much rain, and it is raining more now than was ever known at this season of the year, but guess it will come out all right.

Some fruits here were a bit scarce this year, but most of us canned quite a lot anyway. There were a good many wild fruits, and, like wild game, they have a flavor of their own, quite different from the domestic kinds. From March to May the haws ripen, followed by huckleberries, mulberries and blackberries; later we have grapes, muscatines and persimmons and more haws. Then we have wild nuts. The woods are now aglow with autumn flowers and butterflies, but it cannot outrival our yard, for it is a mass of bloom—roses, honeysuckles, canna, cosmos, hibiscus, torenias, jonquils, etc. Then the lovely porch vine with its great racemens of rosy flowers attracts thousands of bees and many bright hummingbirds, and I like to hear their soothing buzz. The butcherbird has come back also and has begun his murderous work. From the first breath of spring till fall is upon us, we do not know where he stays, but on his return his harsh, discordant cry is a signal for insects to hide. He catches mice, lizards, worms, bees and even small birds and impales them on thorny brambles or the barbs of wire fences to be eaten when dried.

We feel very important now with five children in school. Six-year-old Virla joined the ranks this term. I have no company now and help at home but little Wilder and Baby Mavis. Yes, and Mavis' doll, Daffodil, for you never see one without the other. Daffodil must be washed and dressed, and the poor thing often needs it, for she must go to the table and have her china face all smeared with milk, and is even expected to chew sugar cane and eat peanuts.

Last Sunday was church day down in the beech, hickory and oak grove at the foot of the large creek bridge near our home. People came from far and near, on foot, horseback and in vehicles, and brought well filled baskets. After hearing a gospel sermon by an old, gray haired minister, the seats were made do duty for tables and a bounteous dinner was spread and eaten.

NANCY J. HAVENS.

Louisiana.

What a Change!

After growing up in the city and having been schooled there, as well as having spent many years there educating others, I married a farmer and moved to the farm. My city friends feared I should be lonely, while my newly made country friends wondered how I would get on.

Lonely! The ignorance of the thought! After the din of city life and the variety of the school room to be located upon a farm in quietude, "near to nature's heart," to see spring quicken the face of the earth into new life! I had an area of blooming violets as large as our city potato patch. Such a change was anything but lonely. Then there were the horses and cows, the pigs and chickens—dear baby chicks—and two pretty little kittens, not to mention the near neighbors, a stone's throw away. Besides, my husband was home for "lunch," or dinner, so I had the amusement of preparing a tasty noon meal just for "us two."

Occossionally we went to town to trade and once a week to church. We made several longer trips to attend Chautauqua in neighboring towns or to visit old friends, as well as entertaining city friends. We were content.

As to the work, that was a change, but the activity and diversity of the physical tasks rested my tired nerves and brought sweet sleep. First there was the unpacking and arranging of the furniture and goods. Hardly had the last picture been hung when the hens began to sit. Then my first chickens—twenty little cotton balls! How I fed them and watched them! I even photographed them. How I watched the clouds for rain and then hustled my birdies to shelter!

Then came the garden, with its straight short rows of green things growing. It was pleasing to have our

(CONTINUED ON PAGE EIGHTEEN)

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

5958—Misses' and Small Women's Dress—Serge, broadcloth or cheviot can be used to make this dress. The closing is made at the left side of the front. The skirt is cut in six gores and can be made with either the Empire or regulation waistline. The pattern 5958 is cut in sizes 14, 16 and 18 years. Medium size requires 2¾ yards of 54-inch material, ⅜ yard of 24-inch satin and ⅜ yard of 18-inch allover.

6068—Misses' Dress—The frock given in this group closes at the front and has three gored skirt made with Empire or regulation waistline. The round neck is collarless and is finished with a frill of edging or rouching or plaited mull. The sleeves are short and have cuffs finished with trimming matching the collar. The pattern, 6068 is cut in sizes 14, and 18 years. Medium size requires 5¼ yards of plaiting.

5964—Girls' Dress—The blouse of this dress closes at the left side of the front. The skirt is a three-gored model joined to an underwaist. Serge, broadcloth or linen can be used to make this dress with the collar and cuffs of contrasting material. The pattern, 5964 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2¾ yards of 44-inch material with ½ yard of 27-inch contrasting goods. The underwaist requires ½ yard of 36-inch material.

5972—Girls' Dress—This attractive frock may be made with long or short sleeves and with plaited or gathered skirt. It closes at the front and is quite a simple model to carry out. The sailor collar is a nice feature and this may be made of self material or of contrasting goods as preferred. The pattern, 5972 is cut in sizes 6 to 12 years. Medium size requires 3¼ yards of 36-inch material and ¾ yard of 27-inch contrasting goods.

6195—Ladies' Blouse Coat—This coat is made in the Balkan style. It is made with short sleeves. Serge, broadcloth or cheviot can be used to make this coat with the collar and cuffs of contrasting material. The pattern, 6195 is cut in sizes 34 to 42-inch bust measure. Medium size requires 2⅛ yards of 54-inch material with ⅞ yard of 27-inch contrasting goods.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

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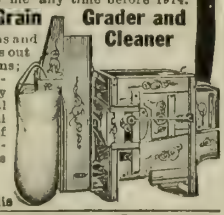

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The **Summer** Fashion Number is ready **May 1.**

The **Fall** Fashion Number is ready **August 1.**

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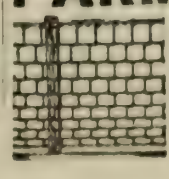

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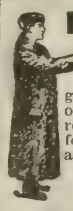

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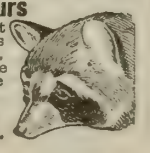

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New Manuscript Collections of the National Library

WASHINGTON, D. C., Oct. 18—Within the last five years some of the most important historical work ever done for this nation has been going on in the Library of Congress in Washington. This is the collection of the raw material of the history of the United States and that of the American colonies. It consists of gathering together from every available source the private papers and letters of our presidents and our greatest statesmen. It includes the transcribing from the archives of foreign countries every document that relates to the American colonies, as well as all the material in manuscript form that sheds light upon the true story of the making of the American nation.

Already the manuscript division of the library ranks among the three greatest manuscript collections of the world. Its papers and letters now surpass in extent and value those of any other library or government of Europe, excepting perhaps the British Museum in London and the Bibliotheque Nationale in Paris. The work so far has been in active operation for only about five years, and the collections are increasing so rapidly that our division of manuscripts will have more of such material than any other similar collection in the world.

Numerous Letters

Indeed, I despair of giving you an adequate conception of the enormous amount of material and of the admirable way in which it is being made accessible to the student and author. The correspondence, private papers and other documents already in hand are actually numbered by millions. There are more than 100,000 letters of the Washington correspondence; there are 30,000 or 40,000 of the private papers and letters of Andrew Jackson, and there are other papers of almost every president from the time of George Washington down to the late civil war.

There are thousands of unpublished letters of American statesmen and politicians, including the complete papers of Alexander Hamilton, Duff Green, Salmon P. Chase and Edwin M. Stanton. The papers of John Sherman are here and those of Gideon Welles, as well as those of General Sherman and General McClellan. There are also naval papers, papers relating to our commercial history and upward of 100,000 folios of transcripts of documents relating to American colonial history. There is scientific correspondence and literary correspondence, the latter including letters of the two Brownings, Marion Crawford, Mark Twain and James Whitcomb Riley.

The greater part of the material is new, and, as I shall show further on in my talk with Mr. Gaillard Hunt, who is in charge of this collection, much of it will throw a new light upon history, and the most of it has never been published.

But first let me give you some idea of the manuscript division of the National Library. It is in the northwest pavilion, on the second floor of the building. It consists of a circular reading room about 100 feet in diameter, book stacks running off from it containing the hundreds of great volumes bound in red morocco, in which these priceless letters and papers are so carefully pasted. The reading room is in the shape of a dome, with a circular mahogany desk in the center, about which those who handle the manuscripts must sit. The arrangement is such that the readers are never out of sight of the chief of the division or his assistant. The room is flooded with light, and all handling of the papers is done under the Argus eyes of the attendants. Even the private office of Mr. Gaillard Hunt is surrounded by glass, and he has the whole of the workings constantly before him.

Around the reading room are cases which contain a card index catalogue to certain divisions of the collection. This index is a general one. The material is so vast that it would be impossible to index it in detail, and it is only by coming here in person that the historical student or writer can get the material for his work.

When you remember that, as I have said, the collection already numbers several millions of letters and papers, one can appreciate the vast work that is going on. At present a force of three men and three women are engaged in mounting the documents. The papers as bought by the library are often in a deplorable condition, but they are taken and treated so that they will last forever. Each manuscript has its own treatment according to its needs, the work being an improvement on that originated by Father Ehrly of the Vatican library, who, until the work began here, was the past master in the art of preserving and renovating old manuscripts. One method used to keep the tattered and torn and crumbling worm-eaten papers together is by smoothing them out and covering them with a fine silk gauze known as crepeline. This stuff is so delicate that it can hardly be detected when it covers the writing, but it holds the papers for all time to come.

Letters Accessible

Nevertheless, these hundreds of thousands of letters and papers have been made wonderfully accessible, and they are being so cared for that from now on they will be practically indestructible.

Come with me into the book stacks where the manuscripts are kept. We are in a great room, 100 feet or more long, filled with steel cases, which run back on each side from a central aisle. The cases are in stacks three stories high. The whole is a skeleton of steel. The rooms are fireproof and the manuscripts are stored away in great volumes as big as the biggest family Bible, each having its own place in this steel construction. There are

thousands of these volumes, each containing hundreds of pages, and each page holding a letter or paper, many of which are worth their weight in gold. The papers are classified according to the president or period to which they relate. Many of them are in collections, such as the Washington documents, the Madison documents and the John Sherman papers, but all are chronologically arranged, and every letter and paper has been so prepared and pasted that it can be easily got at to be photographed or copied.

Chief of Division

But let me continue the story of this collection by giving you a talk that I had with Mr. Gaillard Hunt, who has been chief of the division of manuscripts of the library for the last five years. Mr. Hunt has long been well known as an historical writer. He has for years been an authority upon all manuscripts and facts relating to American history. He is the author of the well known biographies of James Madison and John C. Calhoun, and he was the editor of the great edition of the writings of Madison in eight volumes of the "First Forty Years of Washington Society" and of a large part of the journals of the Continental Congress. He knows as much, if not more, than any other man in the United States about manuscripts, and especially about those relating to our history. He had a long experience connected with the manuscripts of the State department before he came here, and his work is known in all the great libraries of the world.

Book Stacks, Showing the Volumes of Letters

In response to my question, Mr. Hunt said:

"The manuscript division began when the library came into this building, which was approximately ten years ago. It has been increasing in size very rapidly within the last five years, and it has now taken its place among the first three manuscript collections of the world. The credit of this is due first to the power of organization of Mr. Putnam, secondly to the work of Worthington C. Ford, who was the first chief of this division, and thirdly to my persistency in following up the policy laid down by Mr. Ford. Mr. Ford is the greatest authority on manuscripts in this country. He is now employed in the library at Boston, and I have taken his place."

"What manuscripts had you in the library at the start?"

"Very few. When Mr. Ford took hold there were several collections of documents that had been acquired in one way or another in the course of its long history. The origin of some of them is not known; others had been bought or given. These few, however, were valuable. They contained, for example, the papers of Rochambeau, which the government had bought from his family, and the Jamestown court book, which came with the Jefferson library which was bought by congress during the latter part of Jefferson's life; and then there were the private papers of John Paul Jones and others, which were of great value.

"The Jamestown court book gives the proceedings of the court at Jamestown from A. D. 1622 to 1626. It is the oldest English-American document in existence. This book was in bad condition when it arrived here. It had been lying in a cellar and had got wet through and through. We have, in a measure, embalmed it and it is now as well preserved as if it were in a metal casket. The writing is in the court hand of the seventeenth century.

Credit to Roosevelt

"The library owes much to President Roosevelt," continued Mr. Hunt. He caused all the private papers and manuscripts of the State department to be transferred to this division. That department had no place for them, and they were not accessible. These papers are all here. They include those of George Washington, Thomas Jefferson, James Madison, James Monroe, the records of the Continental Congress and the papers of Benjamin Franklin."

"How did the State department acquire those papers?" I asked.

"They were bought by congress

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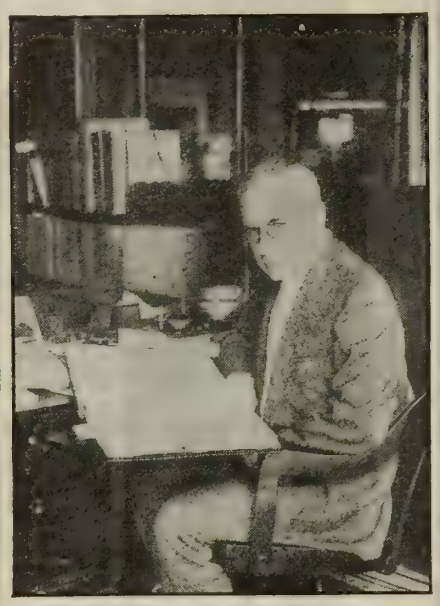
Over 100,000 farm families read it.

away back in the '40s. For some unknown reason, congress was particularly generous at that period and it appropriated a large sum for the purchase of the papers of Washington, Jefferson, Madison and Hamilton. It paid about $25,000 for the first installment of the Washington papers and about the same for the second installment. It bought two sets of Madison papers, giving $30,000 for one and $20,000 for another. It gave $25,000 for the papers of Alexander Hamilton and about $20,000 for those of James Monroe. It also gave $25,000 for the Jefferson papers.

"These payments had no reference to the value of the manuscripts, and



Mr. Gaillard Hunt, in Charge of Uncle Sam's Manuscripts

they were mostly made in order to assist the descendants of the several statesmen and presidents. This was especially so with the money paid for the Madison papers. It was to relieve the wants of Dolly Madison, and the money was so appropriated that it was paid to her in installments. This was mostly on account of her wayward son, Payne Todd, who had spent the greater part of his mother's fortune and who would have probably spent this if he could have gotten it. It was due to this provision that Dolly Madison had sufficient to maintain her in her old age. She died in comfort here at her house on Lafayette Park."

"Has congress recently bought any important collection of manuscripts?"

No, congress has bought no collections by direct appropriation for a great many years. The library itself has bought a large number, but a great part of our manuscripts are given to us. The accessions to the division come in three different ways. Some of them are given; others are bought at a fair price, and others are sold to the library for a sum entirely out of proportion to their value. Many people would not sell their papers to any other institution or person, but, being poor, they are willing to take what the government thinks it can give, which is always much less than the same manuscript would bring at a private sale."

"Can you give me any idea of the prices of manuscripts?"

"There is no such thing as a market price," said Mr. Hunt. "The price depends upon the temper of the buyer. There may be four or five rich men in the market buying certain kinds of autographs, and if you should have an autograph document that is along the line they want, it is worth as much as they are willing to give for it. If only one of them wants it, it is not worth much; if they all want it, the price is fabulous. The library does not pay a high price and it could not do so under any circumstances. If it did, a person having family letters that were really worth little might get an idea that they were of fabulous value."

"What is the highest price ever paid for an American manuscript?"

"I do not know. Havemeyer paid $1,400 for the draft of Washington's farewell address. At the same sale a manuscript of Washington sold for $900, and a letter of his sold for $50. You can get no idea of prices by the publications concerning the sales. The newspapers mention only the highest prices paid, and nothing is said of the letters which go for little. At the same sale where the Washington address brought $1,400 a letter of Henry Clay may have sold for $2.50."

Colonial Days

"Have you many documents relating to our colonial days?"

"We have the papers of the revolution, and those of the Continental Congress. The latter begins with the First congress, in 1774, and they extend to March 2, 1879, when congress died. After that we have the congress as under the constitution of the United States. None of those papers have ever been printed. Indeed, it is out of the question for any man to write about matters relating to American history without coming here. The information is not accessible elsewhere, and we have our manuscripts now so arranged that we can tell students where to go without waste of time.

"The documents cannot be taken away from the library. Indeed, a great many have been given only on the specific agreement that they would never go outside our hands. They can, however be examined here and copied or photographed This is, of course, for historic purposes. It is not for sensational writing, and not as to the publication of letters relating to persons now living. Many of the papers have been given to the library on the condition that they should not be put to any sensational use. The later papers, such as those of John Sherman and other men of recent date, might, if published, involve many men still in public life. We have to restrict that. Indeed, of all the papers after the time of James K. Polk we have to adopt more or less restrictions."

(Copyright, 1913, by Frank G. Carpenter)

Jersey Cattle Breeders' Meeting

The Southwestern Jersey Cattle Breeders' Association held its annual association meeting at Kansas City during the American Royal show. M. M. Sweetman of Kansas City was toastmaster. E. G. Bennett, state dairy commissioner of Missouri; W. R. Spann, a prominent Jersey importer of Shelbyville, Ken.; E. H. Eckry of the department of dairy husbandry of the Missouri State University, and William Forbes of the government bureau of animal husbandry at Washington were each called upon to discuss some feature of the Jersey cattle industry. The Jersey cow has never been more in demand or prices better than now.

What a Change

CONTINUED FROM PAGE FOURTEEN)

own fruit at home—plums, grapes and berries.

I shall not forget my first threshers, and the practical aid of my neighbor woman. I found threshing not so formidable as I had supposed.

Later in the summer there was more time for pleasure, and I appreciated the fact that my husband was a farmer, for he could occasionally take a day from his work to be with a pleasure party, which most city men may not do.

Yes, I have enjoyed the change to the farm and can cheerfully recommend it to other city girls.

Iowa.

MRS. WILBUR KRISTENSON.

(Courtesy National Stockman and Farmer, Pittsburgh, Pa.)

Charlie and Pete, Full Brothers, 24 and 25 Years Old, Born and Raised on the Farm of Hindman Bros., Armstrong County, Pennsylvania, Where They Are Still Owned

Timely Items of Interest to Poultry Raisers and Fanciers

THE great cry nowadays because of the high price of meat stuff is: "Raise more cattle. Stop the slaughter of the young stock." Well, how about raising more chickens? Chickens and eggs are meat, too. We need more poultry keepers in this country. There is ground going to waste on every farm, in and about every village, that would supply the people at large with cheaper eggs and chicken flesh, to say nothing of the poultry keepers themselves, if put to the use it should be. I live in one of the poultry-raising states, and yet all about me everywhere the business is merely played at. There is little need of eggs and poultry being so high to the d[illegible] of the many who need and cannot afford them. While we are looking after the raising of more cattle, let every one of us who owns no more than a back yard look after the raising of all the poultry it will possibly and safely raise—and it can all easily be made safe.

***

Remember that the chicks you have had hatched late must be given even better care than those coming on in the early part of the year, for there is something in the late fall and early winter chill more deadly and depressing than the chill of spring. This is why late chicks seldom develop the size the breed calls for. If you have late hatched chicks coming on, you must not allow them to roost upon the ground, though the coop be ever so tight from rain. I have found a small house the best for these—a house in which the floor is covered with straw or clover chaff and in which I can keep them close on rainy days. It takes plenty of feed for these late chicks. They may forage through the heat of the day, but all the forenoon nearly and early in the evening they begin to huddle together and shiver. And now, if you have any that are feathering slowly, these may get into the condition that is commonly spoken of as "going light," and which is, after all, but a form of consumption. Cull all of this kind out of the flocks as fast as you find them, as they will soon become a menace to those that would live on, fat and hearty. If you keep the pure-bred, and among these late chicks are some of fine shape and marking that you would like to keep as breeders for late next summer and longer, then feed these some bone meal and give extra attention toward their development. These late chicks are often sold in early spring as early broilers and at the big prices that prevail in spring, but remember that you must fairly stuff them if they withstand the rigor of late fall and winter.

***

As one farmer alone cannot work up a steady market at good and even prices, it has been found that if he combines under someone he can. Thus managers of creameries have found good markets for certain farmers, the farmers agreeing to provide so many eggs at certain dates, and which they lived up to or went out of the combine. Thus a certain number of farmers of a certain town agreed to furnish the eggs to a certain creamery at 21 cents a dozen, and the creamery man at so much to local dealers. As all go-betweens were eliminated but the creamery man, who charged a cent a dozen for his work, and the retailer, the customers had eggs at a reasonable price, while the farmer did not complain, as his price was uniform. He gathered the eggs twice a day, kept white eggs from the brown, packed them in even size, in cartons holding but twelve eggs. All small eggs he kept for home use. Most of these eggs weighed twenty-five ounces to the dozen. Each egg had his name stamped on it. The first year this creamery had but forty patrons, but by the next year there were 200 patrons eager to furnish good, fresh eggs to the city nearby.

***

When fall and winter comes it usually finds something out of fix about the poultry houses. It may be broken windows, loose boards and shingles, roosts out of kilter, doors off hinges, etc. No matter, fix them right now.

"Why is it," asks one poultry editor, "that people believe poultry keeping and statesmanship require no previous training, yet the humblest other trade requires a long apprenticeship if you do it right?"

***

Cleanliness is the silver key to success in the poultry business. It is so strongly essential that, given good poultry to start with, it is nearly all of it, and yet it is the last thing many poultry keepers think necessary at all.

***

Chickens will eat everything imaginable, no difference how filthy. Feed your poultry well. Give them good grain and food and you will find them disdaining filthy, strange food. They only eat it when turned out to find what they can to eat or starve.

***

The farmer should be as highly ashamed of a filthy poultry house as a filthy stable. More so if he is fond of eggs, for eggs absorb odors, poisonous or otherwise. And yet the farm poultry house is too often a matter of shame; so are the poultry yards.

***

There was a time when the farmer ate his freshest and choicest eggs and sold all the doubtful, old, dirty and misshapen ones to the country store keeper, who, to get the farmer's trade, did not care what kind of eggs he brought him. Then the merchant got his orders to not do that kind of business, and now the farmer keeps his doubtful, dirty eggs at home and sells the best ones.

IDA M. SHEPLER.

WONDERFUL GALVANIZED Steel Roofing OFFER

Fire, Water and Lightning Resistant. Practically Indestructible.

Special Offer

A fortunate purchase enabled us to secure a limited amount of brand new, high grade corrugated iron and galvanized steel roofing, some of which we are offering, while it lasts, for as low as $1.25 a square of 100 sq. ft., f. o. b. cars, Chicago. This is only one example of how much we can save you on all your roofing purchases. Never before in the history of the roofing business has such a remarkable money-saving roofing offer been made. It doesn't make a bit of difference what kind or make of roofing you have in mind to buy—corrugated, iron, galvanized steel or ready roofing, rubber surfaced, pebble, marble, flint or gravel coated—we can supply your every need with just the kind you want. Write today for—

$1.25 Per 100 Sq. Ft. Buys Best STEEL ROOFING

FREIGHT-PREPAID PRICES

and let us **prove** that we can save you **big** money on every kind of Roofing, Siding and Ceiling. We can furnish you the material necessary for re-roofing your house, barn, granary, church, residence, garage or poultry house. We can also furnish you the siding, conductor pipe, eaves trough, and everything needed. METAL ROOFINGS ARE BEST and cheapest in the long run, easiest to lay, longest life, non-absorbent; fire and lightning proof; cooler in summer, warmer in winter; do not taint rain water; with ordinary care will last a lifetime.

New, Heavy, Galvanized Roofing 2¾c per Sq. Ft.

Just another example of how hard we've smashed roofing prices this season. Never before and probably never again will you be able to buy such roofing at this price.

We Save You Money

Now is the time to send in your order for this roofing—don't delay it a single day. Even if you do not intend to use it for several months to come, send your order in now with a reasonable deposit which will protect you in your purchase, and the material will be shipped when you are ready to use it. Metal Roofings are best and cheapest in the long run, easiest to lay, longest life, non-absorbent; fire and lightning proof, cooler in summer, warmer in winter; won't taint water; with ordinary care lasts a lifetime.

Chicago House Wrecking Co.

Prominently known everywhere to the public for 20 years as the great "Price Wreckers" and now owned by the Harris Bros. Co., have decided that their best interests require that the name of the principal owners of the company be more prominently brought to the public's notice. There is no change in our business, except that the four Harris Bros. will, in the future, advertise and sell their goods, under the name of the Harris Bros. Company, instead of the **Chicago House Wrecking Co.**

Write Today For Free Samples—and Freight Prepaid Prices

REMEMBER, no matter what kind of roofing you are contemplating buying—corrugated steel or ready roofing—it will pay you to hold off a few days until you first get our free samples and freight prepaid prices. Just drop us a postal. We will absolutely prove to you that, quality for quality, we are underselling all competition by a wide margin. You run no risk in sending us your order. Our binding guarantee, backed by this $10,000,000 Company fully protects you. Write for free samples today.

HARRIS BROS. CO., 35th & Iron Sts., Dept. BN-88 Chicago

$26,500,000.00

Hog Cholera Losses In 6 Months

The above is a conservative estimate of the stupendous sum lost by American farmers during the first six months of 1912 from hog cholera alone! (Not including the **enormous loss from hog worms.**)

Now, men, let's make a mighty, united effort to put an end to this terrific slaughter—this awful waste of money. We can do it if we work together. I **know** we can do it. I have the remedy that **has been proved will prevent** hog cholera, put your weak hogs on their feed, **rid them of worms,** make them strong, hearty, fat and healthy. My remedy,

Merry War Powdered Lye,

is very simple and inexpensive to use and results have been **proven.**

E. Myers, President, E. Myers Lye Company

In an interview, which was so important that it was given a full column on the front page of the Fort Dodge, Ia., Messenger, on November 7th, 1912, Mr. Collie Bowers, a prominent hog raiser in that section, says: "Last Fall I had lost twenty-six young pigs, when I was told to get some MERRY WAR POWDERED LYE and feed it with swill. Every one of the eight or nine pigs that were then sick recovered and I had no more trouble. This Fall the same sickness started after I began feeding this year's crop. I started the Merry War Lye treatment and the pigs got well. My brother used the Lye with his pigs and saved all the sick ones. Earnest Stromberg heard about the treatment and came to our house in the night to learn how to use it. We told him and he drove to Fort Dodge in the night and got a grocer up to get the MERRY WAR POWDERED LYE. His pigs all got well."

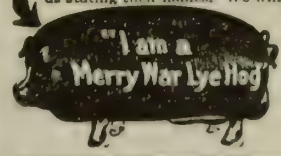
You can easily prevent an outbreak of cholera among **your** hogs, for again I say to you that MERRY WAR POWDERED LYE is the **safe preventive** of that dread swine disease. You can tell your neighbors about it just as Mr. Bowers in this interview is telling his farmer friends about it. You can in this way help to put an end to this needless and enormous money loss. Will you do it?

There Are No Substitutes

Go to your nearest dealer today and get a few cans of MERRY WAR POWDERED LYE. Don't accept an ordinary, old-fashioned lye as a substitute. To use such a lye would be but a doubtful and perhaps a **dangerous** experiment. MERRY WAR POWDERED LYE is the specially prepared lye that is **safe** to feed to hogs—that is **not** an experiment. **Insist** on the genuine.

Its wonderful merit has been **proved by experience.** Price only 10c per can **(120 feeds).** It is convenient to buy in case lots, 4 doz. cans, $4.80. If your grocer, druggist or feed dealer can't supply you, write us stating their names. We will see that you are supplied; also send you, **free,** a valuable booklet **"How to Get the Biggest Profits From Hog Raising."**

Order direct from us in case lots 4 doz. cans, $4.80, if your dealers won't supply you.



Which Kind Do You Want?

E. MYERS LYE COMPANY

Dept. 88 St. Louis, Mo.

Easy For The Boy

A Money Maker for the Man

The hoisting gear has a power of 40 to 1—twice as much as others; easily, quickly and safely raised and lowered, and stands at any point; no hit and miss ratchet to bother and let the box drop and smash, no dangerous crank to fly back and cripple the boy; runs easily on sharp curves or switches, in either direction, to right or left—these are a few of the important advantages of

The Louden Litter Carrier

which changes **hard, disagreeable work** for a man into **easy** pleasant work for a boy—and keeps the barn clean and sanitary so the cows will give more milk and bring more money.

Has box of heavy galvanized iron, reinforced by angles and soldered water tight. All the latest up-to-date improvements which inventive ingenuity and long experience can devise. Will save its cost many times a year.

We also manufacture a full line of **Hay Tools, Bird Proof Barn Door Hangers, Feed Carriers, Stalls, Stanchions, etc.** Catalogs mailed free. If you are going to build or remodel a barn our Special Architectural Department will send you, free, valuable information and plans which will save you money and worry.

LOUDEN MACHINERY CO., - - - 316 Broadway, Fairfield, Iowa

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Liming the Soil

C. J. H. V., Delaware, Ia.: Can you tell me how many barrels of lime to sow to an acre? Is lime good for soil where hog cholera has been raging and hogs dying of the disease?

Editor's Answer—Lime is not a disinfectant. It will not rid soil of hog cholera germs.

Caustic lime, that is, lime that has not been slaked, is not the best for the soil, on account of its corrosive nature. Raw limestone, rock or air-slaked lime is much to be referred in treating the soil. Lime corrects acidity in the soil, and stimulates the multiplication of soil bacteria and increases their activity. There is practically no limit to be placed upon the amount of lime used. A soil saturated with lime, or, if not saturated, containing tons upon tons of lime to the acre is not injured in its producing capacity by the presence of the lime. If the soil is acid, sufficient lime should be used to correct the acidity. Lime is especially beneficial to legumes.

Suggestion from the Northwest

G. B. H., Spokane, Wash.: The Inland Empire of the Columbia is now being entertained by an "alfalfa special," under the direction of the Chamber of Commerce, with Prof. P. G. Holden, expert, as chief lecturer. Announcement was made that Mr. Holden was the representative of the International Harvester company, sent on a "missionary" tour to urge the growth of alfalfa. The Chamber of Commerce took it up and the train has gone, and is now south of the Snake river, advising farmers to grow alfalfa; and the papers, through their staff representatives, are telling of the crowds and of the advantages of growing alfalfa.

All this strikes me as a step in the right direction, but I feel that there might just as well be several concurrent steps taken. I am an interested reader of the Twentieth Century Farmer. Prof. Holden may be telling the farmers who meet him and the train at the various stopping places about the preparation of soils for the best results in growing alfalfa; he may be telling them the best way to sow the seed, as to time of sowing, dangers of sowing under certain circumstances and conditions, manner of spreading the seed in order to insure a perfect and uniform stand; he may be cautioning them about the possibility—or worse, the probability—of getting seed not adapted to this climate, or getting seed grown anywhere from the tropics to the Great Slave lake; he may be warning his hearers against possible or probable errors of various kinds in alfalfa culture. But the staff correspondents are not quoting him along these lines. They are informing the newspaper-reading public of the crowds, of the displays, mentioning "successful growers," but not mentioning the methods of the attainment of their success, and all that line of persistent boost, without enlightenment of ultimate result through painstaking application of understanding. They prate learnedly about farming having become a science, but presumably leave it to the imagination of the hypnotized to learn the way to scientific conduct of farming, especially with reference to the propagation of the alfalfa plant. They are telling of the expedition, leaving with interested children sample packages of alfalfa seed, and asking the children to sow it so as to demonstrate by a little patch how father can grow the plant successfully; but I have seen no story of directions to those children how to use the seed, or suggestion whether the seed is all from one belt or is the mixed seed coming from several parts of the earth under different conditions of climate or soil or moisture.

All of which I am handing along to you because I note a seeming lack of the painstaking thoroughness in the direction of handing useful information to the grower which has characterized the articles in the Farmer, even to the last issue's paragraph about the origin of the seed. I especially refer to the article of some months ago, setting forth in detail suggestions about soil qualities, soil preparation, seed surety and method of sowing. That told something besides "Hurrah, boys; grow alfalfa!" It told how to grow it, how to get the best results, and also contained warnings. I'll bet there will be many a managing farmer in the Palouse and Walla Walla regions now being urged to change from wheat to alfalfa that will be sorry such a campaign, carried on in the manner described by the newspapers, with its sins of omission, was ever hatched.

I note also in the newspaper an address at Pullman, the seat of the State Agricultural College, by Dr. W. E. Taylor of Moline, Ill., "soil expert," telling of the silo as a "big fruit jar." That may be all true, but I gather from the recent articles, accusations and discussions in the Farmer that the plain, simple fact is that the "fruit jar" is not the whole truth, and that the whole truth of the silo matter is not forthcoming until something about the facts, or best facts, regarding silo construction are spread broadcast.

The foregoing merely gives the ideas of a man who reads the articles in the Farmer and who reads the newspaper stories of these "planned movements" or crusades.

I read with deep interest the leading article of the current issue wherein an associate editor of the Farmer spoke to the bankers of Nebraska.

Pork Without Corn

J. A. S., Colorado: We are interested in pork production and would like suggestions. Have you any good hog literature that would be useful to us? Would like to know the results of some experiments in hog raising and feeding in western Nebraska, Wyoming and the territory where hay and grain are substituted for corn.

Answer — Western Nebraska is growing quite a lot of macaroni or durum wheat for stock feed. One man, whom we know personally, has been raising this variety of wheat for many years, grinding it in his own mill and feeding this ground wheat to hogs, with excellent results. Some raise cow-peas, especially in Colorado, and this, with alfalfa pasture, gives good results in raising hogs for market. The Colorado, Wyoming and Idaho experiment stations, located at Fort Collins, Laramie and Moscow, respectively, will give you their reports of experiments in growing pork without corn.

Function of Spleen

L. E. S., Council Bluffs, Ia.: A and B argued as to the duties of the spleen in a hog. Can you please answer this in your next issue?

Answer—No, we will not explain these uses because we do not know what they are. More than this, we do not know of anybody that does know. Even the experts confess their ignorance. There is a hypothesis that the spleen serves simply as storage for the excess blood that is sent to the digestive tract in the process of digestion. But this is merely a hypothesis. There have been cases in which the spleen has been entirely removed without serious damage to the patient. If we knew what the spleen was good for, we should be only too glad to air our knowledge, but we do not know, and modestly confess the fact.

Farmer Disagrees with Dean Price

W. E. S., Diller, Neb.: Editor Farmer—I have read in your issue of October 11 the article, "Essentials for Right Kind of Co-operation," by H. C. Price, dean of the Ohio College of Agriculture. Now, I am an Ohioan by birth, but not a dean—a farmer by practice only. I am a firm believer in co-operative farming.

Dean Price thinks birds of a feather must flock together, yet he would divide the flock. First, he would not countenance organization in restraint of trade. He simply wants to increase the efficiency of economical methods. He does not want agitators, nor does he want the shifting tenant farmers, who are a "detriment to our agriculture;" nor does he want an organization of mixed nationalities, and he wants it to be made "stable" (whatever he means). We suppose it means an aristocracy.

How are farmers going to be benefited if only land owners are eligible? Even Mr. Price quotes from a Mr. Powell showing that "Among farmers who, under existing conditions, are already prosperous, the need of business organization is not usually felt." Is it not a fact that organizations that are prosperous, and do not really need organization, are the ones the farmer is now up against? If so, why cast out the tenant or the foreign born, who are poor when they begin, and are the most effectually fleeced by organized greed? Why not aid the tenant so he can own his own land, and why not educate the foreigner and help him by taking him into our brotherhood?

Better make laws forbidding excessive land holding and so divide God's green earth that as many as possible may feel the uplift. Making more men feel this is the object of organization or co-operation that makes a man his brother's keeper.

We need agitators, and, whether in restraint of trade or not, let us see that a lot of greedy speculators do have a little restraint, and we, the actual producers, have the fruits of our labor.

Multiply the Poultry Income

The income from the hens can be materially increased by careful breeding. The fowls shown in the accompanying picture are a part of a flock that gave an average of 155 eggs per hen last year. This flock has been built up by carefully selecting the best hens each year and hatching only their eggs. The average hen in the United States lays only eighty eggs per year, but there is no reason why the average can't be brought up much higher on your farm.

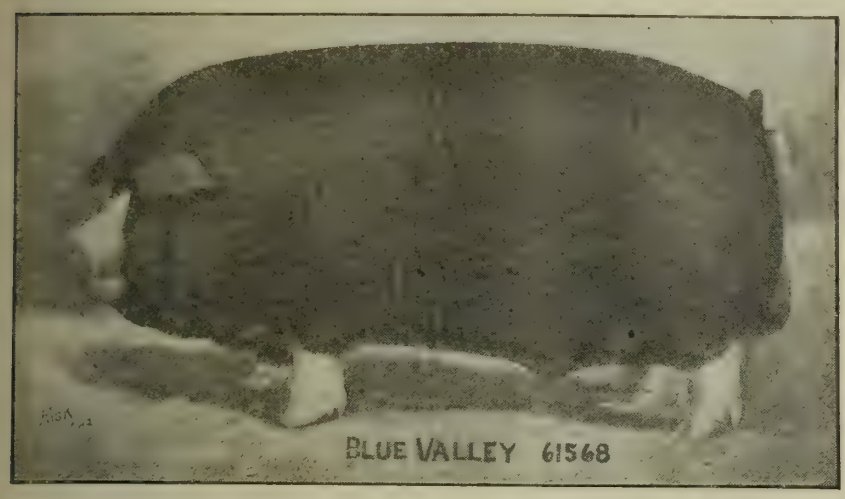
Watch the hens and use the trap nest if you have time. Select roosters from other flocks that have big records and add new blood every other year. Keep track of the number of hens you have and the number of eggs received; otherwise you will never be able to increase the record.

To increase a record you must first know what the old record is. Of course, feeding helps, but that isn't all. You must improve your flock by culling out all the poor ones and breeding from the best ones. JOHN Y. BEATY.

deans of agriculture never produce actual knowledge. They simply draw good pay, and the greater facts about agriculture are found out by the sweat of experienced farmers, tabulated and reproduced in college. Therefore, co-operation among farmers should not wear the robe of righteous dignity, but should get into the very hearts of the tillers of the soil and pull the occupation up to the point of respect and equality.

Editor's Note—Opinions from our readers who are up against the real problems of the farmer are always welcome. It is very natural for one to be lopsided in his opinions unless there is opportunity to hear both sides of a question. Deans and professors of colleges are not infallible any more than editors and farmers. The editor of this paper believes in co-operation among farmers and would like to hear from more of our readers on this subject.

Fine Poland-China Herd Boar



Owned by Thomas F. Walker & Son of Alexandria, Neb.

Farming Methods Used in New England

(CONTINUED FROM PAGE SEVEN)

hot fire, and they have plenty of it. The wood is cut during the winter from the "woodlot" on the hill, hauled down to an open place and sawed and split there, so that there will be no chips or disorder around the dooryard; then the woodshed is filled, and what is left over is piled up where it was sawed and covered with a roof of boards. For hot weather, Aunt Irma has a three-burner blue-flame kerosene stove, and oven with a glass door. She also has a refrigerator, a fireless cooker and a kitchen cabinet.

All through the house are more closets and cupboards and shelves than one can keep track of, but each serving its purpose. The piano, Uncle Eldrige's "secretary" and comfortable, easy chairs make the sitting room attractive and homelike, while the big kitchen and dining room is warm and friendly and alluring, especially toward meal time. Near the windows on the south is a roomy lounge and pillows. That is Uncle Eldrige's "corner," where he rests and reads between work. He takes a Boston daily paper, a story paper, a farm paper and two local weekly papers and the Vermonter. Aunt Irma has two women's magazines. They also exchange magazines with various neighbors, so they do not lack for reading matter, and they have time to read and enjoy it. They have a telephone, of course, and daily rural free delivery.

Home Made Beautiful and Pleasant

Aunt Irma is fond of flowers and has them on all sides, and they grow and bloom luxuriantly—golden glow and peonies along the fence in front like a hedge, lilies and dahlias in a corner by the "plaza," sweet peas, nasturtiums, geraniums and asters by the back door, where she can see them from the sink, or from the back porch, where she does her washing, with the billows of "Waterland" and the distant mountains on beyond, and gay poppies among the vegetables and currant bushes. There are great elms, maples and butternuts in the yard, and thick, soft grass of a "luscious greenness," as Burroughs says. Across the road, in front of the house, is the "flat," a four-acre field, which made a pretty picture, covered with hay cocks, as it was over one Sunday. Later, when the grass starts again, it is like a velvety park lawn in spring. All around and back are the green-clad hills, and across in New Hampshire the darker green and purple foothills of the White mountains, while between flows the lovely Connecticut river, mirroring the hills and the sky in its still surface, or dancing and sparkling when there is a breeze. It is dammed up for a pulp mill three miles below, making the water above very placid, and fine for boating and canoeing. Nature is very beautiful and life very pleasant in the quiet and peace of that dear, older part of our country, even if they don't make money as fast as we westerners and are still buried deep under the old traditions and ways of living.

LILLIAN S. LOVELAND.

Intrinsic Value of Manure

(CONTINUED FROM PAGE FIVE)

only eliminate all waste. The average western farmer wastes what would make a New York or a New England farmer rich, and one of the principal wastes on western farms is in vegetable matter, for which the soil is hungry.

A wise farmer said to his son who succeeded him in the management of the farm: "My son, raise every year as big a crop of manure as you can, and then the other crops will take care of themselves." If every farmer in the Missouri valley would act upon this advice, and most of them are beginning to see the necessity of it, production here would indefinitely increase and prosperity make itself evident on every hand.

JERSEY CATTLE

Buy Jerseys

Dollar for dollar invested, the Jersey will earn back the amount paid for her quicker than other breeds because her product brings a higher price per quart or per pound. For the home she is unsurpassed, and her low cost of keep makes her most desirable. Write now for Jersey facts. No charge.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

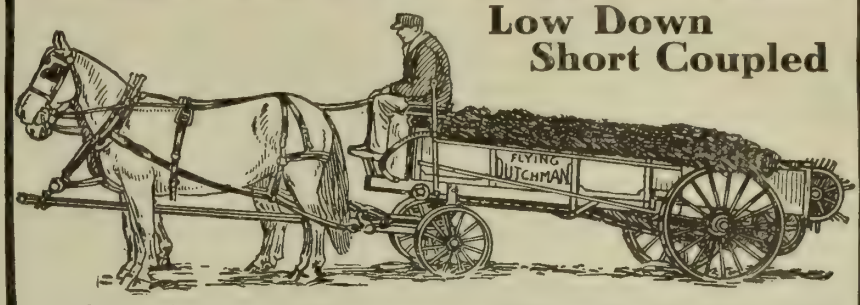
WINELAND FARM JERSEYS

Bull calves ready for service sired by Golden Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. Can suit you in both quality and price.

H. C. YOUNG, Lincoln, Neb.

Easy on Man and Team

Low Down
Short Coupled



There is no argument as to the value of the Manure Spreader, neither as to the saving in time and labor nor in the increase in yield, resulting from proper spreading of fertilizer.

The most profitable investment you can make is—

The Flying Dutchman Spreader

A Steel Frame, Low Down, Close Coupled, Endless Apron Spreader, of the most modern construction, greatest convenience and lightest draft.

Easy to Load—The top of the Box being only 42 inches high, it is easy and quickly loaded, without that back-breaking lift.

Runs Easy—The box being higher in front than in rear, the apron runs down hill, giving lighter draft—you know it's easier to pull a load down hill than up. It is also equipped with Roller Bearings—reducing friction.

Wheels Under the Load—Just where they should be to secure the lightest draft—most convenience in turning and plenty of traction power on the rear wheels, without the use of lugs.

Clearance—The Endless Apron has 18 inches between its lowest point and the ground—6 inches more than most others.

Steel Frame, Steel Wheels, Steel Beater, Chain Drive

No other Spreader is so strong and well built. The Apron runs on three sets of steel rollers, safely carries 5,000 pounds without sagging.

Easy to Handle—One Lever operates the entire machine—a boy can handle it as well as a man, with no chance of breaking the machine. Being close coupled, it is convenient around the barnyard.

We also build the MOLINE SPREADER which is of the same general construction, except it has a Return Apron.

Ask your Flying Dutchman Dealer and Write Today for our Handsome Spreader Booklet and 1914 Flying Dutchman Almanac FREE.

MOLINE PLOW CO.

Dept. 7 MOLINE, ILL.

POLAND-CHINA HOGS.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. THOS. F. WALKER & SON, Alexandria, Neb.

POLAND CHINA BOARS

I have a choice lot of big growthy spring males for sale, sired by Wayside Jumbo by Wade's Jumbo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille Columbus, Neb.

POLAND-CHINA BOARS.

Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

HORSES AND MULES

America, a Country of Horse Lovers.

Americans are now making greater Percheron improvement than Frenchmen. Come to my farm and see a herd of breeding Percherons with more bone; rugged draftier patterns. The young reg. studs; weanlings to 4 yrs. for sale; a big bunch. Buy FROM A FARMER, save half and get A GOOD ONE.

FRED CHANDLER, Rt. 7, Chariton, Iowa

LONERGAN'S TRIED POLANDS

Several tried herd headers for sale. Also a lot of extra choice spring and fall males. They are the big, smooth kind, with quality and bone. Prices reasonable. D. C. LONERGAN, Florence, Neb.

DUROC-JERSEY HOGS

DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Crittle B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.

C. E. CLAUFF, Central City, Neb.

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE

To promote general prosperity and their own business, bankers in many parts of the country are buying purebred Holsteins for their clients and selling them on time to the farmers of the community.

Every year it becomes clearer that with large yield cows the cost of milk and butter production can be brought down to a point that makes dairying profitable.

A breed of purebred Holsteins is an investment that combines safety with large dividends.

Send for FREE Illustrated Descriptive Booklets.

Holstein-Friesian Asso., F. L. Houghton, Sec'y. Box 179, Brattleboro, Vt.

PRIZE WINNING DUROCS.

Choice boars for sale, sired by B. & C.'s Wonder, Blue Ribbon Model, Chief Select 2d, Model Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale; sired by Buddy K. 109, Wide Awake Chief Jr., W. L. B.'s Perfection, Crimson Chief and others. Also bred sows. Priced worth the money.

GEO. W. SCHWAB, Cedar Creek, Neb.

KUZEL'S DUROCS

Echo Top Col., Model Wonder 3d, Proud Wonder Jr., Crimson Lad and Long Jr. by 3 sons of colonel's, are the sires of my spring pigs. Choice lot for sale at reasonable prices.

L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

Spring boars for sale, sired by Model Oracle, Crimson Wonder, Uncle Wonder and Queen's Wonder Again. Also are the Blue Ribbon sow Cora 2d and dam.

O. C. MUHL & SON, Kearney, Neb.

SCHULTZ' DUROC-JERSEYS

Boars for sale that are right, both in breeding and individual. Priced right for quick sale. Write the money and guarantee them to make good. GEO. W. SCHULTZ, Neb.

HOLSTEINS

To reduce our herd, we offer two young registered cows, fine choice well marked heifers and eight young cows.

Crossdale Stock Farm, Sextonville, Wis.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark, Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 209 Bee Bldg., Omaha, Neb.

Review of Live Stock Market

By A. C. Davenport

THE live stock markets of the country were in the dumps last week. Receipts were not especially heavy, but it seemed as if buyers had of a sudden lost their appetites, and in consequence all the markets on all kinds of stock were more or less top-heavy, with the tendency of prices downward for the want of good buying support.

An easing off in cattle values would not have been particularly surprising, as the market is very apt to show more or less weakness at the time of the Jewish holidays by reason of so many Kosher buyers being absent. When receipts were as liberal as they have been in years gone by it was nothing unusual for the market to show a sharp break, and the country was generally warned beforehand to ship sparingly during the Jewish holiday season This year, with greatly reduced supplies of fat cattle available, it hardly seemed possible that the holiday season would seriously influence the market, and the explanation for the break of 15@25c or more reported at most points must have been due to some other cause, or perhaps a combination of causes.

Argentina Scare Unwarranted

The receipt of a few thousand quarters of Argentina beef at New York was widely advertised and was used as a club by the packers to pound western markets. As a matter of fact the receipt of beef was really a very small matter, amounting to no more than one day's receipts of cattle at one of the smaller western markets, but what the shipments lacked in volume was made up in talk. Packers' representatives at all the different markets became of a sudden very bearish in sentiment and began predicting lower prices for the future, which possibly had more or less influence in weakening the market. As showing the tendency of packers' talk it might be mentioned that one of them put it this way: "Ten years ago we were doing a big business in heavy fat steers on export account, buying them by trainloads for the Liverpool and London markets, and now what has become of our export trade? Why, South America has taken it all away from us. We are exporting a meager quantity of dressed beef and Argentina is coming into our own market to fight us here. Having outsold us abroad and still possessing surplus product enough to ship to this country, the situation does not look bright for continued eastern demand for medium and plain cattle from the west." This line of conversation on the part of packers' representatives, liberally dispensed at western markets, undoubtedly had not little influence on prices, and it must be admitted that quite a good many operators on the market were inclined to look upon the argument as sound. On the other hand, a great majority of cattlemen still refuse to be convinced that the future of the cattle market can be otherwise than satisfactory to the selling interests. To be satisfactory it must be at least steady with the average of the last thirty days or more. The bulls, while admitting that bearish influences may be able to scare sellers for the time being with the cry of "Argentina, Argentina," think producers will soon come to understand that it is the old cry of "Wolf, wolf" in a new guise and refuse to be frightened.

Rumors are floating about the various markets that country banks are not quite so liberal in making loans on cattle paper as they were earlier in the season, the tendency being toward a more conservative policy. Any action along this line would naturally cause would-be feeders to buy somewhat less freely and might to a certain extent influence the market.

It is more than likely the sentiment regarding the future of the cattle market will be fixed to a considerable extent by the events of the coming week or ten days. Should the market continue in the dumps the ranks of the bears undoubtedly will receive many recruits, but if values spring back again to where they were the first week of the month they will be more confident than ever before.

Scarcity of Good Hogs

Hogs have been in moderate receipt at practically all market points, showing last week a sharp reduction as compared with the previous week. Figures, however, in the case of hog receipts at the present time, do not tell the whole story, as the quality of the hogs coming forward at the present time is so poor being made up of such a large percentage of pigs, that the receipts when reduced to pounds of pork are really very much smaller than they appear to be on paper. From all points come complaints of scarcity of good heavy hogs and a big surplus of light and trashy pigs. While the packers have administered some hard blows to the market, the decline on heavy hogs has really been less than the trade had anticipated. The packers themselves admit that the market has not, up to the present time, broken as rapidly as they had expected. On the other hand the large supply of pigs has made it an easy matter to break values on the lighter weights and they have been moving downward at quite a rapid pace. Just how much lower the market will go no one can say, but if the packers have their way there undoubtedly will be still further reductions in values.

In spite of the steady downward movement in hog values there are the very best of reasons for believing that prices in the future must be high. As noted last week in these columns thousands of pigs are coming to market to escape cholera that under ordinary conditions would be held in the country and not appear at the markets until after the new year. It is nothing unusual for Chicago to receive 5,000 to 7,000 pigs in a day and all the other markets are receiving supplies in about the same proportion. No one attempts for a minute to deny that this means a decided scarcity in hog supplies the coming spring. As stated a week ago, no one with healthy hogs need worry over the present break in hog values.

Feeder Lambs Lower

At this season of the year feeder lambs occupy the chief position in the minds of traders and they showed more or less of a downward movement so far as values were concerned last week. The country did not appear to take hold with quite so much freedom as usual, and the result was a somewhat lower range of prices at most points. Still the market was in fair condition. Fat lambs also had a lower tendency, but at most points there were not enough old sheep to cut very much figure in the trade.

Buyers have been talking all the season about lower feeder prices for feeder lambs, and the weaker tendency naturally encouraged them to hold off filling orders, which only added to the weakness already in evidence. Sentiment as to the future of the market is about equally divided, some contending that still lower prices will be realized before the close of the range shipping season. On the other hand, a good many believe that when buyers who have been holding back come to fill their orders the demand will be sufficient to maintain the market even at the close of the season. The whole situation seems to be a simple case of supply and demand and, as both are rather uncertain quantities at present writing, it is hardly possible to form a very clear idea as to what the next few weeks will bring forth.

Use and Care of Files

The choice of a file for any particular piece of work will be determined by the form of surface to be worked, the amount of material to be removed, the nature of the material and the finish to be left on the surface.

From the twenty different standard forms and cross sections in which files are manufactured the user must choose the proper form of file to best fit the work in hand. Next the amount of material to be removed will determine the size and coarseness of the file, the size being the length in inches of the file body without the tang, and the coarseness depending upon the six grades of cuts—rough, coarse, bastard, second-cut, smooth and dead-smooth. The bastard and second-cut are the grades most used for general work, and the smooth or dead-smooth for smooth finish work. All of these forms may be had as either single or double cut, in any grade of cut, excepting that the rough cut is usually single and the dead-smooth double cut. The double-cut file will bite more freely and leave a more broken surface than a single-cut file of the same size.

The nature of the material worked determines in a large measure the "life" of the file. A new file should never be used on very hard material, such as scale of castings and forgings, or on hardened steel; nor should it be used on soft, tough metals, or on thin edges, where it bites too freely. Files should not be thrown into drawers together with other tools. They should be kept clean by brushing, and should never be placed where they will rust, as that will ruin any file.

A. CAMMACK.

International Live Stock Show

The entries for the International Live Stock Show to be held at the Union Stock Yards, Chicago, November 29 to December 6, close on November 1. Secretary B. H. Heide urges all who expect to enter animals to do so at the earliest possible moment, as promptness on the part of exhibitors will greatly facilitate the work of the officers.

Breeders' Notes

Immune Duroc Boars

One of the best offerings of Duroc-Jersey boars to be offered in Nebraska this fall is that of Robert Leisy at Wisner, Neb., on November 7. Mr Leisy has the reputation of raising the big kind, and the offering of big, smooth, heavy-boned fellows he is putting up at this time certainly gives him the right to claim that distinction. These boars have not been overcrowded and are in just good breeding condition. They were all farrowed in the latter part of February and the early part of March. Every one of these boars is immune—a fact that should be worth a great deal to prospective buyers. There is not an undesirable boar in the entire offering and there are a number of herd-heading character. As far as their blood lines are concerned, there is nothing better. They represent such boars as Model Boy, R. L.'s Model, Sioux Chief, Blue Ribbon Model, Golden Model 4th, Golden Model 15th, Prince Muncie Colonel and others. Parties who are looking for a boar that will go out and do heavy service can make no mistake in attending this sale. If you cannot attend send your bids to G. E. Hall, who will represent this paper, and they will be carefully looked after. Write for catalogue at once, mentioning The Twentieth Century Farmer

Rouselle & Son's Horses

We called on James Rouselle & Son at Seward, Neb., last week and spent a few hours looking over their splendid line of horses. Few firms in the west have made more rapid strides in the last few years than has this one. They have accomplished this by handling the right kind of horses and by giving their customers the right kind of treatment. The senior member of this firm is a native of France, and this gives him a distinct advantage in making his purchases on the other side of the water. He does not aim to purchase an animal that is not absolutely clean and sound. They have about thirty head of stallions and mares on hand at this time that are the best evidence of this fact. They are the big, heavy-boned, drafty kind, with plenty of action. They are largely Percheron, but they also have some mighty classy Belgians and Shires. Prospective buyers will do well to look their horses over before buying. Write them for further particulars, mentioning this paper.

Kuzel's Duroc Males

L. J. Kuzel of Clarkson, Neb., is offering a number of very choice Duroc-Jersey males for sale at this time. These boars are sired by King Echo Cop, Model Wonder 3d, Proud Wonder Junior, Crimson Boy and Prince by Prince of Colonel's. These boars are big, smooth, growthy fellows and among them are a number that are good enough to go into any first-class herd. Their breeding is absolutely of the best, and you can rest assured that anything you buy from Mr. Kuzel will be just as represented. If you are in the market for a male, you had better get busy and write him before the good ones are gone. Kindly mention this paper when writing.

Schultz' Duroc Boars

George W. Schultz of Yutan, Neb., is offering some mighty choice spring boars for sale at this time. These boars carry the very top blood of the breed They have plenty of size and stretch, are a good, heavy-boned lot, and Mr. Schultz is pricing them worth the money. He will be glad to furnish description on request, and you can rest assured they will be just as represented. Write him for further particulars, mentioning this paper.

Sale Dates

Duroc-Jersey Hogs

October 30—J. J. Kane, Wisner, Neb.
November 7—Robert Leisy, Wisner, Neb.

Poland-China Hogs

October 29—Tim Neuhofel & Son, Central City, Neb.
November 12—A. E. Rich, Creighton, Neb.

Shorthorn Cattle

December 16 and 17—C. A. Saunders, Manilla, Ia. Sale at South Omaha.

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Friesian Cattle

February 3-4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher, Botna, Ia. Sale at South Omaha, Neb.

Hampshire Hogs

March 18, 1914—Roy Fisher, Winside, Neb.

Duroc-Jersey Boars
AT
AUCTION

At Wisner, Neb., Oct. 7, 1913

33 HEAD They Are All Immune **33 HEAD**

They are big, smooth, growthy fellows, with plenty of bone. There is not a single tail ender in the entire offering, and among them are a number of high class, herd heading character. Their breeding is the very best, representing such sires as Model Boy, R. L.'s Model, Dusty Crimson, Model Young, Critic B, Sioux Chief, Blue Ribbon Model, Golden Model 4th, Golden Model 15th and others. For catalogue write

Auct.—N. G. KRASHEL.
Fieldman—G. E. HALL.

ROBERT LEISY, Wisner, Neb.

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4 NOV 1913

TWENTIETH CENTURY FARMER

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TWENTIETH CENTURY FARMER, OMAHA, NEBRASKA

Bright and Breezy

Suburban Poultry

"Never count your chickens before they are hatched."

"Of course!" sneered Mr. Crosslots. "You're another of those people who want to take the chief pleasure out of the poultry business."

Certified Cows

The city cousin, on a short visit to her country cousin, was watching the latter as she commenced to do the evening milking.

"Oh, I say, isn't it all so very interesting! And from which of the cows, Lucy, do you take the certified milk?"

Boarding House Repartee

He was one of those fresh young fellows, given to the use of bromidisms and stale slang. At the breakfast table, desiring the milk, he exclaimed: "Chase the cow down this way, please."

"Here, Jane," said the landlady, "take the cow down to where the calf is bawling."

Taken Literally

One morning, while Mrs. Cobb was at her summer home in the country, she decided to go up to town and spend the day with a friend. Her grocer had not called by the time she was ready to leave, so she wrote on a card—"All out; don't leave anything"—and tacked it on the door. Upon her return at night, she found the house had been ransacked and nearly everything of any value had been taken. On the card which she had left on the door these words had been added: "Thanks; we haven't left much.—Lippincott's.

Forgetful

Dinah was a product of New Orleans, a big, plump, "yaller gal," who could cook the finest dinners for miles around. One day a new butler appeared upon the scene, and Dinah's mistress noticed that she took a great interest in the man. At last her mistress could stand her curiosity no longer and asked:

"Dinah, do you know that new man?"

Dinah took another long and scrutinizing look and then slowly and reminiscently replied:

"Well, I dunno, Miss Alice, but I think he was mah fust husband!"—Everybody's.

Not Needed

It was, indeed, a beautiful night in a little corner of Ireland. The gentle zephyrs played musically amid the delicate fronds of the turnip tops and wafted from far distant fields the subtle perfume of the luscious onion and the fragrance of decaying cabbages.

"Betsy," he whispered, as they sat together on the fence surrounding Mrs. Flanigan's pig-stye. "'ow beautiful you be! Jes' think of it, Betsy! When us be married we will have a pig of our own! Think of that, Betsy!"

"Dan," she whispered, a note of resentment in her voice, "what do I care for pigs? I shan't want no pig when I've got you!"

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Good Roads Are Important

THERE has been a general awakening throughout the country as to the importance of good roads. The agitation in connection with the Lincoln coast-to-coast highway, the good roads days in which Missouri, Nebraska and some of the other western states have indulged—all these things point to the fact that we have at last come to realize that good roads mean money in our pockets.

Next week, among many other good things which the Twentieth Century Farmer will bring you, will be an article written by a man from Missouri—a state that leads others in its interest in this subject—telling, in a concise and clear manner, exactly what good roads mean to the farmer and how to make them with the smallest amount of labor.

Prattle of the Youngsters

Only a Mother

A lady who belonged to a number of societies and organizations often left her little boy with his grandmother. He was lonely without his mother, and one day as she was about to leave him he exclaimed: "Oh, don't go! Don't be a clubber any more; just be a mamma."—The Delineator.

She Knew

Teacher—Have you looked up the meaning of the word "imbibes," Fanny?

Fanny—Yes, ma'am.

Teacher — Well, what does it mean?

Fanny—To take in.

Teacher—Yes. Now give a sentence using the word.

Fanny—My aunt imbibes boarders.

Wrong Pronoun

The nurse on duty in a hospital was giving the little ones their last meal for the day. All save one were patiently awaiting their turn to be served; the one in question being a rosy-cheeked convalescent who was lustily calling for her portion. The nurse was an English girl who had not yet become quite sure of her aspirates.

"Haren't you a little himpatient, Florence?" inquired the nurse, with just a tone of correction in her voice.

"No, I'm not!" returned Florence, promptly. "I'm a little her patient."

Taken Literally

Little Dave was detected by his father in the act of stealing from one of his little playmates.

The father, not believing in corporal punishment, concluded to try a moral lecture.

After pointing out the wrong of such an act, he said:

"Always bear in mind, my boy, that these temptations can be resisted if you turn a deaf ear to them."

Dave's lips trembled as he replied:

"But, father, what can I do? I ain't got a deaf ear."—Lippincott's.

Artful Tommy

Tommy was for the time being lost. For an hour his mother had seen nothing of him, had heard nothing of him, and this was unusual, so unusual that Tommy's mamma became anxious.

She questioned Tommy's sister Elsie, but Elsie only shook her curls. She knew nothing; she hadn't seen Tommy for an hour. Then Tommy's mamma rang for the cook, and the cook came in looking hot and uncomfortable. "Oh, mum — mum!" she began, wildly.

"Gracious, cook! What has happened?" shrieked Tommy's mamma, as she flopped into a chair. "My boy! My sweet cherub! Tell me the worst!"

And the cook told her: "Please, mum, Tommy's locked himself in the larder with the mince pies, and — and he says he's going on eating till he's too ill to be whipped."

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Nebraska's Winter Wheat Crop for 1913 Was the Largest Ever Grown in the State

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

How to Use the Manure Most Profitably

Article II—Some of the Natural Laws with Which the User of Manure Must Co-operate

FROM time immemorial it has been almost the universal custom to spread manure over the surface of the soil and then to plow it under. Generation after generation of farmers have followed the custom without seriously thinking whether this method was the best method to be employed. The human mind is naturally conservative. Humans are controlled more or less by custom and habit, which they accept and adopt unthinkingly on the assumption that whatever is, is right, and that what always has been done is supported by some good reason, and therefore should be continued to be done.

Study of Natural Conditions Necessary

Every farmer should know for himself precisely why he does what he does. In this matter of manure, if the farmer regularly year after year plows manure under, he should not do so unthinkingly, but should know why he does it, and then try to learn whether, under all the circumstances, such a method is the best method to be employed. Every act should have some definite objective in order to be effective for the purpose intended. In all his work the farmer should seek to learn precisely why he does anything that he does. The rifle man must have a definite object at which to shoot, and then must use the requisite skill to hit the object, or his shooting will be haphazard and ineffective. The same principle holds true with all farm work. The farmer should know precisely why he does what he does, precisely what object he hopes to attain, and then should work in such a way as to accomplish the desired end.

Why Use Manure at All?

The ordinary farmer, when asked this question, would reply that he uses manure simply for the purpose of adding fertility to the soil. As has already been shown in a previous article, this use of manure is the least important of all its uses. He uses manure principally so that it may become thoroughly incorporated with the soil, add a necessary vegetable content to the soil, and so enable the soil to take and to retain more natural rainfall, and for the additional purpose of multiplying the number and increasing the activity of soil bacteria which are indispensable to the profitable growth of farm crops.

The Vital Question

The vital question for every farmer to answer for himself is this: Does manure, when plowed under on ordinary soil, answer best the purposes for which it is intended? When used in this way, does it become as rapidly incorporated with the soil as it would if it were used in some other way? The farmer has to think only for a moment to be able to answer this question for himself. The manure that is plowed under, as the furrow slice begins to turn, naturally drops into the bottom of the furrow, not evenly over the entire bottom, but in more or less of a ridge, and is covered by the soil and the air is excluded. Under such circumstances it is impossible that the manure should disintegrate and decompose as rapidly as if it had free access to the air. The disintegration and decay of the manure, which are preliminary prerequisites to its thorough incorporation with the soil, are accomplished through the agency of bacteria, and these bacteria cannot work successfully in any position from which air is excluded. More than this; a certain amount of water is necessary in order to hasten this decomposition. When manure is plowed under, it must draw this moisture from the surrounding soil, where it will most assuredly be needed by growing plants.

If the manure were distributed over the surface of the soil in as fine a condition as possible, and then were partly cultivated in with either a disk or a harrow, the objections urged against the method of plowing under manure would be fully met. The cultivation with either disk or harrow, besides partly covering the manure, would give the additional fineness, which is a quality much to be desired, because such a condition hastens the final reduction of the manure to its original elements.

As the process of decay at or near the surface of the soil proceeds, the part of the manure that furnishes fertility to the soil is washed into the soil by the rainfall. This is another advantage of the use of manure as a top dressing. In addition, manure upon the surface of the soil protects that surface from the action of the wind and tends to prevent unnecessary evaporation from the soil. It also serves to help catch and retain the moisture precipitated, whether in the form of rain or snow.

Theory Sustained by Experiment

Several agricultural colleges of the country have made prolonged experiments extending over a series of years to determine which of the two methods mentioned is to be preferred. Many farmers have also made the same experiments and have carefully noted the results.

The uniform experience of all who have seriously tested the matter out is that the soil gets much more benefit, and gets it much more rapidly, when the second method is employed than when the manure is plowed under according to the first method. The uniform experience of all who have tried the matter out is that it is much better to apply the manure to the surface of the soil and partly to cultivate it in with a disk or a harrow than it is to plow it under. Farmers who have been accustomed to employ the old method of plowing under manure may be fully convinced that much greater returns may be expected from the method here set forth.

Another Lesson from Experience

It has been practically demonstrated by experiments that much larger returns may be derived from spreading fresh stable manure as a top dressing than can be derived from such manure after the process of disintegration and decay has been completed. Fresh stable manure produces better and larger results than stable manure that has been rotted before being applied to the soil. It is easy to see why this should be so. The soil needs bacteria and bacterial activity. In the case of rotted manure the bacteria have done their work, and the process that should have been carried out in the soil itself has been completed in the open air, and the soil has derived no benefit from it.

Case of Barn-Lot Manure Different

Barn-lot manure is composed in large part of waste roughage, straw or other material which live stock have not consumed. It is necessary that this material be partly decomposed before being applied to the soil. If it were applied to the soil before decomposition

(CONTINUED ON PAGE TWENTY ONE)

Large Crop Yield

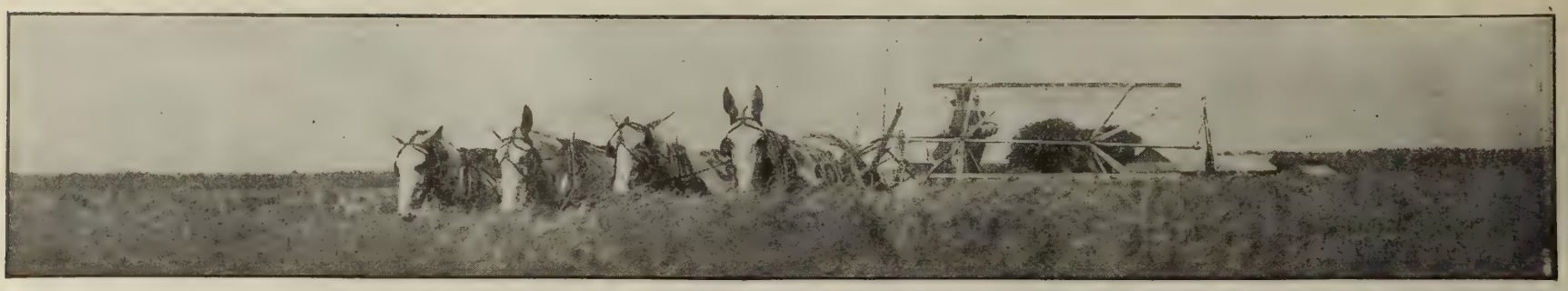
CONTRASTS in different methods of farming stand out more clearly during a drouth season, when weather conditions are adverse. Since harvest time we have heard many expressions of surprise, not at the shortage of crops, but the large yield in sections where drouth prevailed.

The Twentieth Century Farmer would be pleased to receive reports within its territory on crop yields that indicate they are above the general average. It would like also to have a statement of the methods of growing these crops, enough in detail to give the reader an idea of how to meet similar conditions. Large crop yields are interesting information to all land owners and crop raisers, especially when some definite plan or system has been followed in preparation of the seed bed or the cultivation of crops.

These reports will be published from time to time, with the name and address of the grower.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915. for $1.00

Lessons Taught by the Drouth Season

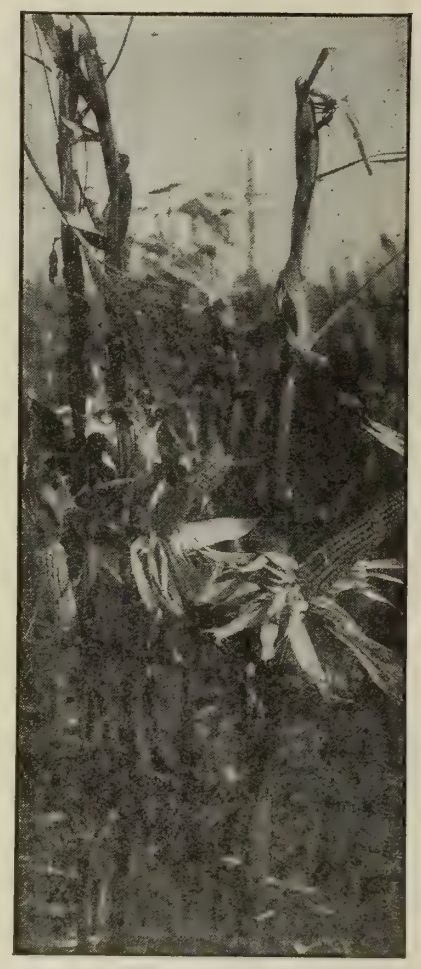


Kansas is First and Nebraska Second in the Production of Winter Wheat

IT IS the part of wisdom always to be as fully prepared as possible for the worst that may occur. Then, if anything more favorable than the worst happens, the results will be just so much more beneficial.

The past season has broken the record for prolonged drouth and prolonged heat throughout the southern edge of the entire corn belt. The result has been a loss that can be reckoned only in millions of dollars to the farmers of the stricken area. The question naturally arises, was this loss necessary? Might it not have been prevented, at least in some measure?

There are certain conditions in farming that are absolutely under the control of the farmer. There are certain other conditions over which he has no control whatever, but against which it is possible for him to guard himself. There are other conditions against which he is absolutely helpless. He can control the condition of the soil; he can take such measures beforehand as will protect him from drouth, but excessive heat is beyond his control and against it he has no protection. It is with reference to the second condition that the writer now has certain suggestions to offer.



Corn Was the Crop Most Seriously Affected by Drouth

Here is an indisputable fact: During the late fall, winter and spring preceding the drouth season throughout the entire drouth-stricken area there was sufficient precipitation to have protected and matured any crop, had it been conserved and stored in the subsoil instead of being allowed to run to waste.

First Lesson—Conserve the Rainfall

Many a farmer will ask, Is it possible to conserve the rainfall? If so, how may it be done? By stirring the surface soil the little air spaces in the soil may be indefinitely multiplied and enlarged so as to take and retain moisture to the point of saturation. The deeper the surface soil is stirred, the greater will be its capacity for taking and retaining moisture. Soil that is stirred to a depth of fourteen inches will take and hold fourteen times as much water as soil that is stirred to a depth of only one inch. Obviously, then, as a protection against possible drouth, it is necessary for the farmer in the fall to plow as deeply as possible in order that the stirred soil, by means of its enlarged and multiplied little air spaces, may absorb the rainfall and hold it until such time as it can soak down into the subsoil. When soil is handled in this way, only the minimum amount of water will run off and be lost.

Water is the one indispensable requisite to production in ordinary soils. It is the only medium by means of which plants are enabled to take their soil food.

If the farmers of the drouth-stricken area had handled their soil in the manner here described, they would have stored in the subsoil sufficient moisture to have carried them through the excessive drouth of the last season.

Water in Subsoil Safe from Loss

When water has been stored in the subsoil there is no danger of its being lost. It cannot evaporate; it is beyond the reach of sun and wind. It can be taken from the soil only by being taken up by the roots of growing vegetation. This statement is made on the supposition that the surface soil shall be properly handled. If an earth mulch three or four inches deep is kept upon the surface of the soil by cultivation, it will prevent the forming of deep cracks in the soil, and water in the subsoil can be lost by evaporation only from the deep cracks that form in the soil, the surface of which is thoroughly compacted and without cultivation or mulch.

Trusting to Favorable Season No Protection

Too many farmers, relying on the fact that throughout the drouth-stricken area such seasons of exceptional drouth are unusual, are too much inclined to take their chances on the next season being more favorable and so fail to take the necessary precaution against drouth. Certainty is always better than possibility. Many a farmer who fully understands the principles herein set forth has failed to take the proper means for storing moisture in his subsoil because he thought the chance of damage was too slight to make it worth his while to take the extra pains to provide against it. In many cases the farmers were not ignorant of the natural laws involved, but for some reason or another failed to take advantage of them. They depended upon the possibility of a favorable season rather than upon the certainty of being provided against an unfavorable season. Perhaps now such will learn the lesson that teaches that every man should guard himself beforehand against the worst possible seasonal conditions.

Amount of Water Required for Crops

It is almost beyond belief—the amount of water that is required for maturing a plant. One of the exhibits at a recent National Corn Expoistion consisted of a single stalk of corn and beside it a fifty-gallon barrel of water, as indicating that it took that much water to mature that kind of a stalk. A writer in a recent magazine states that it takes a thousand pounds of water to produce one pound of vegetable human food. In a season of excessive heat the amount of water required for vegetable production is indefinitely increased owing to the excessive breathing out of moisture from the leaves of plants. From this it will be seen that water is money to the farmer. Whenever he lets water run to waste, he is letting money get away from him. He cannot store too much water in his subsoil. It will remain there for the use of plants and be taken up by the plants as they demand it. The protection, then, against drouth consists in storing water in the subsoil. Throughout the Missouri valley, and especially farther west in the semi-arid regions, the entire rainfall should be stored in the subsoil, and this can be done only by handling the surface of the soil in such a way as to enable it to take the rainfall as it comes and hold it until it can find its way under the action of gravitation into the subsoil, where it will be retained for the use of growing plants.

Big Acreage of Winter Wheat Sown for the 1914 Crop in Kansas and Nebraska

Deep Plowing in the Fall

If deep plowing is done in the spring, and the spring rainfall is scant, so that the loosened soil does not become saturated so as to make it settle firmly, the bottom part of this loosened soil will be too open and loose for the roots of plants successfully to penetrate it. Under such circumstances deep plowing is

(CONTINUED ON PAGE TWENTY.)

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

How Dry Weather Hit 1913 Crop Yield

Shows the Farmer it is Not Safe to Depend Upon Taking Chances on a Single Crop

THE experiences of the last season have shown the farmer the truth of the old adage, that "It does not pay to put all your eggs in one basket." Some years ago the states of the Missouri valley were one-crop states. At that time a dry spell during the months of July and August was a great calamity and meant a shortage of money throughout the year. Nearly every season there is a short period in which it is extremely dry. Last summer was different from the ordinary years in that the dry season was longer than usual.

The 1913 corn crop in the states of Nebraska, Iowa, Missouri and Kansas, according to the best government and state estimates, was only about 55 per cent as large as it was in 1912. Yet the other crops, such as wheat, oats, alfalfa, wild and tame hay, etc., were sufficiently large to offset the loss in corn. While most of the crops in these states, measured in bushels, do not make as good a showing as last year, measured in dollars and cents, they are larger.

The growing season of 1913 was divided into three periods. From early spring up to the first of July conditions were ideal. During this period the wheat crop in the four states was matured and exceeded the season of 1912 by 17,743,000 bushels. During this same period the first cutting of alfalfa was harvested, yielding from 50 to 100 per cent greater output than 1912, and a second cutting which was lighter. Following this period came the dry season, which hit the corn crop and the later cuttings of alfalfa. This was followed by good fall rains, which revived the pastures and enabled the farmers to sow their winter wheat for the 1914 crop. Reliable estimates for the four states show that the acreage is much larger than was sown last year. It can be seen what an early growing season means to a state like Kansas, which has over a million acres of alfalfa and is the leading winter wheat state.

Nebraska as an Illustration

We are not able at this time to gather as complete figures and estimates from other states, so will use Nebraska as an illustration of the crop conditions in the Missouri valley states. The average yearly value of the corn crop in Nebraska since 1890 has been $58,272,377. The value of this year's crop, based upon the government's estimate of 102,800,000 bushels, at the present cash value, is $66,100,000. The average yearly value since 1890 of the wheat crop has been $23,833,584, while the value of this year's crop is $48,589,011, more than double. The average yearly value of oats since 1890 is $12,706,882. The value of this year's crop is $17,233,281. The average yearly value of the three crops since 1890 is $94,812,843. The combined cash value of the three crops for 1913 is $132,922,298, showing a value of $38,109,449 over the yearly average value.

Nebraska's wheat yield this year exceeded that of 1912, the previous record, by over 14,000,000 bushels. The total in 1913 was 64,725,348 bushels. Of this winter wheat had 59,846,834 and spring wheat 4,389,514 bushels. In 1913 the total yield was 50,663,097.

The average yield of winter wheat this year was 18.51 bushels per acre, and the spring wheat average 12.93. Figuring the crop at 75 cents per bushel, the money value is $48,589,011.

The following table of comparisons is given in the annual bulletin of deputy labor commissioner:

WHEAT

	Acreage.	Production.
1890	1,000,950	15,014,250
1900	2,322,969	37,748,246
1910	2,732,166	45,151,052
1913	3,422,176	64,785,348

CORN

	Acreage.	Production.
1890	4,418,382	70,694,112
1900	6,291,050	143,650,317
1910	6,595,038	178,295,128
1912	6,076,057	164,376,786
*1913	6,183,024	102,800,000

*Estimate based upon government reports.

OATS

	Acreage.	Production.
1890	1,593,289	34,997,615
1900	1,421,948	33,486,278
1910	2,[illegible]	71,56[illegible]
1912	2,037,943	46,876,346
1913	2,019,096	52,222,036

Late Rains Have Given Good Fall Pasture to Help Out Hay Crop Shortage

How's Crops?

Jed Hicks he drives up Main street and he drops
In on Si Gregg, and Si Gregg says: "How's crops?"
And sometimes Jed says: "Si, I never see
A crop like this one promises to be!"
And orders big—all kinds of farm supplies,
Till Si he gets real sunshine in his eyes
And says to Emmet Pew, the drummer: "Pew,
Make that one ton of sugar I said two;
And tell them hullsale fellers I'll discount
Them bills of theirn and pay the hull amount."

And then Scrimp Short, the banker, he jest hops
Acrost the street and says to Jed: "How's crops?"
And Jed says to him: "Scrimp, she's goin' to be
A bumper crop, I tell you—now you see!"
And Scrimp he rubs his hands and feels his oats,
And tells his customers he'll take them notes
At nine per cent, and finds he's got about
Another fifty thousand to let out,
And thinks the notes can be renewed again
For mebbe eight per cent instead of ten.

And old Doc Blake he sees Jed Hicks and slops
Right through the mud and says to Jed: "How's crops?"
And Jed says: "Doc, I never see the beat
Of this here year for corn and oats and wheat!"
And Doc he smiles, because he's got about
Five thousand on his books astandin' out;
So he goes to the garage and says: "Green.
You better order me that new machine
We talked about the other day"—and goes
Into his tailor's for a suit of clothes.

Jed Hicks ain't much to look at, but his say
Is purty powerful in a business way;
And when he says the crop is hard to beat
You see folks perk up all along the street.
Si Gregg he gives big orders for his store,
And Scrimp Short finds he's got aplenty more
Good money to lend out; and everywhere
You feel that easy-money-comin' air;
It has some meanin' when Scrimp Short he hops
Acrost the street and says to Jed: "How's crops?"

J. W. Foley.

The Oat Crop Was on the Way to the Stack Before the Drouth Season

Barley Crop

The Nebraska barley crop for the year 1913 was estimated at a cash value of $1,140,722 by the State Board of Agriculture. The acreage was reported to be 97,694 acres and the average yield was computed at 21.15 bushels per acre. The yield, according to these figures, was $2,066,906.

Wild Hay Yields

Wild hay yields in Nebraska this year were slightly affected by unfavorable weather, and the total crop, according to the estimate of the State Board of Agriculture, was valued at $29,007,383. The counties in east and northeast Nebraska score the highest average per acre in wild hay production this year. Burt county reports 1.7 tons to the acre; Butler, 1.3 tons; Cass, 1.4 tons; Colfax and Cuming each 1.5 tons and Dakota 1.6 tons.

Over $4,000,000 in Potatoes

For the year 1913 the Nebraska potato crop amounted to 5,375,807 bushels, according to tabulations made by the State Board of Agriculture. There were 107,801 acres and the average yield was 49.87 bushels per acre. The crop at present prices is worth $4,031,855.25.

Among some of the counties that are heavy potato growers are: Box Butte, 553,176 bushels; Brown, 295,875 bushels; Cherry, 213,540 bushels; Cheyenne, 127,224 bushels; Custer, 101,775 bushels; Dawes, 170,112 bushels; Holt, 180,000 bushels; Lancaster, 118,203 bushels; Morrill, 268,800 bushels; Scott's Bluff, 196,500 bushels; Sheridan, 628,768 bushels; Sioux 115,644 bushels. Morrill county averaged 200 bushels to the acre, and Scott's Bluff county 125. Sheridan county harvested the largest crop, with an average of fifty-six bushels to the acre.

Stock Increase in Nebraska

In connection with the foregoing crop statistics the figures prepared in the office of the labor commissioner and taken from the reports of county assessors to Secretary Seymour of the State Board of Assessment are interesting in that they show the number and value of horses, mules, cattle, hogs and sheep in the state since 1880 in periods of ten years to 1910 and by years since that time.

Horses have increased in number from 176,100 to 920,081 in the thirty-three years, and their value has increased from $11,330,274 in 1880 to $67,361,050

(CONTINUED ON PAGE TEN)

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The District of Columbia is imposing fines on shippers of adulterated dairy products. It would be well for all states to take similar action.

In 1912 New York City spent $163,519,362 in building operations. Los Angeles reported the largest number of new wooden buildings, which cost $16,422,162.

The Ohio State University is training young men for the work of testing the milk of dairy cows in the state. The test of dairy herds is becoming a matter of importance there.

The sixth National Corn Exposition will be held in Dallas, Tex., on February 10 to 24, 1914. Prof. C. P. Bull, formerly of the Minnesota Agricultural College, is secretary and general manager.

More than 2,000 students of the Ohio State University are co-operating in the purchase of supplies in an effort to reduce the cost of living. It is estimated that they save from 20 to 50 per cent by co-operation.

As fall advances and the pastures become shorter and the weather cooler, it is well to keep calves and colts on a small ration of oats, so that they may go into the winter in the best possible condition. A quart of oats fed now will be worth more to young stock than double that amount fed in the spring.

National Farm Credit Policy

Congressman Bathrick protests vigorously against the results of the present agitation for cheaper money for farmers being permitted to drift into the control of the bankers. He also urges that a national policy be outlined which shall be adapted to conditions in the various states and which shall be adopted by the various states, instead of each of the states having a separate individual policy of its own.

Since the agitation has started the banking interests have introduced several bills in congress which, if passed, would insure to bankers more or less control of agricultural credits. It is imperative for the highest success and greatest benefit to be derived from agricultural crdit systems that they be, and remain, absolutely in the hands of the farmers themselves. They know what they want and may be trusted to manage their own business. Securing cheaper money for farmers should not be made to pay a profit to anybody. It should be placed solely on a co-operative basis, and no revenue should be derived from it over and above what is necessary to pay interest, except what is actually needed to pay operating expenses.

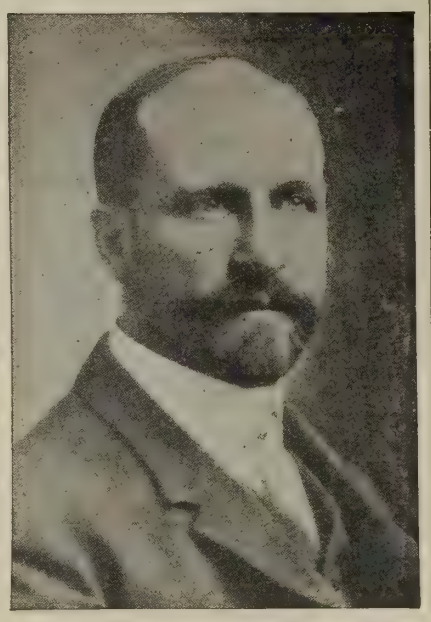
A unified system of farm credits for the whole country will do away with misunderstandings, misconceptions, disagreements and difficulties in operation in the several states.

There are several bills in congress based upon this idea of a national policy which give the farmer low rates of interest and a long time for payment. The proposers of these several bills should get together and unite on a single measure to which they can give their united support, and appeal to the farmers of the country for their influence in making such bills law.

The farmers must themselves manage the business of their own credits. If the bankers are to assume control in the matter, it is difficult to see in what way the farmers would be better off than they are under the present system.

Dr. Cyril G. Hopkins

This name is familiar to all lovers of improved agriculture. He has been doing noteworthy work in Illinois in showing how wornout soils may be restored to something like their original fertility and can be made permanently productive. This work has required courage and firm faith in his own convictions. The agronomist in the Department of Agriculture at Washington has stated over and over again that our soil is not in process of exhaustion. Dr. Hopkins has had to do his work in opposition to such a theory, backed by official influence. But he has succeeded. He has proved his hypothesis. He will be remembered and honored for his work when those that have worked upon an opposite theory have been forgotten. It is cause for regret in Illinois that Dr. Hopkins is severing his relation



Dr. Cyril G. Hopkins

to the State Agricultural College and is going to another field of labor.

He has been appointed director of agriculture of the Southern Settlement and Development organization. This is an organization of the south for the purpose of developing the south. Its bylaws state that to make money for the organization or for its members shall not be or become one of its obligations. The headquarters of the association are in Baltimore. It proposes the development of a new and profitable agriculture throughout the south. It has called Dr. Hopkins to take charge of this work. This is a broader field than the one that he has been engaged in, and it has infinitely greater possibilities for good. A happier choice could not well have been made by the organization. The Twentieth Century Farmer congratulates him on the wider opportunity given to him for his special work, and predicts for him a successful and beneficent career in his new field.

How about your seed potatoes? Have you already selected them, or are you storing them with the general crop? It will pay any potato grower to put his seed potatoes in cold storage until they are needed for planting. Their extra vigor derived through such care will make them so much more productive next season as to much more than pay the expense and trouble of such care.

By an act of congress, passed March 4, 1913, the Department of Agriculture, commencing July 1 of the present year, was given supervision and control over the majority of biological products for the treatment of domestic animals. This will give such products a standing in the confidence of the public that they could not possibly attain were they promoted merely by the manufacturing companies.

In some parts of South Dakota and adjoining states the potato crop is so light that people are compelled to buy potatoes, and are paying as high as $1.20 a bushel for them. If the growers and the users would get together it would be for the benefit of both.

Tractor Contest in Africa

During the latter part of March, at Port Elizabeth, in South Africa, there was an exhibition of tractors, accompanied by a contest. The recent power demonstration at Fremont, Neb., was carried out in somewhat the same manner as the earlier exhibition at Port Elizabeth, with the exception that the contest feature was entirely eliminated. In the exhibition at Port Elizabeth eight tractors were entered in the demonstration; at Fremont there were thirty-eight. Of the eight tractors entered at Port Elizabeth five were of English manufacture and three of American manufacture. An English machine took first prize of approximately $500, and another English machine took the second prize of approximately $125. The American machines took no prizes, but were awarded special honorable mention.

As is usual in the case of contests, dissatisfaction with the awards was evident at Port Elizabeth, and there were charges of personal favoritism in making the computations. This should, however, excite no special comment, as every contest brings more or less cause for complaint. The Fremont exhibition, from which the contest feature was eliminated, was entirely without any of these unpleasant features. One important fact is well worthy of consideration: The Elizabeth Agricultural Society, under whose auspices the contest was held, while permitting any size of engine to compete, expressed its opinion that engines of from twenty-four to fifty brake horsepower on the pulley when driving as a stationary engine will prove large enough for most buyers' requirements. The facts which render this opinion especially significant are: First, the farms of South Africa are very much larger than in the Missouri valley, and, secondly, that the topography of that country is very rolling, and in that respect is very much like the glaciated portion of the Missouri valley territory. From this it appears that this society is of the opinion that machines of small or medium power are better adapted to general use than the heavier types of engine.

Another significant feature of the South African exhibition was the use made of disk plows. It will be ultimately found to be true that in the Missouri valley territory, especially on old land, disk plows, when properly constructed and properly manipulated, will do better work at a less expense of power than moldboard plows.

It is to be hoped that at the next farm power demonstration in this territory the capacity of the disk plow to meet all requirements will be fully tested out.

Dampness in corn lowers the grade and lowers the price. It is to the interest of every farmer to see that his corn is dry so that it will demand the highest price. It is estimated that the water shipped every year in corn would require a freight train more than 110 miles long.

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Vegetable Diet Suggested

The high price of living, especially as influenced by the cost of meat products, has been quite thoroughly discussed by the Missouri-Kansas-Oklahoma Hotel Men's Association at one of their recent meetings. The most feasible solution presented was the more liberal use of vegetables and a proportionate reduction in the amount of meats used. It was conceded that hotel prices to the patron are already as high as they should be, and that the hotel men must have some means of lowering cost.

The idea seems a very reasonable one from a business point of view, and from a health standpoint there seems to be no lack of argument for the vegetarian and fruit-consuming theory. The suggestion of this association is to make it a nation-wide movement. The organization of state associations of hotel men could readily be taken up by the American Hotel Keepers' Protective Association, and an alliance formed that would recognize all state and interstate associations of hotel keepers.

There is no other organized influence that can so effectively check the slaughter of the veal calf. The hotel men are experiencing the need of self-protection against the high prices of the food products they are obliged to have in their every-day trade. This subject will be taken up and some definite action had at the annual convention to be held at Excelsior Springs November 3 and 4, 1913. The consuming public will look forward with a considerable degree of interest to the outcome of this legislation of the hotel keepers. The producer will also be a very prominent factor in any action taken that tends to influence the cost of food products.

Galloways as Dairy Cows

Surely something is wrong. Some mistake has been made, somehow, somewhere, when the wild, fighting, kicking, hairy, thick-skinned Galloway is being considered for selection by the United States government as the official milch cow for Alaska. But wait a moment and consider what this means. There is a demand up in Alaska for real milk, and the climate is such that the ordinary cow cannot withstand the rigors of this extreme climate, to say nothing of the tender dairy breeds—the delicate, thin-skinned Jersey, for instance, that demands the best of housing and treatment in order to procure best results even down in the corn-belt farming districts of the central west.

The Galloway is a breed of cattle but little understood by the average cattle raiser or handler. There is not a large number of this breed of cattle in the United States. They have not heretofore appealed to the cattle raiser of the country, as have the Shorthorn and Hereford, because their shyness has been construed to indicate a wild, vicious nature. On account of this belief they have been left to the range, where their shyness could be endured to any degree of wildness.

The Galloway has in recent years been getting more and more civilized and reconciled to farm conditions and farm requirements, and they are today quite acceptable as farm beef animals and are used to some extent as dual-purpose cows. It has been discovered that the Galloway cow produces a very rich quality of milk as a general thing, and that she most generally raises a big, lusty calf when it is allowed to run with her. This fact has induced many owners of Galloway cattle to test them as milkers, and most universally they are found to be rich milkers, but not generally heavy milkers. They are more of a cream cow than a milk-dairy cow. When broken to milk they are as gentle as the average of breeds, but always wide awake, alert and demand careful handling, as they see everything going on about the barnyard, especially if strangers are around.

That the Galloway has the qualities for the milch cow of Alaska, there is no reason to question or dispute. Anyone familiar with their characteristics will concede that if the Galloway cannot stand the Alaskan climate there is no use experimenting with any other breed. Their long, shaggy covering, with a thick, tough skin, qualifies them for cold and storm. Their equal in this respect cannot be found. The centuries of outdoor life of the ancestors of these cattle in the highlands of Scotland, enduring the cold and storm of the winters of that country without shelter, have given them the qualities that are suited to the rigors of a cold climate. The Galloway breeders can profit by following up the lead which such a proposition will introduce for the sale of cattle to Alaska and other cold-winter districts. The government can do no better thing than send a trial shipment of Galloways to Alaska.

Kansas Alfalfa Seed

Kansas is a great alfalfa state. Secretary Coburn has seen to that. Owing to the drouth last season, since dry weather is favorable to the development of alfalfa seed, that state has produced 1,540,000 bushels of alfalfa seed that is valued at $8,000,000. This is a great harvest. It should make alfalfa seed next season cheaper in price to the ordinary consumer.

One fact must, however, be borne in mind—the market for this seed should be found largely in lower latitudes than that in which Kansas lies. Sowers of alfalfa seed should go north rather than south for their seed. Southern-grown seed cannot be depended upon to endure the rigors of winter in higher latitudes. This southern seed may be used in such a way as to work great damage to the alfalfa industry. Kansas believes in alfalfa and should take measures to protect the industry in more northern localities by sending their seed south instead of north.

The seed men probably will buy Kansas seed to mix with northern-grown seed, provided it can be bought at a profitable figure when compared with the seed grown in Mississippi and Louisiana. It would be well during the next season at least for every sower of alfalfa to know where his seed is grown and to be sure that it comes from farther north than where he intends to use it.

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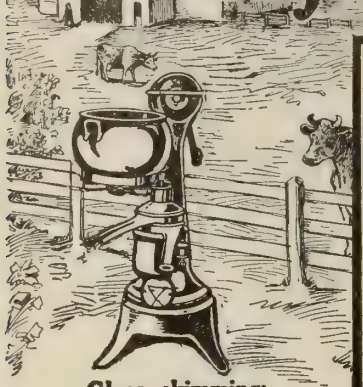

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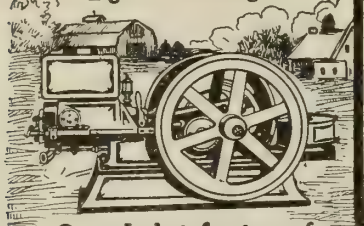

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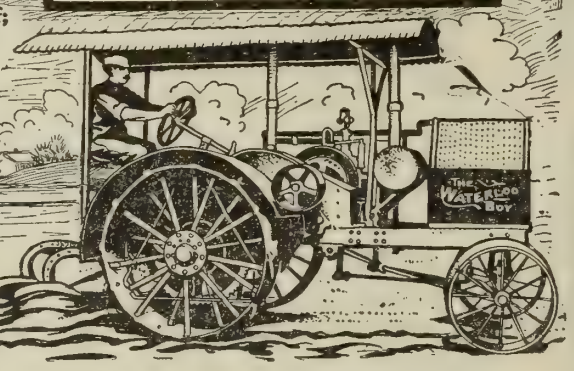

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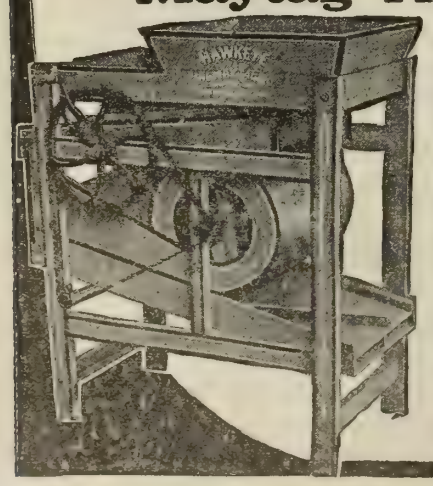
Grade and clean your seed wheat—oats—any grain—with a Maytag HAWKEYE Grader and Cleaner; and if you can tell us, after harvest, that it did not make an increase in your yield—more than enough to pay for the grader—*we'll return your money.*

What we *know* about this money-making machine is summed up in that offer. We couldn't afford to make it if we were not safe in doing so. And as we *are* safe, then you cannot afford to be without this grader.

We can prove to you that men using the Maytag HAWKEYE Grain Grader and Cleaner have made $7.00 more net profit per acre on oats—over $3.00 more net profit per acre on spring wheat—over $6.00 more net profit per acre on winter wheat. Can yon beat that for an easy money-making proposition?

In other words, others have paid for this machine with the increased returns from three acres of oats, or a little over three acres of winter wheat, or seven acres of spring wheat. You cannot make anywhere near as much money on any other investment, and we say a HAWKEYE Grain Grader and Cleaner is the most profitable machine you can buy.

Maytag HAWKEYE Grain Grader & Cleaner



is a *completely guaranteed* machine. You don't have to keep it, or pay a cent for its use—if it doesn't do all we claim.

The Maytag HAWKEYE Grain Grader and Cleaner grades and cleans corn, all kinds of small grains and grass seeds; separates grain into proper grades for planting; takes out all dirt, trash, etc.; selects good seed from bad—grades perfectly and cleans thoroughly, a grader and fanning mill in one.

Write *now* for the facts. Free printed matter tells how this machine is made—how it operates—what it will do for you—what it has done for others. It will actually be your biggest money-maker. Don't go into another season without learning about it. Ask your dealer, or write us at once for complete information.

The Maytag Company
380 North St. Newton, Ia.

How Dry Weather Hit 1913 Crop Yield

(CONTINUED FROM PAGE SEVEN)

Mules have jumped from 15,200 to 95,590, and their value from $1,326,808 to $8,783,845.

Cattle show to what extent the stock industry of Nebraska has increased in the period and show that while in 1880 there were but 579,000 cattle on the assessment rolls of the state, in 1913 the number has jumped to 1,940,432. The value of these cattle in 1880 was $12,926,960, while this year their value is placed at $57,136,825.

The hog census showed 698,700 swine in 1880, while this year there are 1,754,601. They were worth in 1880 $3,640,327, while in 1913 they are worth $57,136,825.

There were 172,800 sheep assessed in Nebraska in 1880, while now the state has 284,709, valued at $1,209,700, against a valuation of $471,744 in 1880.

The year 1900 seems to have been a bad year on valuations, as all kinds of stock shown in the following table were very much lower than at any other time:

Year	Number	Value
HORSES		
1880	176,100	$11,330,274
1890	542,036	37,787,194
1900	636,995	4,330,317
1910	906,116	74,566,175
1911	918,240	69,534,025
1912	924,756	76,593,525
1913	920,081	67,361,050
MULES		
1880	15,200	1,326,808
1890	45,792	4,040,759
1900	41,390	311,034
1910	87,429	8,578,300
1911	91,137	8,438,930
1912	91,690	8,264,960
1913	95,590	8,783,845
CATTLE		
1880	570,900	12,926,960
1890	1,726,441	30,706,938
1900	2,169,409	10,119,478
1910	2,475,690	52,696,290
1911	2,229,976	50,311,890
1912	2,000,374	45,479,570
1913	1,940,432	57,136,825
HOGS		
1880	698,700	3,640,327
1890	2,309,679	12,985,579
1900	1,752,162	1,343,256
1910	1,680,460	18,081,400
1911	1,979,784	15,378,015
1912	1,918,630	15,310,135
1913	1,754,601	18,384,835
SHEEP		
1880	172,800	471,744
1890	239,400	503,338
1900	371,375	274,238
1912	287,970	900,725
1913	284,709	1,209,700

"Topsy" as a Foster Mother

Topsy and Her Adopted Colts

TOPSY is just an ordinary horse in many ways. Like most horses, she has changed homes several times in her career. However, she has never been sold from the community in which she was foaled, and consequently her autobiography is quite complete. Sired by a Clydesdale stallion of considerable quality, she is today, in her twenty-first year, as sound in her limbs as a new-born colt. On the market she would probably have been classed as a chunk when in her prime, although now her age would throw her into the plug class. In normal flesh she weighs close to 1,300 pounds, and if there ever was a general-purpose horse, it is she. No matter whether under the saddle, in the buggy, grain wagon or tank wagon, she is equal to the occasion. Sometimes a recollection of partial spoiling received in colthood days causes her to refuse to pull, but in the main she is very reliable.

It was on a hot August day in 1901 that she was purchased by her present owner. One hundred dollars was the figure, and a fine, heavy-boned horse colt of some four months' existence in this world was thrown in for good measure. Between that time and 1908 she produced four horse colts, all of blocky build and each maturing into a larger horse than herself.

The purpose of this article is not to ponder over the merits of Topsy as an individual, but rather as a foster mother. In 1908 she produced her last foal, although mated each season since. During that summer a large mare from the same stable was taken away from home in July, and her forsaken offspring, a chubby, black filley, acquired a fondness for Topsy. In short, Topsy's own colt, a light iron gray, was forced to share meals, against his will, with the orphan. The old mare seemed to think as much of one colt as the other, and, although

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she was worked steadily, she gave sufficient milk to keep both growing nicely.

Early in July of the summer just closed two mares were taken away from home with a threshing crew, and orphans of ten and fourteen weeks, respectively, were left at home. Topsy happened to be the only other inmate of the barn, and before long a warm friendship had developed, which soon reached an amusing stage. The energetic efforts of the colts' suction soon started the lacteal fluid, and it was not long until it seemed to be ample to meet their needs. The affection between the three became so strong that whenever the old mare was taken away to work a general objection was raised, both on her part and that of the orphans. The accompanying picture was taken in August. October 1 found the real mothers returned, but they were entirely ignored by the colts, and the food supply at the foster fountain seemed to be as generous as ever.

Use of Each Dairy Breed

"There are only four breeds of special dairy cows that are really worth considering by dairymen of this state," says Dr. James Withycombe, director of the Oregon Experiment Station. "These four are the Jersey, Guernsey, Holstein and the Ayrshire. Each of these breeds possesses a superior adaptability to certain conditions.

"On the small farm or on high-priced land where the production of butter-fat is the principal object, the Jersey is the best. If the production of high-class milk for city trade is desired, no breed surpasses the Guernsey. Guernsey milk is highly colored and excellently flavored. In sections where there is an abundance of cheap feed, and milk is to be produced for condensing or cheese making, no other breed equals that veritable milk machine, the Holstein. Under more rugged pasture conditions where a good quantity of milk is desired without heavy grain feeding, the Ayrshire is the cow that best fills the bill."

BREAKING UP A GREAT RANCH

A cowboy said to his mate riding alongside:

"What do you reckon Mr. Post bought all this here land for?"

"Well, I'll tell y'u, Jake, y'u know I heard it confidential he's goin' to plant it all out to Grape-Nuts."

This cowboy chatter happened years ago, just after C. W. Post, the man who makes health foods and Postum at Battle Creek, Mich., bought up several adjoining tracts of land in Garza and Lynn counties, Texas.

The whole Post ranch is now about 220,000 acres. Until lately it has been used for grazing cattle. A short time ago the county seat of Garza county was located on one of his sections, and he proceeded to build a town for the people.

It is named Post City and can be found on the map of the St. Fe Ry. about 250 miles nearly due west of Ft. Worth, Texas.

It is a beautiful and clean little city, with many miles of shade trees, splendid water works, schools and churches, a modern sanitarium and various industries, including what is said to be the highest type of cotton mills in the world.

This development made a demand for farms, so a part of the grazing land was laid out into about fifty farms, with neat, well-built houses, outbuildings, orchards, wells, etc., etc.

These have been conducted under Mr. Post's managers until a practical method of successful farming could be decided upon.

It proved that wheat, oats and Indian corn could be raised, but not successfully, year by year, for, while in some years the rains would come at seasonable times, other years they would not, and the average was not enough to make these crops dependable for a living. Therefore, the crops now raised are those adapted to the country—kafir corn and milo maize (splendid grains for cattle and hogs), peanuts and cotton and Egyptian wheat.

A carload of Mr. Post's hogs took the first prize at the National Fat Stock show at Ft. Worth one year and the second prize another year. These hogs were fed on kafir, maize and peanuts and won over the competing hogs fed on Indian corn.

The most of this large body of land lies so level and smooth that a plow could be run for miles without lifting it; the soil is a dark reddish loam and very rich and fertile.

It has been decided to open this tract to settlement at from $15 to $30 per acre, payable $2 an acre down and $1.75 per acre each year thereafter until paid for. The interest four per cent. Improvements extra, except the fence around each farm, which is supplied free by Mr. Post.

It is natural to suppose that when this tract is settled the land will advance in value, as it has in other parts of America where many families have become rich by the increase in the value of land.

There are a few men in Garza Co. who have farmed for ten to twelve years and their experience is worth attention. Included in the number is the present County Judge Boren.

In handling 160 acres a farmer is recommended to put in thirty to forty acres of cotton, which yields around a half bale to the acre, but in cases goes over a bale, and under poor cultivation drops below a half. It brings varying prices. At this present time, Oct. 4th, 1913, it sells at 13 cents per lb. at Post City, which is $65 per bale of 500 lbs. In addition the seed from a bale generally sells at about $10. Therefore, if one-fourth of a bale was raised per acre, the crop on 40 acres would bring $750. If one-half a bale, $1,500, and at this rate one can figure the larger yields himself.

About 50 acres should be put into kafir corn, which yields anywhere from 25 to 80 or 90 bu. to the acre (over 100 bu. per acre have been raised). It is usually headed and either threshed or fed in the head. It sells at 50 to 75 cents a bu. and the stalks, which are sweet, somewhat resembling sugar cane, and yielding about 15 tons to the acre, are put into silos for winter feeding. Nearly always there is a heavy second growth after the crop of kafir is cut, and this second growth makes tender ensilage, or cattle can be turned in on it growing.

This kind of farmer should keep 40 or 50 cows, some hogs and a few mares for horse or mule colts.

At present pasture can be rented at 12 to 20 cents per acre per year. After the kafir is cut rye should be disked in, and usually furnishes a fine feed through the winter.

They figure from 80 to 90 per cent of a calf crop, which should bring, say, 40 or more calves from 50 cows.

Calves at this time are worth $22.50 to $25; 40 would bring $900 to $1,000.

The right kind of men can borrow money on cattle they want to breed or fatten. If a farmer has more ensilage than he can use, he should arrange with some large cow man to take some steers to feed on shares. The farmer should put out 5 or 10 acres of peanuts, a profitable article to sell or feed hogs.

Splendid, pure water lies almost all over the place at from 60 to 100 ft. and a windmill will store enough to irrigate a garden and orchard at times when water is needed between rains. This last year on a tract of about an acre and a half garden truck was sold for from $150 to $200 a month for several successive months.

The soil is very rich, and when properly worked and with water sufficient, yields most remarkable quantities of all kinds of vegetables, melons, etc. The rainfall averages about 21 to 22 inches, which, if it comes in seasonable showers, insures a heavy crop, but some years it falls so irregularly as to cut the crop down. That is true of many sections of America, however. Still, in this part we always see the crops grow enough to supply quantities of ensilage and therefore the farmer with silos and cattle, hogs and mares can secure a living if he is thrifty.

Cotton is one of the hardiest dry-weather plants, and in fact all these articles are—kafir corn, milo maize, Egyptian wheat and peanuts.

The apples, peaches, plums, grapes and melons thrive; wild plums and grapes show this section is a fruit country.

Fruits have a marked and especially fine flavor and thus far seem free from insect pests, and cotton is free from boll wevil. Spraying of trees is unnecessary and hence unknown.

It will be observed that the selection of crops and the method of mixed farming and stock raising comes from experience with the country and its conditions and is recommended so that a thrifty man cannot only make a living, but make a profit year by year, and also a round profit in rise of the land.

This country is most healthy—without malaria. It is about 3,000 ft. elevation and mild the year around, with only occasional cold days in the winter.

A man can plow almost every day the year through.

There are days in the mid-summer when it is hot, but the breeze is almost never failing and the nights cool, while the dry air quickly evaporates the perspiration and produces a cool skin even when the thermometer is high.

This country pays a thrifty worker, but we don't hold out much encouragement to the lazy kind, although there are lazy men in the district who make a living, but it is easy to understand that only successful, thrifty men can build up a community, and that Mr. Post needs such men to settle on his lands and thus increase the size of Post City and the surrounding land; consequently his instructions are to tell every prospective settler all of the facts that years of experience have shown about the country, and its undesirable features as well as its practical and splendid possibilities. It is important that the newcomer avoid costly experiments in raising wheat, corn and oats. Mr. Post has already paid for these experiments and demonstrated that sticking to the things the climate and altitude are fitted to means success—cotton, kafir corn, milo maize, Egyptian wheat, peanuts, apples, peaches, plums, grapes (no pears), melons, potatoes, garden stuff in great quantities when irrigated or when the rains come just right, cattle, hogs, horses, mules, chickens and turkeys. Turkeys thrive in a remarkable way, and the young don't die in anything like the proportion they do in a damp climate.

All these things can be raised on this low-priced land, in a splendid and unusually healthful climate, and the man with a little money and a good record can get a start, for the payments on the land are small, and for the right kind of man Mr. Post will build silos on extended payments, and either sell cattle on part time or loan money on them or arrange for loans at bank.

It is easy to understand that the prosperity of the country and city in which he is so heavily interested depends on the prosperity of the settlers; he therefore proposes to make terms so easy and the conditions so well understood that thrifty men can succeed and become well to do.

Farms will be sold only to men who can show a good standing among the people where they come from.

The A. T. and St. Fe Ry. sells round trip land seekers' tickets at very low rates at various towns along the line from Chicago to Post City. Address C. W. Post Land Dept., Post City, Texas, or come and see the land and crops without waiting for correspondence. You will find things as described and a splendid opportunity for worthy men and their families.—Advertisement.

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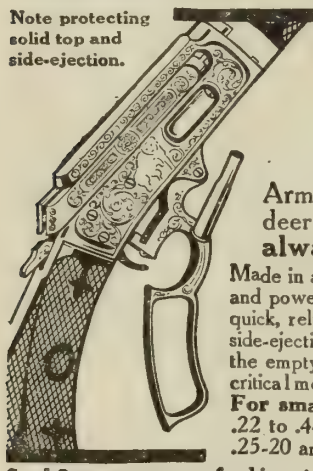

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CLUB FEET of any variety, and at any reasonable age, can be made straight, natural and useful. No plaster paris, no severe surgical operation, and the result is assured.

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SPINAL CURVATURE Recent cases usually make good recoveries and even those of long standing do well. No plaster paris, felt or leather jackets. Write for information and reference.

HIP DISEASE in the painful stage can be relieved and the inflammation permanently arrested. Shortening, deformity and loss of motion can often be corrected. No surgical operations or confinement.

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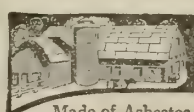

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Our Young People on the Farm

The Jaybird

The Jaybird, he's my favorite
Of all the birds they is.
I think he's quite a stylish sight
In that blue suit of his.
An' when he lights an' shuts his wings,
His coat's a "cutaway"—
I guess it's only when he sings
You'd know he was a jay.

I like to watch him when he's lit
In top of any tree,
'Cause all birds get wite out of it
When he 'lights an' they see
How proud he act, an' swell an' spread
His chest out more and more,
An' raise the feathers on his head
Like it's cut pompadore.

—James Whitcomb Riley.

The Bluejay

James Whitcomb Riley is probably about the only person who claims the bluejay as his favorite bird; in fact, the bluejay is distinctly unpopular on account of his coarse voice and bold manners, and, like most unpopular people, his bad habits are greatly exaggerated. He is supposed to suck the eggs and eat the young of other birds. This he may, and probably does, do to some extent, but, in the opinion of

scientific men who have made a study of birds, it is not usual.

The jay is one of our most beautiful birds, with his bright blue coat, trimmed with black and white, and his crested head. The male and female are exactly alike and cannot be told apart. They are very devoted parents and are wonderfully wise. However much scolding and screaming they may do elsewhere, they are as quiet as mice around their own nests.

They live on nuts, tree seeds, waste corn and insects. They sometimes eat a little fruit, but the amount is so small that it is scarcely to be considered a regular item of their diet. They also eat small animals and reptiles, as mice and lizards.

It is supposed that the jay and his bird neighbors are not on friendly terms, but this is not always the case at any rate. We once had a tree near our house in which lived a pair of jays, a pair of wrens and two pairs of robbins. This little tree village was terrorized by red squirrels, which are a great menace to bird life. Here the bluejays did good work as policemen. Any disturbance in that tree, the call of any of its inhabitants instantly brought both the jays to the rescue, and the squirrel had to turn and run for his life when they both began to flap their wings about him, scolding and pecking viciously. The other birds seemed to appreciate the services of the jays, and they all lived in perfect harmony.

THE EDITOR.

(Prize Story)

A Faithful Dog

By Margaret Marshall, Aged 10, Chico, Cal.

This summer my folks and I went to the Santa Cruz mountains for our vacation in our auto. We lived on a high hill about a mile from town and every morning we took a dip in the creek nearby. It took us two days to come home, and we enjoyed it very much. When night came our beds were spread out and we went to sleep. All were awake at 4 o'clock in the morning, even the baby. The second day we had seven "blowouts." The last one was near Butte Creek, about fifteen miles from home.

We had a little dog with us, and when papa was fixing the tire he managed to get out without our notice. When we got home we missed him and for eight days did not know where he was. One day my father read in the paper about a little dog keeping watch over an old tire and casing near Butte Creek and wouldn't let anyone come near him. So my father drove down there and found our lost doggie. He had been there eight days, without anything to eat and no shade but that of a barbed-wire fence. He was a faithful dog.

(Honorable Mention)

How I Saved the Pig

By Leona Peterson, Aged 11, Neligh, Neb.

I will tell you all about my experiences with a pig. Last summer papa had quite a few small pigs and there were some only a few days old, and one got stepped on. My brother heard it squeal, but did not pay any attention, so I went and picked it up. Its mouth was all full of sand, and I washed its mouth off and put it in a corner of the shed, and the next morning I took some more pigs and this one and put it in a pen and fed it milk and corn, and it grew. I called it Fuzzie, because it was so fuzzy. This spring I turned her out with papa's other pigs and she raised five small pigs; then I sold her and bought me a nice young milk cow. My small pigs are improving every day. I feed them corn and milk and keep them with papa's other pigs, and now my young brothers wish they had done the same.

A Spoiled Surprise Party

By Gladys Firkins, Aged 13, Gibbon, Neb.

Lucile awoke one morning, completely forgetting that it was her birthday. She was in a very cross mood all forenoon because her mother would not give her permission to visit one of her friends in the

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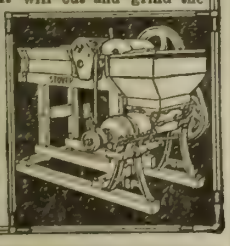
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afternoon. Lucile's mother told her that her Aunt Edith wanted her to come over in the afternoon and take care of her little boy while she went to town.

Lucile did not want to go, so as soon as it was time for her to go she hid herself. Her mother called her many times, but she did not answer. The truth of the matter was, her aunt was going to have a surprise party for her and so made the pretense of wanting her to take care of the little boy.

At 3 o'clock all the little guests had arrived, waiting expectantly for Lucile. An hour passed and still no Lucile. Aunt Edith telephoned Lucile's mother and asked her the cause of her tardiness. On learning that Lucile could not be found, she became very anxious. So the little folks were obliged to go home much disappointed.

At the close of the afternoon Lucile came out from her hiding place. When her mother found out how disobedient she had been she did not punish her, but simply told her about the party. She knew that would be enough punishment for her. You may be sure this taught Lucile a lesson and she regretted very much her naughtiness and also missing a delightful time.

The Lost Lamb

By Ruth Kimball, Aged 10, Caspar, Wyo.

My father has sheep, and has sheepmen to take care of them. They move in summer up over the Caspar mountains and Laramie plains, and in winter over across the Platte river. One time last winter the sheepman started for town. On the way he saw a little lamb lying in the road. He stopped and picked it up. It was half frozen when he got here, so that it couldn't eat for a couple of days. Then it kept growing from the scraps left from the table, and I fed it until it was nearly as round as a ball. I named it Billy. Now it is a yearling. It has company now—a little lamb about as big as Billy was—and I intend to raise her. I wish you could see Billy now. You would be surprised, he is so big.

What Fiasco Means

When a play or performance turns out badly, or any cherished plan meets with failure, we call it a fiasco. Fiasco is the Italian word for bottle or flask, and at first glance the word bottle seems hardly to fit the meaning we imply. But the use of this word came about logically enough.

When the Venetian glass-blowers, in making their beautiful glassware, detected a flaw in the bulb, they would convert it into an ordinary bottle or fiasco. In this way the word bottle came to be synonymous with failure.

Additional Stories

Ersa Frances McRae, Atchison, Kan.; Helen McWilliams, Chanute, Kan.; Gladys Firkins, Gibbon, Neb.; Hazel Freitae, Enderlin, N. D.; Judith Eliason, Kanawha, Ia.; Thelma Van Zandt, Lawton, Okl.; Gracie Forhand, Carlsbad, N. M.; Lela White, Corvallis, Mont.; Carroll Prouty, Shelton, Neb.; Alpha Sasse, Stanton, Neb.; Mildred Jones, Schuyler, Neb.

Picture Contest No. 7

Write a verse of four lines about this picture. The two children writing the best verses will each receive a book as a prize. Write plainly in ink, giving your name, address and age, and send the verse to the Picture Contest Editor Twentieth Century Farmer, Omaha. Remember, the prizes will be awarded to the writers of the best verses, which means the ones having the best ideas, being most correct as to meter and being most neatly written and the best spelled and punctuated. This is a good chance for you to practice all those rules of composition you are learning at school.

All verses must be received at this office on or before the 15th day of November.

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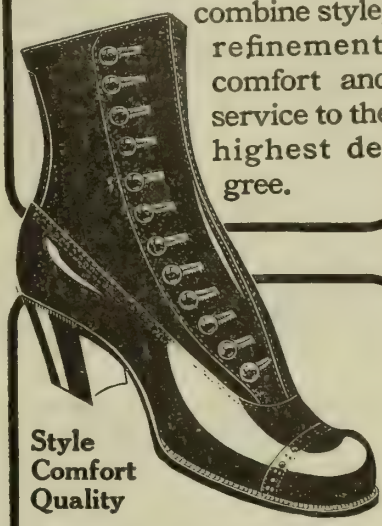
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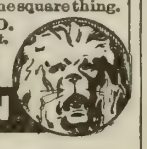
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Of Interest to Our Women Readers

"Now I Lay Me"

The fire upon the hearth is low,
And there is stillness everywhere;
Like troubled spirits here and there,
The firelight shadows 'round me creep.
A childish treble breaks the gloom,
And softly from a farther room
Comes: "Now I lay me down to sleep."
And, somehow, with that little prayer,
And that sweet treble in my ears,
My thoughts go back to distant years,
And linger with a dear one there;
And as I hear the child's "amen,"
Crouched at her side I seem to be.
My mother's faith comes back to me.
A mother holds my hands again.
Oh, for an hour in that dear place!
Oh, for the peace of that dear time!
Oh, for that childish trust sublime!
Oh, for a glimpse of mother's face!
Yet, as the shadows 'round me creep,
I do not seem to be alone—
Sweet magic of that treble tone—
And "Now I lay me down to sleep."
—Eugene Field.

Our Home Chat

A few weeks ago we asked you what you thought about the question of the "overworked farmer's wife" whom a number of kindly disposed city people appear to be so anxious to help. It is quite evident that this movement is not going to be popular in the country, or at least that part of it in which the Twentieth Century Farmer circulates, and that is a large section. We have not had a letter so far expressing gratitude for this vmpathy. If we do, we will publish it. The trend of every letter is the same as that expressed in the two published herewith, coming from women in quite different circumstances. This is the condition we believed existed all the time, and we are glad to know the farmers' wives are so loyal.

These letters are from real farm women, and their names were signed, but we are withholding them at their request.

THE EDITOR.

Two Letters

Twentieth Century Farmer: Yes, please tell the Associated Press, or whoever the guilty party may be, that the "poor, overworked farmer's wife" is not needing the sympathy bestowed upon her. I can fancy her sitting on a shady, screened porch, shaking with laughter, an elaborate piece of needlework slipping from her fingers, as she exclaims: "Yes, please, Mr. Writer (he must be masculine), give us dear women a needed rest. If you must champion the cause of women, start in on the miserable, cramped-up existence of the city professionals' wives and leave us to our reading, horseback riding, motoring, and last, but not least, the cooking of frosted pies and the making of delicious butter, for times have changed for us, as well as for the men folks, and we are manipulating all the available labor-saving devices known."

Here's to the freedom and good cheer of the plains!

MRS. CUSTER COUNTY.
Nebraska.

***

Kind Editor: I think as a rule our city sisters have their work a little more convenient than the country women, but I think our work is not so nerve-racking or so monotonous as that of the women of the towns, and we can get out in the fresh, pure air and enjoy the freedom God meant for us. It is true that our work is sometimes hard, but our husbands' work is hard also. It is only the wealthy farmer who can afford the luxury of a motor and a gasoline engine. Their wives are not drudges, and I would imagine the city wife would have quite as much to do, if her husband is a poor man, if she tried to help and bear her part of the burden. If some of these women were not so afraid of overdoing and would put their shoulders a little stronger against the collar, the country and city alike would have more healthy and happy women, and the doctors would have less practice.

As for the country wives' social opportunities, we have plenty of time for such, and, I think, of a more wholesome kind than the city gives. I think the country woman has plenty of life's pleasures, as well as plenty of good, sound labor to keep her mind bright and active and her muscles strong and healthy.

I am a farmer's wife and a farmer's daughter, and I live in the country, with its wide, spreading fields and forest trees, and the blue sky smiling over us. We are in moderate circumstances and have to work hard, but I would rather work than be idle. Dear city friends, don't waste any time worrying over the condition of your country sisters, for nine times out of ten they are having a better and happier time than you.

CONTENTED FARMER'S WIFE.
Missouri.

Entertaining Our Boys

I wonder sometimes if we mothers give as much time and thought as we should to furnishing home entertainment and amusements for those big boys of ours. Perhaps if we devoted a little more time thus there would be less cause for heartache in the future.

Now that the long winter evenings are close at hand, it is well to plan ahead for some diversion. A game board is a good investment; at least we have found it so. Where there is already one in the house it is well to add something new in the way of games now and then. If there is no one to play with the lad but yourself or his father, great, indeed, is your opportunity. You have such a splendid chance to get better acquainted, to win his confidence and get really chummy with him. It is well to invite in a neighbor boy occasionally, and, if there is a daughter in the household, have him bring his sister along. During the evening they can have nuts, popcorn or home-made candy.

A plentiful supply of interesting reading material—be sure it is interesting — is another attractive feature of home entertainment. This, to be effective, must be supplemented by good lights. In every home where there is a boy old enough to read a boy's magazine should be taken. Our boy is a regular subscriber to two such periodicals. Besides these, he reads numerous books. For the benefit of other mothers' boys, I am giving below a list of titles of those he has found especially interesting:

From 9 to 12 years—"Black Beauty," "Swiss Family Robinson," "Robinson Crusoe," the Alger books, the Henty historical series, "Wild Animals I Have Known," "Child's History of England," "Young Folks' History of Rome," "The Story of America" and "The Young Folks' Bible," by Josephine Pollard.

From 12 to 15—"Lives of the Presidents," "The Man Without a Country," "Pioneer Heroes of the West," "Wild Life Among the Red Men," "Famous Frontiersmen and Scouts," "Green Mountain Boys," Boy Scout series, Motor Boy series, "The Deerslayer," "John Halifax," the Bible. Most of these last named books are suitable for older readers as well and will bear re-reading.

MRS. C. K. TURNER.
Kansas.

Good Recipes

German "Kaffe Kuchen"—Prepare a dough as for good rich rusk; roll to about two-thirds of an inch thick and place in a bake pan or pie tin. On the top place tart apples, quartered and pressed down into the dough; halved peaches, plums or any kind of fruit desired. Sprinkle liberally with sugar, and when light bake in a moderate oven till the fruit is done. It is delicious.

Salt Pork with Roast Turkey—Prepare the turkey as for ordinary roasting, then over the top of the turkey spread thin slices of salt pork. When basting, pour the liquid right over the pork. It will impart a delicious flavor to the turkey.

Cream Sponge Cake—For the farmer's wife, who has a cream crock to dip into, this cake will be inexpensive, good and quickly made: To one cup of granulated sugar take two eggs and half a cup of sweet cream. Beat sugar, cream and yolks of eggs well together. Stir into this one cup of flour, into which a teaspoonful of baking powder has been well mixed, and lastly stir in the beaten whites of the eggs. Flavor with vanilla, or whatever desired. This cake can be baked in a loaf, or layer, and put together with some kind of filling.

Near Meat Loaf—To four cups of stale bread crumbs add two of cooked and finely mashed red kidney beans, two of grated cream cheese, one large onion, chopped fine, half cup of butter, one egg, salt and pepper. Mix all together thoroughly and form into a round loaf. Bake about an hour and a half, basting frequently with hot water and butter. This makes a dish that has about the same nutritive properties of meat, and, served hot with tomato sauce, it closely resembles meat.

ELIZABETH M. ROSSITER.
Colorado.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6356—Girls' Dress—This little dress shows the stylish low-belted effect, which is the newest thing in children's fashions. The short skirt is kilted and the blouse is fulled slightly into the stitched belt. A long or short sleeve may be used and the shield may be used or omitttd, as preferred. Serge, cheviot or linen can be used for this dress, with the collar and cuffs of contrasting material. The pattern 6356 is cut in sizes 4 to 12 years. Medium size requires 2⅝ yards of 36-inch material.

6312—Ladies' Dress—This simple dress opens in front, a little to the left of the center of both blouse and skirt. A smart collar trims the neck, which is cut out deep in front to display the front of a one-piece guimpe which is worn with the dress. The skirt is cut in three gores. The pattern 6312 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4¾ yards of 36-inch material for the dress, ⅞ yard of 36-inch lining for the guimpe and ½ yard of 22-inch net for the yoke.

6401 Ladies' Dress—Made in the latest mode, this dress has a shoulder yoke effect, with the material full below it. In the center the upper part or the blouse shows a chemisette and below it a plain section. The sleeve is plain and full length. To complete the dress there is a three-gored skirt, slightly full at the waistline, closing in front, and with or without a peplum. The pattern 6401 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4¾ yards of 44-inch material.

6412—Misses' and Small Women's Dress—In this model the plain blouse has a surplice closing, the open neck having a small chemisette and a wide collar. The sleeves are cut in one with the blouse, and the peplum is plaited all around it. A three-gored skirt completes the dress. The pattern 6412 is cut in sizes 14, 16 and 18 years. Medium size requires 2 yards of 54-inch figured material and 2¼ yards of 54-inch plain goods and 1 yard of 24-inch satin.

6431—Misses' Waist—This blouse is the latest adaptation of the Balkan idea. It is entirely plain, closing high in the neck and a little over at the side. It has the drop shoulder and a large armhole, into which a plain sleeve is set. This is gathered at the cuff. A sash confines the fulness of the waist, or the lower portion may be cut off. The pattern 6431 is cut in sizes 14, 16 and 18 years. Medium size requires 1⅞ yards of 44-inch material, with ⅜ yards of trimming and ½ yard of 36-inch satin.

6273 Ladies' Skirt—This skirt can be used to complete a dress, or it can be worn with separate shirt-waists. The skirt is cut in two pieces and closes at the front or at the back. Serge, broadcloth or mohair can be used to make this skirt. The pattern 6273 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2¼ yards of 44 inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

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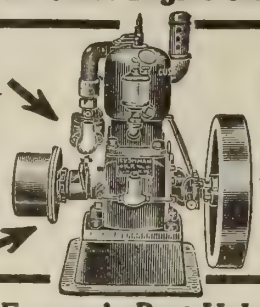

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Private Papers of the Presidents

WASHINGTON, D. C., Oct. 25—I have already told you something of the wonderful collection of manuscripts relating to American history which are now being gathered together in the manuscript division of the Library of Congress at Washington. This collection is steadily increasing, and it will soon be the largest reservoir of the raw material of history known to the world. I have spent the greater part of the week in going through the collection, and it is impossible to exaggerate its extent and value. During my visit to the library today I had a most interesting chat with Mr. Gaillard Hunt, the American historian and archivist in charge of the division, about the papers of the presidents. Said he:

The Madison Papers Comprise 110 Volumes

"The Washington papers which we now have in hand are the largest collection relating to any individual. It is larger than any collection of papers concerning any one British statesman or any famous man of any other country. Washington became famous when very young, and he was a prolific letter writer. From 1775 on people began to save his letters, so that now new Washington letters are always appearing, and almost any collector of consequence has one or more Washington letters. He wrote the most of his correspondence with his own hand, and he was so methodical that he accomplished a great lot of work. It was his habit to rise at 5 o'clock every morning and to write until breakfast time. We have ourselves here in the manuscript division about 50,000 letters of Washington, and the collection, including the letters to him, numbers considerably over 100,000."

Gathering the Papers

"Where did these papers come from?"

"From various sources. A great many came from his heirs. When Washington died his estate at Mount Vernon came to General Bushrod Washington. Later on a number of the heirs sold the papers which they had inherited to the government. Others of the heirs kept theirs and left them at Mount Vernon, and when Mount Vernon was sold by Colonel Washington, the father of Lawrence Washington, the papers were taken to Alexandria and were deposited in a bank. There must have been about a dozen barrels of them. At the opening of the civil war the papers were still there, but soon after that the bank was burned down and the papers were burned with it. This left as the only group of Washington papers the one which the government had bought. It formed about two-thirds of the whole.

"Where are the papers of John Adams?"

"They are in the hands of the Massachusetts Historical Society at Boston, where are also the papers of John Quincy Adams. They have been deposited there and will probably never leave Boston, although they ought to be in our collection here. The Adams papers are valuable. They are in the special charge of Mr. Worthington Ford, who was formerly chief of this division. They are very carefully guarded."

Jefferson Collection Complete

"Have you many of the Jefferson papers?"

"Yes. Our collection is numbered by tens of thousands. Jefferson was very methodical, and his private papers were almost as voluminous as those of Washington. He was one of the first Americans to use a press copy, and there are thousands of letters in press copy by him. Congress bought Jefferson's library, and it was carried in wagons from Monticello to Washington. The Jefferson papers were not a part of the library. They were acquired after Jefferson's death, and were bought of his descendants for about $25,000. These papers contained a record of the whole career of Jefferson. Only about one-fifth of them have ever been published, and it is out of the question for the government to ever publish them all."

"Tell me something about the papers of James Madison."

"Our Madison collection came from two separate purchases. Madison prepared certain of his papers for publication before he died, and congress bought some of these shortly after his death. Later on we bought the remainder. Then some of the papers fell into the hands of his stepson, Payne Todd, who deposited them with James C. McGuire of Washington. McGuire was a collector of manuscripts. He had loaned Todd money and Todd had given him the papers as security, and when the debt was not paid they fell into his hands. Later on the McGuire collection was sold to the Chicago Historical Society, and it was only a year or so ago that I persuaded that society to sell them to us. The heads of the society were business men. They thought the Madison collection rightly belonged to the National Library and they gave it to us at just what it cost them. The Madison papers comprised 110 volumes, and the items in our Madison documents altogether are in the neighborhood of 50,000."

Some Andy Jackson Documents

"We have also some papers of Monroe and some which were bought from the descendants of John Quincy Adams. Many of these have not been bound as yet. We have a large collection of documents relating to Andrew Jackson. The chief collection left by Jackson was given by General Jackson's adopted son to his friend, Francis P. Blair, and Blair's descendants turned them all over to the government about five years ago. In addition to this collection there were a large number of Jackson's letters and papers in the hands of his adopted son's widow. I bought those manuscripts from her about two years ago, so that altogether we have now a remarkably complete collection of the Jackson papers. They number about 30,000 documents or items. They begin with Jackson's early youth and run on down to his death."

"How about your colections of Van Buren, Tyler and Polk?"

"Van Buren did not leave a great many papers," said Mr. Hunt. "He was a very cautious man and he destroyed many of his letters. Still, we have a large collection, which was presented to the library about six years ago by his descendants. We have very many papers of James K. Polk, which the government bought from his descendants. Polk was careful and methodical. He saved letters and papers, and we have altogether 30,000 or 40,000 of his documents. Among these is his diary, which we bought from the Chicago Historical Society. As to the Tyler papers, the most of them are in the hands of his descendants at Williamsburg, and I have no doubt but that they will in time come to the library. Lyon G. Tyler, the president of William and Mary College, has charge of them, and he has promised to give them to us."

Many Others in Collection

What other collections of presidential papers have you?"

"We have scattering papers of William Henry Harrison, Zach Taylor and Millard Fillmore, but we have no collections of these presidents. The Fillmore papers are in the custody of the Buffalo Historical Society, and they will probably be sent here after a while. They are not very important, but Fillmore himself was not important; he was not nearly as strong as Tyler. John

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Tyler was a personality. Fillmore was in many respects a nonentity. As to the papers of Zachary Taylor, after his death they remained in the hands of his son on the old Taylor plantation in Louisiana. Then the house was burned down and all the papers destroyed. The papers of William Henry Harrison were lost in the same way at the time his house was burned, and so there are collections of neither Taylor nor Harrison.

"We have the papers of Franklin Pierce, such as they are. There are not many and they do not amount to much. President Pierce was a charming man, and I do not think full justice has been done him. By the way, there is an interesting story told about him in connection with Buchanan's inauguration. This comes from a Mr. Gamble, who was a boy at the time. Young Gamble and his father had gone to the inauguration, and after the parade were walking home. They had come about half way from the capitol, when a gentleman came up behind them and asked permission to walk along with them. They turned around and discovered it was Franklin Pierce going home on foot from the inauguration of his successor to the presidency. As to Buchanan, his papers are in the hands of the Pennsylvania Historical Society and are now in Philadelphia. They ought to be here."

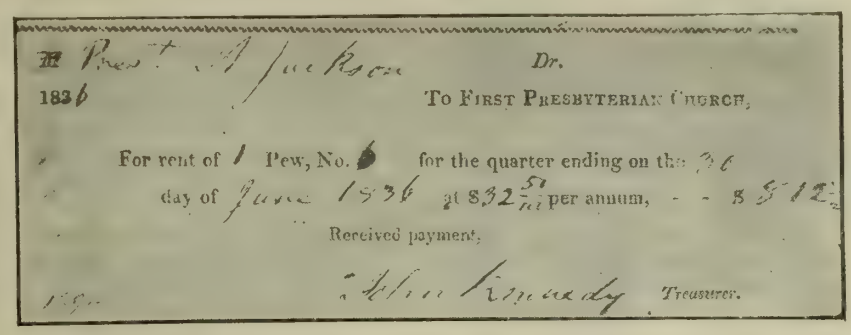
Some of Jackson's Letters

In looking over the papers of the presidents Mr. Hunt showed me some interesting letters. I saw papers of Andrew Jackson relating to his duels and as to how he raced horses. There is one memorandum made by Andrew Jackson as a boy which gives full details of "how to feed a cock before you fight it." This says that you should give the chicken some picked beef, cut fine, three times a day, and let him have sweet milk instead of water to drink. Give him dry Indian corn and a little white bread soaked in sweet milk. Feed him as much as he can eat for eight days, and he will then be ready to fight.' I saw also receipts signed by Jackson showing that he he was a good church-goer while he was president. He rented pews in three different churches and probably took the whole family with him. Mr. Hunt tells me, however, that Andrew Jackson did not stop racing horses when he became president; he merely raced them under another name. The last thing he did as president was to make a bet about Van Buren's election. He never composed a single state paper that went out under his own name. Such things were written for him by Edward Livingston, Amos Kendall, James K. Polk and others. They wrote more strongly than they would have written for themselves, but Jackson was never afraid to take the responsibility. Mr. Hunt says that Jackson believed in the duel and that he tried when possible to be the challenged party. He usually selected pistols and chose the distance of from six to nine paces. Such a distance, he said, put both men on equal terms, the good shot having no advantage over the bad one.

Searching Foreign Archives

The Library of Congress has under way a most important undertaking in collecting the material for our colonial history. This is having copied everything in the European archives which pertains to the American colonies. For some years men have been at work in the government archives of Great Britain, France, Spain and Mexico. They are copying government documents, letters and papers of all kinds relating to the story of America and to the American colonies. The most of the English transcripts have already been made. They begin with the discovery of America and extend to the peace of 1783. They number more than 200,000 folios and the copying has been all done by hand on a hand-made paper manufactured especially for the purpose. The writing is like copper plate, and, as the papers are chronologically arranged, any period is easily accessible. These papers are in great leger-like volumes, beautifully bound and so made that they will last forever.

Mr. Hunt tells me that the collection from the British archives is practically complete. Similar work is going on in Paris, where the copyists are collecting everything up



Rec't A. Jackson Dr.

1836 To First Presbyterian Church,

For rent of 1 Pew, No. 6 for the quarter ending on the 30 day of June 1836 at $32.50 per annum, - - $8.12½

Received payment.

John Kennedy Treasurer.

One of Andrew Jackson's Receipts for Pew Rent—from Manuscript Division

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Write to me and tell me what kind of land you want—irrigated, sub-irrigated or dry farming, for general farming, stock-raising, fruit raising, etc.—in the climate that best suits. I will send you the information that will help you locate in the place best suited to your needs.

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You do not need to be told that much of your corn was stunted in growth this year.

But you **do** need to be told that poison—**death to your horses, cattle, sheep and hogs—lurks in every corn stalk, whether in shock or left standing!** Unless the action of the deadly prussic acid is counteracted it often kills in a few hours. Many stock losses from this source have already been reported.

Every **hog** raiser knows too, the danger of feeding new corn to his **hogs**, especially as in this year it is chaffy and stunted. It causes one of the worst forms of indigestion and worms, and like cholera frequently wipes out whole herds in a few days.

I CAN PREVENT THAT LOSS

Let me **prove** to you, before you pay me a cent, that the deadly effects of corn fodder poison and of new corn fed to hogs are positively counteracted by giving your stock free access to **Columbian Stock Powders.**

The forage poison (prussic acid) and new corn cause acidity of the stomach and fermentation resulting in acute digestive troubles which quickly cause death. **Columbian Stock Powders** are **anti**-acid and **anti**-fermentative. Feed these powders and you can give your stock the free run of the fields—standing or in shock. All ill effects from eating the undeveloped corn and stunted stalks will be absolutely counteracted.

COLUMBIAN STOCK POWDERS

are not a food, but a highly efficient medicated preparation. They contain a powerful vermifuge and not only **kill** but **expel** all worms in hogs, horses and sheep. These strength-sapping, disease-breeding parasites are the cause of fully 90 per cent of all stock diseases. You **must** get rid of them in order to have thrifty stock. The only way to keep your stock vigorous, free from worms and disease and poison-proof is to treat them internally with Columbian Stock Powders. Will put a speedy end to all their digestive troubles, make them fat and sleek, and keep them in finest condition. Indispensable for brood sows because it keeps them free from fever, insures strong healthy litters and an abundant flow of pure milk.

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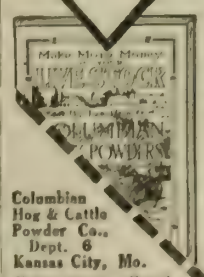

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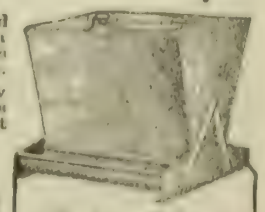

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If you will figure the value of your rubber footwear according to the *cost per day's wear,* "Ball-Band" becomes the cheapest you can buy

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to the time of the Louisiana purchase, in 1803, and similar copies will be made of the archives of Mexico up to the year 1847, when Texas and other states became American. The work in Spain will continue up to 1819, when Florida was bought, so that the collection will form a complete transcript of all the important documents pertaining to the American colonies now hidden away in the archives of foreign governments. As it is now, the man who wants to write about colonial America has to go to Europe for a part of his material. Within a very short time a copy of everything in Europe will be accessible in the national library.

All Copied by Hand

"The manuscripts which have come from the British archives have all been made in that way, and the arrangement for the French archives is the same. The Mexican papers will be copied in typewriter, and a great many of the other archives have been photographed and sent on in facsimile. There is considerable doubt as to the advisability of using photography. Many of the documents are bound and photography does not give complete reproductions. Another danger is that the photographs may fade in time, while the ink and paper we now use in copying will last indefinitely. Another objection to photography is that the paper must necessarily be thicker than writing paper, and several hundred thousand photographs would be very unwieldy."

I looked over some of the volumes of manuscript with Mr. Hunt. The most of them are 12x15 inches in size. They are made of Manila rope paper, cut with the grain, and are so bound in red Morocco that they form beautiful volumes. Each volume has its own case, and the workmanship of inserting the manuscripts is exquisitely beautiful. Many of the papers come tattered and torn. They have to be cleaned and covered with crepeline, which makes them practically indestructible. Each letter is mounted on a separate sheet, and if the writing is on both sides of the page it is on hinges. It is the finest manuscript preparing of the world and is better than that of the Vatican, which has long stood at the head as to the beauty of its manuscript preservation.

Only Three Great Ones

During my chat with Mr. Hunt I asked as to the other great manuscript collections of the world. He replied:

"There are only three really great historical collections—that of the British Museum in London, the Bibliotecque Nationale in Paris and the one we have here. I do not know which is the largest, but the British Museum has been at the job of collecting for more than 200 years, while the Parisians have been working at it even longer. Our collection began only ten years ago, and at the present rate of progress it will soon have a larger and more complete collection than they have. We shall have more documents relating to the history of the United States than the British have relating to the history of England."

"These papers are separate and apart from our government archives, are they not?"

"Yes. These are private papers and letters. The official archives are the papers of the government. As far as they are concerned, we are lamentably wanting. Not a single department of our government has all of its archives, and not one of them knows as to what it has and what it has lost. An inventory has never been taken. Indeed, there is not a country of Europe that does not keep its official documents in better shape than we do."

Age of Documents

"What is the oldest official document in existence?"

"It is not so very, very old. People did not begin to write until modern times, and the earliest written English document dates back only to the thirteenth century. The first English author who wrote was Chaucer. He lived in the fourteenth century, and that is not long ago. The earliest official document in any language is in the archives at Milan, Italy. This was written on parchment paper about A. D. 823 by King Otho and Queen Agatha. There is another document written just a little later in the archives of Dresden, and another in those of Magdeburg."

"Tell me something about the Vatican collection."

"The Vatican is a library of itself. It is composed exclusively of manuscripts; that is, of manuscript books written mostly before the age of printing. These books are chiefly religious and are not individual manuscripts. The Vatican has the oldest written manuscript. It long antedates the oldest official document which, as I have said, was of the ninth century. The oldest piece of writing on paper dates back to the second century, and there is one from the third century. Both of these are in a perfect state of preservation. One of them is a copy of some of Virgil's poems and the other is a transcript of a prayer.

"In addition to the Vatican library, Italy has a number of other valuable manuscript collections. The Library of Florence has the papers of Galileo, most of which were written before he went blind and a few afterward. In the archives there they have also the papers of Dante. I have seen them all and they are wonderfully preserved."

(Copyright, 1913, by Frank G. Carpenter)

Fertilizing the Orchard

Barnyard manure is in general the best fertilizer for the orchard. It should be applied at the rate of a load to from three to five trees at least once in three years. The use of commercial fertilizers is hardly advisable, except where careful experiment has demonstrated its value.

The service and mileage of an automobile tire depends as much on the conditions under which it is used as upon the quality of the tire itself.

This is Bargain Day The Twentieth Century Farmer to January 1, 1915, for $1.00

Timely Items of Interest to Poultry Raisers and Fanciers

WHEN domestic science and agricultural lessons are added to our country schools, of course chickens must then be taken to school. Why not? The only trouble would be that all the pupils would want to bring some, and there might be too many. No difference. Here would be an excellent chance to interest the childrn in pure-breds, trap nests, pedigree, how to build laying strains, how to care for poultry, how to detect disease, how to manage it, and so much else connected with poultry. No use thinking the children would not get interested, and the rivalry in the different sets taking care of the different pens might tax the ingenuity of the teachers to keep in proper bounds.

***

Of course, Missouri is always ahead when it comes to anything like a poultry demonstration. In co-operation with the United States Department of Agriculture, the University of Missouri and the Missouri State Poultry Board have been in the largest egg and poultry handling extension ever carried on in this land. Several railroads also tendered assistance in running a poultry special. It was planned to assist the farmers and other poultry dealers get a better idea of the work as to an increase of poultry and eggs for the public, and eliminate so much waste as now goes on. One of these cars contained specimens of the best breeds of poultry adapted to the farms, models of poultry houses, and all other devices for handling poultry. Another car was a specially ordered refrigerator car. This car contained a candling and chilling room. These cars remained a day in every town visited, and large crowds of farmers and others interested in the work came to see and listen.

***

The produce dealer really controls the price paid for poultry and eggs in the country, and it is the produce dealer who could work best to improve the quality of both if he would. First, the one best way to arouse a desire on the part of the producer of eggs and poultry to produce a better quality of both is to pay him a better price for a better quality. What financial benefit to the farmer if he gets no more for large, fresh, clean eggs than for dirty, small and stale? There are vicinities where poultry dealers do give this incentive to the producers; also some of these dealers give demonstrations of candling eggs before the country storekeepers and the farmers. If the dealer would order his buyers—or do this work himself—to candle all eggs he buys at the farm gate, showing the producer the difference between the fresh eggs he brings out and the stale, heated, black lots and blood-ringed, he would only need to do this now and then, as the difference he would pay between the fresh and stale would in itself be an object lesson. Of course, he would discard the bad. He could better this trade to the public by showing the producer how to candle the eggs he is to send away, then demanding that he do it.

***

Vaccinating for chickenpox is now argued. They have tried it at the Wisconsin Agricultural University this year with marked success. Out of 444 well chickens vaccinated 440 were made immune. Even the chickens already attacked recovered after being vaccinated. In this disease you usually lose at least half the flock attacked. It is true that if the sores only attack the comb and wattles and let the eyes or inside the mouth alone, the fowls will recover and never have a second attack. The trouble is that it seldom comes in this light form to a flock; then what a time you do have with this loathsome disease that some people merely call sorehead, or a kind of roup! This year it has spread far and wide. Prof. Halpin of the poultry department of the Wisconsin University noticed it on the heads of prize birds exhibited last winter at some of the winter poultry shows. This is undeniably one way that it has spread so fast of late years. A man who would sell you fowls from a yard infested with that disease ought to be prosecuted. In fact, look at the big pile of money he may lose you. The public should be taught how to vaccinate its stricken flocks, and each state university should stand ready to provide the vaccine on application.

***

In the line of commercial animal food for poultry, we have offered us green-cut bone, milk albumun, meat scrap and fish scrap, and the demand increases. It takes several dealers to supply the demand these winters, where one a few years ago could supply it. Green-cut bone we are usually sure of when we get it, but we are not always just sure what the meat scraps are made of. You can usually feed more of the green-cut bone with safety than you can of the meat scraps, as these last hold very little water, and fresh-cut green bone holds much. When meat is heavily condensed it is quite easy to feed too much of it and not be aware you are doing so until you note the fowls are off health. Of course, you can over feed on green bone also. When you do this, the first symptoms will be a bowel looseness in the flock. You get your green bone, which is fresh bone with meat scraps adhering, from the butcher; so to use this form of egg producer you must live near the butcher. Once one had to own a bone cutter, but now many butchers keep electric bone cutters and cut up the green bone for you, finding a profit in using up scraps in this way. Some poultry keepers prefer to feed either green bone or meat scraps for one meal only three times a week, while others prefer to give it every day, but give a smaller amount to each fowl.

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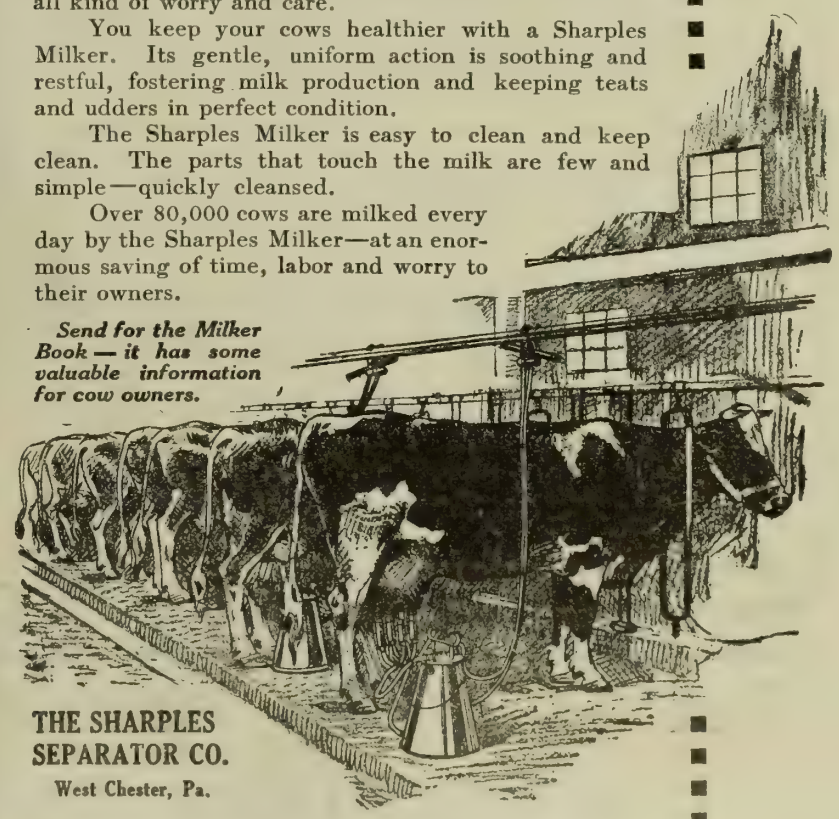

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For Roup, Colds, watery eyes or nostrils, swelled head, nostrils stopped up, etc., a teaspoonful of Germozone to a glass of warm water. Inject through the nostrils into the head passages. Wash soiled places under the wings with same solution. Give Germozone in the drinking water as for bowel trouble.

For Yellow Canker or diphtheria in mouth or throat of chickens: Remove the canker and apply Germozone right from the bottle. One application generally effects complete cure.

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For any Sore, Cut, Wound, Burn, irritation, itching or tenderness of the skin, apply Germozone diluted, one teaspoonful to a glass of water.

For Old Sores, Ulcers, etc., apply Germozone full strength (right from the bottle) once or twice a day.

For Dogs, Singing Birds, and pet stock, a little Germozone in the drinking water (a teaspoonful to a quart of water) is a great bowel regulator, mouth and throat cleanser. Many birds do not sing because of sore throat. Germozone will generally start them singing.

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Duroc-Jersey Boars
AT
AUCTION

At Wisner, Neb., Nov. 7, 1913

33 HEAD They Are All Immune **33 HEAD**

They are big, smooth, growthy fellows, with plenty of bone. There is not a single tail ender in the entire offering, and among them are a number of high class, herd heading character. Their breeding is the very best, representing such sires as Model Boy, R. L.'s Model, Dusty Crimson, Model Young, Critic B, Sioux Chief, Blue Ribbon Model, Golden Model 4th, Golden Model 15th and others. For catalogue write

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DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.
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Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Moderow's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

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A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection. Cremo and others. Also bred sows. Priced worth the money.
GEO. W. SCHWAB, Clay Center, Neb.

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Duroc-Jersey boars for sale, that are right, both in breeding and as individuals. I am pricing them worth the money and guarantee them to make good. GEO. W. SCHULTZ, Yutan, Neb.

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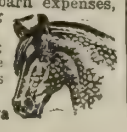
Studs must have the bone and weight, must be bought from a farmer before town-barn expenses, profits, etc., are added. My big bunch registered Percheron studs, weanlings to 4 years are the kind; crackin good ones that will make you the most money. Breeder's prices.



FRED CHANDLER, Rt. 7, Chariton, Iowa

Lessons Taught by the Drouth Season

(CONTINUED FROM PAGE SIX.)

a damage instead of a help. With a scant rainfall, shallow cultivation in the spring is better than deep cultivation. But there is never any doubt about the beneficial results to be derived from plowing deep in the fall. This enables the soil, if the plowing is deep enough, to take and retain and deliver to the subsoil the major part of the rainfall of the late fall, winter and early spring. The moisture so conserved in the subsoil will carry any crop through any season of drouth that has been experienced in this territory.

Unsafe to Bank on Weather

During the early part of the last season there was plenty of rainfall, and farmers came to the conclusion that at least during this season they need have no apprehension of drouth. The season had begun auspiciously. It would probably continue to be favorable. More than this, these happy prognostications were supported by the prophecies of some long-range weather forecasters, who announced broadly through the newspaper press that during the summer of 1913 there would be plenty of rainfall, especially in those localities that during the preceding year had suffered from a lack of it. Many farmers accepted this happy forecast as representing the truth and accordingly hurried their corn into the ground in a negligent manner, depending upon a favorable season to mature an abundant crop, and then all of their weather prophecies proved false and they lost their crop. Had they used ordinary care in putting in and cultivating their crop during the early part of the season, they would have been in much better condition to withstand the drouth, even though they had not stored in the subsoil the rainfall of the preceding fall, winter and spring.

During the summer a traveler passing along the edge of the drouth-stricken area was impressed by a peculiar phenomenon. He would find one field of corn in fine condition, and the next field immediately adjoining, with nothing between them but a barbed-wire fence, would be in a most unpromising condition. Every traveler through that area noted this peculiar fact, and the statement was universal that in nine out of ten cases it is up to the farmer himself whether he raises a crop or not, and if he fails he has himself to thank for the failure more than anybody or anything else.

The Whole Matter Summed Up

All the lessons may be summed up in the one big lesson—always to be prepared for the worst that may transpire. In detail these lessons are: Handle the soil in such a way as to store in the subsoil the largest possible amount of the natural rainfall; plant and cultivate the crop as though the season were to be unfavorable and that the utmost care were necessary in order to insure a crop. As the crop is tended, cultivate thoroughly and do the best possible by the crop, no matter under what conditions it was planted.

There is such a thing as crop insurance through intelligent handling of the soil and unwavering industry. This insurance may be only partial or it may be complete. Which of the two it shall be depends upon the farmer himself.

It pays to immunize hogs. One farmer in southeastern Nebraska who has not had a sick hog because he immunized, is supplying his neighbors with porkers for immediate slaughter. It looks bad when hog raisers have to buy hogs for pork.

Live Stock Notes

The North-Robinson Horses

While at Grand Island, Neb., last week we called on North & Robinson, breeders and importers of draft horses at that place, and found them optimistic as to the future of the horse business in the middle west. During the last half dozen years this firm has probably handled more pure-bred draft horses than any other one firm in this part of the corn belt. Their sales since 1907 have averaged from 100 to 225 head each year. From a very meager beginning, they have grown to be recognized as one of the leading horse firms of the country. Mr. North, the senior member of this firm, came to Nebraska from Illinois in 1889, bringing with him seven mares and one stallion. After being here a short time, he and Mr. Robinson purchased a stallion in partnership, and this transaction marked the beginning of the North-Robinson company of today. At this time they have splendid barns at Grand Island, a large breeding farm at Carroll, Neb., and also a 7,000-acre ranch at Bridgeport, Neb., where they probably produce more home-bred colts each year than any other firm in the country. They have about 100 head of stallions and mares on hand for sale at this time. Sixty head of these are stallions and the balance mares. About thirty head are imported and the balance are home-bred. One strong feature in connection with the horses handled by North & Robinson is the fact that they are raised right out in the open and are thoroughly acclimated and accustomed to all conditions prevalent in this part of the country. In visiting this firm prospective buyers are furnished a variety of individuals to select from, which insures their being able to find exactly what they want. The prices are always reasonable, and the courteous manner in which they treat their customers is in a measure responsible for the position they hold in the horse world today. If you are interested in anything in the draft horse line, do not fail to write them, mentioning the Twentieth Century Farmer.

Leisy's Duroc Sale

We desire to call attention at this time to a sale of Duroc-Jersey hogs to be held at Wisner, Neb., on November 7, by Mr. Robert Leisy of that place. It gives us a great deal of satisfaction to do this, for the reason that we know the character of the stuff he is going to sell and believe that they will more than meet the expectations of prospective buyers on sale day. Mr. Leisy has the reputation of producing the good ones, and he will certainly not have any excuses to make on account of the class of this offering. It will consist of thirty-three head of spring males, and every one of them immune. This fact alone should commend them to anyone wanting a first-class spring male. There will be thirty-three head all told, carrying as good blood lines as it is possible to get anywhere. They are sired by such boars as Model Boy, R. L.'s Model, Dusty Crimson, Model Young by Model Boy, Critic B., Sioux Chief, Blue Ribbon Model, Colonel Tippy, Golden Model 4th, Golden Model 15th, Prince Muncie Colonel and others. They are out of sows by Uneeda Crimson Wonder, Model Boy, Prince Muncie Colonel, B. & L.'s Wonder, Improver's Best, Sioux Chief and others. These boars were all farrowed in the latter part of February and the first three weeks of March. They have plenty of growth, good bone, stand up well on their feet and are in first-class breeding condition. They are absolutely right in every respect, and we trust that anyone wanting something of this kind will write for a catalogue and arrange to attend this sale. In the event that you cannot attend and want something, send your bids to G. E. Hall of this paper and they will receive careful attention. Kindly mention the Twentieth Century Farmer when writing.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

How to Use Manure Most Profitably

(CONTINUED FROM PAGE FIVE.)

as taken place, the moisture necessary or the process of decomposition would ave to be taken from the soil, where it most sorely needed for the growth of lants. It should receive its supply of ater before it reaches the soil in order iat it may not rob the soil of moisture. n the process of receiving this supply f water from the natural rainfall, or om any other source, the process of ecay is instituted. Part of the bacerial activity which might otherwise eneficially be carried on in the soil is arried on in the barn lot, and the soil eceives no benefit from it. But the decomposition in the barn lot is by no neans completed there. The roughage as received there its supply of moisture. Decomposition has begun, but is not completed, and it is then in condition to be pplied to the soil, where the process of lecomposition may be completed, thus nultiplying the number of bacteria in he soil and increasing their activity vithout robbing the soil of moisture.

Leaching from Barn-Lot Manure

In regions where the rainfall is forty or more inches per year it is recommended that the barn lot be protected rom the rainfall in order to prevent eaching of the valuable elements in the manure caused by excessive rainfall; but hroughout the Missouri valley territory his precaution hardly seems necessary. f a farmer will see to it that additional roughage, or additional vegetable waste, straw or any other waste roughage that he farm affords, is spread over the barn ot when it is needed, and as soon as previous applications have become compacted, he will experience very little difficulty from this leaching. The rainfall in this territory is not generally sufficient to work very much damage or loss in a barn lot that is properly cared for, properly located and is properly supplied with waste roughage when it is demanded. It is very well in wet climates to have the barn lot roofed over, but in this territory the rainfall is not of sufficient amount to produce serious loss from this source.

Top Dressing for Crops

No one can get quicker or greater returns from manure than can be had from it when used as a top dressing for alfalfa. This top dressing should be applied in the fall. It should then lie upon the ground as a winter mulch. It will protect the crowns of the alfalfa plants from the winter wind. It should serve as a mulch against the evaporating influence of the wind, and it would help to catch and hold both rain and snow. The effect of this application will be noted as soon as the plants begin to grow. Alfalfa is the most productive and remunerative general crop that can be grown in this territory. Every farmer should make it a point to give his alfalfa field a liberal top dressing of manure every fall. It will pay him better than any other possible use.

Top dressing of winter wheat with manure is a profitable operation. But in order that it may be of the greatest profit and prove of the greatest benefit the manure should be evenly applied, if possible, over the entire field. Wheat that receives a top dressing of manure will grow much more rapidly and will ripen from a week to ten days earlier than wheat that has not received manure. In order, then, that the wheat may ripen evenly, so that all of it may be ready for harvest at the same time, the manure should be evenly applied. This means that it should be made as fine as possible and distributed as evenly as possible, so that all parts of the surface may receive practically the same treatment. When this is done the wheat will ripen evenly, will grow much more rankly and will produce a much more abundant harvest.

No farmer is asked blindly to accept what has herein been stated. He is urged to study the problem for himself, to see whether the reasoning herein set forth is valid, and then to make the experiment himself, and learn from his own experience what is the best way in which to handle manure in order to derive from it the greatest possible benefit. Experience is sometimes a dear teacher, but the lessons it teaches are thoroughly learned by intelligent men and are not soon forgotten. Every farmer should prove these things for himself.

Fine Young Dairy Cattle

The above is an illustration of a group of calves on the farm of Dr. B. B. Davis, Room 200 Bee Bldg., Omaha, Neb., proprietor of Friesland Farms Holsteins.

POLAND-CHINA HOGS.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. THOS. P. WALKER & SON, Alexandria, Neb.

POLAND CHINA BOARS

I have a choice lot of big growthy spring males for sale, sired by Wayside Jumbo by Wade's Jumbo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille Columbus, Neb.

LONERGAN'S TRIED POLANDS

Several tried herd headers for sale. Also a lot of extra choice spring and fall males. They are the big, smooth kind, with quality and bone. Prices reasonable. D. C. LONERGAN, Florence, Neb.

Be sure to mention The Twentieth Century Farmer when writing to advertisers on this page.

POLAND-CHINA BOARS.

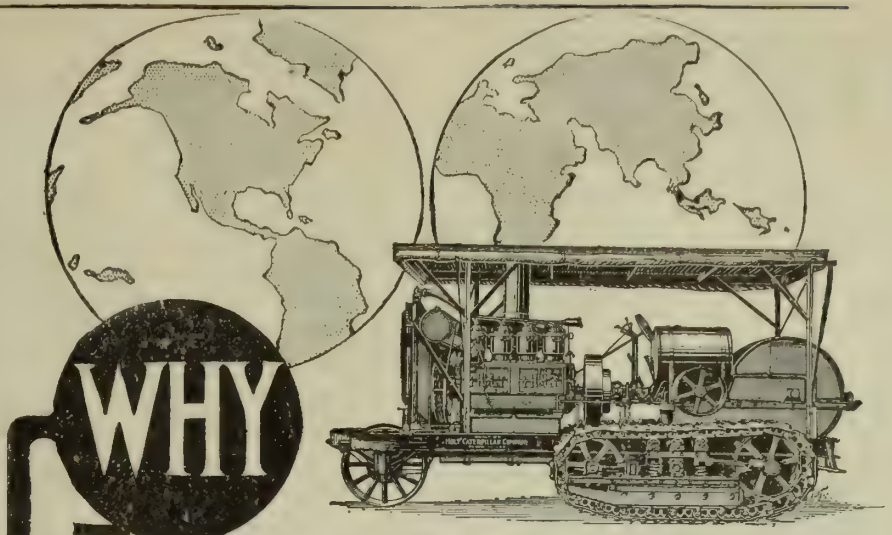
Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

HOLSTEIN-FRIESIAN

HOLSTEINS

To reduce our stock, we offer two young registered bulls, fine calves well marked, one and eight months old.

Crossdale Stock Farm, Sextonville, Wis.



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Great engineers, famous contractors, important agricultural colleges, keen-headed business men, practical farmers, military experts and foreign judges have picked the HOLT CATERPILLAR because thorough investigation proves its wonderful work in all conditions of soil, road and weather.

The HOLT CATERPILLAR GAS TRACTOR cannot slip in wet ground; it cannot mire in soft fields, it cannot dig a hole for itself and delay your work and cause you financial loss. It lays its own track, it rolls over the track, picks it up and lays it down again. Its bearing surface on the ground is 2600 square inches. Its weig ht is distributed over this large surface, reducing the ground pressure to seven pounds to the square inch—preventing all packing of soil.

Its operation may be compared to the action of a man who places a board over a mud hole and walks on the board. The board holds him up—he cannot sink--yet but little impression is made on the mud beneath.

Traction depends on traction surface--remember that. In other words, your tractor's pull is in direct relation to the grip which its wheels secure on the surface of the ground. If the ground is slippery, wet or soft--no grip. NO GRIP, NO PULL.

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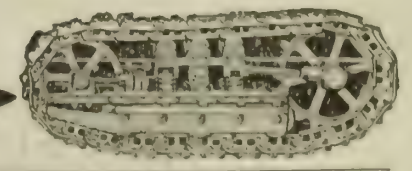

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

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T.A. GIERENS, Owner, Lincoln, Neb.

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The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

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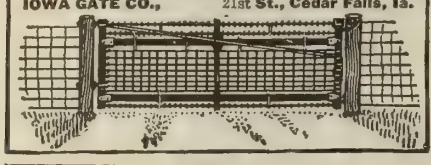

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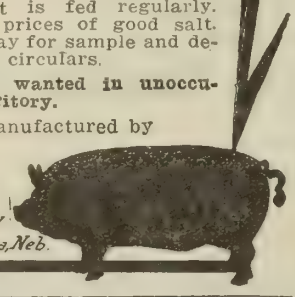

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Review of Live Stock Market

By A. C. Davenport

PANICKY conditions prevailed in the cattle markets of the country during the early part of last week. There had been heavy declines during the previous week, especially on good beef cattle. Chicago had been hard hit, the trade at that point being reported as almost demoralized owing to meager buying on the part of packers and shippers. The most discouraging feature of the break was the fact that it was most severe on the best heavy and long-fed beeves. Other markets broke in sympathy with Chicago. The first two days of last week brought on a still lower range of prices.

Cattlemen are accustomed to severe breaks in the market and a loss of 25@40c in selling prices does not ordinarily cause them to change their plans more than to ship sparingly for a few days until prices have been given an opportunity to recover. However, the break last week and week before occurred under such conditions as to really give the cattlemen of the country a big scare, as was shown by the fact that they stopped buying stocker and feeder cattle, or at least bought very sparingly. During the latter part of the week the demand for fat cattle improved greatly, with the result that prices looked up once more and by the close of the week half, and, in some cases, all of the break on killing cattle was recovered, but feeder cattle at present writing are still 25@50c lower than at the high time.

Reasons for Break in Cattle

The sharp break in cattle noted above and the consequent panicky feeling that came over cattlemen was due apparently to a combination of conditions that at the time looked serious enough. It seemed that eastern coolers were well filled with beef that was not going into consumption as rapidly as buyers would like. That is a condition that exists many times every year and generally results in a slow or a little lower market for a few days. At the same time came the Jewish holidays, when the kosher buyers were absent from the market. That of itself was sufficient to cause an easier market and it is generally the rule that prices show more or less weakness during the Jewish holidays. That fact, added to the full coolers in the east, rendered the demand still less active. On top of this came reports of the landing of several thousand quarters of beef in New York from Argentina The consignments were not large enough to have made any material difference with the demand for fresh meat, but coming at a time when the market was already temporarily oversupplied and demand already smaller than usual, with prices tending lower, it had an effect out of all proportion to its real importance. Packers seized upon the importation of beef from Argentina as affording a good weapon with which to force the market down and it must be admitted that they used it most skillfully and effectively. As if this was not sufficient, there came reports of trainloads of Canadian cattle being shipped to Chicago and still other reports of heavy importations of cattle from Mexico.

It is not surprising that the country, which had come to look with indifference upon the tariff question as not being likely to seriously affect the market, took sudden alarm at the unexpected demoralization following foreign shipments. For a time the bulls were completely routed and demoralized, and some of them were so badly alarmed that they were expressing a fear that prices might go a dollar or more lower on beef cattle.

During the latter part of last week as receipts became light and the buying demand improved, prices reacted sharply as noted above and the bulls came out of the panic that had seized them the first of the week and confidence was restored once more. Now that the bulls have had an opportunity to give the matter second sober thought they are returning to the same belief that has existed throughout the season, namely, that there is such a world-wide shortage in cattle that prices must continue high regardless of tariff regulations.

In spite of importations of cattle from Canada and Mexico, receipts at most market points thus far this month have shown decided decrease as compared with the corresponding month last year; for example, Chicago during October, this year, has received 40,000 less cattle than during October, 1912, counting calves in with cattle, and Chicago has received all of the cattle from western Canada. Omaha, which has received no imported cattle, suffered a reduction of 35,000 head during the first twenty days of October as compared with the same period a year ago.

Other markets have suffered more or less loss in receipts as compared with last year. To state the proposition in different words, the receipts of cattle at the big market centers of the United States are running short of a year ago in spite of the fact that cattle are being imported from Mexico and Canada. More than that, all reports from those two countries indicate that there is not a sufficient surplus of cattle within their borders to bring the receipts at American market centers up to normal.

Quality of Hog Receipts Poor

Packers have been pounding away at the hog market, making the most of every opporunity to put prices down. That they have made good headway is not in the least surprising, as receipts have been large, giving the buyers a big advantage. The only reason that the market has not broken down still more rapidly has been due to the receipts being poor in quality, the proportion of pigs and trash being very heavy. Thus the receipts of really good hogs have by no means been large, which has, to some extent, hampered the bear tactics of the buyers.

Most operators on the market expect to see further price redcutions, as hogs are still high for this season of the year. On the other hand, it is a difficult matter to find a hog man who does not look for a much higher market by the opening of the new year. There are many who even go so far as to predict that prices will be right up to the record breaking notch during the latter part of the winter and spring. They are, as a matter of course, basing this opinion on the assumption that cholera losses will bring about a decided shortage in the supply.

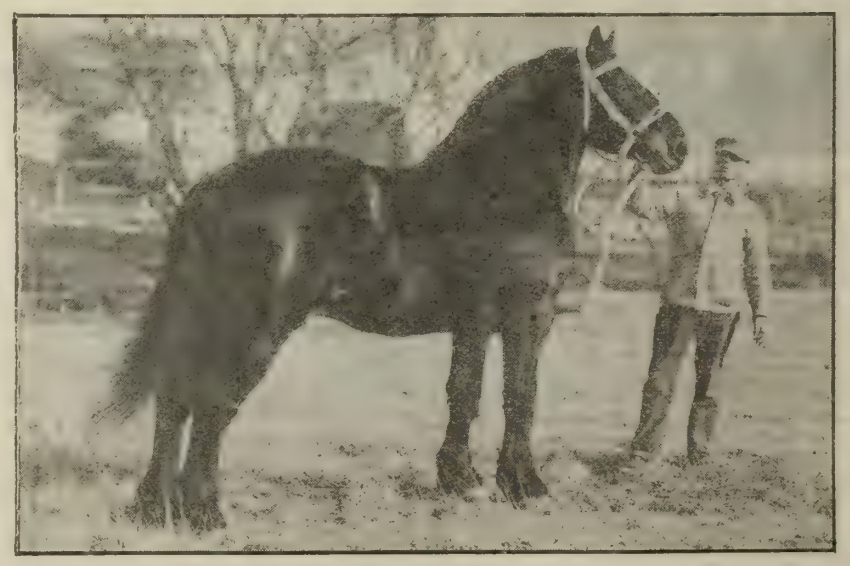
Feeder Lambs Still Low

Feeder lambs have recently declined sharply under the influence of large receipts. Prospects would seem to favor liberal runs for the next week or two, but it is very evident that the big bulk of the range stuff is in and receipts before very long should begin falling off. Naturally a big run for a few days in succession might bring on a still further price reduction, but as a rule even the bears feel that prices are about as low as they are likely to go. They have waited patiently all the season for a big slump in values that never came and the break last week was about the only real encouragement that they have had. As the season for heavy receipts from the range was so near an end many took advantage of the break to fill their orders.

Friesland Farm Holsteins

In the sale of Holstein cattle to be held at South Omaha, Neb., on December 2 by the Corn Belt Breeders' Consignment company, Dr. B. B. Davis, proprietor of Friesland Farm Holsteins, will consign seventeen head of cows and heifers and three bulls, including one of his herd bulls. Kalmuck Skylark Johanna 48832. This bull has proven himself to be a splendid sire, and as far as breeding is concerned, every Holstein man knows it is of the best. Seven of his daughters are included in this sale, part of them having already freshened, and all have records. A number of the females going in the sale are bred to Dr. Davis' other herd bull, King Segis Lyons. The other two bulls being offered for sale are sons of Kalmuck Skylark Johanna. They are very promising prospects for herd bulls and will soon be of serviceable age. Better write Dr Davis for further information regarding these cattle. Kindly mention the Twentieth Century Farmer when writing.

Iowa Bred Percheron Stallion



This is an illustration of the character and type of home-bred Percherons being produced and offered for sale by Mr. Fred Chandler, Chariton, Ia.

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Bright and Breezy

Lots of Fun

In Concord, N. H., they tell of an old chap who made his wife keep a cash account. Each week he would go over it, growling and grumbling. On one such occasion he delivered himself of the following:

"Look here, Sarah; mustard plasters, 50 cents; three teeth extracted, $2! There's $2.50 in one week spent for your own private pleasure. Do you think I am made of money?"

Must Be Easy

In a registration booth in San Francisco an old colored woman had just finished registering for the first time.

"Am you shore," she asked the clerk, "dat Ise done all I has to do?"

"Quite sure," replied the clerk. "You see, it's very simple."

"I'd ought to knowed it," said the old woman. "If those fool men folks been doing it all these years, I might a knowed it was a powerful simple process."—Life.

"She"

In a well known college for women, where the faculty consists chiefly of the gentler sex, a meeting of the academic council was in progress. Here and there a lone man sat islanded in the concourse of learned ladies. An amendment had just been proposed.

"Where is the person who offers this amendment?" inquired the president. "Who is she?"

Whereupon Mr. Flower, the popular young professor of a favorite subject, rose and replied, deprecatingly, "I am she."—Youth's Companion.

Thoroughly Tested

The colored janitor of the flat next door approached the grocer and handed him a paper containing some white powder.

"Say, boss," he asked, "what yo' t'ink dat is? Jes' taste it an' tell me yo' 'pinion."

The grocer smelled it, then touched it to his tongue.

"Well, Jake, I should say that was soda."

"Dat's jest what I say," replied the janitor, triumphantly. "I say dat's soda, but my ol' woman, she 'low it's rat pizen; she says she knows 'tis. Jes' taste it again, boss, fo' to mek sure."

There Was a Reason

Recently a sturdy citizen was sitting on the front porch trying to talk to a friend. Within the parlor the piano was going at full speed.

"Say, Jim," said the caller, bending in order to make himself heard, "is that your daughter playing that piano?"

"Yes," replied the sturdy citizen, with a covert smile. "Some music, ain't it?"

"It certainly is," admitted the caller. "Does she always play so strenuously as that?"

"Oh, no," replied the parent. "You see she has got a young man in the parlor, and she is pounding out that music so as to drown the sound of her mother washin' the dishes."

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The Draft Horse on the Farm

THE tractor has come to stay and its popularity is steadily growing, but the time is still far off, if it is ever to come, when the horse will not be a necessity on every farm.

The next issue of the Twentieth Century Farmer will be largely devoted to horses. Our cover design and frontispiece will show you some beautiful animals. We know you will be interested in an article written by Julius Wolf, a well known Nebraska importer and breeder, in which he describes the difficulties that confront the man who goes to Europe in search of fine pure-bred stock. We also have a very practical article by H. J. Gramlich, well known in Nebraska and the surrounding states as a judge of horses at state and county fairs during the last few years. In this article he gives some interesting information in relation to the weaning of colts and proper feeding after weaning.

Prattle of the Youngsters

As He Figured It

"Ma, do cows and bees go to heaven?"

"Mercy, child, what a question! Why?"

"Cause, if they don't, the milk and honey the preacher said was up there must be all canned stuff."

Certain Proof

Tommy went home one day with a nice, new golf ball.

"Look at the lost ball I found on the links, father," he said.

"But you are sure, Tommy," said Mr. Traddles, "that it was a lost ball really?"

"Oh, yes," said the boy. "I saw the man and his caddy looking for it."

Excellent Reason

Young Harold was late in attendance for Sunday school, and the minister inquired the cause. "I was going fishing, but father wouldn't let me," announced the lad. "That's the right kind of a father to have," replied the reverend gentleman. "Did he explain the reason why he would not let you go?" "Yes, sir. He said there wasn't bait enough for two."

A Good Guess

The class was discussing animals —how they walked, got up, etc. After she explained the cow's method of rising to her feet, the teacher asked:

"Do you know any other animal that gets up like a cow?" Silence reigned for a moment, then one little girl timidly raised her hand.

"What is it?" asked the teacher.

"A calf," was the reply.

Famous Rhode Island

It was a geography lesson, and the teacher had been asking what some of the different states were noted for. Looking at one of the little girls, she asked:

"Tell me, Florence, what Rhode Island is celebrated for."

For a moment the child was silent, then an inspiration apparently came to her.

"Rhode Island," repeated the little girl, "is celebrated for being the only one of the United States that is the smallest."—Harper's Magazine.

Bluffing It Through

Little Jim, though he attended Sunday school every week, did not know quite so much about scriptural history as he ought to have known, but when his sister asked him, "Where was Solomon's temple?" he was rather angry that she should think him unable to answer a simple question like that.

"Don't you think I know anything?" he asked.

"Well, where was it, then?" his sister repeated, and then he informed her.

"On the side of his forehead, of course—the same as other folks'. Do you think I'm a dunce?"—American Boy.

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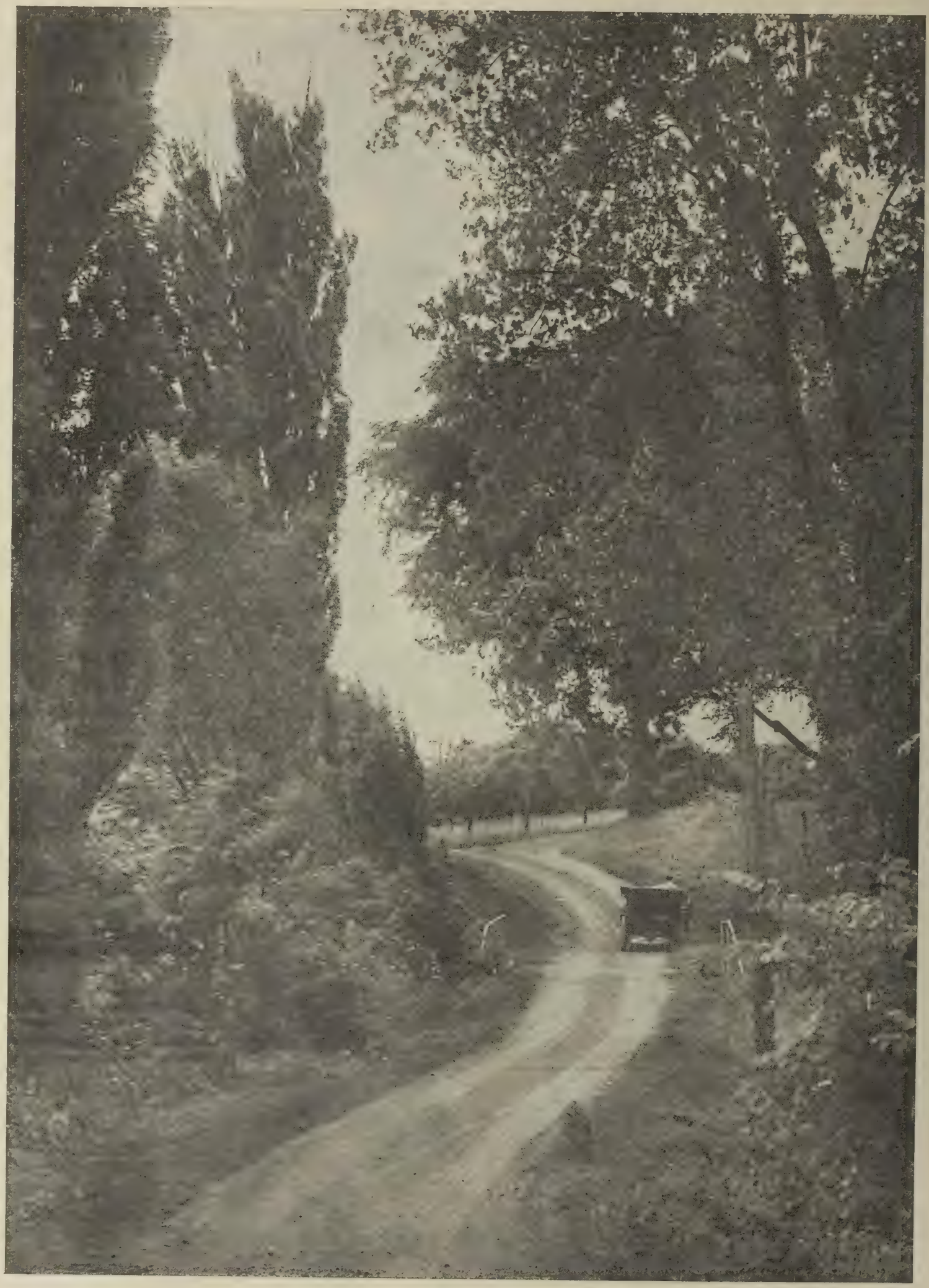


The Twentieth Century Farmer
A Magazine for the Men and Women of the Farm

Good Roads and How to Make Them

Intelligent Use of the King Drag, Proper Drainage, Culverts and Grades Are All Necessary

By D. C. Clarke

GOOD roads bring the farmer nearer to market. Three essentials of good roads are well-rounded centers, easy grades and good crossings. The well-rounded centers are often lacking in what would otherwise be excellent roads. As these are easily made and kept, their absence is a matter of no little discredit to the county in which such roads are located.

Since the invention of the King road drag there are no good reasons why the dirt roads of the United States, and particularly of the Missouri-Mississippi valley states, should not be well kept. Community pride in the different counties is responsible for the splendid condition of some of our dirt roads. Every farmer vies with his neighbor to see who will have the best road past his farm, and this friendly competition has produced wonderfully good results.

Construction of Drag Very Simple

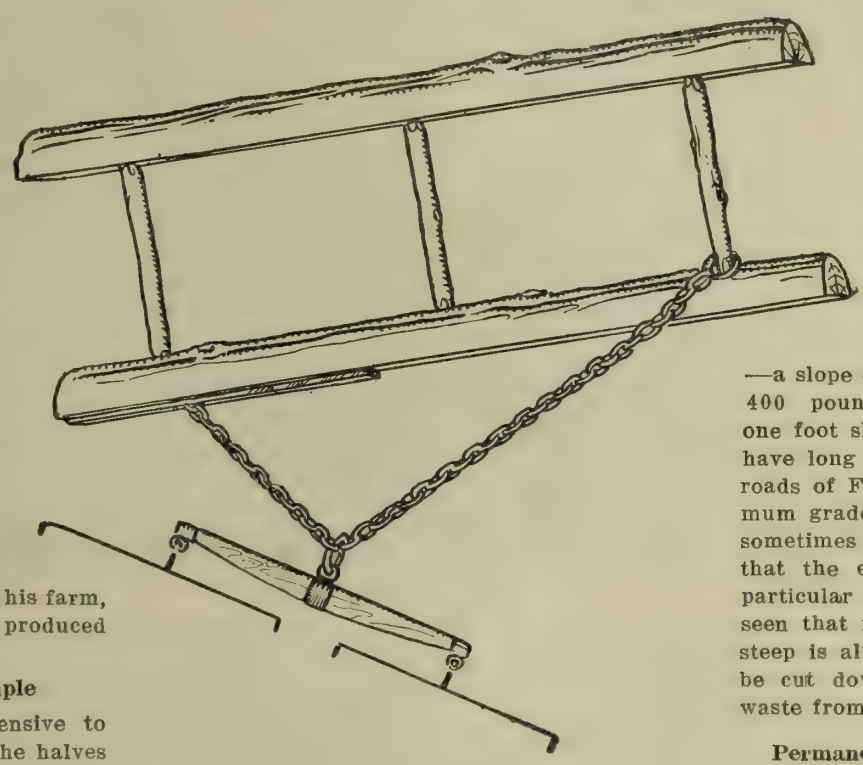
The King road drag is not expensive to make or to operate. Two planks, or the halves of a split log, ten or twelve feet long, fastened together with three 4x4-inch crosspieces about two and one-half feet long, make a good drag. A heavy chain fastened to the back piece, passing through holes directly in front and allowing the hitch to be made about two or three feet from the drag, makes a satisfactory arrangement. The hitch should be made so that the drag's front is at an angle of from thirty to forty-five degrees with the direction of the pull. This is necessary to keep up the crown at the center of the road, which insures good drainage. The life of a drag is considerably lengthened by the use of an iron shoe on the front wearing edge. A blacksmith can fit such a shoe at a slight expense.

Sides of Road Should Be Drained

Besides the center which the drag maintains, the sides of the road should be drained. Unless this is done the soil will become waterlogged by the capillary movement of water from the side ditches. The side ditches should have such a grade as will allow all water from the road and adjoining fields to drain away quickly. They should not be so deep that the weeds in them may not be cut with a mowing machine.

Water should not be carried along the side ditches too far. Usually outlets are found every half mile, and where natural outlets are not available at least that often, artificial ones should be provided.

Do not make the mistake of trying to keep up too wide a roadway. To maintain an eighteen to twenty-four-foot width well is less expensive and more practicable than to attempt to keep a forty to sixty-foot roadway. Usually those who want wide roads favor narrow bridges and culverts, when wider culverts and bridges and narrower roads would improve the looks and service of many of our highways. Often the sod on each side of the narrow road can be used in extremely wet weather, and the dirt road thus kept free from "ruts."



The King Drag is Not Expensive to Make or to Operate

To get easy grades on a road in a hilly country is a complex problem, but the following facts will show their importance: Tests show that a horse which can pull 1,000 pounds on the level can pull only 900 pounds on a grade of 1 per cent—a slope of one foot in 100—and can pull only 400 pounds on a grade of 5 per cent—one foot slope in twenty. Foreign countries have long known these facts, and the national roads of France are limited by law to a maximum grade of 3 per cent. The initial expense sometimes may be heavy, but if one remembers that the expense of transportation over that particular road is lessened forever, it will be seen that money spent in making a grade less steep is always a good investment. Hills may be cut down and the ditches filled with the waste from the cuts.

Permanent Bridges Should Be Ornamental

The third essential is not the least important. Crossings over streams, ditches and railroads make or mar the appearance of a road. The only small bridge any county can afford is the concrete bridge. Properly planned and built with the proper mixture of materials and with the reinforcement properly placed, the small concrete bridge will withstand the wear of centuries of weathering and travel. Because they are so permanent, great care should be exercised in making bridges not only useful, but attractive as well. A little extra care and attention in the setting of forms for the concree will often avoid bad breaks or rough spots in the cement work, while a little time devoted to a study of the design best suited to the locality will often produce a bridge which will be a monument to the memory of the man who built it.

Few Things to Remember

A few things to remember in dragging are as follows:

Never drag a road when the soil is sticky.

Always drive the team at a walk and ride on the drag.

If the drag cuts too much, shorten the hitch.

Begin on one side of the road and return on the opposite side, moving the dirt toward the center.

Don't drag a dry road.

Persevere.

Good Roads Prophecy

The time will come when heavy loads
Will be a light affair;
When there will be no bumpy roads,
But good ones everywhere.

The culverts all will be cement,
The river bridge reveal
That every single, blessed bent
Is built of solid steel.

Yon hill shall lose its frowning crest
To feed the valley grade;
To cut and fill is always best
When decent roads are made.

And when good roads are yours and mine
Each year with shades and pools
We'll all turn out to keep them fine,
And smooth and ruticss. BIX.

—From State Journal.

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Use of Manure Spreader a Necessity

Article III—No Farmer Who is Going to Make Use of Barnyard Manure Should Be Without One

THE value of farm manure depends upon the thoroughness with which it is incorporated with the soil. This means that the manure, to prove of greatest value, must be thoroughly incorporated with the soil, not more or less coarsely mixed with it. If it did not involve so much expense as to be practically prohibitive, the best method would be to grind the manure as fine as flour in order that its incorporation with the soil might be made nearly perfect. From this it follows that the finer the manure is made at the time of its application to the soil, the more thorough will be its incorporation with the soil.

Proper Method of Using a Spreader

Every manure spreader has a movable bottom to the box, which is driven by machinery toward the rear end of the machine, where it comes in contact with a beater, which fines it more or less and scatters it with greater or less evenness upon the soil. The fineness with which it delivers manure depends upon the speed with which the apron moves and the speed at which the beater revolves. Every manure spreader has several different speeds for the movement of the apron that carries the manure to the beater. When this apron moves at high speed the manure is delivered to the beater more rapidly than when it moves at low speed. If the speed of the beater and the speed of the apron were both controlled by the same device so that a high speed of the apron were invariably accompanied by a like high speed of the beater, the manure would be delivered to the soil in a much finer condition than would be otherwise possible. But the speed of the beater in all manure spreaders is determined solely by the rapidity with which the manure spreader passes over the soil, and has no relation whatever to the speed of the apron. The more strokes that the beater, with its armament of teeth, has at a given quantity of manure, the finer will be its condition when delivered to the soil. Fineness in delivery to the soil is indispensable to the best use of manure. In order to accomplish this with manure spreaders made as they are, it is best always to set the machine in such a way that the manure will be delivered to the beater as slowly as possible in order that the beater may get as many strokes at it as possible and as a result deliver it to the soil in as fine a condition as possible. This means that the controlling lever should be set so as to give to the apron the slowest possible speed.

How to Control Amount of Manure Delivered

Of course, with the apron traveling at the slowest possible speed, the manure spreader will deliver the least amount possible of manure to the soil. But this amount will be delivered in the best condition made possible by the use of the machine. As has already been stated, the value of the manure depends upon the condition of fineness in which it is applied to the soil. If a farmer needs a greater quantity of manure upon his soil than he secures by passing over the soil once with a spreader at the slowest possible speed to the apron, he can go over the same ground again, and continue to do so until a sufficient amount of manure has been distributed. The one essential thing is to deliver it in as fine a condition as possible, and then the amount of manure so delivered may be regulated at pleasure by the operator.

Spreader Saves Both Time and Labor

Besides distributing manure in such a way that it will have the greatest possible beneficial effect upon the soil, the use of the manure spreader enables the farmer to save both time and labor. Time and labor are both worth money, and both cost money; and by saving time and labor the farmer saves money. The old-fashioned way of distributing manure by loading it onto an ordinary farm wagon and leaving it in piles upon the field, and then later on scattering it over the surface of the field by hand labor with a fork, is the most uneconomic, the most expensive way to handle manure. Besides, handling manure in such a way wastes the manure, or at least fails to secure the greatest amount of benefit possible to be derived from it.

Best Method of Using Manure Spreader

If a farmer has only a single manure spreader and two men are engaged to load it, one man will remain idle while the other man takes the spreader to the field and distributes its load. This is a waste of time and of labor. A better way would be to make a deal with one of his neighbors whereby each might borrow the other's manure spreader; then two men might work continuously and economically. One might be loading one spreader while the other was in the field unloading his load, and then, on returning to the barn lot, the team might be changed from one spreader to the other. In this way one team would do the work for two spreaders, and one man would be loading one spreader in the barn lot while the other was unloading in the field. This would nearly double the amount of work done during a given period of time, and would save the use of one team, and save waste of time and labor, because each man would then be kept busy all the time. It would be a very easy matter for farmers to arrange with one another for the mutual borrowing of spreaders in order to put this plan into operation.

The Kind of Spreader to Buy

This must be left entirely to the judgment of the buyer. A few suggestions, however, may assist him in making the proper selection. In the first place, the work that a manure spreader does is very heavy work, and the manure spreader should be so built as easily to undergo the strain placed upon it by such heavy work. The wheels the castings, all the gears, the bed and the box should be heavy enough to stand the strain of the work required without any danger of a breakdown. One farmer said that he wanted a manure spreader strong enough so that if a four-horse team of mules should run away with it when loaded, and run off a bridge, there would nothing be broken except possibly the hired man's neck, which should be broken for letting the mules get away from him. This demand for strength and rigidity in a manure spreader is the first consideration. It should be made as heavy and powerful as possible.

In the second place, the devices for power to move the apron should be such as will secure the requirements of proper power at the least possible wear upon the machine and upon the team that hauls the load. There are two methods of driving the apron. One is by the device of the ratchet wheel, and the other is the device known as the worm-gear drive. There is considerable difference in the care and lubrication necessary between these two methods of apron drives. The purchaser should take the matter thoroughly in mind and purchase the kind of apparatus that to him seems best to meet his requirements.

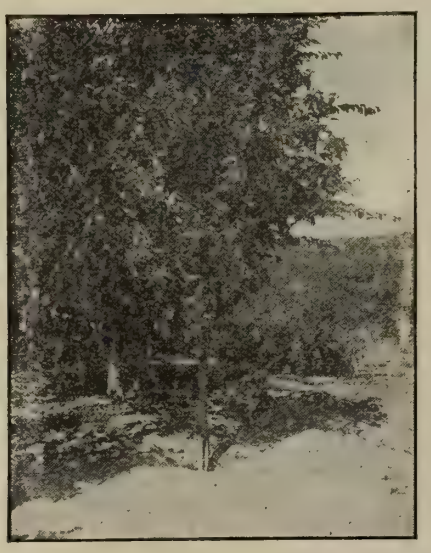
A Manure Spreader is Necessary

If a farmer is going to make use of barnyard manure in any quantity, a manure spreader is indispensable to the proper and desired economic distribution upon the soil. The time has come when every farmer should make the greatest possible use of farm manure. Most farmers are beginning to appreciate this fact. The rest will be compelled to give it due appreciation by the lessened production that inevitably follows failure to make use of it. At the same time, it may be stated that it is hardly worth while to work with farm manure without a manure spreader. Such a machine will pay for itself over and over again. For the reasons already set forth, no farmer should be without one.

* * * * * * *

Arch Grafting for Girdled Trees

A TREE on which fifteen varieties of fruit had been grafted for testing on the experimental grounds of Luther Burbank of Santa Rosa, Cal., was completely girdled by rabbits. It happened that the injury occurred in the winter, when the tree was dormant. As soon as the girdle was discovered, scions were cut from the branches and inserted, as shown in the accompanying illustrations. An arch graft was formed to connect the cambium layers above and below the wound. All of the scions took and the tree is thriving now, apparently as useful as if nothing had happened.



The arch graft is not needed frequently, but in an emergency such as this it is worth a great deal. It is more difficult to make than other other grafts, because the cambium must be carefully scraped on both stock and scion so that the two living portions will form a union.

JOHN Y. BEATY.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Must Raise Calves to Have More Beef

Iowa Beef Producers' Association is Trying to Induce Iowa Farmers to Produce More Cattle

THE Iowa Beef Producers' Association is one of the live associations of the country, and is exerting an influence that is making itself felt among the beef-producing interests and the beef-consuming interests of Iowa and the country at large. This is an age of organization. People incline to go in droves and flocks. They admire leaders and are perfectly willing to be shown and to follow leaders and instructors when the principles upon which they base their organizations or associations appeal to the common interests of the public and the good of humanity.

The Iowa Beef Producers' Association was organized for the purpose of encouraging the production of more beef cattle on the Iowa farms; for the creation of a farm interest that would mean larger profits for the producer of cattle and at the same time secure increased productivity of the land. The growing of crops and the marketing of this produce could not be successfully carried on without the produce being first converted into beef and pork. The scarcity of cattle demanded that both breeding and feeding should go hand in hand on the same farm, and under the direction and guidance of the same supervisor.

Must Raise Calves to Have Beef

The logical solution of the nation-wide and world-wide scarcity of beef, according to the Iowa Beef Producers' Association, is to commence at home, at the foundation principle of beef production, by raising calves on the farm and maturing them into beef. It is this principle of production and preparation of the beef animal that the organized interests of the Iowa farmers, breeders, feeders and educational forces have combined to work out and demonstrate to the satisfaction of all their interested people.

There has been a great change of sentiment among Iowa farmers on the subject of keeping cows and raising calves for beef, since the first beef special train was run one year ago. Figures and evidence are produced that cannot be successfully refuted.

The growing of the calf has been the subject of considerable discussion among Iowa farmers. To arrive at some definite ideas on the cost of calf raising in the state, Rex Beresford, the expert agent of the Beef Producers' Association, visited during the fall and winter season of 1911-12 ninety-seven farmers engaged in baby beef production. Only one of these failed in receiving more than market price for all the feeds used in producing the cattle sold that season. Poor stock and lack of good management were assigned as the cause of the poor results in this one case.

Figures on Cost of Production

On twenty-four of the ninety-seven farms there were accurate figures kept as to cost of feeds. There were 816 calves raised on these twenty-four farms during the season and finished for beef. The average age when sold was 14.5 months, weight 832 pounds per head, and at an average price of $8.30 per hundredweight, or $69 per head. Corn consumed was figured at 60 cents per bushel, silage at $4 per ton, cottonseed meal at $30 per ton, clover hay at $15 per ton and pasture for one cow and calf at $1.50 per month, with other feeds proportionately high. These calves cost $62 per head, leaving a profit of $7 per head after all feed bills, interest and other expenses had been paid. The feed prices were all figured higher than farm values. In this estimate farms under poor or unfortunate management were averaged in with the more successful ones, thus lowering the average profits. Mr. Beresford found that where anything like proper conditions were observed in the feeding and handling of the calves, the business has been profitable.

Mr. Beresford in his talks said that there may be uncertainty with steer feeding when the prices of feeders and fat cattle are so nearly the same, as at present, but there is very little uncertainty in a fourteen to twenty months' old calf grown and fattened on a farm that has produced both the calf and the corn. Such a steer, he asserts, pays on the farm where he eats corn worth from 80 cents to $1 per bushel, allowing market price for all the other feeds he consumes.

Value of Manure as a By-Product

Special emphasis was placed by all speakers upon the value of the manure to the farm where cattle are grown and fed. It would seem that cattle feeding would justify if nothing but the manure were had above the expenses. Several examples were recited of yields of varying grain and hay crops from cattle farms and farms where grain crops were yearly produced and sold off the farm into the grain markets. In a test where ten cattle farms and ten crop farms, representing various counties in Iowa, were compared, it was found that the ten cattle farms, for a period of five years, produced an average of fifty-two bushels of corn, thirty-nine bushels of oats and two and two-tenths tons of hay, as compared with the thirty-eight bushels of corn, thirty-two bushels of oats, one and two-tenths tons of hay grown off the ten crop farms.

The Beef Producers' Association announces that there are now in successful use in Iowa two main methods of handling herds for beef products—the baby beef making and a combination of beef and milk product. Keeping cows for their calves alone has formerly been pronounced a losing game, or at least a comparatively unprofitable one. This has proved to be, however, under changed conditions and improved methods, a paying business.

Market Demand for Baby Beef

Recommendations on the baby beef proposition are as follows: The calves are dropped in the spring and allowed all the milk of their dams until weaning time, with some grain usually. They are then started on feed and fed until the next spring or summer. Heifers and steers are fed together. The farmer producing baby beef can keep a half larger breeding herd and market a half more fat cattle each year than can the farmer producing 2-year-olds. The extra weight of the latter will only partially make up for this increase in numbers. Another advantage of the baby beef is in the market demand. The handy weight of the 1,000 to 1,100-pound steer, if fat, makes it sell better than the heavier, more tallowy steer. All the coarseness and unfavorable features are avoided in the case of the baby beef.

The foregoing arguments are set forth by the Beef Producers' Association as reasons why the Iowa farmer should keep cows, raise

CONTINUED ON PAGE TWENTY-ONE

Shorthorns Are Popular with Many Iowa Farmers

Some of President Escher's Winners

Skim Milk on the Way to Market

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

THE TWENTIETH CENTURY FARMER

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Be sure that all live stock have at all times all the water they want. Good, clean water in abundance, and to be had at pleasure, materially adds to the gain to be derived from feed.

Plow deep, deep that is deep, and do it in the fall, if a good corn crop is to be assured next season. Such plowing gives a chance for storing sufficient water in the subsoil to carry a crop through a season of drouth.

The dry season has made possible the production of a good deal of alfalfa seed in the Missouri valley territory. The best seed for sowing is seed that is produced under conditions less favorable than those where it is proposed to be sown. The second best seed is the seed grown in one's immediate neighborhood. Pigeon-hole this fact in your memory.

The Nebraska Live Stock Sanitary Board is getting ready to co-operate with the Department of Agriculture and with the State University of Nebraska for the purpose of an experiment to see whether hog cholera may be exterminated from a given territory. For this purpose the territory selected consists of Johnson county and the northern half of Gage county. Work will probably actually begin with the opening of the next season.

Pointer on Calf Values

Among calf producers there is not a very definite idea as to values. It is generally conceded that $25 for a last spring's calf is a good, strong price. But there is a difference in calves. Among farmers raising this class of stock this difference is not carefully observed or defined. It will not do in estimating values to say a calf is a calf and all calves are equally valuable. This feature of the live stock business is worked down to a system at the great central live stock markets. The basis of values here is fixed by quality, weight and the adaptability of the animal to meet the demand of the retail market.

Fifty-one Texas range-bred calves sold in the Kansas City market the fore part of October at $37.65 per head. These calves brought $8.50 per hundred and weighed 433 pounds. They were not extra large calves and there was no evidence of their being out of the ordinary in breeding or market advantage. This is a good example of what calves are worth from the standpoint of market values. It is really the only honest test of values. An article or animal is worth usually just what it will command in the market where it sells.

When this price is stated as a value per head, it sounds pretty big. But it is a good kind of evidence to base your ideas on when estimating values of your own home-grown stock. These calves are represented as an introductory shipment of 1,400 head of calves produced this summer on the Coverdale & Armstrong ranch near Floydada, Tex.

Plan War on Chinch Bug

The Farmers' Institute management of Kansas has planned a co-operative campaign for the destruction of the chinch bugs of that state. The purpose is to organize the members of farmers' institutes into an army for chinch bug extermination, and a day will be set aside, to be called "chinch bug day," in which a systematic warfare will be waged throughout the state to destroy the chinch bug and eliminate its prospects for propagating its kind.

The Kansas Agricultural College has devoted some time and attention to the experimentation of destroying chinch bugs and has arrived at the conclusion that fire, supplemented by the cold weather of winter, kills 985 out of every 1,000 chinch bugs. By actual count and careful estimates it has been learned that a half mile in length of roadside covered with bunch grass and blue stem harbors 3,520,000 bugs. Late fall burning means the destruction of 3,484,800 of them.

G. A. Dean, state entomologist of Kansas, is given as authority for these figures. He is using his influence to create a general sentiment for an observance of chinch bug day some time the latter part of November or fore part of December. This very plausible measure of burning up all old grass, straw, weeds and rubbish where the breeding grounds have been established has proven effective as a means of extermination locally for the following crop season, and, if made general, will no doubt eventually result in a complete destruction of this pest. Other states and districts of country having to contend with the chinch bug nuisance would do well to follow the example of Kansas.

Profit in Alfalfa Crop

There is no hay crop now produced that yields more profit per acre than alfalfa. There is now an every-day demand for alfalfa for the shipping trade. Kansas City is a great hay market, and its alfalfa hay receipts are always liberal and the market is generally strong. There is now, and has been for several years, a demand among the city dairies for all the alfalfa hay coming to the market. The dairyman has tested the value of good green-cured alfalfa as a milk producer, and he cannot afford to feed other kinds when alfalfa is available.

It is very seldom the case that four cuttings cannot be had any place in the Missouri valley. This is equal to four tons per acre per season as a usual thing. It is a fair estimate to give alfalfa hay a farm value in stack of $8 to $10 per ton. Thirty-two dollars per acre is not a bad business to be engaged in where there is so little labor as in harvesting alfalfa.

Some very profitable alfalfa operations are being carried on where one crop is taken for seed, usually the third crop, as the dryer conditions seem to favor seed development. A seed crop of four to ten bushels is a reasonable estimate, and $10 per bushel is a conservative price for the seed, sold off the farm. Forty to one hundred dollars per acre for seed is large to think about, but almost double this estimate has been authoritatively published from different localities.

Why is there not more alfalfa seed produced, in the face of large yields and high prices for the seed, even to wholesale dealers? Alfalfa seed is always reported scarce, hard to get, and sells to the user for a price ranging from $12 to $15 per bushel. Raise more alfalfa seed. The seed crop will pay you big. Besides, the straw when threshed makes excellent cattle feed. Increase the alfalfa acreage. Every 160-acre farm can afford to devote thirty to forty acres to alfalfa, and feed all the crop on the farm except the seed crop. Try the alfalfa as a money maker.

In the weekly news letter sent out by the Department of Agriculture at Washington, the position of the Twentieth Century Farmer with reference to pure cream producing pure butter and with reference to the necessity of grading cream and paying for quality only, receives the strongest kind of endorsement.

In the general average in the students' contest in judging dairy cattle at the National Dairy show in Chicago, the University of Missouri was first, the Kentucky University second, the Iowa State College third, and the University of Nebraska fourth.

From Nebraska to Illinois

During the early part of the summer the Twentieth Century Farmer had something to say with reference to the reprehensible promotion of small creameries in Nebraska. One of the chief promoters said in the office of this paper: "Well, whatever you have to say about us will be said about our past. We are through with Nebraska. We shall promote no more creameries here."

This was a glad announcement for Nebraska. But now Illinois comes forward and registers a kick because these promoters went directly from Nebraska to Illinois, and have adopted there the same reprehensible practices with which the dairymen of Nebraska are familiar, and are working damage to the dairy interests there. Of course, Nebraska had to protect itself. That is what Illinois will have to do. It can be done easily enough if it is gone about in the right way.

There is no use of Illinois investors paying $6,500 for a $2,000 creamery. Let them make a little investigation and give the matter wide publicity, and such unethical business practices will come to an end there as they did in Nebraska.

No promoters or company should be permitted to work injury to the dairy interests of any state. The company or the individual that adopts unethical methods in business should forfeit both the confidence and the patronage of the public. Illinois must help itself. Self-help is the only help worth while, anyway. Illinois is too big, too great to permit its state prosperity to be undermined by reckless, unprincipled promotion.

The International Stock Show

The International Live Stock show will soon be arrayed in all its splendor and magnificence for its annual exhibition. This is the crowning feature of America's live stock exhibitions. There is nothing equal to it. It absorbs all other exhibition interest in its world-wide reputation for congregating the breed champions of every nation that will accept the challenge to compete.

The International Live Stock show will be held at the Union Stock Yards, Chicago, November 29 to December 6, inclusive, and promises to be even larger and greater than ever before. This is one of the great live stock exhibitions that breeders and handlers of stock cannot afford to miss. It is the great demonstration school where breeders meet to check up on the progress and improvement made in the individual excellencies in breeds that each year have been able to bring forward as the result of skillful mating.

The 1913 International Live Stock show will be, as usual, the congregating of the prize winners and grand champions of all the big shows and state fairs held during 1913 in the United States and Canada. At this time and place are held thirty national live stock association meetings.

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Iowa Hog Cholera Statistics

The United States Department of Agriculture, the Iowa State College and the Scott County Farm Improvement League have been co-operating in the matter of the control of hog cholera. In a circular just issued they give some very interesting statistics. Five different herds in the county were treated with hog cholera specifics, and of the hogs so treated 14 per cent died. In sixteen different herds cholera was allowed to run its course. These sixteen herds numbered 1,413 hogs. Of these 1,201 died, a loss of 85 per cent. In twenty-nine slightly affected herds to which the same treatment was given and at the right time, out of 1,642 head 176 were lost, a loss of about 10 per cent. In thirty-five herds, 2,265 head, which were quite sick, were given the single treatment three or four days later than it should have been given, and 577 were lost, approximating 26 per cent. In these same herds 490 hogs were not treated, and of these 385 were lost, a loss of about 77 per cent. Out of nineteen very sick herds which received the single treatment ten days later than it should have been given, of 927 head that were treated 560 died, a loss of about 60 per cent. In the same herds 655 were not treated and of these 622 died, a loss of about 95 per cent.

Several lessons may be drawn from this experience. The first lesson is that serum is not a cure for sick hogs. But even in sick herds it pays to use it, because a larger percentage of the hogs in such herds treated live than those not treated. A second lesson to be drawn is that no one should wait about giving the treatment until his hogs are actually sick. Forty different herds in Scott county, aggregating 2,700 head, were treated before they were sick, with a loss of only thirty-nine pigs.

The bulletin referred to offers three lines of proof that the serum treatment will save hogs. First, the United States Department of Agriculture and practically every state in the union have declared its value by the appropriations of congress and the state legislatures and by the bulletins of the various state agricultural and experiment stations. Second, they have kept close watch on nearly 200 herds treated this season, the majority of which have been saved. Notwithstanding reports to the contrary, results in general have been good, and the farmer who doubts can be taken to herd after herd where cholera has been checked with little loss. Third, well pigs which never had cholera, but were given the double treatment, were placed in herds where cholera was raging and left there for several weeks without one of them becoming sick.

This is strong proof. Does any farmer need more?

An Ohio man with a farm of only ninety acres has twenty Jersey cows that average to produce 325 pounds of butter every year. He does not sell his cream to a cream receiving station, thus receiving about 4 cents less per pound for butter-fat than he is entitled to, but instead he makes it into butter, and makes the butter so good that he has a long waiting list of persons desirous of becoming his patrons, and he gets a price from 3 to 4 cents above the retail price of creamery butter in the same market. He has cut out the middleman and sells directly to consumers.

Landlord and Tenant Problem

There is no more serious menace to permanent agricultural prosperity than the landlord-tenant system as it exists today throughout the Missouri valley territory. The landlord offers to the tenant no inducement, as a rule, to maintain the present producing capacity of the land, to say nothing of taking steps to increase that capacity.

With human nature as it is, it is to be expected that every tenant will work solely for his own interest. It is to his interest to get as big a production as possible from the land he tills, under a system that leases land for a term of only a single year at either a cash price of so much per acre or for an agreed-upon share of what is actually produced. The tenant's only interest is to get as much as he can out of the land, no matter what effect it may have upon the land. The next tenant will take the land as he finds it and continue this operation. There is no quicker or surer method known for depleting the producing capacity of the soil.

If the landlord would use average intelligence, he would see that it is to his interest not only to maintain, but to increase the producing capacity of his soil. This would mean, of course, smaller returns for the present in expectation of larger returns in the future. The landlords, as a rule, say that they prefer a "bird in the hand to two in the bush."

This is a matter that concerns not merely the landlord and the tenant, but is of vital interest to the entire public. The prosperity of the nation depends upon maintaining and increasing the producing capacity of the nation's soil. It is a national question, not merely a question between landlord and tenant.

In England this matter has received legislative attention, and soon it must become a matter for legislation in this country. In a former issue of this paper was given an account of the mutual responsibilities and duties of landlords and tenants as established by Parliament in England. It is well worth the perusal and reperusal and careful study of every American. If our agriculture is to be made permanently prosperous, some such measures must be adopted here. No man lives to himself alone, not even a landlord or a tenant. They have their public duties and responsibilities, and must be made in some way or other to meet the obligations that naturally rest upon them.

The chicken thief is the meanest individual in the world. It takes a mean person to rob the farm women of the chickens to which they have given so much of their time and labor during the summer. Even a thief should have a little gallantry in his makeup.

All Told 265 Thousand Women Wrote to Us The Last 6 Months

Over a quarter of a million! And every letter was quickly and fully answered: not in print, but in personal, helpful and confidential letters by mail.

Twenty-one of the Editors on *The Ladies' Home Journal's* staff do this work: each an expert in her or his line, whether it is Fashions, Needlework, Household, Millinery, Music, Babies, Books, Religion, Building a House, Home Parties, Church Sociables or Confidential Affairs. It makes no difference what the question is, an authority is there to tell you what you want to know: Josef Hofmann about the Piano, Hamilton W. Mabie about Books and Reading, Lyman Abbott about Religion, Jane Addams about Human Betterment, two expert woman doctors about Babies, and so on.

For 20 years *The Ladies' Home Journal* has been building up this personal service back of the magazine: a personal relation between thousands of women and the editors, so that the magazine has not remained a thing of type and paper, but has become a personal, living help in the lives of hundreds of thousands of women.

Not a penny is ever charged for this service. It is at the free disposal of every reader of *The Ladies' Home Journal.*

A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

THE CURTIS PUBLISHING COMPANY
INDEPENDENCE SQUARE
PHILADELPHIA, PENNSYLVANIA

Why Not Build an Ice House?

How Farmer Constructed One at Moderate Cost

THERE is an erroneous idea among most farmers that it takes considerable money to build an ice house. Only a few days ago the writer was reading an article written by an authority (supposedly) on farm affairs, in which he gave instructions for building an ice house, and the walls contained in all ten thicknesses of material.

Other parts of the building were about as elaborately built—or advised to be built, for no ordinary farmer would attempt such a structure—and the lumber bill ran away up into the thousands of feet. The fact is, a farmer can build his own ice house out of native lumber, at a cost of only a few dollars. One of our neighbors built just such a house and he has been successfully storing ice in it for years.

Location of the Ice House

This man, however, has given careful consideration to a few points in the construction of his ice house.

It is built on a very gentle slope, which insures thorough drainage of any water seeping away from the melting ice. Melting of the ice often is brought on through the effect of the sun's rays on a thin or improperly formed roof. Steel or asphalt roofing is not recommended for covering the ice house, as it is a conductor of heat. The man above mentioned built his ice house in a native grove near his residence. With a roof of ordinary lumber, protected by the shade of surrounding trees, he has the ideal conditions in this respect. The fact that this ice house is on a north-side slope is also an important point to keep in mind, as the effect of the sun will not be so great in melting the product.

Building the Ice House

This neighbor built his ice house entirely of native material, all framework being of poles cut from the timber and shaped up with an axe, the lumber being sawed from native trees. The upright pieces (studding) were ten feet long; one of these at each corner of the building and one in the center on each side, however, were considerably longer, being firmly set in the ground two or three feet to give rigidity to the structure.

Three horizontal poles (or 2x4s will do) were nailed to these upright pieces, which further strengthened the building and furnished surface for nailing the siding to. By mortising these plates into the upright pieces, there will be little or no use of further bracing.

The siding is inch lumber, securely nailed in an upright position. The gables were not entirely closed, being left partly open to insure ample ventilation. It must be borne in mind that ventilation is as essential in an ice house as any other building, and the close, stuffy buildings will be found to be the ones in which ice melts first. As much as one-half the space in the gables of the house here described is open, which not only affords the necessary ventilation, but provides a place for taking the ice from the house without going to the expense of making a door.

The ice house was covered with an ordinary shingle roof, and no floor whatever was laid, the bare ground being used for a foundation, and, where drainage is good, this is all right. If a board floor is laid, one must have substantial lumber, and the boards must be left far enough apart in the floor for the water from the melting ice to run through between them and drain away. Of course, there will be some melting away of the ice, but with about a foot of well dampened sawdust in the bottom the amount of ice that is lost will not pay the difference between the cost of the dirt floor and one of boards or cement.

Preparing for the Ice Harvest

It is none too early for one to begin preparations for handling the ice crop, as they cannot be made if neglected till the season for putting up ice, nor even till early winter.

The body of water from which the ice will be taken should be given special attention from now on. The stock should be kept out of it, and as far as is possible the water supply should be kept pure and clean.

All trash, sticks and driftwood should be cleared from the water, so that the stored ice will be perfectly clear and free of all foreign substances, which will not only add to its excellence, but increase its keeping qualities because every particle is ice. Then, with the ice free of all trash or brush, the harvesting can be much easier and more quickly accomplished.

Filling the Ice House

A cold, snappy day (cloudy if possible) should be chosen for filling the ice house, so the ice will not melt in handling and so the blocks will congeal when placed in storage. A good ice saw should be procured, together with a pair of ice tongs. The blocks of ice should be sawed uniform in size, so the filling of the house will be evenly carried on. Ice about twelve inches thick is best adapted to storage. The blocks should be cut about a foot or fifteen inches wide and two or two and a half feet long. If the thickness is much less than this, the ice will not keep well. Having packed a well dampened layer of sawdust twelve inches deep in the bottom of the ice house, the first layer of ice blocks is placed edgewise on this foundation. The second layer is placed crosswise of the first. Any cracks or crevices should be chinked up by hammering in fine ice. The third layer of blocks is placed crosswise of the second and so on till the desired quantity of ice is stored. About a foot thickness of sawdust should be put between the building and the outer edges of the ice blocks next to the wall. Straw, clover, chaff or marsh hay, dampened and well tramped in, will serve this purpose, but the sawdust is much the best and well worth an extra effort in securing for use in storage. A covering of two or three feet should be given the top layer of ice blocks when the filling is finished, and this should be firmly packed down to exclude all air.

Advantages of Ice Storage

While the majority of farmers think they can get along very well without ice in summer, they do not appreciate the many uses to which it can be put, and city folks miss no single article quite so much as ice when it cannot be secured. Where one does not feel able to afford a refrigerator, a most effective ice chest may be formed in some part of the ice house, preferably near the door, so it will be handy. In such case, the building should, of course, be near the house, making the chest available for keeping meats, butter and other table necessities requiring a low temperature, especially milk for cooking and drinking purposes. Here one also can store eggs, cream and all sorts of perishable articles, such as vegetables, fruits, etc., keeping them till a sufficient quantity is collected to make a trip to market. This not only preserves the quality of the products and insures the top price for them, but it makes necessary fewer trips to town. By practicing moderation, the ice supply also affords a means of securing an occasional drink of ice water, iced tea, ice cream and various other refreshing dainties not obtainable without ice.

Then, aside from the amount of ice one will use himself, there is a good demand for it in summer. The neighbor mentioned above sells his ice at 35 cents per 100 pounds, neighbors coming to the house to get it. A ton of ice will occupy about forty or fifty-five cubic feet of space, and a building ten feet high, twelve feet wide and sixteen feet long will hold approximately between forty and fifty tons of ice. This gives a value of from $280 to $350 in a house of the above dimensions—a neat margin of profit.

M. A. COVERDELL.

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THE American Steel & Wire Company is the first to develop a THOROUGHLY GALVANIZED WIRE. It has a thicker coat, a quality more refined, and a deeply adhesive contact of the zinc and the steel that solidly unites the two metals, highly flexible without injury, and having a finish and weather resistance unequalled—a *thoroughly galvanized wire.*

There are wonderful records of super-extraordinary efficiency, such an an auto tire lasting 30,000 miles; a pair of shoes, suit of clothes or a wagon showing astonishing durability; two ships built exactly alike, one being vastly better; or a certain piece of woven wire fencing apparently indestructible under long years of severe trial.

Years ago, in making and galvanizing steel wire, we searched out the reason for this spasmodic super-excellence, and found it to be the *chance combination of a high state of perfection*, in the finest detail, of *man, methods, machinery* and *materials.* We then mastered these fickle elements of chance by the employment of a tremendous manufacturing organization and brought them under control for steady and continuous production.

We now announce the final completion of our facilities for the extensive and permanent production of this thoroughly galvanized wire. We shall use it in the manufacture of our celebrated woven wire fences—the AMERICAN FENCE, the ELLWOOD FENCE, the ROYAL FENCE, the ANTHONY FENCE, and all our other fences.

These fences are adapted for all field, farm and poultry uses, and possess superior structural advantages in quality of steel and fabric. Dealers everywhere throughout the country display these fences and will quote lowest prices. They cost no more than other fences, and considering the *extra large and heavy wires* used, and the exclusive use of new *thorough galvanizing*, makes them especially attractive as the best and cheapest fences.

FRANK BAACKES, Vice Pres. and Gen'l Sales Manager

AMERICAN STEEL & WIRE COMPANY

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THE AMERICAN STEEL FENCE POST cheaper than wood and more durable. Send for booklet of uses. 36000

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More About the Breeding Flock

Preparation for the Lambing Season

THE usual breeding season for the farm flock commences in November. Ewes bred in November will drop lambs in April, as 152 days is the period of gestation. April is a stormy month in some districts of country. It is one of the most uncertain weather months in the year. Some days are bright and sunshiny, and this is quickly followed by snow, cold winds and storm. Consequently we must look upon April in our Illinois, Iowa and Nebraska latitude as a little risky for new-born lambs, and arrange to take care of them when the cold and storm comes. This is easy if you provide in advance warm shelter and stables that can be shut up so as to exclude the cold winds.

A bunch of ewes, say fifty or sixty, confined in a room or stable 20x20 feet, will be very comfortable and not over-crowded in moving about, and will create heat sufficient to protect new-born lambs from chilling, if the walls and roof are reasonably tight. A little ventilation is necessary, even when the weather is quite chilly outside. A dry room, pen or shed, with some dry straw for bedding, is the ideal place for spring or winter lambs to get their start. Artificial heat is not desirable unless lambs are coming in the winter months and liable to encounter zero weather. This is a proposition for the breeder of pure-bred sheep desiring early lambs for show and sale purposes, and the early mutton-lamb industry. The hot-house system is a necessity with this class of lamb raisers. This, however, is a separate business from the farm flock industry.

The farm flock must be handled on a basis of economy in expense, but not starved, exposed to inclement weather or neglected in any of the practical features of good care. The preparation of the breeding flock for the breeding season cannot be too closely looked after in the matter of encouraging thrift and vigor in the ewe. It has been observed that the prolificacy in lamb bearing has almost universally followed a high condition in the ewe flock at the time of breeding. Many of the best flock masters of years gone by practiced grain feeding of the breeding ewes just as soon as the lambs were weaned and the milk flow dried up. To this extra attention and expense was added the best pastures on the farm, where the flock could have a full feed of grass at all times. Usually the meadows were reserved for the ewe flock at breeding time. Ask an old-time sheep man if he thinks this kind of fall or autumn care pays, and hear his answer.

Not all old-time sheep owners, however, were good shepherds. Some starved their flocks, but the thrifty, professional sheep men, those that were directing their efforts for profit and reputation of flocks, spared nothing in way of feed and attention. It is no longer urged as an advantage to have the ewe, sow, cow or any prospective mother animal thin, starved or suckled down in flesh in order to secure good breeding results. There is an extreme either way—too thin in flesh or too fat.

The breeding ram is a hard proposition to handle through the breeding season. Some claim they get best results by turning the ram with the flock at nights and stable him through the day, feeding liberally a variety of feeds—oats, corn, vegetables, etc. Others reverse the program, turn him with the flock during the day and confine him at night. Others still adhere to the old-time practice of turning him out with the flock and letting him take his chances from four to six weeks during the breeding season. The practice with the best breeders and flock owners is to buy the best high-priced ram available, and get all the service possible by individual breeding, confining the ram to a small stable or yard and giving him the best of care and feed, thus securing twice the number of lambs as from the ram that is turned out with the flock.

The main points in the business of sheep breeding are to get the best lot of breeding ewes you can for the money you have to invest, then the best ram, and aim to handle them so as to get the best results in numbers and quality of progeny. This means an observance of care and feeding that will keep these animals always feeling good and looking good, and the flock will return to you the best they have.

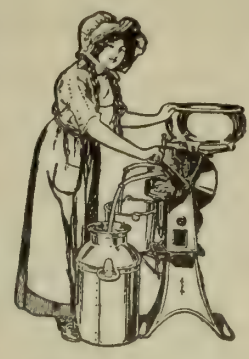
More than one-fourth of all the sheep in the eleven states nearest the Pacific coast are grazed on the national forests.

Suggestions as to Care of Autos

An automobile is pretty nearly human in one respect. It requires care to make its life long, and care that it may perform its functions up to the standard of its creation.

Any automobile tire is subject to more or less abuse, owing to the fact that it must encounter all kinds of roads and receive little or no consideration from the driver. Cuts, stone bruises, mud blisters, etc., result, and if these are neglected they eventually spell out the destruction of the tire, as dissipation does the man.

If, when your car is idle, it is jacked up, it will add to the life of the tires, as they are then bearing only the pressure of the air with which they are inflated; whereas, when supporting the weight of the car, this weight, often several thousand pounds, is exerting a continual unnecessary strain on the casing walls. By adopting this course, it is estimated that the life of the tires will be increased by at least half the time that the car stands idle.



With butter at the present high price every ounce of cream counts

Cream is more than ever a most valuable commodity these days, and it is doubly important that not a drop be wasted or lost.

If you are still using a "gravity" setting method you are losing a quarter of the butter-fat in the skim-milk, while the gravity cream is not worth anywhere near as much as the better quality separator cream

If you are using any other than a DE LAVAL separator the advantages of the DE LAVAL over other separators at all times are greatest at the season when milk is often cool and cows are old in lactation

A DE LAVAL

Will Save Its Cost by Spring

Then why delay the purchase of this great money and labor saving machine Put it in now and let it save its own cost during the winter Even with only part of your cows in milk it will at least half do so and by next spring you will be just so much ahead While if you wish you can buy a DE LAVAL machine on such liberal terms it will actually pay for itself

Let us send you a DE LAVAL catalog—making all these facts plain The new DE LAVAL handbook on Dairying goes with it You have but to ask for them

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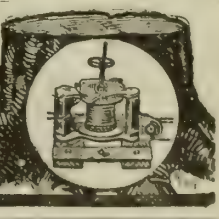

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Hercules Mfg. Co. 955 22d St., Centerville, Ia.

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LOUDEN Easy Lifting, Ever Lasting Litter Carriers Make this Possible

Don't waste your time, in cleaning your barn, and economize in every other way. Put aside the old fashioned way of taking out the manure, and have a Louden Litter Carrier installed now.

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The time saved will soon amount to the cost of the Carrier and the installation. Besides the saving in time you can well afford, it will be possible to keep your barn cleaner, the work will be lighter and you will be able to take to your fields the most valuable fertilizing elements of the manure. This latter reason alone should become the Louden Litter Carrier Rule are water tight.

Louden Litter Carriers are made to fit the conditions of every barn. They may be operated on the heavy Louden Patent, double-head, steel track or the lighter Louden Patent, single-head track. Others run on cables. The many different kinds of rod clips and curves make possible a track system to suit the peculiar conditions of your barn. Louden's long-way switch is the only one made today. The Louden two and three way switches are the most successful of all makes.

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Louden's Stalls and Stanchions are the Best

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Send us your address with the request "*Tell me how to clean my barn*" and we will mail you a handsomely printed booklet of more than fifty pages filled from cover to cover with facts of value to farmers and dairymen.

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Makers of 500 Time and Labor Savers for the Barn

IF YOU WERE A CHICKEN

and ate from a dusty, dirty floor; drank from a questionable water pan, and slept, with a hundred others in a hot hen house, in the same clothes you work in, YOU WOULD APPRECIATE GERM-O-ZONE. The difference in sanitary conditions between a wild chicken and most cooped chickens is almost as great as that between a chicken and yourself.

Germozone is more an antiseptic or germ killer than a medicine. It is especially effective for any germ disease of the skin or mucous membrane and that covers ninety-nine out of every hundred cases with poultry.

Germozone, given twice a week, with regularity, works wonders Just a little in the drinking water. It purifies the drink; the food, the mouth, throat, crop and entire intestinal tract, giving those solid, slatey colored droppings, tipped with white, that every poultryman knows means chicken health. Don't wait until they get sick or quit laying.

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If You Have Furs or Hides To Sell, you should have our price list, and regular Market Quotations. Manufacturing and selling all we buy, gives us an advantage possessed by no other firm. WRITE US TODAY
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The Manufacturer and Inventor

Improved Agricultural Mechanical Devices

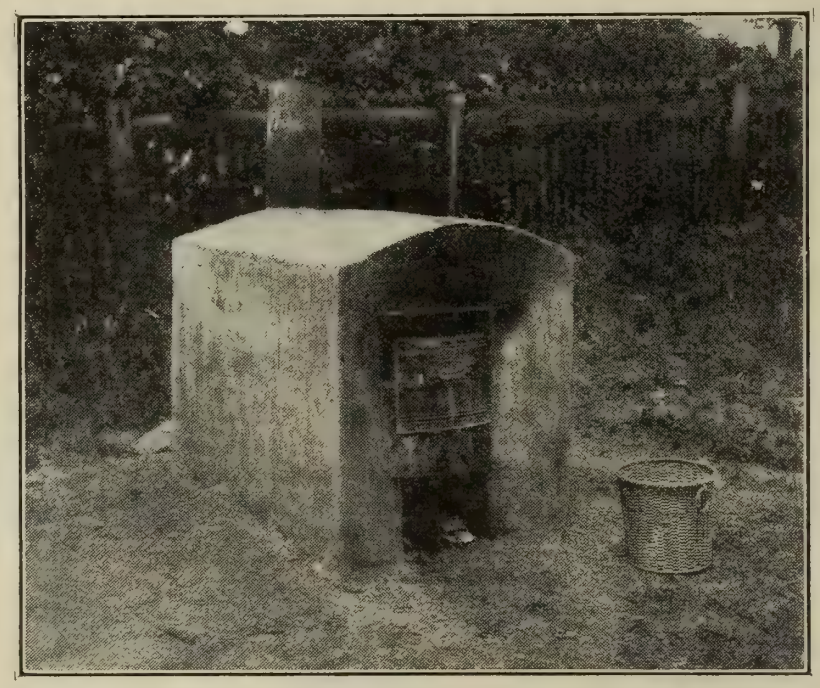
THIS department does not attempt to recommend any of the mechanical devices or inventions which may be mentioned, but instead aims only to point out the latest products of the world's manufacturers and inventors who are looking to the agricultural industry for their market. Contributions of interest are solicited.

Readers desiring more complete information upon any of the subjects or devices mentioned may, in many cases, find the advertisement of the manufacturer in another column of this magazine, but if not, they may obtain it by writing this department, enclosing postage for reply.

There have been any number of fire extinguishers on the market, such as the water pail, the hand grenade and the chemical extinguishers that are operated by turning bottom side up. There is a new type now offered to the public that requires no mechanical force to operate it. No pump, no unscrewing of nuts and no turning upside down. It is charged with a liquid gas, which is said to be forty times as effective as water in extinguishing fire. It is also charged with compressed air to nearly 100 pounds to the square inch. All that is necessary to operate it is to turn a valve wheel and the compressed air shoots the stream of liquid gas twenty-five feet and covers the fire with a fire-arresting blanket five times as heavy as air. Such an extinguisher would be worth many times its cost whenever fire breaks out upon the farm.

***

The best way to get rid of garbage and all combustible trash is to burn it. The most satisfactory way in which to burn it is to construct a concrete stove, such as is shown in the accompanying illustration. Anybody can make one, and it may be used for other purposes than for burning trash. It will be found comparatively inexpensive and at the same time useful on every farm.



***

They are now putting speedometers on cream separators. By actual test it was found that a dairyman with twenty cows lost $524.10 in one year because he guessed at the speed of his separator. The speedometer applied to a separator would effectually prevent this loss. The variation in the speed of a separator, even when run by a gasoline engine, sometimes exceeds 2,000 revolutions per minute.

***

An automatic pump has been invented for utilizing the fall in water for the purpose of elevating it to any desired height. This pump is not an hydraulic ram, but, as its name indicates, is an automatic pump, with the force of gravity for its operation. One machine was placed under a twenty-foot fall of water and delivered water at the rate of 700 gallons per minute ninety-two feet above the machine. Not only this, but it delivered 48 per cent of the water it received.

***

Farmers contemplating putting down pit silos next season may use their hay-carrier outfit for lifting out the dirt and loading it onto a wagon. Most of the farmers now have a small gasoline engine. Such should consider the advisability of securing a hoist to be operated by the engine, which will do all lifting. Hoists are now made to lift the weight, carry it to any desired point, hold it if necessary until it is discharged, and then, by reversing the action of the hoist, the carrier may be returned to the point from which it started. Some of these are arranged with levers in such a way that when used for unloading hay the man on the load can operate them from a distance by the use of ropes connected with the levers.

***

A new kind of alfalfa cultivator has been placed upon the market. It is built somewhat on the principle of a spring-tooth harrow. The frame is supported on wheels, and the depth to which it cultivates can be controlled entirely by the use of a lever. It looks good. It is cheaper than the riding alfalfa cultivator.

***

A new wire tightener has been placed upon the market. The makers claim that one man can accomplish the same work in one-third of the time ordinarily taken by two men with the ordinary tightener. This tightener also has the advantage of enabling the one man that operates it to nail his wire as fast as it is tightened.

***

They are making and putting upon the market a new tractor, with one drive wheel, which sells at $285. It is claimed to do the work of five horses and its speed carries from three-quarters of a mile to four miles per hour. The drive wheel runs in the bottom of the furrow, thereby preventing packing of the soil.

Don't inflate your automobile tires by guess. A big, thick-walled tire will show little depression under a heavy load, even though the air pressure is too low for safety. One cannot tell from appearances whether or not the tires are perfectly inflated. A good gauge should be used and tires tested every day.

SPEAKS FOR ITSELF
Experience of a Southern Man

"Please allow me to thank the originator of Postum, which in my case speaks for itself," writes a Fla. man.

"I formerly drank so much coffee that my nervous system was almost a wreck." (Tea is just as injurious, because it contains caffeine, the drug found in coffee). "My physician told me to quit drinking it, but I had to have something, so I tried Postum.

"To my great surprise, I saw quite a change in my nerves in about ten days. That was a year ago, and now my nerves are steady and I don't have those bilious sick headaches which I regularly had while drinking coffee.

"Postum seems to have body-building properties and leaves the head clear. And I do not have the bad taste in my mouth when I get up mornings. When Postum is boiled good and strong, it is far better in taste than coffee. My advice to coffee drinkers is to try Postum and be convinced."

Name given by Postum Co., Battle Creek, Mich. Write for copy of the little book, "The Road to Wellville."

Postum comes in two forms:

Regular Postum—must be well boiled.

Instant Postum is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage **instantly.** Grocers sell both kinds.

"There's a reason" for Postum.

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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm :

Puzzling

It puzzled the child where cows could get
Their milk, and she longed to learn.
"Now where do you get your tears, Linette?"
Her mother asked in turn.

And then, with suddenly opened eyes,
And suddenly lifted brows,
"Oh, mamma," she asked, in quick surprise,
"Do they have to spank the cows?"
—Our Animals.

The Editor's Corner

If there were only more time in a day and more days in a week, your editor would like very much to write personal answers to all the letters you write to her. Ever so many of the picture contest verses and the stories are accompanied by nice little notes that we like very much to receive. Almost all of you say, "I should like to win a prize," and we wish you all might. Perhaps you will if you keep on trying, but even if you don't, the practice is helping you learn to express your thoughts.

One little girl thanked us for printing her story and said, "I shall try to have the prize story next time." That is right spirit, and we wish you would all write again "next time." A recent prize winner wrote: "I must tell you how the prize book pleased me. It is very interesting, and I learn new things while reading it. I thank you for it and appreciate it very much." We are so glad to know it when you like your books, as most of you appear to. We can't always judge from your stories and letters just what kind of book you will care for, but we try to please you. Another prize winner said: "I liked the prize book I got for my other story so much. It was interesting from beginning to end, so I thought I would try for another book."

A little girl writes: "You cannot imagine how much I look forward to the coming of the Twentieth Century Farmer each week to read about Our Young People — the stories they have written, the verses they have composed and the many other things I find. The picture contests are interesting and helpful. In the contests before I have several times composed verses, but have never sent them in, but I tried this time and sent it in." She did not get a prize, but perhaps she will if she tries again. We hope she will try, and that the rest of you will, too, both in the picture and story contests. THE EDITOR.

(Prize Story)

My Faithful Pony

By Anthon Bean, Aged 12, Pueblo, Colorado

One day when I was coming home from school I heard my faithful pony neighing over in one corner of the pasture; so I spurred up Old Whisky, my saddle horse, in the direction where I thought my faithful pony was. When I got there I saw that all of papa's horses were in the beet field, eating the beet tops, so I drove them out and went to the barn and found my faithful pony standing by the door waiting to get an ear of corn for the good deed that she had done in saving all the other horses from getting too many beet tops, which might have killed them. I called our hired man, whose name is Jake, and told him all about Maggie, my faithful pony; so he went in the barn and got her two big ears of corn and gave them to her, and told her she was a very nice pony.

Yesterday when I was coming home from school Maggie was over in the same place neighing again, so I took a short cut across the field to the beet field, but could not see any of the other horses. Then I went up to the barn and let Maggie down in the pasture, and that night I found Maggie away down at the other end of the pasture with a very sad look on her face. Jake said she was trying to play a joke on me, but failed, and did not get any corn, which made her look so down-hearted.

(Honorable Mention)

A Brave Boy

By Angelica Mall, Aged 14, Kansas City, Kan.

My cousin Frankie was sent to the postoffice for a letter. When he got there the poor child found a big dog at the door of the office and was afraid to go in. It was just the dead part of the day in a country village, when even the shops are locked up for an hour, and Frankie, who is very shy, saw no one whom he could call upon. He tried to make the postoffice clerk hear, but she was in in the back of the office. Frankie was frightened, but he meant to do his duty; so he crossed the bridge, walked up to the butcher's shop in the other village, spent two pennies for a bit of meat and carried it back to tempt his enemy. He waved it in the air, called the dog and threw it into the street. The dog was much more willing to eat the meat than to eat Frankie, so he left his post. Frankie went in and tapped on the glass and the clerk gave him the letter. When he got home his father said he was a brave boy.

My Dog

By Cleo Lucas, Aged 10, Anthon, Ia.

My dog's name was Royal. I loved him very much and he was my favorite pet. He was very playful. When I would throw a stick up he would catch it in his mouth and run. I would run after him, but I never succeeded in catching him. He could sit up on a chair and shake hands and would go into the pasture after the cows, and saved papa lots of steps.

One day father went to Nebraska. He drove the ponies to the next town and Royal followed him. I think someone took him home, because he was such a large Newfoundland dog. When I came home from school at night he did not come out to meet me and I felt very lonesome. At night the old cow was lonesome, too, for the barking of Royal. I often wish the man who took Royal would give him back to me, I am so very lonesome for him.

An Original Story

By Ersa Frances McRae, Aged 15 Years, Atchison, Kan.

One day in November about dusk a farmer's wife went out to gather the eggs in the chicken house. She gathered up her blue-checked apron, putting the white and brown eggs from the nests of straw into its folds. The nests were one above the other in long rows along one side of the house. In the semi-darkness she reached in the nests for the eggs. She had almost reached the end of a row, when she hastily drew back her hand. She heard a snapping noise, felt a hot breath on her hand and saw two big, dark eyes staring at her in the darkness. Frightened, she stepped back to the door and called to her husband. He came running, with a stick in his hand, and, all out of breath, asked:

"What's the matter now; what scared you?"

She said: "Something in that nest over there in the corner snapped at me, and I saw two big eyes."

"The farmer laughed. "Is that all?" he said. "Guess it must have been a hen sitting there. I'll investigate."

He stepped forward to the nest and poked his stick into it. A low growl and snarl, together with much scratching, ensued.

"It doesn't sound much like a hen, does it?" said the farmer, as he struck a match. The flash showed the gray, furry animal. He struck it a quick, light stroke on its head, and the animal fell over.

"Ha, playing 'possum, are you?"

(CONTINUED ON PAGE TWENTY)

The Last Watermelon Feed

This is the last watermelon party of the season. Three little girls and Mrs. Pumpkinhead had a good time eating the last melons that came out of the big bed south of the horse barn. Mrs. Pumpkinhead was the guest of honor at the party and she had a fine time. She didn't say much about it, but she smiled all the afternoon.

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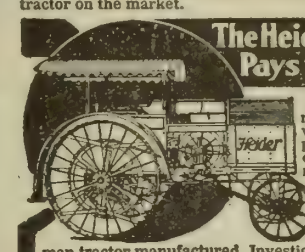
We have solved the fuel problem successfully. A simple device permits the use of either Gasoline, Motor Spirits or Kerosene at all speeds and puts our tractor in a class all by itself. A gallon of kerosene runs the Heider Tractor longer than a gallon of gasoline, and develops the same power, thereby doing the same work at less cost than any other tractor on the market.



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Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6344—Ladies' Dress—The lines of this design are simple, but exceedingly modish. There is a pretty bloused effect at the waistline, and the skirt may be cut with high or normal waistline. The sleeve, which fits smoothly into the armhole, is fulled slightly into a broad cuff. Serge, cheviot or broadcloth can be used for this dress. The pattern 6344 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5⅛ yards of 36-inch material.

6259—Ladies' Dress—A graceful design, both waist and skirt closing in front. The waist has a removable chemisette and an ornamental collar and revers, drop shoulder and long or short sleeves. The skirt is cut in two pieces. Brocaded or plain crepe and silk, serge, cheviot and other soft fabrics will make up well in this style. The pattern 6259 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4 yards of 44-inch material.

6395—Boys' Reefer Coat—This coat gives us a double-breasted garment cut on the plainest of lines. The neck has a small collar and notched revers, and there are the regulation pockets. The sleeve is plain. Melton, kersey, coat serge and imported cloak materials are suitable for this coat, with velvet for the collar. The pattern 6395 is cut in sizes 2, 4, 6, 8, 10 and 12 years. Medium size requires 1½ yards of 54-inch material, with ⅜ yard of 24-inch velvet for the collar.

6323—Ladies' Tucked Shirt-Waist—A smart tailored blouse showing a stitched plait over each shoulder to give the necessary fullness to the blouse and one on each side of the closing. The sleeves may be long or short, as preferred. A high or rolled collar are both appropriate. The pattern 6323 is cut in sizes 34 to 42 inches bust measure. Medium size requires 2¾ yards of 36-inch material.

6414—Misses' and Small Women's Coat—In the latest style this coat can be made of cloth silk or velvet and trimmed with satin or with fur. It closes quite up to the throat, where there is a small collar. The sleeves are regulation and plain, and there is a peplum, which has a panel cut in the back. The pattern 6414 is cut in sizes 14, 16 and 18 years. Mdeium size requires 2⅛ yards of 4-inch material, with 1 yard of 24-inch velvet to trim.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

This is the Double-Life Boot!

Made of Specially Prepared Duck of the Finest Material that Money can Buy—and by the Largest Rubber Company in the World

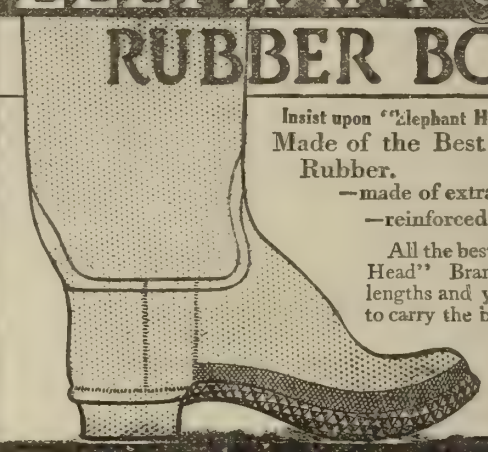
Made by the largest Rubber Company in the World means that "Elephant Head" Rubber Boots have out-sold all others because of strength, wear and comfort.

The materials in the "Elephant Head" Rubber Boot make it a practical boot for all uses on the American farm.

WOONSOCKET

ELEPHANT HEAD

RUBBER BOOTS



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Woonsocket, R. I.

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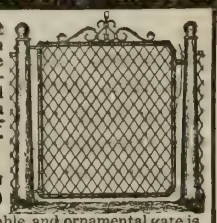
These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our triple-galvanized, high-carbon steel



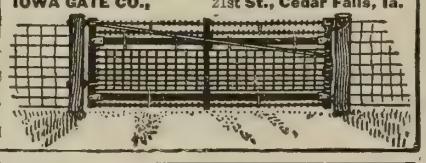
Iowa Gates

The filling of this serviceable and ornamental gate is extra close diamond mesh. Gate has strong frame, patent latch, etc. Comes in all sizes; plain and fancy tops.

Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.

The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.

IOWA GATE CO., 21st St., Cedar Falls, Ia.



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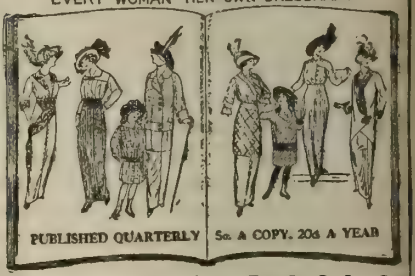

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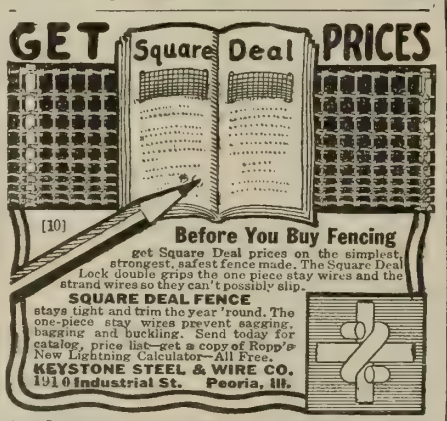

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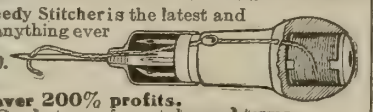

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Automatic Awl Co. 49 Gardner Terrace, Worcester, Mass.

When communicating with advertisers on this page kindly state that you saw their advertisement in the Twentieth Century Farmer.

Of Interest to Our Women Readers

The Passing of the Flies

Let poets sing of autumn sheaves,
Of meadows sear and rustling corn,
Of gold-brown trees and falling leaves,
Of cawing crows and early morn;

Of hushing brooks and sighing breeze,
Of fading flowers once bright and fair,
Of twitting birds and droning bees,
Of sun-lit sky and bracing air;

Of "golden pumpkins in the row"
(The rich, brown pumpkin pies to be),
Of pit and cellar stores aglow
With luscious fruit from vine and tree;

Of groaning cribs of golden grain,
Of mows crammed full of scented hay,
Of sheltered stall, where, safe from rain,
The stock enjoy their summer's pay;

Of lowing herds at eventide,
When, seeking shelter, homeward stray;
Of blood-red sun so soon to hide
Behind bare, somber hills of gray.

* * * * * * * *

Let bardlets tune their harps to sing
The joys and pleasures many-fold,
The peace and calm of everything
That come with autumn's brown and gold!

I grant them all these raptures sweet,
While o'er me, ever and anon,
There sweeps a thrill of rest complete—
Ah, me! the pesky flies are gone!

—M. Coverdell.

Our Home Chat

When sickness visits the city home, the first thing done is to send across the street or into the next block for the nearest doctor, who arrives in a few moments. When the patient lives in a rural community, the getting of a physician is not so easy, and it is so expensive that we often hesitate and lose valuable time. Every housewife should know a few facts about sickness, not to enable her to take the place of the doctor, but so that she may know whether an illness is serious enough to demand his immediate presence or whether it is merely an indisposition that will wear itself off with proper care.

For this some knowledge and a clinical thermometer are quite necessary. Every mother should have—not only in her library, but in her mind—a simple book on first aid to the injured. This may enable her to save the life of some member of her family in case of a bad cut or burn or the inadvertent taking of poison. The clinical thermometer is important in the beginning of an illness, as it enables one to tell to a certainty whether the patient has a fever or not, and how high it is. Your family physician will buy one of these instruments for you and instruct you in its use, and he will also be able, and willing, no doubt, to tell you of a good little volume to buy with simple and reliable instructions for use in emergencies. We are not recommending that one try to do her own doctoring, but only learn some necessary things which will often preserve a life until the physician may be able to reach the place.

The Red Cross Society has had in mind for some time a plan whereby visiting nurses will be sent through the country to give instructions in this sort of thing to the women of the rural communities, as they are doing in the large cities. If this plan is perfected, it ought to be of great practical benefit. Some women are natural sick nurses, and some are not, but all can learn to do the little things for a patient's comfort more handily and quickly, and time means a great deal to a sick person, as well as to the person acting as nurse. THE EDITOR.

Another Opinion

"A man's best wealth is a good wife" is an old Hebrew proverb, and never were words more truly spoken, especially in the case of the farmer. In no other occupation is the wife so much her husband's partner. Her work is as important as his and her efforts count for as much.

There is more shiftlessness on a farm than anyone has any idea of. Just as many farmers' wives read no-account, impossible love stories and novels as city wives, instead of studying efficiency, the elimination of waste or raising vegetables and chickens. The main trouble with some farmers' wives is that they are not fitted for their work, nor will they try to fit themselves for it, but they spend their time wishing for unattainable things which would not bring them happiness if they had them. If they could only feel how important is their work in the scheme of life, and glory in it, how happy they could be. Why don't they take more pride in raising fine poultry and learning to put vegetables away for future use? How many farmers' wives know how to make any of the different kinds of cheeses, sausages, canned meats, etc., in which our grandmothers took pride? How many know what to do with meat when it is butchered and cut up? A great deal is wasted and fed to the chickens and dogs. Why can't they make Vienna sausage, weinerwurst, scrapple, blood sausage, etc., that bring such good prices on the city markets, thus utilizing the by-products? In this way they could be of great assistance to their husbands. Then, when we feel the need of intellectual opportunities, we will be able to make the best of things as they come to us.

When a woman marries a poor, struggling farmer, she ought to realize that her work is going to be uphill, and if she does not intend to be contented with her lot and try to be a success, she ought not to marry. Marriage, especially for a farmer, is an important move in life, and if a woman will rush blindly into matrimony, without considering her willingness and ability to contend with obstacles, she puts herself into a position for which she is not fitted. Why, this being the case, waste time and sympathy over the "poor, overworked farmer's wife?"

New Mexico. OLD MAID.

Note—This is another of the letters received in answer to our Home Chat of October 11. It approaches the subject from a different angle from what was at first intended. The writer seems to think that if the farmer's wife is overworked she has only herself to blame and deserves no sympathy. She even thinks that by good management she might do a great deal more than she does.

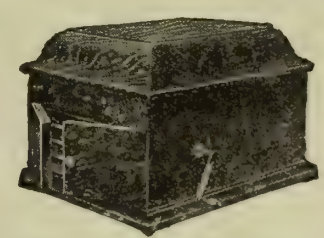
Winter Watermelons

Almost everyone enjoys the luscious, sweet watermelon, and fragrant, sugary, spicy cantaloupe, and hails with delight the beginning of the melon season, which seems all too short to most of us. After I tasted the superior product of New Mexico and Texas my fondness for melons increased decidedly, and I have wished that the season might last indefinitely, never thinking that I should be allowed to enjoy such a pleasure.

About two years ago, while sojourning in the Panhandle section of Texas about holiday time, I had the

(CONTINUED ON PAGE TWENTY)

Victor-Victrola IV, $15
Oak



Victor-Victrola VIII, $40
Mahogany or oak

Will there be a Victrola in your home this Christmas?

You can search the whole world over and not find another gift that will bring so much pleasure to every member of the family.

Any Victor dealer in any city in the world will gladly play any music you wish to hear and demonstrate to you the wonderful Victor-Victrola. Write to us for catalogs.

Victor Talking Machine Co., Camden, N. J.
Berliner Gramophone Co., Montreal, Canadian Distributors

Always use Victor Machines with Victor Records and Victor Needles—*the combination*. There is no other way to get the unequaled Victor tone.

$15 $25 $40 $50
$75 $100 $150 $200

Victor-Victrola X, $75
Mahogany or oak

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

A Correction!

Through a typographical error in a recent advertisement, the price of the lumber, millwork, hardware, tinware and paint for this Bungalow (Plan 106) was given as $138.

$1,210.00

is the correct price. Write for Grand Free Millwork Catalog, and save big money on building material. If you wish the Plan Book, enclose 10c for postage and mailing.

Gordon-Van Tine Co., 5248 Case St., Davenport, Iowa

ALBERTA

The Price of Beef is High and so is the Price of Cattle.

For years the Province of ALBERTA, (Western Canada), was the Big Ranching Country. Many of these ranches today are immense grain fields, and the cattle have given place to the cultivation of wheat, oats, barley and flax, the change has made many thousands of Americans, settled on these plains, wealthy, but has increased the price of live stock.

There is splendid opportunity now to get a **FREE HOMESTEAD OF 160 ACRES** (and another as a pre-emption) in the newer districts and produce either cattle or grain. The crops are always good, the climate is excellent, schools and churches are convenient and markets splendid in Manitoba, Saskatchewan or Alberta.

Send at once for literature, the latest information, railway rates, etc., to

W. V. Bennett
Room 4, Bee Building
Omaha, Neb.

or write Superintendent of Immigration, Ottawa, Canada.

Why Rent Farm Land —You Can Do Better

Stop renting—you don't get ahead that way. The other fellow gets too much of the profit. I can tell you how to get a farm of your own and start it right with very little money. Government land, small cost and payments so easy that they won't bother you.

The C. B. & Q. Railroad pays me to help you get a farm without much money, and I want you to write so I can tell you about it. Do it TODAY. D. Clem Deaver, Burlington Route, Room 369 Q Bldg., Omaha, Neb.

DAIRY FARMERS

COME TO
LAMAR
COLORADO

The Helvetia Milk Condensing Company, who make the "Pet" brand, are erecting a modern milk condensing plant there to take care of the milk of eight thousand cows. The factory will be ready by February, 1914. Lamar is the center of a vast irrigated district in the Arkansas Valley. Alfalfa, sugar beets, wheat, oats, kaffir corn and speltz are grown in large quantities. Now is the time to locate there with a herd of Holstein cows. Alfalfa lands can be purchased in any size tracts at reasonable terms. A great opportunity for practical dairy men. If interested, write to THE LAMAR COMMERCIAL CLUB.

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Youth's Companion
AND THE
Twentieth Century Farmer

Both One Year For

ONLY
$2.50

Address
Twentieth Century Farmer
OMAHA, NEB.

President Madison's Lost Novel

By Frank G. Carpenter

WASHINGTON, D. C., Nov. 2.—Hidden away in the archives of the Congressional Library at Washington are some of the most interesting, unpublished stories of American history. The government is buying new manuscripts every week, and new light is being thrown on the greatest events in the making of the nation and also upon the characters of the great men who made it. The unpublished letters of the presidents are numbered by hundreds of thousands, and the individual documents will run into the millions.

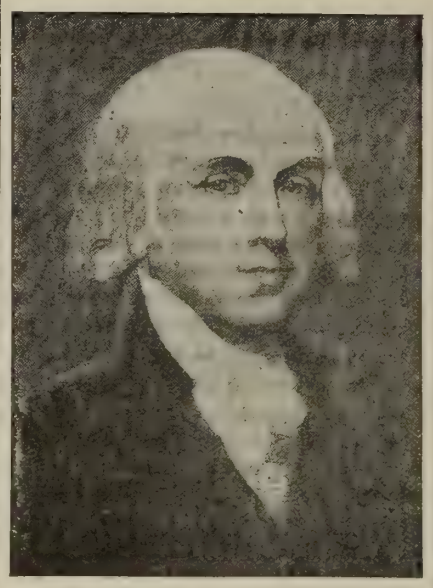
One of the most remarkable collections is that relating to James Madison, which for the first time has now been made perfectly accessible to the historians of the country. The collection of Madison letters numbers 40,000 or 50,000. They cover every phase of his career, and with them are love letters by Dolly Madison to her husband and most interesting letters from James to Dolly.

Some of the most remarkable of these letters and papers were for a long time in the possession of the Chicago Historical Society. After Madison's death they were sold by one of his heirs, and thus came into the hands of the late J. C. McGuire of Washington, D. C. Mr. McGuire sold them to the Chicago society, and Mr. Gaillard Hunt, the head of the manuscript division of the library, persuaded that society to give them to the National Library upon the payment of the amount which they had given Mr. McGuire. If I remember correctly, the exact sum was $7,500.

Now with Other Papers

This collection is now with the other Madison papers in the manuscript division of the National Library. It numbers more than 100 volumes of autograph letters and papers of James Madison. Each volume is as big as a court ledger and as thick as an old family Bible. In order to show the size, I stood one upon a desk and had it photographed with myself standing beside it. The book is fully two feet long, eighteen inches wide and eight or ten inches in thickness, and every page of it contains a letter or paper of Mr. Madison, so carefully pasted and treated that it cannot be lost. Some of the pages are covered with manuscript the text of which has never been published, and in many of them are facts of unwritten history as yet unknown to the public.

Among the most remarkable of the documents is a novelette in the handwriting of President Madison. It was written while the Missouri compromise and its effect upon slavery were still agitating the country, and it is evidently an allegory intended to show the situation then existing and to quiet the troubles between the north and the south. Madison died away back in 1836, while Andrew Jackson was president, and the indications are that the story was penned along late in the '20s, and probably before Jackson issued his nullification message and made his threat of hanging John C. Calhoun. The story gives a vivid picture of the feeling then existing. It treats of the history of the country in its origin and its breaking away from England, and indirectly shows how the south had already hopes of support from Great Britain in case it should hold on to its slaves and break away from the north.



James Madison
(From a Portrait by Gilbert Stuart)

A Good Allegorical Name

A good title for the story, although not the one given by Madison, would be "The Snow-White Girl with the Jet-Black Arm, and the Troubles of Her Ill-Fated Match." He uses Jonathan Bull to represent the north and Mary Bull the south, while Old John Bull, who also figures, personifies England, from whom the two others have broken and married.

"But let me give you the tale in the words of President Madison, changing it only to clarify the characters or to bring out their historical meaning. The story begins describing the condition of the colonies before they declared their independence. It reads as follows:

"Jonathan Bull and Mary Bull, who were the descendants of Old John Bull, had inherited contiguous estates in large tracts of land. As they grew up and became well acquainted, a partiality was incidentally felt, and advances on several occasions were made toward a matrimonial connection. This was particularly recommended by the advantages of putting the two estates under common superintendence. Old John Bull (England), as guardian of both, and having long been allowed certain valuable privileges within the estates, had always found a means of breaking off the match, which he regarded as a fatal obstacle to his sweet design of getting the whole property into his hands.

"At a moment favorable, as he thought, for the attempt he brought suit against both, but with a view of carrying it on in a way that would make the process bear on the parties in such different modes, times and degrees as might create a jealousy and discord between them.

"Jonathan and Mary had too much sagacity to be duped. They understood well Old Bull's character and situation. They knew that he was deeply versed in all the subtilities of the law. They knew that he had a stubborn and persevering temper, and had, moreover, a very long purse. They were sensible, therefore, that the more he endeavored to divide their interests, the more they ought to make a common cause and proceed in a concert of measures."

Relates to Union of States

The next paragraph relates to the union of the northern and southern colonies against England, and their fight for independence, consummating the union. It reads:

"As this fighting Old Bull could best be done by giving effect to the feelings long entertained for each other, an intermarriage was determined on between Jonathan and Mary. It was duly solemnized with a deed of settlement, as is usual in such opulent matches, and duly executed. No event, certainly of the sort, was ever celebrated by a greater fervor or variety of rejoicings among the respective tenants of the parties. They had a great horror of falling into the hands of Old Bull, and regarded the marriage of their proprietors, under whom they held their freeholds, as the surest mode of warding off the danger. They were not disappointed. United purses and good advocates compelled Old Bull, after a hard struggle (the war of the revolution) to withdraw the suit and relinquish forever not only the new pretensions set up, but the old privileges he had not allowed.

"The marriage of Jonathan and Mary was not a barren one. On the contrary, every year or two added a new member to the family, and on such occasions the practice was to set off a portion of land sufficient for a good farm to be put under the authority of the child (or state of the union) on its attaining the age of manhood, and these lands were settled very rapidly by tenants going, as the case might be, from the estates, sometimes of Jonathan, sometimes of Mary, and sometimes partly from one and partly from the other.

Difficulty Over Majority

"It happened that at the expiration of nonage of the tenth or eleventh fruit of the marriage some difficulties were started concerning the rules and conditions of declaring the young party of age and giving him, as a member of the family, the management of his patrimony. Jonathan became possessed with the notion that an arrangement ought to be made that would prevent the new farm from being settled and cultivated, as in the latter instances, indiscriminately by persons removing from his and Mary's estates and confine the privilege to those going from his own, and in a

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erverse humor which had seized im he listened to suggestions that Iary had undue advantage from the election of head stewards (presi-ents), which had happened to have een much oftener out of her ten-nts than his.

Right of Removal

"Now, the prejudice suddenly aken up by John against the equal ight of Mary's tenants to remove vith their property to new farms vas connected with a peculiarity in Mary's person not yet noticed. Strange as it may appear, the cir-umstance is not the less true that Mary, when a child, had unfortu-ately received from a certain Afri-an dye a stain on her left arm, which had made it perfectly black and withal somewhat weaker than he other arm. The misfortune arose from a ship from Africa oaded with the article which had been permitted to enter a river running through her estate and to there dispose of a part of the nox-ious cargo. The fact (slavery in the south) was well known to John at the time of their marriage, and if he considered it an objection, it was in a manner reduced to noth-ing by the comly arm and pleasing features of Mary in every other re-spect, and also by her good sense and amiable manners, and in part, perhaps, by the large and valuable estate she brought with her.

"In the unlucky fit, however, which was upon him, he, Jonathan, looked at the black arm and forgot all the rest. To such a pitch of feel-ing was he wrought up that he broke out into the grossest taunts upon Mary for her misfortune, not omit-ting at the same time to remind her of his forbearance to exert his su-perior voice in the appointment of a head steward.

"He had now, he said, got his eyes fully opened; he saw every-thing in a new light, and was re-solved to act accordingly. As to the head steward (the president of the United States), he would let her see that the appointment was virtually in his power, and she might take her leave of all chance of ever having another of her tenants advanced to that station.

"As to the black arm, she should, if the color could not be taken out, either tear off the skin from the flesh or cut off the limb. For it was his fixed determination that one or the other should be done or he would sue out a divorce, and there should be an end of all connection between them and their estates.

" 'I have examined,' he said, 'well the marriage settlement, and flaws have been pointed out to me that never occurred before, by which I shall be able to set the whole aside. White as I am all over, I can no longer consort with one marked with such a deformity as the black on your person.'

Gets Excited

"Mary was so stunned with the language she heard that it was s me time before she could speak at all. As her surprise abated, she was almost choked with the anger and indignation which was swelling in her bosom. Generous and placa-ble as her temper was, she had such a proud sensibility that she could not suppress the violence of her emotions as to the unjust and de-grading treatment of Jonathan. Her language accordingly for a moment was such as those emotions prompted. But her good sense and her regard for John, whose qualities as a good husband she had long ex-perienced, soon gained an ascend-ancy, and she changed her tone to that of sober reasoning and affec-tionate expostulation:

" 'When you talk of tearing off the skin or of cutting off the unfor-tunate limb, must I remind you of what you cannot be ignorant—that the most skillful surgeons have given their opinions that if so cruel an operation could be tried it could hardly fail to be followed by mor-tification or bleeding to death? Let me ask, too, whether, should neither of these fatal effects ensue, you could like me better in my mangled or mutilated condition than you do now? And when you threaten a di-vorce and an annulment of the mar-riage settlement, may I not ask whether your estate would not suf-fer as much as mine by dissolving the partnership between them?"

After saying the above, Mary con-tinues in the following remarkable paragraph, showing that the south even then expected the aid of Eng-land in case it should have an anti-slavery war with the north:

" 'I am far from saying that I feel the advantage of having the pledge of your arm, your stronger arm, if you please, for the protec-tion of me and mine, and that my interests in general have been and must continue to be the better for your aid and counsel in the manage-ment of them. But, on the other hand, you must be equally sensible that the aid of my purse will have its value in the hands of Old Bull (England) or any other rich, litig-ious fellow who puts us to the ex-pense of another tedious lawsuit.' "

Takes Up Last Trouble

The next paragraphs of the novel take up the charge that the south was not then paying its share of the taxes, and Mary shows that the ag-ricultural south has in its slaves more mouths to feed, and hence must buy more than the north, and, therefore, pay more in indirect taxes. It shows that the manufac-turing north, making a great part of the goods it uses, must pay less; that it has the shipping that carries the southern exports, and altogether that the business advantages of the union are on John's side rather than hers. She then continues her pro-test against a possible divorce, as follows:

" 'I mention this, as I have al-ready said, not by way of complaint, for I am well satisfied that your gain is not altogether my loss in this more than in many other in-stances, and that what profits you immediately may profit me also in the long run. But I will not dwell on these calculations and compari-sons of interests, for when I con-sult my own heart and call to mind all the endearing proofs you had given of yours being in sympathy with it, I must needs hope that there are other ties than mere in-terests to prevent us from ever suf-fering a transient resentment on either side or without cause to bring on both all the consequences of a divorce, consequences, too, which would be a sad inheritance, indeed, for our numerous and beloved off-spring.' "

As to the charge that her people have had the most presidents, Mary defends the south in a most con-vincing manner.

This speech of Mary practically closes the story. Madison evidently thought there would be a reconcilia-tion between the north and the south and he had no idea that the black arm would have to be cut off before Jonathan and Mary could have an indissoluble union. This is indicated in the last paragraph, which reads as follows:

"Now John, who had a good heart, as well as a sound head and a steady temper, was touched with the tender and considerate language of Mary, and the bickering which had sprung up ended as the quar-rels of lovers always do, and of mar-ried folks sometimes, in an increased affection and confidence between the parties."

(Copyright, 1913, by Frank G. Carpenter.)

Extra Special

"Standard" Bargains

3-pc. Outfit { Skirt, Waist, and Petticoat $2.45

PWS245—A rare money-saving opportunity. This skirt, waist and petticoat, all for $2.45. The skirt is splendidly tailored of good quality, serviceable WHIP-CORD, made with stylish girdle top and smartly but-ton-trimmings; comes in navy blue, gray or tan. Charming flannelette middy blouse in dainty narrow black, laven-der or blue stripes. Black "Hydegrade" petticoat with pretty deep accordion pleated flounce. Don't miss this bargain—all 3 pieces—an excel-lent $3.50 value, POSTPAID in the U. S..... $2.45

(Sizes 32 to 44 bust, 22 to 30-inch waist measures and 37 to 43-inch lengths.)

We pay mail or express charges in the U. S.

Winter's loveliest clothes and biggest bargains are shown in the Standard Xmas Bulletin

And it's just brim-full of practical holiday sugges-tions.

Write today for your copy —it's FREE

J3R159—A splendid "Three Dress" Combina-tion bargain. One is of heavy blue checked percale with red trimmings, one of tan linene prettily embroidered and with red and blue trimmings; the third is of blue percale with neat plaid trimmings. (Sizes 6 to 14 years.) The usual $2.25 value—POSTPAID in the U. S.

3 for $1.59

Satisfaction Guaranteed or your Money Back.

Standard Mail Order Co., 451 W. 55th St., New York

$2.95

20 YEAR GUARANTEE

Full 7 Jeweled

Genuine seven jeweled Railroad watch worth $15 to anyone who requires an abso-lutely reliable timekeeper and a watch that will last a lifetime. Locomotive en-dial, stamped and guaranteed seven jewels, breguet hairspring, patent regulator, quick train. Fitted in heavy or medium weight solid ore-silver dustproof screwcase, both case and works absolutely guaranteed for 20 years. To advertise our business, make new friends and introduce our great catalogue of Elgin watches we will send this elegant watch to any address by mail postpaid for ONLY $2.95. Send this advertisement with $2.95 and watch will be sent to you by return mail post paid. Satisfaction guaranteed or money refunded. Send $2.95 today. Address R. E. CHALMERS & CO., 538 So. Dearborn St., CHICAGO.

Big Doll For You

D-L-I-
D-M-L-

Can you fill in the blank spaces above and complete the doll's name? You can do this if you try. Just write and tell me what the name is and I will tell you how you can get this beautiful doll, nearly two feet tall and jointed at shoulders and hips. Her eyes open and shut, she has long flaxen hair and is beautifully dressed. You will be the proudest girl in your neighborhood when you get this doll, and she is yours for just a little newswork. Be sure to write and tell me her name today so I can send you my great free offer.

PEOPLES CO.

927 Popular Bldg., DesMoines, Iowa

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

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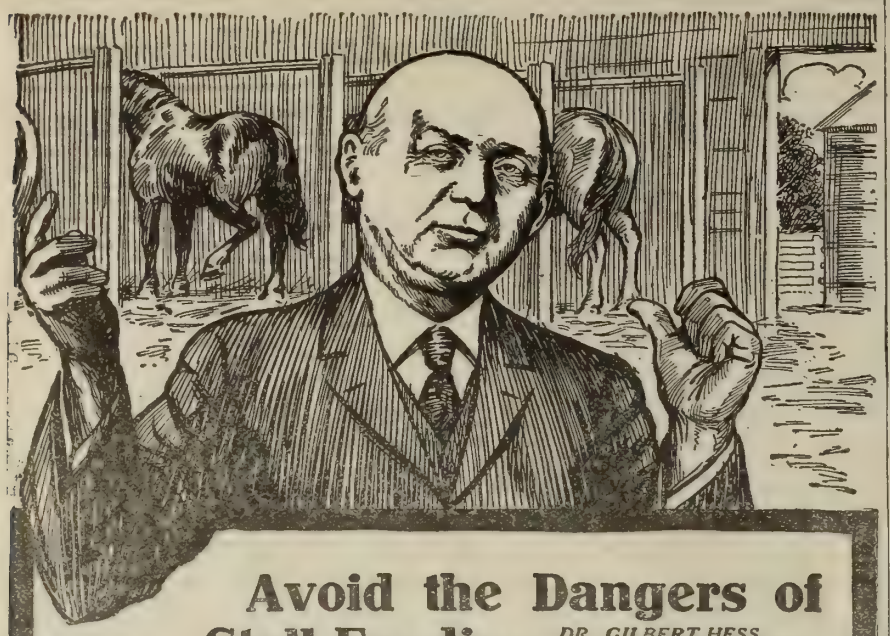

Avoid the Dangers of Stall Feeding

DR. GILBERT HESS, Doctor of Veterinary Science Doctor of Medicine

I want to warn you in time that stock taken off pasture and put on dry feed are pretty apt to get out of fix, because corn, grain, hay and fodder do not contain the laxatives so abundantly supplied in grass.

Some of your animals are sure to become constipated, others off feed, rough in the hair, with paleness of the eyes, lips and nostrils, or the legs may stock or dropsical swellings of the abdomen appear, or the urine may become yellow and thick; but the common ailment of all, especially among hogs, is worms, worms.

Dr. Hess Stock Tonic

Makes Stock Healthy. Expels Worms.

Being both a doctor of medicine and a veterinary scientist, I formulated Dr Hess Stock Tonic to correct these evils. It contains a laxative substitute for grass, diuretics to remove dropsical swellings, tonics to improve the appetite and increase digestion and vermifuges to expel worms.

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, the ailing ones healthy and expel the worms, that I have authorized your nearest dealer to supply you with enough for your stock, and if it does not do what I claim, return the empty packages and get your money back.

Right now is the time to feed Dr. Hess Stock Tonic, because it's the cow in the pink of condition that fills the milk pail, the steer with an appetite that lays on fat, the horse that digests its dinner that pulls on the bit, the hog that is well and worm-free that gets to be a 200-pounder in six months.

Dr. Hess Stock Tonic is never sold by peddlers—only reliable dealers; I save you peddler's salary and expenses, as these prices prove: 25-lb. pail $1.60; 100-lb. sack $5.00. Smaller packages as low as 50c (except in Canada, the far West and the South).

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Dr. Hess Poultry Pan-a-ce-a

A splendid poultry tonic that shortens the moulting period. It gives the moulting hen vitality to force out the old quills, grow new feathers and get back on the job laying eggs all winter. It tones up the dormant egg organs and makes hens lay. Also helps chicks grow. Economical to use—a penny's worth is enough for 30 fowl per day. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50. Except in Canada and the far West. Guaranteed.

Dr. Hess Instant Louse Killer

Kills Lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks or keep it in the dust baths, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy sifting-top cans, 1 lb. 25c, 3 lbs. 60c. Except in Canada and the far West. I guarantee it.

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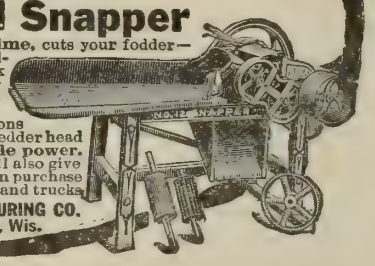
Let This Magic Machine Cut Every Corn Stalk Into Rich Feed for Your Live Stock

Up-to-date farmers no longer allow their cattle and other stock to tramp down and ruin half their fodder. Instead, they take corn stalks (ears and all) run them into this marvelous machine, which not only cuts the fodder into rich, succulent morsels but also husks 50% of the ears in many localities. Thus, all dry fodder is saved and turned into money (milk, butter, cheese, beef or veal).

SMALLEY Cutter and Snapper

This machine snaps off the ears and, at the same time, cuts your fodder—does it clean as a whistle. With this machine you will always have plenty of fresh feed that will keep your stock in first-class condition. When the weather is too cold for field husking, haul in a few loads of corn stalks and do part of your husking and fodder cutting in the barn. Capacity, 15 to 30 bushels snapped corn and 1½ to 3½ tons dry fodder; 1 to 1½ tons corn hay per hour when shredder head is used. Small gas engine furnishes ample power. The Powerful Smalley force feed cutter will also give you fine results in dry feed cutting. You can purchase the plain machine now and the blower and trucks next fall.



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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Land Suited to Potatoes

W. C. A., New Mexico: Please send me information regarding the best potato land in the section between the Blue Ridge and Rocky mountains as to revenue producing and things pertaining to same, such as cost of land, market conditions, class of people, etc.

Answer—There is no better land for potatoes than the western portion of Nebraska, Colorado and Idaho. The Colorado and Idaho lands are largely irrigated, and land values, including water rights, run from $200 to $300 per acre. In western Nebraska potatoes are raised without irrigation, and land values are from $20 to $50 per acre. The land in this section is peculiarly adapted to the raising of potatoes.

In either of these sections it will be necessary to ship some distance to market, but railroad accommodations are good and there are through railroad lines.

If you are going into the potato business on a large scale, we would suggest that you look into the matter of flaking potatoes, as is done in Germany. We have made investigations and find that potatoes flaked and dried are good for stock food. In this way the entire crop can be utilized.

If you want more definite information regarding any of the sections named, we would suggest that for Colorado you write Prof. Alvin Keyser, Agricultural College, Fort Collins, Colo., and for Idaho write to J. W. Jones of Boise. For any further information regarding western Nebraska, we will be glad to furnish you whatever you require.

Have a Leader

W. M. P.: Every progressive merchant, no matter how large his stock in trade, caters to the public with some particular part of his stock as a leader. Likewise, sensible farming may call for a diversity of lines, but he is a poor workman who does not show aptness for some particular thing, and, indeed, a poor farmer if one cannot find something to commend.

If your aptness leads you toward dairy stock, horses, hogs, turkeys, or whatever else, follow it to the extent that it brings you not only satisfaction and success, but financial return as well. Do not, however, permit it to so far outweigh the other lines you are following that it will unbalance your system of farming. One-sided farming is dangerous to follow, and is seldom a lasting success.

Your leader should be one that will attract the attention of your neighbors and set the pace along that line in the community. Not only will it set the pace of the community, but, if you are made of the right stuff, it will mark the pace for the other lines you are following and raise your standard along all lines.

Replies to Poultry Inquiry

F. E., Eaton, Colo.: Replying to an inquiry in the poultry department of your last issue, will say that the lady from Nebraska can safely take her Wyandottes to northeastern Wyoming and the altitude will not trouble them much, if any. Two years ago last June my neighbor received six Golden Wyandottes and six Black Langshan hens and a rooster from Clinton, Mo. It was hot weather when these hens arrived, but some of them laid the following day, and the whole twelve laid well all summer. I have one of these same Black Langshan hens. She was 3 years old last spring, and she is laying well now. The altitude here is 4,978 feet. Some teach that hens will not lay well in this altitude, but I have hens that have laid 180 eggs, and in 1913 will probably reach 200 eggs. I expect still further to test the altitude next spring on poultry that I order from North Carolina for breeding purposes.

From an Oregon Reader

We are in receipt of a photograph of Sharkey, a registered Shorthorn

bull, which we gladly reproduce above. This animal, which is red in color and is 2½ years old, is the property of Gilbert Donker of Aumsville, Ore. We are glad of this opportunity to show our friends what kind of stock our Oregon readers are raising.

Reader Approves Silo Articles

E. K., Monte Vista, Colo.: Your articles in the Twentieth Century Farmer on silos are the best ever. While you have given the best of information, you have certainly stirred up the animals in the stave silo forest.

As to Indian Runner Ducks

J. S., Boicourt, Kan.: I am one of those who greatly admire the Indian Runner duck. My ideal in that line is the English Penciled variety, and, to my notion, they are the most beautiful of all water fowls; their markings are so pretty, their carriage so erect and their movements so graceful. They are very interesting fowl, different from other breeds of ducks. A flock of them is a beautiful sight. Another thing about them, they are always found at home at nightfall in their usual place.

It does not require fine houses in which to raise these ducks. They are satisfied with the simplest shelter. Five or six may easily use a tight dry goods box for their sleeping quarters, the open end being protected by denim or burlap curtains, clean straw or some such litter being used for bedding, changed often to keep it clean. They are easy to raise, and when given a little care and kindness are very tame, so that they can be raised in almost any poultry yard. They are not troubled with lice or mites or any of the diseases peculiar to the chicken. Guard against damp sleeping quarters, as that will cause lameness.

The Indian Runner is the most practical duck for the farmer, the fancier and the fruit grower. They are fine for city or village residents, supplying eggs and meat. They make fine, juicy roasts

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

and frys. They outdo chickens in egg yield and their eggs are larger than hen eggs. Ducks are considered more profitable than chickens and they are easier to control, as they will not fly over a two-foot poultry netting fence.

In order to get good results, strength or vigor in the offspring, these ducks should be mated early. The advantages in these early matings are numerous. In the first place ducks select their mates early in the season and if parted will mourn for their old mates and often refuse to take up with a new one. Have known people to put off mating their pens until March or April, and the result was infertile eggs throughout the season. Pens should be mated at least five months before time to set the eggs.

Hits Nail Squarely on the Head

G. B., Wayne, Neb.: It is a shame that lots of our farm people read such grand, good papers as the Twentieth Century Farmer and don't apply their advice in every-day affairs on the farm. From all sources comes the report of alfalfa doing poorly after the first cutting, and this was true in nearly every piece I saw this season, and I have seen a whole lot of it. I have four different pieces of alfalfa, and from year to year it is increasing in yield. This year was a record above all others in yield—four grand, good crops and a nice young crop now on the ground and growing nicely at this time.

The most important thing is first to arrange for a perfect stand, and at the time of seeding and after to work the ground to a finish to shut the underground air spaces, which most of our neighbors fail to do. Hence in those dry seasons they have been unsuccessful in getting a stand or even good hay crops. I seeded a small piece of ground last spring to alfalfa and got as good a stand as could be wished for. In the fall and early winter I go over my alfalfa ground with a manure spreader and top dress it with manure from the horse barn and straw used for bedding. With winters like last and the past summer, the top dressing more than doubled the crop.

It is generally conceded that if we had had a few good rains the past summer and not so much of what our people call drouth, that the alfalfa would have done better. That sounds reasonable, and probably would have been so without a doubt. We have had three years of tolerably dry weather in the crop-growing season right here at Wayne, Neb., and every year gets hotter and dryer, and still my alfalfa is gaining in yield. Maybe there is something in feeding it. I positively know it is true with all other crops and stock. Some people don't like this crop. They claim they have to put in too much time putting it up. Yes, it is a good deal like milking cows, and more so in rainy weather.

Editor's Note — This correspondent hits the nail squarely on the head. He knows what he is talking about. It is sometimes a little discouraging to have such golden advice, such pearls of wisdom as this paper weekly dispenses, constantly ignored by so many readers. But the writer derives hope from his own experience. In the early day it took several blows with a twelve-pound sledge to drive an idea into his head, and he thinks that possibly by returning to this subject over and over again he may get this alfalfa idea into heads that are not nearly as dense as his own. But, brethren, he repeats, there is no way and no place in which it is possible to get as large and as quick returns from the use of manure as when it is applied in the fall as a top dressing for alfalfa.

Water-Proofing for Concrete

C. D. J., Grinnell, Ia.: In your issue of October 11 you say there is no water-proofing material for inside of concrete silos that is permanent. I think you are mistaken. We have a cement stave silo, also a cement stave water tank. They were washed inside with a thin paste made out of a water-proof cement. This water-proofing, when it sets, is a great deal harder than ordinary cement and absolutely water-proof. Our water tank is twelve feet wide and fourteen feet high, and the water stands within six inches of the top, and the only place it leaks at all is one small place next to the bottom, where the staves have spread a little because the hoops are too loose.

***

J. J., Casper, Wyo.: I should like to answer E. R. L., Hudson, Wyo., in regard to water-proofing for silos. There is no such thing known as water-proofing for concrete, but there are many would-be water proofs. Anyone who knows anything about cement can make concrete hold water and not be water-proof. Concrete will absorb moisture any way it is made. Remember, you are in a dry climate, where you do not get the moisture the east has. Wyoming never sees any moisture. So coaltar might hold moisture where there is none to hold. If you have found a water and moisture-proofing for concrete, you have another Wyoming industry which exceeds the

(CONTINUED ON PAGE TWENTY-ONE.)

The Light-Weight Farm Tractor

This kerosene tractor, weighing only about 4,000 pounds, pulled three plows through tough, timothy sod, the plows being set down about eight inches. A little machine of this size and low cost almost any farmer can afford to own, and it will soon pay for itself in the saving of labor and feed bills.

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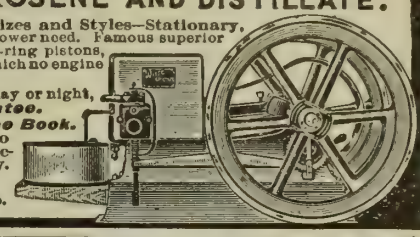

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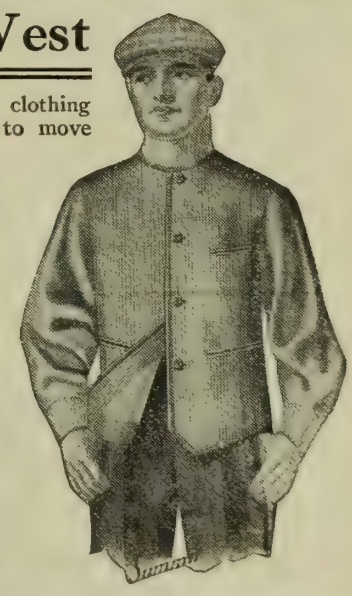
The patented wool Knit-Nek and wristlets, together with the leather-lined body and leather sleeves, are absolute protection from the cold and wind.

You'll appreciate these features, and should see them before buying your winter clothing.

Send today for our interesting style book and give your dealer's name.



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"We have used Sloan's Liniment for over six years and found it the best we ever used. When my wife had sciatic rheumatism the only thing that did her any good was Sloan's Liniment. We cannot praise it highly enough." —*Mr. Perigo, Des Moines, Iowa.*

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"I was ill for a long time with a severely sprained ankle. I got a bottle of Sloan's Liniment and now I am able to be about and can walk a great deal. I write this because I think you deserve a lot of credit for putting such a fine Liniment on the market and I shall always take time to recommend Dr. Sloan's Liniment." —*Mrs. Chas. Rouse, Baltimore, Md.*

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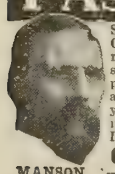

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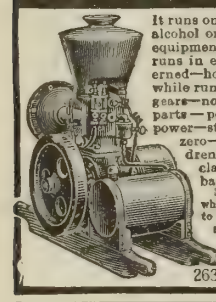

It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year iron-clad guarantee—15-day money-back trial. Sizes 2 to 20 H. P.

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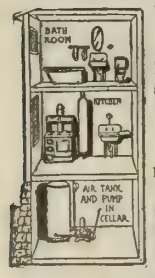

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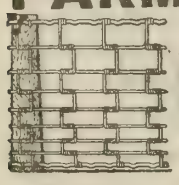

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Timely Items of Interest to Poultry Raisers and Fanciers

OF ALL poultry keepers the farmer certainly has the best chance to provide scratching comfort and shelter for his chickens by means of corn fodder, and yet how few spare the time to get the fodder in place for the chickens. Once in a while fodder is hauled up for the cows, maybe for other stock. Even then we find farmers often objecting to the hens digging in and running over this fodder. Poor Biddy only too many times, like the ancient Israelites, is expected to make bricks without straw. There is nothing that a hen so delights to work in as corn fodder, and she will in winter time, I find, prefer a corn shock to make her nest in to the finest nest box you can give her. Corn fodder will provide nearly all the green she will need in winter if it has been cut and shocked early enough, for succulent whole blades or bits of blades can always then be found toward the protected parts, and the fowls love these. Farmers who do provide corn shocks for the poultry have varied ways of placing it. Some, with high-roofed poultry houses, place boards above and pile the fodder between the roof and roosts as well as scratching floor. The hens go up here to scratch. Others give over a shed to it, and it must be a stormy time when the poultry refuse to hunt this shed. Again, others bank it around any kind of an enclosure made of poles, rails or wire, cover the enclosure with fodder or straw, and this is all the scratching house the poultry gets.

Early Laying

The flock can be forced to lay and begin heavy laying in the late fall or early winter, but for most of the hens, pullets, or in the first year of laying, which means anywhere from eight to eighteen months old, if you induce heavy laying, you must feed to induce it. I am speaking now for the pure-bred or half-crosses, not for mongrels mixed and bred down to the tenth cross from anything like pure-bred. While such a flock as this might respond to extra good food, it is more than likely to eat up your expensive food and look at you out of impudent, lazy eyes from off the roost, never off of a nest in winter days. First, they must be kept busy or they will slack up on laying, even though well bred from laying strains. No difference how well you feed, unless they can be induced to jump around and hustle, after laying a few eggs they will shut off, then go to laying on fat instead of laying eggs. Pullets of most good breeds are just as ready to do this as some of the older hens. To get the hustle on them they must be given the chance to hunt for every grain of whole wheat and corn or oats given them. This is old advice, yet it is no less true that, after hearing it for years, the person that wants the eggs in winter will not bother to place the grain where the fowls must search for it. Instead, he throws it in wholesale and in full sight and they fill their crops in two minutes. To feed for winter eggs means that much of the food must be given in the form of mashes, must contain rich foods, such as corn or buckwheat meal, middlings, milk and meat scraps, and for seasoning salt, red pepper, or, better yet, if you can get it, mustard bran. Green stuff and vegetables must be added also daily.

Now, the secret in giving this mash food in such a way that they may not get sluggish early in the day is only to give it in quantities that do not quite satisfy the appetite until pretty well along in the afternoon. In the meantime, a little hungry until well after noon, they have kept humping for the whole grain, which every chicken really loves best, but as the afternoon wags on let them slow up and quit hunting, fill them to the very brim until they go early to roost so sluggish nothing bothers them. If you feed this way, you will get plenty of winter eggs, and your other care be on the same par. I am not going to say but what you might push these hens to too heavy laying, and they might not come out in just as good shape as they ought to in the spring, but this is another question. It is the heavy output of winter eggs you wanted. However, it is possible to stimulate up to a certain extent and stuff hens to laying with meat and rich mashes, and yet have them come out healthy in the spring. In such cases one must use much grit and charcoal, and always be on the lookout for signs of dysentery or other pointers toward indigestion in the flock.

Poultry Pointers

The presence of an older male bird among the young cockerels that at this time of year and later incline to be scrappy, will more often than not keep down this desire to quarrel.

Coop your exhibition birds long enough before the shows come off to get them well used to strange handling. A frightened bird cannot compete with another bird no better, but one used to much handling and posing.

Vigor in the flock! That's the word for the big end of success with the flock. The lack of vigor in the flock is usually due to breeding from fowls that have been sick at some time themselves or have come from sick or inbred parents. Feeding certain foods and withholding others, is another reason for its lack.

Milk-fed young chickens are in big demand in many cities. Firms in certain cities have advertised largely for this kind to take the place of the wild game once so plenty, but now closely guarded by state laws, even the wild Mallard duck having advanced to $1 apiece and more in some markets.

It is best to not fill anything between double-walled poultry houses; that is, anything that rats might work in. Building paper is the best substitute for filling between double walls. Nail it to the studding. This paper turns wind.

IDA M. SHEPLER.

Winter Watermelons

(CONTINUED FROM PAGE FIFTEEN)

delightful surprise of having water melon served to me for my Christmas and New Year's dinners. Wondering how they were preserved so as to retain their excellent qualities so well, I proceeded to inquire of the waiter. I learned that the melon I was eating was a distinct winter variety, called the "winter melon," and differed from the summer variety, just as the summer and winter apples differed.

This winter melon resembles very much the summer melon. It is oval-shaped and grows about as large as the summer melon, but is of a lighter green color. The rind is very much thinner and quite hard on the outside. The edible part is of a lighter red, firmer in texture, more juicy, but not quite so sweet as the summer melon. The seeds are very black, small and few in number. A winter cantaloupe is also produced in the same locality. It resembles the casaba melon, but is not so large.

The cultivation of these melons is somewhat like that of the pumpkin. They grow all summer, ripening late in the fall. They are gathered and stored like winter apples, reaching their most luscious stage about Christmas time.

ELIZABETH ROSSITER.
Colorado.

An Original Story

(CONTINUED FROM PAGE THIRTEEN)

said the farmer, as he drew it from the nest by one of its hind feet and held it up. It was a nice young 'possum, not full grown, that had crept into the nest in search of eggs. Now, the farmer thought as he held him up, "I'll make a nice roast of you, with sweet potatoes, for my Thanksgiving dinner."

Thanksgiving day was just three days off, and what to do with Mr. 'Possum was a question. But finally the farmer thought of an old-fashioned heating stove in one corner of the back yard. Surely "'possy" couldn't dig out, scratch out or jump out of that, for the farmer placed two bricks on top of the pipe opening. But, alas, the second morning, when the farmer went to feed Mr. 'Possum, he was gone. The 'possum had pushed off the bricks and squeezed through the opening of the pipe, without even saying good night to the farmer.

Additional Stories

Olive Kern, Springdale, Ark.; Harry Dedrick, Alma, Neb.; Eva Fleming, Albion, Neb.; Annie May Misters, Casper, Wyo.; Mary Streckal, Emmet, Neb.; Caress Mathers, Bigelow, Mo.; Sadie Clara Moody, Elmo, Tex.; Katie Goodbrey, St. Anthony, Idaho; Mamie Cousins, Diamondville, Wyo.; Esther Neumann, North St. Paul, Minn.; Beulah Hinkle, Savannah, Mo.; Alberta Merrill, Embar, Wyo.; Mabel Winters, Glazier, Tex.; Bessie Manhart, Larkspur, Colo.; Bertha E. Hayes, Fayetteville, Ark.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Must Raise Calves to Have More Beef

(CONTINUED FROM PAGE SEVEN)

calves and finish them for the market. The emphasis they place on their calf-raising argument is that it is the only practical excuse for the farmer to become a cattle raiser. The quick maturing of the baby beef will solve the shortage of beef in the market quicker than any other plan, when farmers see it to their advantage to raise calves rather than to depend on the western range for all the cattle they need to feed.

One of the very interesting features of the lecture course on the special train was a series of charts representing statistical information on the world's supply of cattle, also that of the state of Iowa, with decrease from 1907 to the present time.

World's Shortage of Beef

Total beef cattle in five chief beef exporting countries of the world—Argentina, Brazil, Australia, Canada and United States: In 1907, 121,311,000 head; in 1913, 105,366,000 head; decrease, 15,945,000 head, or 13 per cent.

Total beef cattle in ten range states of the United States: In 1907, 22,659,000 head; in 1913, 14,223,000 head; decrease, 8,436,000 head, or 37 per cent.

Beef Cattle in Iowa

1907—Beef cattle, 3,881,000 head; population, 2,225,000; beef cattle per capita, 1.7 head.

1913—Beef cattle, 2,607,000 head; population, 2,225,000; beef cattle per capita, 1.1 head; decrease in beef cattle, 1,274,000 head.

United States Cattle

1907—Beef cattle, 51,566,000; population, 87,321,000; beef cattle per capita, .594 head.

1913—Beef cattle, 36,030,000; population, 96,496,000; beef cattle per capita, .374 head; decrease in cattle, 15,175,000, or 30 per cent; increase in population, 9,175,000, or 9.5 per cent.

The beef and milk combination—that is, the raising of good beef calves on skim milk and turning the cow into the farm dairy—is advocated for those farmers who like to milk cows or are willing to perform a little of this kind of labor for the money there is in it. Skim-milk calves cannot be turned quite so quickly into baby beef as when the calf runs with its mother, though this depends upon the feed the skim-milk calf gets and how much oil-meal mush is added daily to the skim milk. There are calf raisers who claim that, with the proper feed and attention to handling the skim-milk calf, it can be brought forward in growth and bone equal to the sucker, but not quite so smooth and sleek.

Good Growth in Membership

The Iowa Beef Producers' Association deserves the commendation and praise which it is getting for its enterprise in taking up this feature of educational work and so successfully carrying it out. Cattlemen throughout the state are giving their endorsement by joining the association. There are now 590 members, and members are coming in from every county. The railroads appreciate the work and the influence that this association is exercising toward increased production and cheerfully contribute in arranging for special trains to carry the lecturers and their samples of baby beef steers, which they display to each audience as the kind that are money makers on the farm. More than eighty towns were visited on the lecture course, which began Tuesday, October 21, and closed Friday, October 31. The attendance was most encouraging, and the lecture cars were crowded from the first day until the close, the attendance seeming to increase from day to day as the news spread over the line of travel of the coming of the train. The best representatives of cattle breeders, feeders and educators the state of Iowa contains, with the prize-winning steers of the beef breeds of cattle grown in Iowa, were with this special train.

The following list discloses the personnel of the backers and representatives of the Iowa Beef Producers' Association: President, Charles Escher, jr., Botna; secretary, George H. Berge, Mount Vernon; Dean C. F. Curtiss; Profs. W. H. Pew, animal husbandry department; J. W. Kennedy, extension department; J. M. Evvard, experiment station; C. N. Arnett, animal husbandry department; Henry Vaughan, animal husbandry department; Howard Vaughan, Marion, cattle feeder; Captain W. S. A. Smith, Sioux City, cattle feeder; R. W. Cassady, Whiting, cattle feeder; George W. Godfrey, Luverne, cattle feeder; O W. Johnson, Le Grand, cattle feeder; Rex Beresford, expert agent, representing the association.

Water-Proofing for Concrete

(CONTINUED FROM PAGE NINETEEN)

Wyoming oil development that represents many fortunes. The Twentieth Century Farmer is right, as it gets its information from reliable sources. I should like to know of a moisture-proofing, as I am in the concrete business.

Editor's Note — The Twentieth Century Farmer reasserts that a reliable, permanent water-proofing for cement has not yet been discovered. The first correspondent does not state how long he has had a cement stave silo and a cement stave water tank, so that what he says has no bearing on the permanency of the so-called water-proofing. But this paper is willing to stand in the background and hold the coats of these two correspondents while they fight the matter out.

5 H. P. GASOLINE ENGINE $89.50

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50 Choice Galloways—Tuesday, Dec. 2d, 1 P. M. For catalogue write R. W. Brown, Carrollton, Mo.

50 High Class Angus—Wednesday, Dec. 3d, 1 P. M. For catalogue write Chas. Gray, Union Stock Yards, Chicago.

50 Selected Shorthorns—Thursday, Dec. 4th, 1 P. M. For catalogue write Abram Renick, Union Stock Yards, Chicago.

50 Best Herefords—Friday, Dec. 5th, 1 P. M. For catalogue write R. J. Kinzer, 1012 Baltimore Ave., Kansas City, Mo.

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It's HOG WORMS—Not Cholera That Kills The Most Hogs

E. Myers, President, E. Myers Lye Company

Real hog cholera—the disease that is caused by a certain germ—is by no means as common as many farmers and hog raisers seem to think. In fact, it is rather rare. Yet every year an epidemic breaks out and sweeps the country like wildfire, killing thousands of hogs and causing millions of dollars loss. An enormous part of this disease is caused by **worms.** The symptoms are similar to those of cholera—the hog snoops around, his flanks "flop," hair sticks up, tail hangs down, he coughs, eats little, gets thin. You think he has cholera, but he hasn't. **Rid him of the stomach and intestinal worms that are sapping his vitality and strength and he'll get well. You can quickly rid all your hogs of worms by mixing with their feed twice every day according to directions on every can a little**

Merry War Powdered Lye

Hog raisers declare it is a **dependable destroyer** of hog worms. It makes hogs strong, healthy, fat and sleek, tones up the digestion so that all feed is changed into firm flesh and juicy fat. MERRY WAR POWDERED LYE is likewise the **safest preventive of real hog cholera and the best hog conditioner** the world has ever known. Keep your hogs on a MERRY WAR POWDERED LYE feeding from weaning until marketing time—they'll never know a day's sickness and will weigh heavy. Feed **twice every day** according to directions printed on every label.

About Vaccination I've no doubt that vaccination, as a preventive of cholera, has done some good. But it is an expensive and difficult treatment. It guards only against the specific cholera germ. It does **not** destroy hog worms, make sick hogs well, or thin hogs fat. So why use a treatment which is more or less of an experiment, when you can so easily get MERRY WAR POWDERED LYE, which **actual experience** in thousands of cases has **proved** to be a **dependable, safe preventive of cholera, destroyer of worms** and a **wonderful hog fattener?**

Beats Everything As A Worm Destroyer A. U. PATE, Blue Jacket, Okla. "I have been feeding Merry War Powdered Lye to my hogs for worms. It beats everything I ever saw."

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MERRY WAR POWDERED LYE is for sale at most grocers, druggists and feed dealers everywhere, 10c per can (**120 feeds**). It is convenient to buy in case lots—4 dozen cans $4.80. **Costs only 5c per hog, per month, to feed regularly**—by far the best and much the cheapest hog insurance you can buy. If your dealers can't supply you, write us, stating their names. We will see that you are supplied, and also send you, **free,** a valuable booklet "How To Get The Biggest Profits From Hog Raising." **Order direct from us in case lots (4 dozen cans $4.80) if your dealers won't supply you.**

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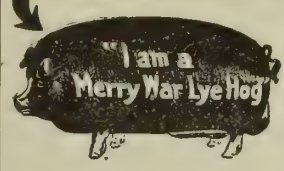
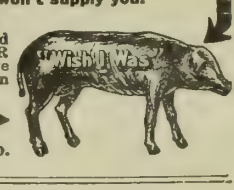
Don't experiment with ordinary, old-fashioned lye. **It might prove dangerous.** MERRY WAR POWDERED LYE is the specially prepared lye that is **safe** to feed to hogs. Full directions on each can.





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DUROC-JERSEY BOARS

Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.
C. E. CLAUFF, Central City, Neb.

PRIZE WINNING DUROCS.

Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Moderow's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.
GEO. W. SCHWAB, Clay Center, Neb.

KUZEL'S DUROCS

Echo Top King, Model Wonder 3d, Proud Wonder Jr., Crimson Boy and Prince, by Prince of Colonel's, are the sires of my spring pigs. Choice boars for sale at reasonable prices.
L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS

Spring boars for sale, sired by Model Goods, Queen's Wonder, Uneeda Wonder and Queen's Wonder Again. They are the kind that win. Correspondence solicited.
O. G. SMITH & SON, Kearney, Neb.

SCHULTZ' DUROC-JERSEYS

Duroc-Jersey boars for sale, that are right, both in breeding and as individuals. I am pricing them worth the money and guarantee them to make good. GEO. W. SCHULTZ, Yutan, Neb

POLAND-CHINA HOGS.

BIG TYPE, BIG BONE POLANDS

A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices. THOS. F. WALKER & SON, Alexandria, Neb.

POLAND CHINA BOARS

I have a choice lot of big growthy spring males for sale, sired by Wayside Jumbo by Wade's Jumbo and Smooth Wonder by Big Wonder and out of Expansion King Look bred sows. Prices reasonable. Fred Wille Columbus, Neb.

POLAND-CHINA BOARS.

Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

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HERD HEADERS FOR SALE

Am offering for sale the three tried herd boars, Big Omaha, Metal Top, and Gay's Price Last. Every one a good one. Also a number of spring males. D. C. LONERGAN, Florence, Neb.

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Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.
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The Jersey gives richer milk and more butter than any other known breed, at a lower keeping cost. She does it continuously and persistently. Her milk and butter bring better prices than the product of any other dairy breed. That's where quality *does* count. Jersey facts free. Write now. We have no cows for sale.

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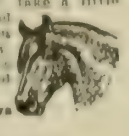
Away from crowding to city farm where price is to be higher or shelling planter, take a little trip in the quiet to me farm and see my 15 registered Percherons and weanlings to 4 years, privately special more modern for you. This farm is where they are raised and where you ought to buy them.



FRED CHANDLER, Rt. 7, Charlton Iowa

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Review of Live Stock Market

By A. C. Davenport

CHANGES of importance in the live stock markets of the country were few and far between last week. There was a dearth of new features, the trade for the most part moving along well established lines. Most points report cattle, both killers and feeders, as in good demand, with prices showing no great change in either direction. Some points have experienced slight advances on some kinds owing to a temporary scarcity, while at other points there have been small price reductions on account of a temporary oversupply. All in all, the market has been in fairly satisfactory condition.

The scare over beef and cattle importations from Argentina and Canada appears for the time being at least to have lost its force. At present writing the outlook is encouraging for a continuance for some time to come of a reasonably satisfactory market. As a matter of course, packers may be expected to seize upon any temporary advantage to pound the market that may present itself, such as a day or two of large receipts or a fresh importation of dressed beef. All information at hand, however, leads to the belief that there are not enough fat cattle available in the country to put prices down and keep them there any length of time.

Small October Cattle Receipts

Receipts of cattle at leading market points have been far from large during October. Chicago, in spite of receipts of Canadian cattle, shows a falling off of about 26,000 head for the month of October as compared with the corresponding month of last year. Kansas City, which is in line to receive Mexican cattle, shows a falling off of around 40,000 head for the month as compared with last year. At Omaha the decrease for the month amounts to 45,000 head. Other smaller markets show more or less of a decrease, which brings home once more the fact that the country is actually facing an enormous shortage in cattle. This shortage, so apparent in the receipts of the leading markets, becomes more significant when taken in connection with the fact that the tariff law is allowing cattle to be brought in from both Mexico and Canada, and still more so when taken in connection with the well known fact that packers are putting forth every effort to open up new sources of supply. These efforts are brought to light in the daily market reports from the big selling points; thus one day within the last month one of the big packers had thirty carloads of cattle that his buyers had secured in Florida. It was noted one day last week at Chicago that packers had 3,000 canning cows shipped direct from eastern points, showing that the packers are scouring both the east and the south for cattle. In spite of their efforts the big shortage in receipts continues as noted above, and on these figures the bulls are basing their predictions of a good, strong market throughout the coming winter season.

While considering receipts of cattle, it may be of interest to note that such markets as keep a separate record of the receipts of calves show plainly that the country is either conserving its calf crop or else there is a distinct shortage in shipping stock. Kansas City has received this year 12,000 less calves than during the same months last year, although the drouth compelled farmers this year to sacrifice their young stock. Chicago, which has handled in past years an enormous number of veal calves, has a falling off of over 125,000 head. Figures like these would indicate that farmers and stockmen are wise enough to conserve their calf stock, when there is money in the business, without any restraining legislation.

Hogs Still Coming Slowly

Receipts of hogs at leading market points were quite moderate last week, while there was a good shipping demand at some points, with the result that prices, while fluctuating somewhat, were well maintained as a general thing, even showing improvement in some cases. This does not necessarily mean that the market has touched bottom or that the bears have given up hope of securing a lower range of prices for the early part of the winter packing season. On the contrary, it is very apparent that the packers are only waiting an opportunity that more liberal receipts would afford, or a slackening of the demand, to continue the hammering process. At the beginning packers fixed their minds on 7c for hogs for November 1 on the basis of Omaha. Receipts proving lighter than anticipated, while the eastern demand was unexpectedly good, prevented them from securing all that they went after, but they are still bearish, and it would not occasion any surprise should the market during the early part of November show a still further downward movement.

Mutton Receipts Moderate

Sheep and lambs have been good sellers throughout the last week, and for that matter during the whole month of October. Prices on killing stock have been very strong, as supplies of good mutton sheep and lambs have been very moderate. Present prospects would seem to favor a belief that the market on killing stuff will continue strong at least until cornfed stuff becomes available. There is then a possibility of a revision of prices should the country exhibit anxiety to get rid of stock on feed in too much of a hurry. It frequently happens at the beginning of the cornfed season that new feeders, becoming tired or discouraged, rush their stock to market before it is sufficiently finished to make good killers. It is this half-fat stuff, too fat for feeders and too poor for killers, that is most likely to break a market.

Feeder sheep and lambs have eased off a little during recent weeks, but the general feeling appears to be that the bottom has been reached. Advices from the east indicate that a good many big Michigan feeders have held back, expecting a lower market at the close, and that there are reasons for believing that the buying demand will continue good right up to the end of the range season. Should that prove to be the case there is not much chance of the market showing much if any decline from present values.

Cadillac, Mich., is reported to be the foremost city in the country for varied and close utilization of forest products.

Breeders' Notes

Duroc-Jersey Males

C. E. Clauff, the well known breeder of Durocs of Central City, Neb., has a number of very choice spring boars of the very top breeding which he is offering at the reasonable price of $25 to $30 per head. These boars have been grown along lines that insure their future usefulness as breeders. They have bone, size and quality combined, and, in fact, their general makeup should recommend them to prospective buyers. Don't forget to write Mr. Clauff at once for further particulars, mentioning this paper.

Lonergan Offers Polands

D. C. Lonergan, the well known breeder of big-type Poland-Chinas at Florence, Neb., is offering some choice attractions in the line of real herd headers at this time. Mr. Lonergan's reputation as a show man and as a producer of high-class hogs should recommend these boars to anyone wanting something in this line. In the first place, he is offering the three tried herd boars, Big Omaha, Metal Top and Guy's Price Last. Big Omaha is by Big Victor and out of the dam Olin's Choice by Thompson's Choice. Metal Top is by I Am Big Too by Dorr's Expansion, and Guy's Price Last is by Guy's Price 2d by old Guy's Price. Every one of these boars is good enough to go to head any first-class herd, both in point of breeding and also as breeders themselves. Besides these herd boars Mr. Lonergan has a number of very choice spring boars which he is pricing well worth the money. Write him for further particulars, mentioning this paper.

Schwab's Durocs and Red Polls

George W. Schwab, Clay Center, Neb., the "big, growthy type" Duroc-Jersey breeder of that section of Nebraska, is offering for sale some classy fall boars. They are by Buddy K. 4th Wide Awake and W. L. A.'s Perfection, two of the popular boars of the breed in Nebraska and Kansas. These yearlings are big, smooth fellows and in the best of breeding condition. They are just right to go out and do well in any herd. They will be priced low for immediate sale. He also has some choice spring boars, some fall gilts bred to farrow in November, and in fact has Durocs to sell all the time. He has been in the business for a good while and has customers in several states and takes pardonable pride in the big bunch of customers. He is also offering a few registered Red Poll bulls of serviceable ages and some young females for sale. Mr. Schwab's prices are always consistent with first-class stock and his efforts to please can't be duplicated. Better write him for prices and descriptions. Kindly mention the Twentieth Century Farmer.

Schaldecker's Polands

Mr. J. A. Schaldecker, breeder of big-boned, big-type Poland-Chinas at Grafton, Neb., writes us that everything is coming along in good shape with him and that sales have been very good up to this time. He is all sold out of March and April boars, but has a number of extra good fall and winter boars that he is offering for sale at this time. These pigs are sired by King Macedon Junior and Big Sensation. He has three boars out of a litter of eleven sired by King Mastodon Junior and out of a granddaughter of Grand Look. These three boars are especially good in every respect. These are only a few of the good ones. Write Mr. Schaldecker for further particulars, mentioning the Twentieth Century Farmer.

Wille's Poland-Chinas

Mr. Fred Wille of Columbus, Neb., informs us that he still has a number of Poland-China spring males for sale. If you are looking for the kind that have the bone and frame so much desired, you can make no mistake in writing Mr. Wille. There is one thing about it, and that is, you will not find anything you buy from him overloaded with fat. That is absolutely contrary to his idea of producing a good breeding animal. He believes in simply drawing them out and developing constitutional vigor that will insure their prepotency as breeders. One of the choicest litters he has to select from at this time is by Wayside Jumbo by Wade's Jumbo and out of the dam Orange Lady by Orange Wonder. There are two boars in this litter that are extra stretchy, with good backs, heavy bone, with best of straight feet, short pasterns. These boars will weigh about 200 pounds now and could easily be made to weigh from 250 to 300 pounds. There are several more extra choice litters by Wayside Jumbo with boars in them that are good enough to go into any herd. One of these litters is out of a granddaughter of A Wonder and the other out of a granddaughter of First Look. If you want a first-class boar, write Mr. Wille, mentioning this paper.

Prize-Winning Nebraska Percheron

Prize-winning Percheron stallion being used at the head of the stud of William Kerr, breeder and importer of Percheron horses at Bennington, Neb.

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Alfalfa Lawn Durocs

A splendid lot of fall and spring males for sale, sired by Melina's Wonder, Crimson Wonder Select and Colonel Tippy. They are strictly right and worth the money. Henry Stuthman, Pilger, Neb.

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Bright and Breezy

New Theology

This item appeared in the October number of the Guinea Pig, published at St. Louis: "Trust in the Lord," said a suffragette to a sister in prison. "She will help you."

The Right Kind

A middle-aged man approached the lecturer and began:

"I say, mister, you told a story 'bout the widow raising a mortgage on one year's crop?"

"Yes, my friend; that was a true story. It happened only two years ago."

"Well, sir, could you tell me who that widow is? She's just the kind of woman I've been looking for all the time."

Remarkably Rapid Growth

"P'taters is good this mornin', madam," said the old truckman, making his usual weekly call.

"Oh, are they?" retorted the customer. "That reminds me. How is it that those you sold me last week are so much smaller at the bottom o' the basket than at the top?"

"Waal," replied the old man, "p'taters is growin' so fast now that by the time I get a basketful dug the last ones is about twice the size o' the first."

Experimental

Quite recently an old friend of the Browns went to see them at their new country home. As he approached the house a large dog ran out to the gate and began barking at him through the fence.

As he hesitated about opening the gate, Brown's wife came to the door and exclaimed: "How do you do. Come right in. Don't mind the dog."

"But won't he bite?" exclaimed the friend, not anxious to meet the canine without some assurance of his personal safety.

"That's just what I want to find out," exclaimed Mrs. Brown. "I just bought him this morning."

The Darkey and the Mule

An old negro went into a drug store in Richmond and, going up to the proprietor, said: "Say, Boss, will you be so kind, suh, as to call up de colonel on de telephone for me?"

"Yes." And he called the colonel. The old darkey said: "Colonel, dat ar mule done stall right in de main street right out here in front of de store.

"Yaas, suh; I done tied strings 'round his ears, but he didn't budge.

"What's dat? What's dat? Yaas, suh, I build a fire under him, but it didn't do nuthin' but scorch de harness.

"Yaas, suh; yaas, suh; I took de things out, but he wouldn't budge.

"Yaas, suh; yaas, suh. What's dat?

"No, suh; no, suh, colonel, I didn't twist his tail.

"Yaas, suh; yaas, suh; another gemman twis' his tail; he look like a northern gemman.

"What's dat, colonel? Yaas, suh; dey tuk him to de hospital.

"No, suh; no, suh; I ain't heard yit."—Collier's Weekly.

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Big Guns to Talk Rural Credits

GORDON JONES, the Denver banker, who was a member of the commission appointed by President Wilson to visit Europe and study the practical working of rural credits, has accepted an invitation to address the Nebraska Farmers' Congress, which meets at Omaha December 9, 10, 11 and 12. Mr. Jones is to speak from the viewpoint of the banker Thursday afternoon, December 11. The program committee has been fortunate in also getting Prof. Lauman of Cornell University, who spent four years in Europe studying economic agriculture. Prof. Lauman will deliver an address Thursday evening, discussing rural credits from the standpoint of the farmer. Both of these addresses will be followed by discussions, in which any member of the congress is invited to take part, and any questions asked will be answered. This is only one of the many vital subjects which will be taken up by this live organization and thoroughly discussed in a manner that will give those present something to think about the rest of the winter.

Prattle of the Youngsters

His Idea of It

"George Washington," read the small boy from his history, "was born February 22, 1732, A. D."

"What does 'A. D.' stand for?" inquired the teacher.

The small boy pondered. "I don't exactly know," he hesitated. "After dark, I guess." — Ladies' Home Journal.

Diplomacy

"Mamma," said Johnny, "if you will let me go just this one time, I won't ask for anything to eat."

"All right," said his mother; "get your hat."

Johnny, perched on the edge of a big chair, became restless as savory odors came from the region of the kitchen. At last he blurted out:

"There's lots of pie and cake in this house."

The admonishing face of his mother recalled his promise, and he added:

"But what's that to me?"

Good Reason

"I don't have the kiddie at the theater very often," said an actor recently, "but during the holidays I let his mother bring him down for a matinee and arranged to have a box for them. The youngster remained remarkably quiet (for him) through the entire performance.

"That evening at dinner I jestingly remarked:

" 'Son, how did you manage to be so good during the show?'

"His answer surprised me.

" 'Do you think I wanted you to scold me, daddy, before all those people?"

Too True to Life

Willie finally persuaded his aunt to play train with him. The chairs were arranged in line, and he issued orders:

"Now, you be the engineer and I'll be the conductor. Lend me your watch, and get up into your cab." Then he hurried down the platform, timepiece in hand. "Pull out, there, you red-headed, pie-faced jay!" he shouted.

"Why, Willie!" his aunt exclaimed in amazement.

"That's right, chew the rag!" he retorted. "Pull out! We're five minutes late already!"

They have had to forbid his playing down by the tracks.—Everybody's.

Disappointed

President Wilson has a fund of stories. One that he tells is of a little boy whom he encountered at Staunton, Va., the president's birthplace. Mr. Wilson was speaking to a good-sized crowd from the steps of the Baldwin Seminary for Girls, when he discovered a little 7 year old lad pushing and shoving his way through the crowd. The boy finally landed in front of Mr. Wilson and shouted excitedly

"Where is it? Where is it?"

Mr. Wilson stopped his speech, and, with a broad smile, said, good-naturedly

"Well, my boy, I guess I'm it."

"Oh, pshaw!" responded the youngster, with a look of disgust, "why, I thought it was a dog fight."

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THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

How to Have Health in Rural Communities

Explaining Why the Country is Less Healthful Than the Modern City

By Dr. L. K. Hirshberg

THE city of Panama, formerly the most filthy and disease-ridden locality in the Western hemisphere, has today a lower rate of sickness and death than any spot in this country. Chicago has such a low mortality per centage that a rate as low as only five deaths to the hundred thousand of inhabitants is the hope and slogan of its ambitious health officers. In this heyday of hygiene, the great centers of population, where death and destruction are supposed to lurk in dingy alleys, dark streets and dirty avenues, have outstripped the rural neighborhoods both in the number of instances of sickness and the death rate.

City More Healthful than Country

Perhaps the progress of metropolitan places is explainable upon the better pay, better equipment and superior numbers of its health officers, or maybe because the crowded populations are more accessible to the newly disseminated knowledge. Be that as it may, there is no doubt that children's diseases, milk-born maladies, typhoid fever, and even tuberculosis, have gone in check in country districts, whereas they have all but been eliminated entirely in the best cities. Indeed, cholera infantum and typhoid fever are regarded now as essentially rural ailments, and the appearance of either in a crowded community impels the sane questions, "Have you been in the country recently?" or, "Have you been drinking any 'fresh' country milk lately?"

The reason for this unpleasant state of affairs does not lie in any superstition or opposition of the farmer to medical measures of prevention, nor does it rest altogether upon a lack of knowledge on his part as to the facts about microbes and bacteria. The basis of defective rural hygiene is more fundamental than that. It may in part be laid at the door of topographical conditions and location and in part upon a religious fatalism that "the Lord giveth and the Lord taketh away."

Sewage Source of Many Dangers

Most vicious in its consequences to the isolated farm house, or a little cluster of homes in a village that lacks even an excuse for a sewerage system, are the human discharges and their disposal. It will not pay to bandy words or be too mock modest in discussing these loathsome facts. The universal custom that is prevalent in every rural district of this country —and often in suburbs and villages with ancient or absent plumbing—permits the discharges and waste matters that come from the digestive tube to dry up on exposed ground and be carried to all quarters by the four winds, and even washed into wells and public roads by rain storms.

This unpleasant fact is at the bottom of many of the diseases and sanitary complications of country life; to it may be attributed the well established observation that city dwellers are at this moment a hundred-fold more secure from typhoid fever and many other maladies than the inhabitant of the farm and village.

Result of One Man's Illness

One instance traced recently by a western health officer shows the direful consequences of one farmhand's illness. The discharges from this patient, ill with typhoid fever, especially after his convalescence, were swept away by the wind and carried more than a mile into the fresh milk buckets of a herd of cows. This milk was served in a nearby village within an hour and a half after the cows were milked. Among ninety persons in twenty-five families who drank this milk, sixty-one were smitten with typhoid fever, and five of these died.

Such a calamity cannot visit a modern city, with its hygienic toilets and sanitary plumbing, and it may be similarly avoided in rural communities, if artesian wells and flush toilets are built by compulsion of a properly drawn law.

Another vital defect of country sanitation is the proneness of mothers, when a doctor is difficult to get, to not summon him at all, but try to cure what to them seems a harmless malady with their own home remedies. Need it be emphasized here that a child with measles, whooping cough, diphtheria or what not, who continues at school under a mother's medical care, is a greater menace to the life and health of the school children who come from miles and miles around than a hundred thunder storms.

Finally, let the rural parent realize once for all that dead snakes, sick chickens, damp cellars and terrible snow storms are not the sources of diseases rampant on the farm. Rather let him blame the really responsible source, towit: The open, wooden privy, the stagnant well, the uncovered, uncooled milk bucket, and the sick cattle. These are the reasons for better health in the city than is possible on the unhygienic farm. Providence is not to be blamed, for the Lord taketh not away from those who help themselves with the best modern plumbing and hygienic care.

Our Frontispiece and Cover

THE two Percheron mares shown on opposite page are the property of W. H. Kerr, a prominent Nebraska importer and breeder. They are Hernia 76720 and Mote Zembea 52132. Hernia was champion mare at the Nebraska State Fair in 1912. Zembea has been exhibited at the leading shows in America and has never been below third place. Her produce has never been defeated in the show ring, and Mr. Kerr has first-prize winners out of her in his barn at the present time. Two fillies and one stud colt out of these mares were recently sold at a long price to go to Lovell, Wyo. The mares weigh 4,000 pounds in flesh and are certainly the correct type—the kind that should be on every farm.

The horse shown on our cover page is old Joe of the Omaha fire department. He is 20 years old and has seen fifteen years of service on the fire department. Running at full speed, weighted by a heavy truck or engine, over the slippery pavements in winter and through the suffocating heat of summer, has injured him neither in body or spirit, and he is still ready to respond promptly to the call of the gong and do his share of the work.

Face of the Horse

A ROMAN nose in a horse, like the corresponding aquiline shape in a man, generally indicates strong individuality, often accompanied with great intelligence.

A straight facial line is quite as often found with a high degree of intelligence, but a dish-faced horse is rarely anything but a nonentity in character, a fool. We have seen a few exceptions to this rule, but they only prove it.

A fine muzzle denotes a high, nervous organization, while a coarse and large muzzle, with small and non-expansive nostrils and pendulous lower lip, means stupidity.

A sensitive and trumpet-shaped nostril means courage and intelligence, even when, as it does sometimes, it also means heaves.

The ear is more intelligible even than the eye, and a person accustomed to the horse can tell all that he thinks or means. When a horse lays his ears flat back on his neck, he most assuredly is meditating mischief, and the bystander should beware of his heels or teeth. In play the ears will be laid back, but not so decidedly nor so long. A quick change in their position, and more particularly the expression of the eye at the time will distinguish between playfulness and vice. W. M. PHILLIPS.

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Difficulties in Buying Horses in Europe

A Prominent Nebraska Importer Tells Some of His Experiences with French and Belgian Breeders

By Julius Wolf

ON RETURNING from my various trips to Europe, a great many of my friends always greet me, saying, "Well, no doubt you had a fine time while abroad." That is what the average man thinks of the man who goes to Europe to buy pedigreed stallions and mares. But I want to say that, as far as my experience goes, it is a case of hard work, if the buyer is particular in his selections.

The districts of France and Belgium where they raise pure-bred horses are not very large. Driving out through the country to buy extra good stock is just like driving out among the farmers of this country in search of good young geldings from 5 to 6 years old, weighing 1,800 pounds and over, the real sort that the market wants, which everybody knows is a hard thing to do.

This is not exaggerating the comparison in the least. The reason for this is, first of all, that the French and Belgian governments are always out looking for first-class breeding stock, and, if they find what they want, price is a secondary consideration. Furthermore, the entire world looks to France and Belgium for breeding stock in horses. It is a common thing to meet buyers looking for breeding stock from South America, Canada, Germany, Denmark, Norway and Sweden. These, with the American buyers and also those of France and Belgium, who are continually out for extra good colts, make the competition throughout the small breeding districts a very serious matter. Stallions and mares are today higher in France and Belgium than they have been for years, and it is very difficult to buy good horses.

As a general rule, when you go to a French or Belgian breeder, he will show you a lot of little, fat horses, lacking in size and conformation, mostly short-bred, and if he thinks you don't know your business he will try to sell you as many of these as he can. He always treats you very courteously, but when it comes to showing you the good horses he will hesitate. Before he shows these he will tell you that if you expect to buy a really good, well-bred horse for a small price there is no use in looking at these.

Of course, after he knows you, and is convinced that you know good horses and want to buy them and are willing to pay the price, he will then show you his good horses. I want to say right here that if the average man should go and see these good horses priced, he would be surprised to see what a highly-bred stallion or mare costs.

This year has been the hardest of any to buy good horses, as they were scarce and naturally higher in price. It took me from the time I landed till I departed, driving early and late, to make my purchases.

Another thing, besides the difficulty in securing good, sound horses, it takes a great deal of a man's time looking after his papers, as our government is very strict, and, unless requirements are all complied with, your horses will be rejected and not allowed to enter the United States.

First, you must have a sworn affidavit from the owner to the effect that the stallion or mare bought has been in the community for six months or more preceding the sale. Then you must have a sworn affidavit from the mayor of the city or district that no contagious disease of any kind has been in the community during the six months preceding the sale. Then the animal has to be inspected by the government district veterinarian as to his health, and must be examined by another government veterinarian at the point of shipment. Then, again, upon arrival in New York, the horses are examined by government veterinarians as to health, and government inspectors look over the foreign certificates and compare every stallion and mare with their pedigrees before unloading.

Three years ago my brother, who was doing our buying, spent seven months and a half out of the twelve in the breeding districts of France and Belgium, and our importations that year numbered only 132 head. We aim to get nothing but first-class stock, and we have established a reputation abroad that enables us to see the good horses, but even under these conditions it takes time to purchase the kind of stock we want.

Co-operation Through Farmers' Clubs . . .

The farmers' club is the natural forerunner of practical co-operation. Co-operation, like charity, should begin at home.

***

A farmers' club is an informal association of a group of people in a community for the improvement of themselves, and their homes in particular, and the community in general.

***

No important development is likely to come unless a group of people get together and work for it. Schools, roads and churches all come as a result of a community spirit which determines to bring about improvement.

***

A farmers' club affords opportunity for community discussion and community action on any question that arises regarding anything in which the community as a whole is interested. Had there been more farmers' clubs, fewer $400 stallions would have been sold for $2,000, and fewer creameries would have been started before the communities were able to support them—A. D. Wilson, Director of Agricultural Extension, University of Minnesota.

Good Young Horses from 5 to 6 Years Old, Weighing 1,800 Pounds and Over, is the Kind that the Market Wants

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Care and Feeding of Weanling Colts

They Must Have Plenty of the Right Kind of Feed to Develop Properly

By H. J. Gramlich

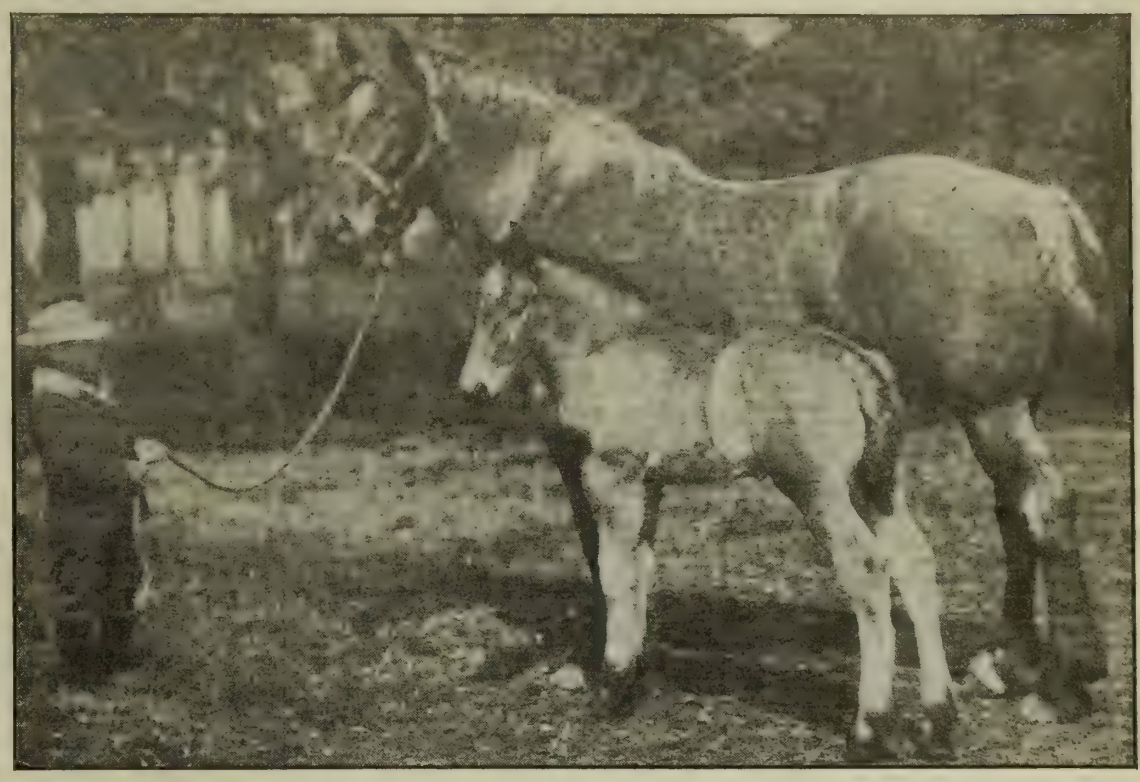
FALL witnesses the weaning of the spring colts. At no time in a horse's career is good feed and care more essential than at weaning time. By this we do not necessarily mean that the colt should be constantly housed and fed the best of feeds, but the danger with the average man is that the colt will not receive enough to keep him growing and thrifty, especially in a year when feeds are as high priced as at present. Accordingly, a few words regarding feeding will not be out of place.

The common practice is to wean at 5 months. This puts the colt entirely on his own resources before cold, stormy weather sets in, and gives the mare a chance to regain lost flesh. Many mares that have failed to conceive will let the colt nurse indefinitely and instances are not rare where the weaning was not done prior to the first birthday. Such a practice results in no particular good, and indicates a carelessness on the part of the owner. Some mares, if in foal, will wean their own colts.

Should Eat Some Grain Before Weaned

Practically all colts acquire the habit of grain eating before weaning time, but if they do not, it is well to get them started on oats before removing the mare entirely. Where several mares and colts have run together in a pasture, it is well to stable the mares and permit the colts to run together in their accustomed pasture, seeing to it that they get their grain feed twice a day as well. This is a much better practice than confining the little fellows in a small, dark box stall for several weeks. The mares can stand the enforced idleness much better than the colts, and, furthermore, they can be worked, providing they are kept out of sight of the pasture lot. With a good, tight, three-wire, barbed fence, there will be little trouble, and less as the colts grow more used to it. Every colt has his lesson to learn, and generally before weaning time a collision with a barbed-wire fence has caused him to consider the thing his enemy and to move cautiously when near it. A few hairs removed at this age is much better than having a first experience later and perhaps injuring a limb for life.

If the colts are running on good grass during the day, they will not need much besides their grain ration. For this, two quarts of oats morning and night answer well. If bran is reasonable, it is well to mix it in equal parts with the oats. This will supply somewhat more of the bone and muscle-making elements. Special effort should be made to get the grain to the colts regularly. They will lose some of their colt bloom at the best, and the less they lose the better they will be able to withstand the winter. Corn is too fattening a food for the growing colt, and, if fed at all, should be fed in limited quantities.



A Good Draft Mare Will More than Pay for Her Board and Raise a Colt Each Year

Stalk Fields Afford Needed Exercise

When grass is no longer a factor, other sources of roughness must be looked to. Generally stalk fields are ready to turn stock into at about weaning time. The chief benefit the colt derives here is the exercise, and he needs lots of that, so nothing should be said against this practice. Besides the stalks some hay should be fed. Few colts have ever been injured by too much alfalfa, although many have suffered for want of it. It may cause the middle to distend and give a "poddy" appearance, but it is rich in muscle and bone makers and keeps the colt growing. Prairie or timothy hay can well be alternated once a day with alfalfa, if there is no other rough feed than hay.

A stunting in growth at weaning time, or any time during the first winter, means a stunting for life; no matter how well he may be cared for during the second and third winters, normal size will not be reached. There are many chunks of 1,500 pounds weight on our city streets which trace back to ton stock on both sides. Feeding when young has had much to do with this state of affairs in numerous cases. A colt is like a boy—he must grow, and growth is only possible by ample and judicious feeding.

It is not necessary for the colt to be kept hog fat. It is, in fact, far better that he be not kept that way. A good, thrifty condition, with indications of health and vigor, is all that is necessary. Too much fat soon results in overloaded limbs, with puffy hocks and knuckled ankles.

Warm Skimmed Milk for Pure-Breds

In the case of pure-breds, many breeders substitute warm skimmed milk from the dairy at weaning time. It may be poured over the oats at first, or the youngster can be cornered and encouraged to drink from the pail by the aid of the fingers. A quart twice daily is sufficient until the system becomes used to the change, then the amount may safely be increased to a gallon. The pail must be scalded after each feeding so as to prevent souring. This skim milk will tend to keep the colt sleek, will develop bone and improve his general condition. To many this doubtless looks like a piece of foolishness, but a colt is worthy of as much care as an ordinary milk-pail calf, and the increase in the growth of the colt will more than repay the trouble.

Waiting for His Oats

Almost Ready to Be Weaned

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COPY FOR ADVERTISING must be received not later than Friday of the week preceding date it is to be inserted.

It is estimated that California's output of hops this year will not be far from 117,000 bales.

In the open yellow pine forests of Washington and Oregon a collapsible plow is being used in digging fire lines to stop surface fires. The plow can be dismantled and folded into a compact form so that it can be packed on horseback, weighing only forty pounds. When in use one man with a horse can do the work of twenty or more men working with shovels.

Ohio is successfully testing out the use of the consolidated rural school to relieve the congestion of the district school and to provide greater practical efficiency for rural school scholars. Iowa is already working along this line. The only remedy in sight to increase the practical efficiency of rural schools seems to be the consolidated school for the upper grades usually taught in the rural schools.

Dr. Melvin of the Department of Agriculture at Washington reports that Argentine cattle that dress 820 pounds of beef are sold for $74.80 gold. He adds that this grade of Argentine beef, which is of a very high quality, sells in England for from 8 to 9 cents a pound wholesale. This means that it sells in England for less than it costs in Argentina. Perhaps some explanation of these figures is needed.

A Notable Improvement

The agricultural end of the University of Nebraska operates through three entirely separate and distinct fields of activity. The purely educational function is carried out through the College of Agriculture, and the Agricultural High School. The Experiment Station is engaged entirely in agricultural experimentation. These experiments are carried on at Lincoln and at the various sub-stations and demonstration farms. The third branch of the service is known as the agricultural extension department of the university. Each of these is entirely separate and distinct from the other in function and purpose. It is well that each should be advertised by itself, and the university has begun this method of advertising.

Heretofore all work of these three different departments was placed before the public over the name of the dean of the agricultural school and director of the experiment station. The public had no means of differentiating the work of one department from that of another. This gave the impression that all work done at the state farm is done under his immediate, personal supervision. The work of the institution has been crippled by this unwise policy. More than this, for this reason the public has not received a definite notion of the varied fields of activity at the state farm. Everything seemed to be swallowed up and blanketed by the personality of the director.

A wise foreman knows that he can increase his own efficiency and his own reputation in no better way than by increasing the efficiency and the personal reputation of the subforemen working under him. Whatever they do, accrues to his benefit. The head of affairs at the state farm in Lincoln could assist the various enterprises there in no better way than by concealing his own personality and permitting the personality of those under him who are actually doing things to be recognized throughout the state as factors in the state's development.

National Vandalism

The Hetch Hetchy valley, in California, is the name given to the upper end of the Yosemite National Park. This is one of the great pleasure resorts of the nation. The contrast of the rugged cliffs, clothed with the wonderful trees of the Yosemite, with the smooth floor of the valley, gives it a delightful charm of lovely wildness that makes it one of the great national assets.

There has been a bill introduced in congress to place a dam across the mouth of the valley so that the valley may become a lake, and that from this lake the city of San Francisco may be supplied with water in proper quantity and of the right quality for domestic uses. This is the ostensible purpose of the bill. Its real purpose is supposed to be the generation of hydro-electric power for commercial purposes. It is openly asserted that if the provision granting the permit to use the water for such power should be eliminated from the bill, the bill would either be withdrawn or cease to be actively promoted.

The question is, shall the commercialism of San Francisco be permitted to desecrate and destroy one of the sublimest and most beautiful resources in the nation?

It is not a question of need in San Francisco; it is simply a question of money. San Francisco admits that it can get plenty of water of right quality elsewhere by paying for it. Its commercialism is willing to be converted into vandalism simply for money.

Our national parks must be preserved. There must remain this one asset of the nation from which the taint of commercialism must be forever prohibited.

Medical Inspection of Schools

The writer recently visited a rural school. He found that not less than 20 per cent of the pupils in attendance were in need of medical attention. Some were suffering from adenoids and infectional disturbances of the mucus membrane and air passages, and others had difficulty with their eyes.

These physical disabilities are a serious handicap to every child. Many a child is supposed to be lacking mental alertness or mental capacity when all that ails it is that it is suffering from adenoids, which might be removed and the child given a proper chance. It is so with all child afflictions that do not amount to real sickness which would confine them to their home.

This condition would not be permitted to remain if parents and school officers understood the physical needs of the children in the rural schools. It is believed that such parents and school officers should be informed, fully informed, as to the actual physical condition which constitutes a physical and a mental handicap in the children.

Medical inspection of every rural school is necessary to the fullest efficiency of the school and of the pupils. This does not mean medical treatment by the inspector, or of necessity of anyone else. It means simply that the parents and school officers be informed as to the condition of their children, and then the responsibility will lie with them to take whatever action is necessary. No parent would hesitate to remove a bar to his child's development.

The inspector should fill out blanks, one of which should go to the parent, another to the school director, and he might keep a third for himself, in which the physical condition of the child is accurately and authoritatively set forth, and then his work would be done. Further responsibility would lie with the parents and with the governing school board. Progressive school boards might undertake this work through a competent inspector, and defray the expense from the school funds. Such inspection, followed by proper action on the part of parents and school officers, would make the teacher's work much more effective.

The Horse on the Farm

In recent years there have been all sorts of prophecies and predictions as to the future of the horse on the farm. These pronounced and emphatic forecasts seemed to bristle with wisdom and a kind of supernatural knowledge of coming events. There seemed to be no doubt that the time had about arrived when old Dobbin would be asked to resign, when his services would be no longer needed, and thenceforth he would be laid in the shade, a sort of pensioner, a relic of bygone days, if, indeed, he would at all be tolerated.

It is with a feeling of comfort and satisfaction to the horse fancier that, after a few years of amazing activity with the horseless carriage, there is still a disposition on the part of labor and business to lengthen out the lease of life and usefulness of the horse. While a large per cent of the heavy hauling, joy-riding and other horse-killing features have been transferred to the auto, there still seems to be more labor for the horse than he is able to perform.

The horse, instead of being retired, is in greater demand now than ever before. The farm demand for horses has become so urgent that the present prices for good, serviceable horses for team work is higher, instead of lower, than when the automobile was first introduced. Good farm teams command prices ranging from $175 to $250 per head. A common chunk or medium chunk is no longer recognized as a suitable horse for farm team work, though many of them are used, because they happen to be on the farm or are offered at very low prices and are taken to fill in in making up extra teams for emergency use.

There has never been a time when a good team of active, medium-weight draft mares can be made more serviceable on the farm than now. The tendency of the farming districts is toward heavier teams. This means a farm demand, at good, strong prices, for all the good, active, sound young horses that are produced in any farming community. Why not keep a team of draft mares and raise a pair of colts each year that will bring into the farm proceeds, at 3 years old, $400 to $500.

This feature of farm operation has become a fixed principle of production on many farms. The expense will not be any serious outlay. You will not regard it any embarrassment or special trouble in the performance of your other lines of farm work after you get interested in the colts. There is nothing associated with farm work and farm management that appeals more strongly to reason and common sense than the making of money; and the brood mare and her offspring are a combination that yields well in this respect, and she pays the board bill while the colt is developing into a horse of salable age.

Two million trees will be planted on the national forests in Utah, Nevada and southern Idaho in 1914.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Save the Hogs

Don't run the risk of having hog cholera on your farm and thereby lose your hogs. If you get it among your hogs, it is too late. Guard against it. The keynote in guarding against hog cholera is to keep your hog lots and pens clean and sanitary. Clean out your pens thoroughly; burn the litter; then get a disinfectant and spray or sprinkle the pens, floors, posts, and in fact every surface with which the hogs come in contact. This disinfectant will kill the most resistant disease germs and guard your hogs against hog cholera. Do not put newly purchased hogs with your herd immediately. Keep them separate until you see whether they have any disease or not. Do not let your hogs drink down stream from premises where there is hog cholera. Do not let persons into your hog lot or pens until they have wiped their feet on a piece of burlap or carpet soaked in a disinfectant. After you have done all this, then disinfect, and keep on disinfecting.

Every farmer and hog raiser is interested in hog cholera at the present time. No one knows where it is going to break out next, and those who are wise are taking every precaution to guard against it.

It is better to do all in your power to keep your hogs free from it and to keep them in such condition that they will resist the disease than to wait until it makes its appearance in your herd and takes off some of your hogs. One of the best ways to help your hogs resist this disease is to use a reliable disinfectant to kill the disease germs in the pens and yards and keep your hogs free from lice and parasites and their skins in good, healthy condition.

Hogs kept clean and healthy and protected by a reliable disinfectant will naturally resist hog cholera; but dirty hogs, covered with disease germs and parasites, will be the first to fall victims. Disease germs find the very best conditions for multiplying if the hog's skin is in poor condition from the attacks of parasites.

Never let strange dogs roam on your premises, or people who have been around hogs with cholera go near your hog pens. The latter may bring hog cholera germs on their boots or clothes. Don't let your hogs run on public highways over which other hogs may have been transported.

Don't let your hogs drink down stream from farms where there is hog cholera. These are the precautions to take against hog cholera.

Humidity in Schools

Now is the time for the governing boards of rural schools to take seriously in mind the matter of purchasing a reliable hygrometer for each rural school. It is indispensable to the health of the children that the moisture in the air in the school room be kept near the proper point. If it is too dry, the mucus membrane of the air passages becomes dried and hard and susceptible to injury. Exposing the membrane to extremes of humidity, such as exist in a very dry air in a school room, as compared with the moisture in the air of the outside, threatens their health. This is the season of artificial heating, and because artificially heated rooms are generally filled with a dry atmosphere—too dry for the health of the little ones—this season becomes the season of pneumonia, bronchitis, colds and kindred ills.

Let the proper authorities install a hygrometer in every rural school, show the teacher how to make use of it, and they will have taken a long step toward insuring the pupils against the ills just referred to. Such an instrument will cost but little compared with the good it will do. It is an easy matter to procure one if it is desired.

Wheat as a Feed for Stock

There need be no special fear of wheat ever becoming a feed for live stock in the sense of a regular fattening or even growing ration in the production of farm animals. It has been and may be used to a limited extent in times of great scarcity of the common animal feeds—corn, oats and barley. But to take the place of these grains as an animal feed, or become a substitute, other than in seasons of great scarcity, as at present represented in some localities, there need be no fear, and there will be no occasion for discussion of this condition.

Wheat is, and always has been, and will continue to be, man's main and principal article of food. Corn is, and has been, and always will be, the animal's principal article of food. Oats, barley and rye, with some other forms of grains, are merely supplemental to these two principal kinds or varieties. The horse, cow, sheep and hog do not enjoy a much more extended variety of grain feeds than man. Yet their restriction to a grain diet is much more pronounced, and they are practically forced to become specialists in the matter of consumption.

There will be very little wheat of a good milling quality used as animal feed during this season of corn scarcity. There will be proportionately less grain fed to the farm animals during the next twelve months owing to the shortage of the feed usually used in this way. A very large area of corn-producing country is very seriously short in corn crop, and these districts will not this winter engage in the feeding of live stock on account of the scarcity of the local supply of corn and the high price that must be paid to ship it in, with the chances of a small profit at the end of the transaction. The wheat of the country will go into the elevators, not into the feed lot.

Now is the time when every farmer should do as much fall plowing as possible, in anticipation of the demands of next season. If there should be another drouth next season, the farmers who have done deep fall plowing will be that much ahead of their neighbors in the supply of moisture available for crops.

Cuba, British India, Java and Hawaii produce in the order named more cane sugar than any other nations on the face of the earth. Beet sugar is more cosmopolitan in its production.

A Girl who asks— "May I trim your Hat?" And free of charge

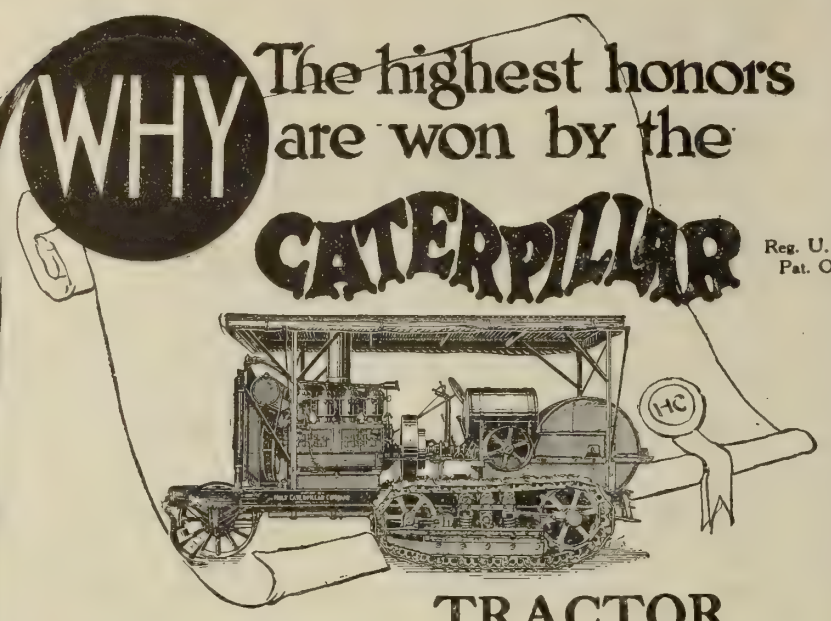
She trims thousands of hats every year. She does nothing else, in fact. So far she has trimmed and made over some five thousand old hats, and made them look like new. She learned how to do it in New York, Paris and Philadelphia. And she does it by mail and without charge.

She is the Millinery Editor of *The Ladies' Home Journal*, and thousands of girls and women have learned to rely upon her to make a hat last more than one season, and to tell them what to do with a hat that is too good to throw away. In addition she answers questions relative to the dressing of the hair.

She does it in part each month in *The Ladies' Home Journal*, but her greatest work is done by mail, in personal letters, full, comprehensive, and directly helpful to the individual need. Her work is part of the personal service that the magazine gives to its readers, and that has made it a living, human institution that goes beyond print and paper and reaches out a helpful hand of actual service. A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

THE CURTIS PUBLISHING COMPANY
INDEPENDENCE SQUARE
PHILADELPHIA, PENNSYLVANIA



TRACTOR

Expert judges, famous contractors, important agricultural colleges, keen-headed business men, practical farmers, all purchase HOLT CATERPILLAR Gas tractors after thorough investigation of all types.

At the International Auto Show at St. Petersburg, Russia, the Holt Caterpillar was awarded all first prize gold medals in a contest in which five German and three American tractors participated, resulting in the immediate purchase by the Russian Government of two Holt Caterpillars for military purposes.

At Tunis, Algeria, Africa, the Holt Caterpillar was entered in the tractor contest and awarded first prize.

At Compeigne, France, the Holt Caterpillar was awarded a medal of highest honor by a jury, for being the best machine exhibited.

After a contest on their farms, in which five tractors participated, Cornell University, whose agricultural department is the largest and best accredited in the world, selected and purchased for its own use the Holt Caterpillar.

When the Solano Irrigated Farms Company at Suisun, California, wanted traction power for the development of their 100,000 acres they purchased twenty-two Holt Caterpillars.

Vincent Astor, B. F. Yoakum, President of the Frisco Railway Lines, E. J. Dupont, President of the Dupont De Nemours Powder Company, the John F. Cogan Company, sub-contractors on the Catskill Aqueduct, are a few names of national and international reputation who use Holt Caterpillars.

The Holt Caterpillar Track is responsible for this great success. Traction depends on traction surface. In other words the pulling power of your engine depends on the grip its wheels secure on the surface of the ground. Wet, soft, loose, sandy or ashy soil allows poor gripping surface, resulting in a mired engine, in a complete tie-up of all work, causing a loss of time and much money.

The Holt Caterpillar track gives traction on any ground in any weather. Its traction surface is 2600 square inches of actual ground contact. It cannot pack the soil because of the distribution of weight over such an enormous ground surface. Its operation may be compared to the action of a man who places a board across a mud-hole and walks on the board. The board holds him up, he cannot sink. neither does the board make much of an impression on the mud beneath.

ARTHUR BRISBANE, the greatest editorial writer in the world publicly challenged the whole tractor industry to demonstrate to him that they had a tractor suitable for all farm work. But one company responded—ourselves. Mr. Brisbane purchased a Holt Caterpillar and wrote a stirring leading editorial concerning it in the New York Journal. Let us send it together with our literature.

Built in two sizes, the sixty equal to 36 animals and the thirty equal to 16 animals.

OPEN TERRITORY FOR RESPONSIBLE AGENTS.

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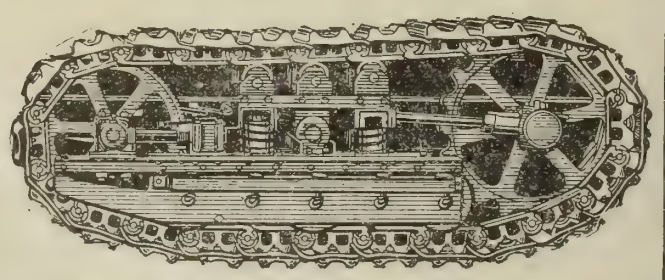

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—Your name and address on a postcard and mail it to us today. See how you can save money and disappointment by buying fencing made by the mill that makes the wire too. See why

SQUARE DEAL FENCE

always stands tight and trim, rust resisting, non-sagging, requires fewer fence posts, easier (31) put up and lasts longer. See the **SQUARE DEAL** double-grip lock—the wavy strand wires and one-piece stay wires. A postal brings you our **FREE** catalog and latest price list, also a 50c copy of **POPP'S NEW LIGHTNING CALCULATOR**—the greatest labor, time and money-saver ever published. All free. WRITE

Keystone Steel & Wire Co.
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PEORIA, ILL.

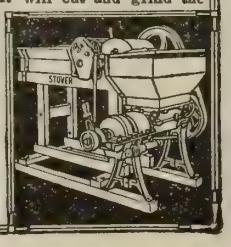
Wherever Alfalfa Grows

or can be grown, wherever kaffir corn grows or can be grown, wherever pea-vine hay grows or can be grown, there is a place for a Stover Alfalfa & Kaffir Corn Grinder.

This machine can be used in nearly every section of the United States. It will cut and grind the fodder mentioned above and with this can be ground dry ear corn or shelled grains independently or mixed with the hay so that every feeder can produce his own balanced ration.

We build a full line of Feedmills and Samson Windmills.

Send for catalog.



STOVER MFG. CO.
312 Vine Street
FREEPORT - - ILL.

Homesteading in Sand Hills

Things for New Kinkaiders to Think About

NEBRASKA has received a great deal of advertising during the last few months, especially the last month, in its association with the government land distribution by lottery of 390,000 acres in the sand hills district of the state. These lands were reserves, one a military reserve of about 42,480 acres and the other a forest reserve of about 346,000 acres, held out in 1904 when the government lands of Nebraska became subject to entry under the Kinkaid homestead act, which provided that the homestead consist of 640 acres instead of 160 acres as formerly existed.

The greater portion of the government lands subject to entry under the 640-acre provision were filed upon with varying results as to successful homemaking. Where the lands comprised sufficient valley or smooth, hard-soiled ground to produce hay, or suited to cultivate forage crops for use as feed for cattle, the homesteader had the basis of success in his homestead enterprise. But where there were not such lands, and practically all of the homestead was sand hills or grazing land, there was then not a chance to succeed, and quite generally these claims were let revert back to the government, or, where proven up, were sold to some adjoining ranchman and added to his fenced pasture.

There is a great difference of opinion among people who pretend to know and understand these lands, which are as a class the refuse of the old 160-acre homesteader who had a homesteader's privilege prior to 1904. The majority of opinion expressed favorable to these lands as a farm or agricultural proposition is a rehearsed opinion taken up from hearsay, rather than the practical experience of a five years' residence on these lands, or, as at present, a three years' residence.

All persons are not equally fitted for the task of attempting a homestead residence on these lands. The great majority have not figured up what it will cost to establish a residence and maintain it for three years on one of these homesteads. A large number of the persons drawing numbers entitling them to entry of a homestead have not money sufficient to make the necessary improvements and provide the necessities of a comfortable living for the first year.

The sand hills country of western Nebraska is a very valuable section of the state when used for the raising of cattle, an industry for which it is most admirably suited. But this is out of the reach of the average homesteader. The ambition of the great majority of homesteaders filing for this land is not to make it a home, but to acquire title to the land, to own it and experience the pleasing and gratifying sensation of being a real land owner. The adaptability of the sand hills homesteader to the sand hills home is the principle of adjustment that must eventually work out the solution of this district to the best interests of the people and the state. That this section of Nebraska is best adapted to the raising of live stock, there can be no difference of opinion among those familiar with the climate, soil, grasses and general advantages as a grazing country.

There is a distinctly different condition, however, between eastern Nebraska and western Nebraska. One is as distinctly defined an agricultural country of superior quality and advantages as the other is a distinctly live stock growing and grazing district of superior quality and advantages. The very large area of western and northwestern Nebraska that is designated under the one general title— "sand hills country"—is without question the best qualified cattle and horse-growing district in the United States. It is abundantly supplied everywhere with both surface and sheet water. It is abundantly provided with native hay grass to winter all the stock its pastures will carry through the grazing season. It is the finest grazing country on the continent, being supplied with the greatest variety of nutritious grasses and herbage suited to the growing and development of cattle and horses. There are 154 varieties of wild grasses listed and defined as nutritious herbage for the cow and horse. Is it any wonder, then, that cattle and horses do well in the sand hills country of Nebraska when they are so bountifully, so liberally provided with all the essentials of climate, feed and water to encourage health and growth?

It has been predicted by many observing persons, private citizens and government officials, who were, and are, unbiased in their opinions, that this division of the state as it relates to the sand hills grazing lands will eventually revert to cattle and horse growing; that stockmen who have acquired capital sufficient to own and operate this land for what it is by nature suited and adapted to will gradually buy out the homesteader, and that this sand hills grazing district will within the next quarter of a century be owned and operated as a live stock breeding and growing district to its full capacity. The homesteader is a valuable and necessary adjunct in the carrying out and fulfillment of this plan, which seems only the reasonable solution of its permanent occupancy.

The homesteader who is now going onto these government lands and who can see the live stock possibilities of the country, and who directs all his efforts to acquiring a herd and more land, will become a part in the foundation of this great structure—the rebuilding of the live stock industry of western Nebraska.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

The Curing and Caring for Furs

Improper Handling Lowers the Market Grade

CURING and caring for furs is even more important than the capturing of the animals, since a good fur, improperly handled, is worth less than one of lower grade that has been handled and cured correctly.

***

Never stretch a fur while it is wet, or it will shrink on board till you will ruin it in removing it when cured. It is best to leave the pelt on the animal till it dries, stretching the fur on a board as soon as it is removed from the carcass.

***

Hang all furs in a cool, well ventilated spot, where the sun or rain will not strike them. Do not put salt or any other mineral on furs to cure them, as it damages them and lowers their value when placed on the market. Every fur buyer is quick to detect a salt-cured fur, no matter how well you clean the salt off.

***

Never hang furs so they will be crowded together, as they will heat and become ruined. Neither should furs be hung against the side of a building. Those which are stretched "open," that is, split up the belly and legs, may be tacked, flesh side out, against the side of a building, but should be in a shady place, preferably on the north side of the building.

***

Furs should be left on the stretching board till they are thoroughly cured, else they will lose their shape and become somewhat smaller by shriveling up. In fact, the writer always leaves the furs well stretched till the day they are sold, except where they are shipped. We also go over the furs carefully before offering them for sale, removing any fat or pieces of meat clinging to the flesh side of them. Having furs neat, clean and of correct shape will go a long way toward securing top prices, and the writer has, by practicing the above rules, maintained the reputation of securing more for his furs than any other trapper in the country.

M. A. COVERDELL.

Missouri.

WORKS ALL DAY
And Studies at Night on Grape-Nuts Food

Some of the world's great men have worked during the day and studied evenings to fit themselves for greater things. But it requires a good constitution generally to do this.

A Ga. man was able to keep it up with ease after he had learned the sustaining power of Grape-Nuts, although he had failed in health before he changed his food supply. He says:

"Three years ago I had a severe attack of stomach trouble, which left me unable to eat anything but bread and water.

"The nervous strain at my office from 6 a. m. to 6 p. m. and improper foods caused my health to fail rapidly. Cereal and so-called "foods" were tried without benefit until I saw Grape-Nuts mentioned in the paper.

"In hopeless desperation I tried this food and at once gained strength, flesh and appetite. I am now able to work all day at the office and study at night, without the nervous exhaustion that was usual before I tried Grape-Nuts.

"It leaves me strengthened, refreshed, satisfied; nerves quieted and toned up, body and brain waste restored. I would have been a living skeleton, or more likely a dead one, by this time if it had not been for Grape-Nuts."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter?. A new one appears from time to time. They are genuine, true, and full of human interest.

Fire Protection on the Farm

In probably not one out of a thousand American farm houses or barns is a bucket of water kept in a handy place ready for use in case of fire emergency; yet so effective is a handy bucket of water when fire starts that the insurance underwriters grant a lower rate of insurance to manufacturers and merchants who will keep a specified number of filled fire buckets in certain locations in their buildings. Frequently a cupful of water at hand when a blaze starts as a tiny flame is more valuable in preventing fire loss than a whole fire department ten minutes later. A single bucket of water dashed soon enough on blazing curtains or draperies or a small blaze starting in rubbish or hay, will put out a fire before it has opportunity to gain headway, and thus may be the means not only of saving a building and its contents and preventing the death of stock, but even save loss of human life.

Most people rely on a pump or water tap as a source of water when fire breaks out. In the excitement following an outbreak of fire it frequently is difficult to locate buckets, and the delay of two or three minutes necessary to fill a bucket at a pump or tap may be enough to give the fire a chance to get into the walls or spread to a point where it is very difficult to quench.

At the same time, no matter how good the fire-fighting apparatus on a farm may be, the owner and his employes should not for that reason become careless or permit smoking in barns, or other dangerous practices, because they think they have at hand the means to extinguish a fire. All home owners should be particularly careful to keep lamps so far from woodwork, curtains or other inflammable material that there is no danger of the direct flame or heat setting fire to anything. Open candle flames or other open flames are particularly hazardous. Piles of trash or papers or other waste in yards around buildings, or left in cellars, are especially dangerous. The same is true of all oily rags or waste which may lead to a fire by spontaneous combustion. —Mutual Insurance Journal.

Badly Adjusted Separators Cause Loss

Butter-fat and profit may be run into the skim milk can if the separator is not properly adjusted. One Wisconsin creamery man has found, by repeated tests, that skimmed milk obtained upon farms where hand separators are used oftentimes contains large percentages of butter-fat, amounting in some instances to one-fifth of that produced by the farmer's cows.

Frank Swoboda, agricultural representative of the United States Department of Agriculture and the College of Agriculture of the University of Wisconsin for Langlade county, has found that many farmers in his section are losing money by running cream into the skimmed milk. His tests, made co-operatively with local creamery men, showed losses which warranted him in carrying on a campaign for the more efficient use of farm separators.

C. E. Lee of the University Dairy School, has assigned six causes for the loss of fat in milk: First, the separator may not be standing level upon a firm foundation; second, the bowl may be out of balance and vibrating too much when in operation; third, the bowl may not be operated at full speed (if the speed of the handle should be forty-eight or sixty, as is indicated by the book of instructions, it must be maintained at that rate during the separating, and, if other than hand power is used, the speed of the bowl must be the same,; fourth, skimming milk that is too cold (milk should be separated immediately after each milking); fifth, the cream outlet may be partially stopped, due to improper cleaning of the separator; sixth, the bowl may be too low or too high. If too low, it is due to the parts being partially worn, or in removing the bottom parts for cleaning and not readjusting the height of the bowl to its original position.

Columbus' Fleet Goes to 'Frisco

The three reproductions of Columbus' sailboats, the Santa Maria, the Pinta and the Nina, constructed for the World's Columbian exposition in 1893, have left Jackson park lagoon in Chicago on the first lap of their journey to the Panama-Pacific exposition in San Francisco in 1915.

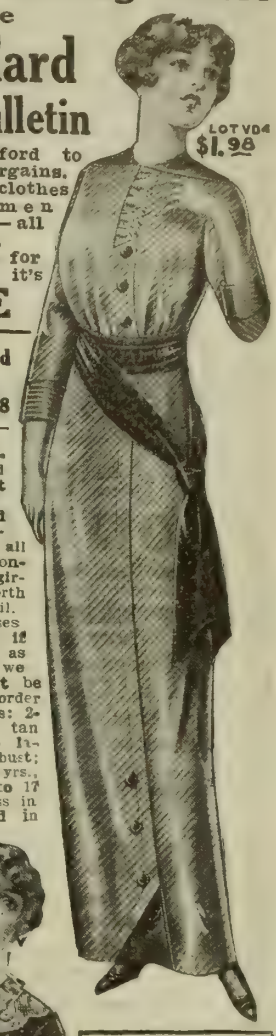
SPECIAL SALE

Wonderful Dress Bargains for Ladies Misses and Girls. Yet, these are just a few of many

Money-Saving Offers In the

Standard Xmas Bulletin

You can't afford to miss these bargains. Charming new clothes for men, women and children — all at big savings. Send at once for your copy — it's **FREE**

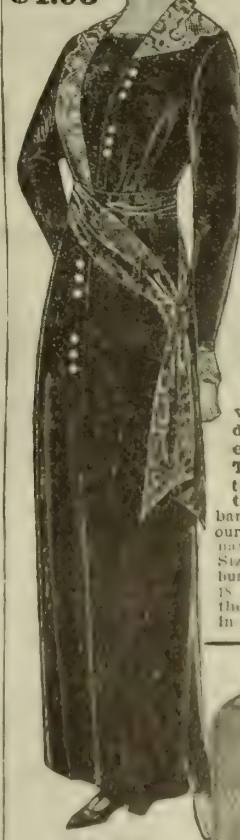


LOT VD4 $1.98

Stylish Whipcord DRESSES
$4.00 Qualities $1.98

LOT VD4—Stylish Whipcord Dresses. In smart tailored styles, (as pictured) and in other similar designs, but all with the fashionable Bulgarian girdle. None worth less than $4 retail. About 15,000 dresses in this lot, but if they go as fast as in the last sale we held, they won't be here long. So order promptly. Colors: 2-tone gray, blue, tan or wine. (Sizes Ladies', 34 to 44 bust; misses', 14 to 18 yrs., and juniors' 13 to 17 years.) Any dress in the lot, postpaid in the U. S. **$1.98**

LOT VD10, $4.95



Satisfaction Guaranteed or Your Money Back

Stunning $10 and $15 Velvet Dresses $4.95

LOT VD10 — 5,000 handsome Velvet dresses in the charming effect pictured and in similar equally pretty styles. All of splendid quality, with the fashionable Bulgarian sash and with high or turned down lace or embroidery collar and yoke. There's not a dress in the lot that would retail under $10. A real bargain opportunity at our price. Colors: black, navy, brown or wine. Sizes: ladies' 34 to 44 bust; and misses' 14 to 18 years. Any dress in the lot postpaid in the U. S. **$4.95**

Girls' WASH DRESS $1

HR 160 — Charming "pinafore dress" of durable, washable quality. Comes in smart black and white or two-tone gray or tan whipcord patterns. Trimmed with contrasting material and has full pleated skirt. (Sizes 6 to 14 years.) A splendid $1.69 dress, postpaid in the U. S. **$1.00**

Standard Mail Order Co.

451 W. 55th St., New York City.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Coming Every Week—52 Times a Year—Not 12.

Enlarged, improved, and bringing to the entire family the best of American life in fact, fiction and comment.

The Youth's Companion

Is the best investment in good reading that you can make at any price. It is pre-eminently the leader both in quantity and quality.

"ON THE WAR-PATH"

A great Serial Story, by J. W. Schultz, who was brought up among the Blackfeet.

There will be 300 other stories—some of them serials—and every one a story worth reading. There will be stories by Theodore G. Roberts and C. A. Stephens and Archibald Rutledge and A. S. Pier and Chas. Askins—stories of boarding school, splendid football and baseball stories, notes on science, current events, informing editorials, The Boys' Page, The Girls' Page, The Doctor's Corner.

If you don't know The Companion, let us send you Sample Copies containing the opening chapters of Arthur Stanwood Pier's fine story of St. Timothy's school-days, "His Father's Son."

To Jan. 1915, for one year's subscription

Every New Subscriber who cuts out this slip or mentions this publication and sends it at once with $2.00 will receive DX 211

1. All the issues of The Companion for the remaining weeks of 1913, including the Holiday Numbers.
2. The Companion Practical Home Calendar for 1914.
3. The 52 weekly issues of The Companion for 1914.

THE YOUTH'S COMPANION, BOSTON, MASS.

Genasco

THE TRINIDAD-LAKE-ASPHALT

Ready Roofing

When you want all the buildings on the farm waterproofed to stay—cover them with this genuine asphalt roofing, applied with the Kant-leak Kleet.

Genasco gives real resistance to snow, rain, sun, wind, heat, cold, and fire; and the Kant-leak Kleet waterproofs seams without cement.

Ask your dealer for Genasco. Mineral or smooth surface. Look for the hemisphere trademark.

The Barber Asphalt Paving Company, Philadelphia

Largest producers in the world of asphalt and ready roofing

New York Chicago San Francisco

When communicating with advertisers, please remember that you will favor both the publisher and advertiser by stating that you saw the advertisement in The Twentieth Century Farmer.

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$9,000 offered for certain inventions. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. Patents advertised for sale at our expense in Manufacturers' Journals.

CHANDLEE & CHANDLEE, Patent Att'ys
Established 16 Years
923 F. Street, Washington, D. C.

Our Young People on the Farm

To an Oriole

How falls it, Oriole, thou hast come to fly
In tropic splendor through our northern sky?

At some glad moment was it Nature's choice
To dower a scrap of sunset with a voice?

Or did some orange tulip, flaked with black,
In some forgotten garden, ages back,

Yearning toward heaven till its wish was heard,
Desire unspeakably to be a bird?

—Edgar Fawcett.

The Oriole

Late in the spring, after the robin, the bluebird and most of our other feathered friends have long been familiar sights about our lawns and fields, the Baltimore oriole arrives from his winter home in South America, wearing a beautiful suit of orange and black. Like many another brilliantly colored bird, he has a quiet little wife, all gray and moss green, with just a touch of dull orange. Right after mating she begins to build the nest, while her partner sings his shrill, excited

song to cheer her in the work. The quiet little lady is a wonderful builder. String, plant fibers, horse hairs she brings and weaves into a dainty basket, which she swings from the tip of a twig strong enough to hold the oriole family's weight, but too slender to support a cat or squirrel.

In this basket are placed the half dozen darkly spotted white eggs that later hatch into noisy youngsters. These little fellows scream all day for food, only stopping when the parent birds are on the nest or are stuffing bugs and worms down the eager little throats.

The diet of the oriole is varied. He loves the codling moth, the apple worm, the tent caterpillar and all the other orchard pests. But he likes green vegetables also, and ripe fruit, and the honey of the garden flowers. He will often pierce every blossom on a trumpet vine to get the sweet drops at their base. However, as the oriole never appears in flocks or in large numbers, and his stay is short, he does not do so very much harm after all. He just rears his family and then leaves, and he disposes of a good many harmful insects, as the young birds are fed nothing else.

West of the Rockies they have the Bullock's oriole instead of the Baltimore, but there is little difference between them. In the eastern states they have the orchard oriole, much less brilliantly colored and which does not build a hanging nest. Our oriole is not a southern bird, in spite of the name, which really has nothing to do with the city of Baltimore at all. Back in the seventeenth century a certain Lord Baltimore of England landed on our newly discovered shores, saw the oriole and admired it. He adopted its colors as his own and in return gave his own name to the little bird, which it bears to this day.

THE EDITOR.

(Prize Story)

Letter from Rat City

By Astrid Sorensen, Aged 15, Lindsay, Neb.

RAT CITY, ———, 1913.—Dear Parents: Well, now I have been here for quite a while, and I like it fine. I work for Mr. Skinnie Rattie, and I get good wages. Just now we are gnawing a hole under a granary full of grain, and I guess I shall help him and his family move pretty soon, as we have heard and seen Mr. Black Cat sneaking around, and he came pretty close to killing the baby Ratties here one day, so I guess we had better change our den.

How is everyone in that country by this time? How did it go with Ted Fatie? Did he die from being caught in that trap, and how did they get it off his hind legs? Oh, aren't those people awfully cruel?

Well, I will just tell you about what a pretty pair of twins Mr. and Mrs. Skinnie Rattie have. The two young ladies have the sweetest little white spots on their noses and one on their tails. Their names are Mity and Nity.

Well, I guess this is all for this time. I will send this letter with Mr. Long Tail when he goes over to look at the corn you mentioned.

With best regards and wishes for a good time Hallowe'en, your son,

BOB-TAIL BROWN RAT.

(Honorable Mention)

Some Unusual Pets

By Dorothy Shallenberger, Aged 11, Alma, Neb.

My Uncle John and I went fishing one day last summer. I had caught three fish and Uncle John was looking for more bait. He saw an old mother field mouse and her family of three. The old mother squeaked to her children to tell them of the danger. They tried to hide, but Uncle John had caught the three with his hands already. Uncle John was going to use them for bait, but I asked and insisted upon his giving them to me for pets. I made a cage for them to be brought home in out of an old tin can. I made a better cage after getting home.

One night I was going to give them some water. I opened the cage door and before I could think twice one had slipped out and ran under a trunk. I gave it up for lost. Afterward I let our old cat in and in an hour she had caught the mouse. She did not hurt it much and we got it back and it soon was well.

They lived in their cage for quite a while. They slept in a bird's nest

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Picture Contest No. 8

This is the picture about which you are to write a verse of four lines. Each of the two children writing the best verses will receive a book as a prize. Write plainly, giving your name, age and address. Neatness, spelling, punctuation and the age of the writer will be taken into consideration in awarding the prizes, as well as the quality of the verse. All verses must be addressed to Picture Contest Editor, Twentieth Century Farmer, and must reach this office not later than December 13. Awards in contest No. 7 will be announced in the next issue.

lined with cotton. It was very cute to see them huddled together in their nest fast asleep. They died after a month. I think it was from lack of water in the awful heat of August.

The Fire

By Ruth Peterson, Aged 11, Pilger, Neb.

Last Sunday, about 2 o'clock in the afternoon, when we were all out visiting, except three of my brothers, our alfalfa stack, about sixty tons of hay, caught on fire. The fire broke out at one end and side, having first started at the center by the heating of the hay. It had been stacked four months.

My brothers immediately started to put out the fire by carrying water and calling our neighbors for help. Cutting twenty feet off the end of the stack and working hard by pitching hay and carrying water the rest of the day, they succeeded in saving all but about fifteen tons, which was damaged and burned so that it was useless for feed. We were certainly glad, on returning home, to find so much of our hay saved from the fire.

The American Farmer

By Charles McNamara, Aged 13, Winterset, Ia.

A farmer should be sober, honest, educated and up to date. I think that if the farmers could get good educations we would get twice as much value from our land.

If the farmers would carry a side line of pure-bred stock, instead of so much grade stuff, it would help the market wonderfully.

The farmer should know his land and grow crops accordingly.

A farmer should own his land or rent on long leases.

If it is possible the farmer should own an automobile. This is all.

Additional Stories

Esther Neumann, North St. Paul, Minn.; Marguerite Battles, La Belle, Mo.; Fransena Schwartz, Ashtabula, N. D.; Athria McElureath, Arlington, Tex.; Elma Bigelow, Crete, Neb.; Irene Osman, Kanawha, Ia.; Helen Lindall, Arcadia, Neb.; Esther Keefer, Papillion, Neb.; Bessie L. Strasser, Iowa City, Ia.; Nettie Eberhard, Hooper, Neb.; Hazel Hauserman, Alta Vista, Kan.; Ruth Watkins, Fairfax, Mo.; Ruth Kepner, Havelock, Neb.; Virginia Stearley, Chappell, Neb.; Phoebe Stearley, Chappell, Neb.; Lillian Stoutenburg, Lone Rock, Ia.; Mildred Mullinger, Denison, Ia.; Nona Carlton, Brigham City, Utah; Marla Rathjen, Garrison, Neb.; a story called "The Lost Child," no name.

Toasted to a Golden Brown!

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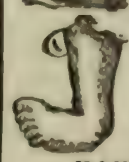

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Of Interest to Women Readers

Thrift

Said Mrs. Ant to Mrs. Bee,
From the back door of her hill,
"I've been a workin' all summer
And you see I am workin' still.
I have cured a dozen grasshopper hams,
Have ten cricket thighs in brine,
And have pickled six pairs of beetles' wings,
To feed that fam'ly of mine."

Said Mrs. Squirrel to Mrs. Jay,
From her hole in the tree one morn,
"I have pickled three quarts of prune seed
And ten quarts of yellow corn;
I have sixteen bags of acorns,
And of peach seed kernels ten,
And that's enough to keep us alive
Till summer rolls' round again."

Said Mrs. Smith to Mrs. Brown,
As they gabbled each with each,
"I've made two gallons of grape jam
And mos' two gallons of peach;
I've made twenty glasses of crabapple jell,
Three dozen of quince and plum,
And canned sixty quarts of tomatoes—
I tell you I have worked some."

—Bayoll Ne Trele.

Our Home Chat

When you were a child and quarreled with your playmates, the first thing they said was always "I'll tell my mamma on you." Perhaps you felt envious because you knew they could go home and "tell," and always be told not to mind what you said or did, because you were not fit to associate with anyhow. And your mother always made you tell the whole story, and then questioned you carefully, and in the end, as often as not, she drew out the fact that you were at least partly to blame for the trouble. Even if you were not, she didn't sympathize. She only said, "Well, if you children cannot play together happily, you had better not play together at all," and the next time you wanted to go over there she would not let you go.

You were lucky if you had that kind of mother, and your children are lucky if you are that kind of mother to them. The woman who always takes her children's part in every little disagreement, regardless of right and wrong; who teaches them that they are superior to their friends and should have their way, is laying up trouble for them in the years to come. Many and many a heartache they will suffer before they unlearn the lessons this unwise mother has taught them.

"My mother says I am a little lady, and you are not fit for me to wipe my feet on," a small girl told me once. I wished then that my mother would say something like that for me to repeat before the wide-eyed children standing by, but now I am glad she never did. Poor little girl! The time came when her lack of self-discipline told against her, and a disapproving community taught her that to be a lady she must act like one, a lesson her mother should have taught her many years before.

It hurts to have your children think you are harsh and compare you unfavorably with the indulgent mothers of their playmates, but the punishments given children, if given wisely and without anger, are not so heavy as the punishments nature gives us for similar faults in later years.

THE EDITOR.

Another Farmer's Wife Writes

Such testimony as I could give in the city wife versus the farmer's wife would be one-sided, I fear, for I have been a farmer's daughter all my life and a farmer's wife nearly fifteen years, so I know no other life. My honest opinion, though, is that the average farm wife gets more out of life according to the capital invested than does any city woman. In this discussion we are, of course, leaving out the woman who thinks it enough of an honor to live in the city to let the children go half fed and herself and family go without the necessities of life that she may have fine dresses to wear on the street or when visiting, also the farmer's wife who wouldn't if she could do anything to lighten her work or enlighten her mind. But there is a happy medium.

In this southland all the farmers who are financially able furnish their wives with every convenience possible. They go and come at their own pleasure, using their own judgment as to whether they can spare their time from their home duties. Not many of the homes where I am personally acquainted can produce a real boss, for the husband and wife are partners and friends and work and plan together, and, of course, the wife has her full share in everything.

The social part of this country is spoiled by a drifting element which follows public works for a livelihood. There are logging camps, sawmill towns and tram roads in every direction, and it takes thousands of men to keep this work in operation. Nearly all of them have families and many of them are fine people, but they drift from job to job from force of habit. So it makes no difference what is started either in a social or religious way, the drifters come and go and we give it up in disgust. Even the public schools are affected.

We are not so far advanced socially as our sisters in the east, west and north, but we will be some day, and many of us will hail the time with delight. Like our editor, I think it quite wrong for people to move to town and then be unwilling to do without the things of the country and inflict on their neighbors cow-lots, pig-pens and henhouses, with their occupants, noise and odor. They had better herd their live stock and hie "back to the land."

NANCY J. HAVENS.

Louisiana.

Teach Children What You Know

With all the talk of the high cost of living the thought must occur to one who looks below the surface that part of the trouble at least is caused by people not knowing what to buy. Agricultural colleges are recognizing this and are training their students in domestic economy, how to discriminate between the articles of food that are worth what they cost, and those which are of little value as compared with the price for them.

This is good as far as it goes,

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but there are hundreds of young men and women in every county of each state in the union who are not permitted the advantages of college training, and why should these be deprived of the knowledge of facts which would be of value to them? We learn by experience, but this teacher charges exorbitant tuition fees, and if we learn only from experience "we are only half prepared to live before we are doomed to die."

Why not, then, impart to the boys and girls some of the experiences which parents and teachers have gathered? This experience has as important a bearing on their lives as the facts gleaned from school books; in fact, some of it may be found as the text of different lessons, but many parents do not realize this, and think all teaching should be left to the schools, to be supplemented later by the lessons which life brings.

Now, it would be foolish to decry the schools, if they don't teach everything, for they do a great work, but what is the use of leaving it all for them when parents can do so much by making an effort to impart what they have learned. For example, an excellent cook and housekeeper, whose daughter had been away at a domestic science school for a year, was telling me: "Ida has not learned one thing, as I can see, that I do not know, and I told her so."

My answer was: "Well, then, the expense of sending her away was a useless one." And in many other cases this is equally true, just because parents think it too much trouble to tell others what they know, particularly if the younger people must be shown as well as told. My belief is that girls and boys should learn as much as possible from mother and father about the every-day work of home and farm, and buying with judgment is as important as anything, for it makes the money go a long way, which is worth considering by everybody. CENA S. CORNMAN.

Uses for Stale Bread

In almost every home there occurs every once in a while an accumulation of stale bread that the housewife does not want to throw away and yet finds it puzzling to prepare in ways that are palatable. Here are two good routes over which to send your stale bread:

Tomato Patties — Moisten one quart of stale bread crumbs with stewed tomatoes, enough to make them mouldable; one cup of grated cheese, one egg and a piece of butter the size of an egg, salt and pepper. Mould into patties, roll in crumbs and fry in butter or lard. Serve hot garnished with parsley.

Breaded Eggs in Ramkins—Place a small piece of butter in the bottom of the dish, over this a layer of bread crumbs. Break in a fresh egg, season with salt and pepper; over this another layer of bread crumbs, with a generous layer of grated cheese, and lots of butter for the last layer. Bake about ten minutes. Serve hot from the ramkins.

ELIZABETH MOTZ ROSSITER.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6422—Misses' and Small Women's Dress—Charming and youthful, this dress may be made with the neck high or low, finished with a small collar and with the closing in surplice or in double-breasted fashion. The sleeves are plain, set in without fullness, and a two-piece skirt completes the costume. The pattern 6422 is cut in sizes 14, 16 and 18 years. Medium size requires 3½ yards of 44-inch material, with 1½ yards of 36-inch velvet for collar and girdle.

5246—Ladies' Wrapper This wrapper is made in the princesse style. It can be made with either the plain or bishop sleeves. Cashmere, elderdown or any of the warm woolen materials can be used to make this wrapper. The pattern 5246 is cut in sizes 32 to 44 inches bust measure. Medium size requires 7⅛ yards of 36-inch material.

5292—Ladies' Apron Linen, gingham or seersucker can be used for this apron. It is made with a pocket on each side, and the neck is cut square. The apron fastens with straps at the shoulder. The pattern 5292 is cut in sizes 32, 36, 40 and 44 inches bust measure. Medium size requires 3¾ yards of 36-inch material, or 4¾ yards of 2-inch material.

6297—Ladies' Three-Gore Skirt—This model shows one of the newer styles for tailored skirts. It opens in front, where the material is slightly draped at about knee depth. A small V-shaped piecing fills in the opening at the foot. Not only tailored goods, but also soft silks and crepe materials, will make up nicely in this style. The pattern 6297 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2⅝ yards of 44-inch material.

6424 Girls' Bathrobe—This simple gown is for a bath robe or wrapper. It closes high in the neck and has a small turn-over collar. The sleeves are long and there are patch pockets. With it we offer little slippers to be made of felt or flannel and to be worn with the bath robe. This may be made of elderdown, of plain flannel or of a fancy blanket. The pattern 6424 is cut in sizes 2, 4, 6, 8 and 10 years. Medium size requires 3¼ yards of 36-inch material.

6400 Doll's Dress With holidays approaching, the dress of the doll becomes important. The one herewith offered is a one-piece garment, sleeves, body and skirt all in one and with the closing in the back. A wide belt completes the dress. The pattern 6400 is cut in sizes for dolls from 14 to 26 inches in length. For a 24-inch doll it will require one yard of 27 or 36-inch material, 1¼ yards of edging and ¼ yard of ribbon

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New Light Upon Jefferson Davis

By Frank G. Carpenter

WASHINGTON, D. C. — The manuscript division of the Library of Congress has just put into shape and made accessible to the historical student some most interesting letters written by Jefferson Davis and his wife while the two were fleeing southward from Richmond at the close of the war. The letters were sent from one to the other in all sorts of ways, but in most cases by soldiers. The most of them were intercepted, and the collection finally came into the hands of Edwin M. Stanton, who was secretary of war. Mr. Stanton kept the letters among his private papers and it was only after his death that they came to the national library. I am told that they have never been published.

These letters were written under conditions of terrible excitement. The confederacy was falling and the sword of death hung by a hair over President Davis and his administration. The letters were written without any idea that they would ever be published, and they give perhaps the truest insight into the characters of Mr. Davis and Mrs. Davis and show the beautiful relations which they held to each other. I will let them speak for themselves.

The first letter is from President Davis just after he had sold out his household effects in Richmond at auction and had fled southward to Danville, Va. Mrs. Davis was with her children at Charlotte, N. C. The letter reads:

"Danville, Va., April 5, 1865—My Dear Wife: I have in vain sought to get into communication with General Lee and have postponed writing in the hope that I would soon be able to speak to you with some confidence of the future. On last Sunday I was called out of church to receive a telegram announcing that General Lee could not hold his position longer than till night, and warning me that we must leave Richmond, as the army would commence retiring that evening. I made the necessary arrangements at my office and went to our house to have the proper dispositions made there. Nothing had been done after you left and but little could be done in the few hours which remained before the train was to leave.

"I packed the bust (probably of Mr. Davis) and gave it to John Davis, who offered to take it and put it where it should never be found by a Yankee. I also gave him charge of the painting of the 'Heroes of the Valley.' Both were removed after dark. The furniture of the house was left, and very little of the things I directed to be put up, including bedding and groceries, were saved. Mrs. Omelia behaved just as you described her, but seemed anxious to serve and promised to take care of everything, which may mean something.

"The auctioneer returned account of sales $28,400. Could not dispose of the carriages. Mr. Grant was afraid to take the carriage to his house, etc., etc. I sent it to the depot to be put on a flat car. At the moment of starting it was said they could not take it in that train, but would bring it on the next train. It has not been heard from since.

"I sent a message to Mr. Grant that I had neglected to return the cow and wished him to send for her immediately. Called off on horseback to the depot, I left the servants to go down with the boxes and they left Tippy. Watson came willingly. Spencer against my will. Robert, Alf. V. B. and Ives got drunk.

"David Bradford went back from the depot to bring out the spoons and forks, which, I was told, had been left, and to come out with General Breckenridge. Since then I have not heard from either of them.

"I had short notice and was interrupted so often and so little aided that the results are very unsatisfactory.

"The people here have been very kind, and the mayor and council have offered assistance in the matter of quarters, and have very handsomely declared their unabated confidence. I do not wish to leave Virginia, but cannot decide on my movements until those of the army are better developed.

"I hope you are comforable and trust soon to hear from you. Kiss my dear children.

"I am weary of this sad recital and have nothing pleasant to tell. May God have you in his holy keeping is the fervent prayer of your ever affectionate, HUSBAND.

"J. D. Howell is here, though I have not seen him. He and Joe Nick came together as a guard to treasury specie."

The next letter refers to a letter from Mrs. Davis, which was probably lost. It is:

"Danville, Va., April 6, 1865—Dear Winnie: Many thanks for your letter giving me an account of your situation at Charlotte. In my letter of yesterday I gave you all of my prospects which can now be told, not having heard from General Lee and having to conform my movements to the military necessities of the case. We are now fixing an executive office where the current business may be transacted here, and do not propose at this time definitely to fix upon a point for a seat of govt. in the future.

"I am unwilling to leave Va. and do not know where, within her borders, the requisite houses for the departments and the congress could be found.

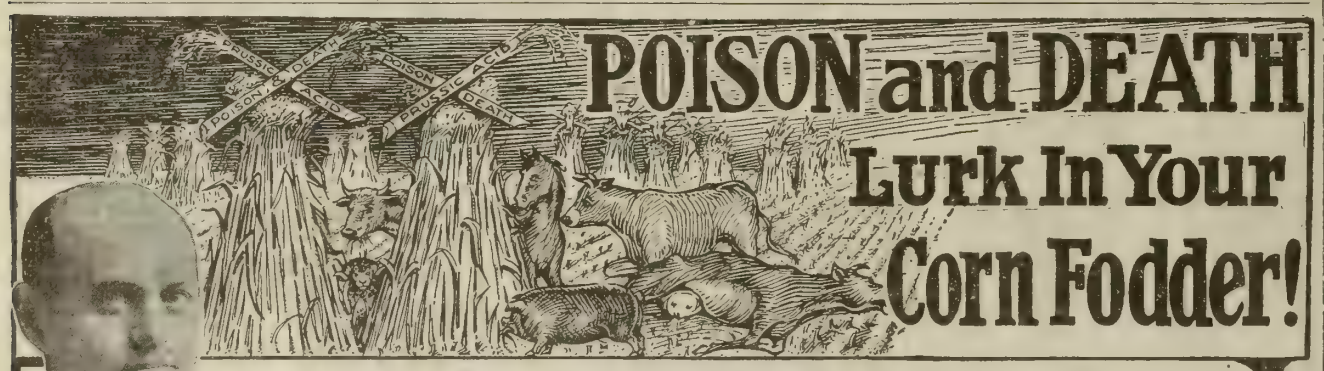
"I hope our dear children will be well when they have recovered from the effects of their journey. Enclosed please find two letters. As specimens of deep feeling and idle speaking they might stand for extremes in their classes.

"Love to Maggie, little Maggie, Jeff, Billy and little Winnie. Farewell, my love. May God bless, preserve and guide you. HUSBAND."

The next letter is from Mrs. Davis. It was written at Charlotte, N. C., and it begins with the affectionate title by which Mrs. Davis frequently addressed her husband:

"April 7, 1865—My Own Dear Old Banny: Since my arrival here I have been so busy as to have only the evening to write in, and then but one room, where the children most did congregate, so I have written you but one disjointed letter.

"The news of Richmond came upon me like the 'abomination of desolation,' the loss of Selma like the 'blackness thereof.' Since your telegram upon your arrival at Dan-



POISON and DEATH Lurk In Your Corn Fodder!

Prussic Acid Is The Great Danger Now Threatening Every Stock Raiser In America

State veterinarians and many editors of farm papers are issuing warnings against feeding corn fodder to stock, because of **prussic acid** which is always present in drouth-stunted corn stalks.

You do not need to be told that much of your corn was stunted in growth this year.

But you **do** need to be told that poison—**death to your horses, cattle, sheep and hogs—lurks in every corn stalk, whether in shock or left standing!** Unless the action of the deadly prussic acid is counteracted it often kills in a few hours. Many stock losses from this source have already been reported.

Every **hog** raiser knows too, the danger of feeding new corn to his **hogs,** especially as in this year it is chaffy and stunted. It causes one of the worst forms of indigestion and worms, and like cholera frequently wipes out whole herds in a few days.

I CAN PREVENT THAT LOSS

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The forage poison (prussic acid) and new corn cause acidity of the stomach and fermentation resulting in acute digestive troubles which quickly cause death. **Columbian Stock Powders** are **anti-acid** and **anti-fermentative. Feed** these powders and you can give your stock the free run of the fields—standing or in shock. All ill effects from eating the **undeveloped** corn and stunted stalks will be absolutely counteracted.

Columbian Stock Powders best for general stock feeding, exterminating worms, fattening hogs and preventing hog cholera.

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are **not a food, but a highly efficient medicated preparation.** They contain a powerful vermifuge and not only **kill** but **expel** all worms in hogs, horses and sheep. These strength-sapping, disease-breeding parasites are the cause of fully 90 per cent of all stock diseases. You **must** get rid of them in order to have thrifty stock. The only way to keep your stock vigorous, free from worms and disease and poison-proof is to treat them internally with Columbian Stock Powders. Will put a speedy end to all their digestive troubles, make them fat and sleek, and keep them in finest condition. Indispensable for brood sows because it keeps them free from fever, insures strong healthy litters and an abundant flow of pure milk.

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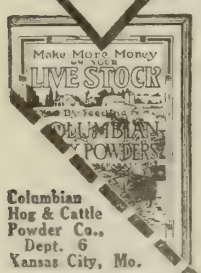
Columbian Stock Powders are not only insurance against stock losses—they actually increase your stock profits. Enable you to fatten hogs with **less** feed and shorten the fattening period. Start feeding **"Columbian"** to your **fall pigs now** before cold weather sets in, so as to hasten their growth and insure **more** pounds of prime pork. In daily use by thousands of practical raisers who declare that "Columbian" has put stock raising on a **permanently profitable** basis for them.



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Just write or mail coupon stating how many hogs, cattle, horses and sheep you are feeding and I'll make you an offer whereby you may try Columbian Stock Powders 90 days before paying me a cent. I absolutely convince you that it's big money in your pocket to keep on feeding them. This is the most liberal offer ever made on a proposition of this kind. Don't fail to take advantage of it.

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We want a few reliable farmers to represent us in every community. Our proposition unusually attractive—a big and sure money maker and the work is not hard. It will pay you to investigate. Write for particulars.

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Regular price is $5; but if you will write or mail coupon, at once I will tell you how to get one **FREE**

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ville we have nothing except the wildest rumors, all, however, discouraging.

"I, who know that your strength when stirred up is great, and that you can do with a few what others have failed to do with many, am awaiting prayerfully the advent of the time when it is God's will to deliver us through His own appointed agent. I trust it may be you, as I believe it is.

"It would comfort me greatly if you could only find an opportunity to write me a full, long letter. As soon as we are established here I am anxious to leave Mrs. Chestnut

Jefferson Davis
(In 1865, painting by Chappel)

with the children and bring Li Pie (evidently the baby) to see you. I do not know how soon that may be. God grant it may be soon. The gentlemen I have seen here (the officers of the post) are exceedingly kind, and have offered me every civility in their power.

"The surgeon general was also very kind in his offers of service. Colonel Johnston, with his wife, called to see me. Mrs. Joe Johnston is here, living with the cashier of the bank and family, and keeps a very pretty, fancy carriage and horse. I have not seen her, but I hear she is going out of town before long to some watering place or other. Mrs. Semmes went off yesterday for the south. I did not see her. The Wigfalls are staying, I believe, with Mrs. Johnston also; they arrived yesterday.

"I heard a funny account of Wigfall's interview with Beauregard. It seems he went to see him on his way to this place, and when the news of the evacuation of Richmond came, and that the enemy had not yet entered the town, the general said: 'Oh, they do not understand the situation! It is, or ought to be, a plan of Lee's to keep between Richmond and the enemy. If Grant attempts to throw troops between his army and Richmond, Lee can whip them in detail.' With this plan Wigfall was immensely satisfied.

"I cannot judge of the moral effect of the fall of Richmond. The people here were about as low down as they could be before, as I infer from little things; but, upon the whole, I do not think the shock is as great as I expected.

"We had a digest of your address to the people today, and I could not make much of it, except an encouraging exhortation. Am anxious to see the whole thing. Numberless surmises are hazarded here as to your future destination and occupation, but I know that wherever you are, and in whatever engaged, it is in an efficient manner for the country. The way things look now, the Transmississippi seems our ultimate destination.

"Though I know you do not like my interference, let me entreat you not to send B. B. to command there. I am satisfied that the country will be ruined by its intestine feuds if you do so. If your friends thought it best, I should feel helpless, but resigned; but even those who hope

Mas. Jefferson Davis
(Taken shortly before the letters were written)

for favors in that event deprecate it for you. If I am intrusive, forgive me for the sake of the love which impels me, but pray long and fervently before you decide to do it.

"Mrs. Chestnut wrote me a most affectionate letter from Chester today. She is staying in two rooms, very badly furnished, and furnished with food by her friends there. As I shall have a spare room, she will come over and stay a few days with me. I have carpets, some curtains, some window shades and three pictures, and some lovely volumes of books, belonging to a man in Augusta; a marble table, brocatelle chairs, nice china and nice tin basins and buckets. I am very well off and very kindly treated by the Jewish man, Wiele, who owns the house—with the delicacy and hospitality of a gentleman. Major Willis has offered every attention and so has Major Echols. Harrison has been more efficient and attentive than I thought he could be, and very affectionate and kind. I really regret to see him go tomorrow, which is the day he proposes to leave.

"The Trenholms left yesterday for Chester, with Colonel Trenholm. Our little ones are all well, but very unruly, or else the small house 'makes me sensible of it.' Li Pie is sweet and pink and loving; her hands and gums are hot and swollen

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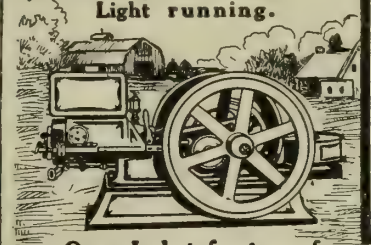

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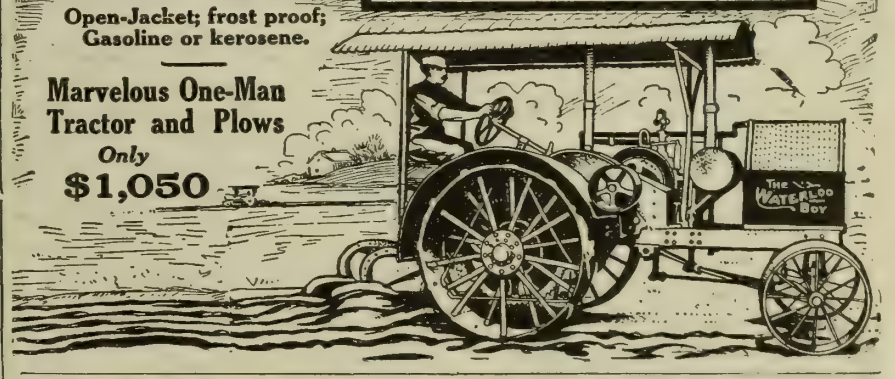

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The Lauson Frost King
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Guaranteed—We absolutely guarantee Lauson Frost King engines to make good on every claim we make for them; also as to workmanship and material.

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When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age

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be a successful farmer in the San Joaquin Valley, California

Here forty thousand families have established homes and turned raw land, which cost them $100 an acre or less, into blossoming orchards, blooming alfalfa and stock farms, for some of which, men, who know conditions, are glad to pay $500 an acre and upward.

But there still is ample room and abundant opportunity for one hundred thousand families to make a home and a substantial fortune—from a modest beginning—supplying the ever-increasing demand for the products of California soil.

I want to get into correspondence with every man that reads this advertisement, who has a desire to own a farm on the Pacific coast. I would appreciate it if you will tell me in your first letter just what kind of a place you desire—whether a fruit ranch, a vineyard, an intensively cultivated garden, an alfalfa and stock ranch, a dairy or a poultry farm.

We are in possession of a large amount of information that will be of the utmost value to you in deciding where to locate. We can tell you something of land values, terms, market conditions, taxes, cost of cultivation, cost of water and the hundreds of other things which you must know, and which would take you weeks and months to get for yourself.

After you have found the spot, we will send to you one of our expert agriculturists, a man who knows local conditions and can intelligently advise you how to lay out your place and how to avoid the pitfalls the stranger in a new country is likely to encounter. All this service is free. It is the Santa Fe way of insuring the home-maker as far as possible against failure.

The railroad has no land to sell. Its only chance of profit is in the continued success and prosperity of the people it serves.

What the San Joaquin Valley is, and what others are doing here, is told in two books, which are free and are yours for the asking. Then, if you are interested, we want you to ask further questions—we are eager to answer them.

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Reports from the grain fields of Alberta, Western Canada, show splendid yields of wheat, oats and barley.

Many farmers have paid for their land out of the proceeds of the crop of 1911.

At exhibitions throughout the U. S. wherever the grain from this Province has been shown it has received the highest commendation.

Free Homesteads of 160 acres and adjoining pre-emptions of 160 acres (at $3 per acre) are to be had in the choicest districts. Schools convenient, climate excellent, soil of the very best, railways close at hand, building lumber cheap, fuel easy to get and reasonable in price, water easily procured, mixed farming a great success.

Write as to best place for settlement, settlers' low railway rates, pamphlet "Last Best West," and other information, to Supt. of Immigration, Ottawa, Can., or to Can. Gov. Agt.

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is better than the one in which you live. Some parts of it may not suit you but there are many places along the Union Pacific System Lines where you can locate and be satisfied.

Write to me and tell me what kind of land you want—irrigated, sub-irrigated or dry farming, for general farming, stock-raising, fruit raising, etc.—in the climate that best suits. I will send you the information that will help you locate in the place best suited to your needs.

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Colonization and Industrial Agent Union Pacific Railroad Co., Room 1108 Union Pacific Building,
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and I think she is teething. Billy is well, but bad. Jeff is unremunerative, but behaves well in the main. Jeff is very much exercised about his pony; Maggie about her saddle; Margaret about her saddle; Ellen about her child; Washington (who is a fine boy) about his $2,000 left in his master's hands with his clothes; I about my precious old Ban, whom I left behind me with so keen a heartache.

"Write to me, my own precious, only love, and, believe me, as ever your devoted wife— ,

"Maggie sends love, as do Jeff and Billy. Has Ives turned up? Did Johnson leave his family? Had Mrs. McLean got off? Did Mr. Minnegerode come out? Did we bring off anything when you came? Did you send the pest off out of the way? Did you bring the brandy? Where is Joe?"

Six days later Mrs. Davis has fled from Charlotte to Chester, S. C., and about the same time Davis has fled from Danville and was on his way to Greensboro. Here are the letters:

"Chester, April 13, 1865—My Dear Banny: The rumors of a raid on Charlotte induced me to come south, and a threatened raid here induces me to leave without making an hour's unnecessary stay. I go with the specie train, because they have a strong guard and are attended by two responsible men. I am going somewhere, perhaps to Washington, Ga., perhaps only to Abbeville (S. C.). I don't know. Just as the children seem to bear the journey will I decide. General Chestnut seems anxious, as is the author of the letter you sent me to Charlotte, but, oh, so moody that I am wordless, helpless. The children are well, as are Maggie and I. Would to God I could know the truth of the horrible rumors I hear of you. One is that you have started for General Lee, but have never been heard of. Mr. Clay is here, and very kind. He will catch up with my train and join me tomorrow.

"May God have mercy upon me and preserve your life for your dear wife."

It was on the day following this that Jefferson Davis wrote:

"Greensboro, N. C., April 14, 1865—Dear Winnie: I will come to you if I can. Everything is dark. You should prepare for the worst by dividing your baggage so as to move in wagons. If you can go to Abbeville, it seems best, as I now advise. If you can send everything there, do so. I have lingered on the road and labored to little purpose. My love to the children and Maggie. God bless, guide and preserve you, ever prays your affectionate Banny.

"P. S.—I sent you a telegram, but fear it was stopped on the road. General Bonham bears this. His horse is at the door, and he awaits me to write this. Again and ever yours."

Five days later Mrs. Davis is at Abbeville. She writes desparingly, as follows, concerning herself and her children:

"Abbeville, April 19, 1865—My Dear Old Banny: The fearful news I hear fills me with horror. This is that General Lee's army has in effect disbanded, Longstreet's corps having surrendered, Mahone's also saving one brigade. I do not believe all, yet enough to weigh me to the earth.

"Where are you? How are you? What ought I do with these helpless little unconscious charges of mine? are questions which I am asking myself always. Write to me of your troubles freely for mercy's sake. Do not attempt to put a good face upon them to the friend of your heart.

"Since I left Richmond no such heartfelt welcome has been extended to me as the one I received here. They will hear of no change of place for the present, and urge me, with tears in their eyes, to share with them the little they can offer. People call promptly and seem to feel warmly. Mr. Burt really seems to feel tenderly to us, pets the children and does every kind thing in his power to me. Mrs. Burt is more than affectionate.

"Jeffy D. was taken quite ill on the cars, and is here sick at Mr. Trenholm's, who lives just across the street. He is better, but not well. He and Joe both had very badly swollen throats, with high fever. Joe was nearly well and went on with the train which left here yesterday evening, having arrived in the night. I hear it has been stopped nine miles from here by a rumored raid below here. I do not know how true this is. I shall wait your further directions here. Do write every day, and make the staff send the notes (I do not expect more) by officers coming this way. I am so unhappy and anxious.

"The children are well and very happy—play all day. Billy and Jim fast friends as ever. Little Winnie, the sweetest little angelic thing in the world—she rode along in the wagon as we bumped over the horrible roads, making nose at everything. The children seemed to improve under it.

"Mr. Clay passed through here today, but did not stop long enough to see me. I felt quite disappointed, because he was so very kind to me at Chester and Charlotte. He sent me word he would see me at Washington in a very few days. * * *

"Margaret sends you her best love; little Pollie sends hers, and the boys. Your little pet would, I know, feel for you if she hoped to find you.

"May God in His mercy keep you safe and raise up defenders for our bleeding country, prays your devoted wife."

There were many other letters, practically all along the same line, showing the devout love existing between Mr. and Mrs. Davis.

The next letter of Jefferson Davis was a very long one. It dealt not only with the military situation, but also with the hope which Mr. Davis had of escaping to Europe. Parts of it were full of pathos. It was one of the few letters which was received, the others having been intercepted on their way.

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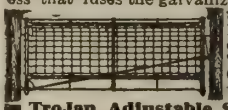

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Money back if not as represented. Five-year guarantee against defective material. $10,000 guarantee bond. The TroJan is made of high carbon steel with galvanized mesh. Adjustable at both ends for side hills or deep snows. Opens easily, locks automatically. A gate without a fault.

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are made in fifteen different sizes, portable, semi-portable and stationary. Choose any one and it will be the soundest investment for the money you can possibly make. Through its smooth running qualities—imperviousness to temperature—low first cost—and economical fuel consumption—the "Wisconsin" has won favor everywhere sold. Write for guarantee and full details.

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All Types 1½ to 30 H.P.

22

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More than $325,000 worth of every make and kind of brand new, dependable roofing now being offered at such remarkably low prices, that we ask all in need or who contemplate buying to hesitate placing orders until they get these remarkable

Bankrupt

Prices. This lot consists of every known make of roofing—Galvanized, 2¾c per sq. ft.; Corrugated Steel, 1¾c per sq. ft.; Rubber Surfaced Ajax Roofing 62c per square, etc. We now own the Chicago House Wrecking Company and incorporated for $10,000,000; this tremendous purchase is the first result—nothing like it ever before attempted by anyone. Every dollar's worth of the roofing guaranteed brand new. Every quality. Write for free samples and remarkable prices.

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Write for "Betty"

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(Size, 13 X 32 inches)

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Paid by "BIGGS" at Kansas City.
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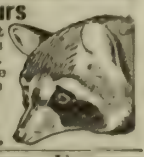
Don't ship anyone furs till you get *Our Free Bulletin* quoting cash prices we actually pay for *Coon, Mink, Skunk, Opossum* and other furs. We charge no commissions. Write today for Free Bulletin, it will pay you big.

NATIONAL FUR AND WOOL CO.,
Dept. 141 St. Louis, Mo.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Timely Items of Interest to Poultry Raisers and Fanciers

THERE was once a time when raising ducks was considered foolish by the farmer, and duck meat was too "weedy, muddy and fishy" of taste to suit the ordinary farm appetite. With the domestication of the duck, and a different line of food, the flavor of the meat changed.

***

The duck industry of Long Island increases. There are now fifty-five duck plants on the island, and there were between one and two million ducks hatched on these plants this last season. The average price paid per pound was 18 cents—the lowest price being 14 cents, the highest 23 cents.

***

They have a co-operative system in buying food for the duck plants on Long Island. It is called the Duck Growers' Association. They buy their feed by the carload and have it shipped from a distributing station. Among the list of duck foodstuff ordered by the association, we notice an order for ten cars of beef scrap.

***

This is the dry ration fed to the hens kept on a certain sterile egg farm in New Hampshire: Every 1,500 pounds of the feed is mixed as follows—four bags of commercial feed, mainly bran and middlings; three bags of cornmeal, three bags of beef scrap, one bag of gluten, one bag stock food, mainly corn and oats; one bag of poultry feed, one bag of animal meal, one bag chopped alfalfa or clover, five pounds of salt. Half of this is fed at one meal, the morning meal, to 4,500 hens. It is fed dry. The afternoon meal is 200 pounds of shelled corn.

***

The handling of the above flock is somewhat peculiar. They are of any kind of breed the owner can pick up from the farmers about and must be from 4 to 6 months of age .A dozen of these are placed in a house built just large enough to accommodate this number. Here they are kept for a year, when they are sold, new pullets taking their place. Their houses are cleaned but twice a year. The floors are bedded in sawdust. They have never had a disease, although occasionally one drops dead. The ends and under sides of the roosts are tarred to keep down mites. They average something like 115 eggs a year. They pay, but would not, of course, if kept into the second year, as the close confinement and pushing for eggs would begin to tell in the second year.

***

There is a good profit in the squab business, provided you learn how to handle the birds, which means attention to many small details. But do not, as a beginner, expect great profit from the start. The person of experience may truhfully boast of from $2 to $3 per pair a year, but the actual truth was that, more than likely, he simply cleared expenses the first year, and the second and yet longer considered he was making money at $1 profit per pair. As a start, expensive buildings are not called for; in fact, at no time are they, except as to extension. The house for fifty pairs can be thirty feet long by eight feet wide and nine feet high, but at that height and width you can keep that many in a house twenty feet long. One wishing to know something of the business at the start can, for the asking, get a good book on squabs from the Department of Agriculture. Ask for Farmers' Bulletin No. 177.

***

At this writing the haulers of the Thanksgiving turkeys are locating the birds they are out to buy. The south will bring up its share, but, it is reported, the middle states are falling short, and this, with the orders that you needn't trot out any but well fattened turkeys from the farms, will increase the scarcity, and it may be raise the price. The party who raises turkeys for breeders is the party who gets the largest profit, for at the very least he can ask and get from double to five times the price he would get on the market. In fact, I have heard some turkey keepers declare that, could they have succeeded in raising so many, they could have sold fifty more than they did for breeders. Of course, this meant some advertising, but advertising is not expensive.

***

"Fresh eggs, fresh eggs every morning for breakfast," sings one city man. "They saved me," he asserts. "I don't know what disease it was I had, neither did the doctors. 'Eat no breakfast,' said the last one I consulted. Well, that did fix me. I hadn't really been eating enough before, but now I was eating less. An old farmer woman said: 'Get you a few good hens and eat from two to three fresh eggs, nearly or quite raw, for breakfast.' I had a little back yard, and I bought the hens and fed and kept them clean all by myself, and ate their eggs, also the hens themselves when there were too many. I began to get stronger from the first month of the fresh-egg diet — fresh eggs with milk. I have recommended it since many a time to some poor follow coughing his strength away after a protracted cold or a siege of la-grippe, and more than one went regularly after the eggs and milk and was cured by them.

***

To guarantee strictly fresh eggs they must be shipped twice a week, though in the depths of winter one can safely put the shipping down to once every week, and then the eggs be well guaranteed.

***

Don't keep 100 hens where you have room but for fifty. The fifty will take just half as much feed, and do you more good in the laying of eggs and saving of time than 100.

IDA M. SHEPLER

DE LAVAL CREAM SEPARATORS
SKIM CLEANEST
TURN EASIEST
ARE SIMPLEST
MOST SANITARY
LAST LONGEST
The De Laval Separator Co.
New York Chicago San Francisco

Truth About Furs
High quoted prices don't mean the biggest check, unless the grading is right. We grade honestly, pay highest MARKET PRICES and buy furs out and out, charging you no commission. If you want furs held separate and our offer is not satisfactory, we'll return the furs, paying express. Write for latest price list.
OMAHA HIDE & FUR CO.
1204 Jones St. Omaha, Nebr.

Latest Book "Profitable Poultry, 123 pages practical facts 180 beautiful pictures. Latest improved methods to raise poultry. All about world's famous Runner Ducks 52 other varieties pure-bred poultry This book, lowest prices, fowls, eggs, incubators etc. only 5 cents
BERRY'S POULTRY FARM, Box 80, Clarinda, Ia.

Are Your Hands Tied?
Don't think because you live in a small town or rural district that your hands are tied.
There are many opportunities for men who **are trained.**
Manufacturing plants are moving to the country and want local men. Railroads get their trained men all along their lines. Government positions are open to everyone with the right training.
Scientific farming is one of the greatest wealth producing industries in the country today.
No matter where you live you can be trained at home by the International Correspondence Schools to be an expert in any occupation, trade or profession listed in the coupon below.
To learn full particulars mark the coupon and mail it TODAY.

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Explain, without any obligation on my part, how I can qualify for the position before which I mark X.

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Mechanical Engineer	Civil Service Examinations
Mechanical Draftsman	Good English For Every One
Architecture	English Branches
Contracting and Building	Lettering and Sign Painting
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GREATEST AND BEST
Live Stock Show
OF THE YEAR
NOV. 29 TO DEC. 6
UNION STOCK YARDS
CHICAGO
Many New Improvements, New Features, Thirty National Conventions, Etc., Etc.
DAILY SALES OF LIVE STOCK
50 Choice Galloways—Tuesday, Dec. 2d, 1 P. M. For catalogue write R. W. Brown, Carrollton, Mo.
50 High Class Angus—Wednesday, Dec. 3d, 1 P. M. For catalogue write Chas. Gray, Union Stock Yards, Chicago.
50 Selected Shorthorns—Thursday, Dec. 4th, 1 P. M. For catalogue write Abram Renick, Union Stock Yards, Chicago.
50 Best Herefords—Friday, Dec. 5th, 1 P. M. For catalogue write R. J. Kinzer, 1012 Baltimore Ave., Kansas City, Mo.
A Season of Learning, Entertainment, Brilliant Evening Shows and
A TRIP TO CHICAGO
Lowest Rates on All Railroads.

DUROC-JERSEY HOGS

KUZEL'S DUROCS
Echo Top King, Model Wonder 3d, Proud Wonder Jr., Crimson Boy and Prince, by Prince of Colonel's, are the sires of my spring pigs. Choice boars for sale at reasonable prices.
L. J. KUZEL, Clarkson, Neb.

ALFALFA DUROCS
Spring boars for sale, sired by Model Goods, Queen's Wonder, Uneeda Wonder and Queen's Wonder Again. They are the kind that win. Correspondence solicited.
O. G. SMITH & SON, Kearney, Neb.

DUROC-JERSEY BOARS
Spring boars for sale, sired by Crimson C., Crimson Wonder 10th, Critic B., Chatham's Pride. Also a few extra choice fall boars. I will guarantee to please you.
C. E. CLAUFF, Central City, Neb.

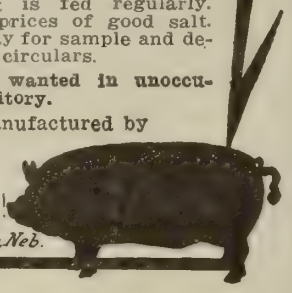
PRIZE WINNING DUROCS.
Choice boars for sale, sired by B. & G.'s Wonder, Blue Ribbon Model, Chief Select 2d, Moderow's Wonder, Valley King and others. Prices reasonable. WM. MODEROW, Beemer, Neb.

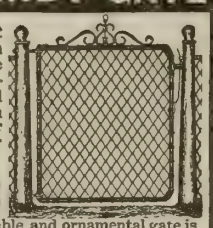
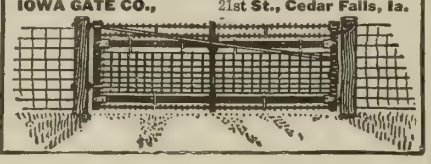
SCHWAB'S DUROC-JERSEYS
A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.
GEO. W. SCHWAB, Clay Center, Neb.

Alfalfa Lawn Durocs
A splendid lot of fall and spring males for sale, sired by Melina's Wonder, Crimson Wonder Select and Colonel Tippy. They are strictly right and worth the money. Henry Stuthman, Pilger, Neb.

POLAND-CHINA HOGS

HERD HEADERS FOR SALE
Am offering for sale the three tried herd boars, Big Omaha, Metal Top, and Guy's Price Last. Every one a good one. Also a number of spring males. D. C. LONERGAN, Florence, Neb.

GRAIN BELT BRAND
Vegetable Hog Potash
Don't starve your hogs to remove worms; try this: Send for sample of our product; then select six growing pigs, feed them all the grain, oil meal, tankage and milk they can eat, then place before them in dry trough sample of Hog Potash and see how they eat it. Worms cannot live where it is fed regularly. Sold at prices of good salt. Send today for sample and descriptive circulars.
Agents wanted in unoccupied territory.
Manufactured by
UNION STOCK YARDS COMPANY
South Omaha, Neb.


$1.90 FOR THIS DANDY GATE
These gates are not a special lot built down to a low price, but are full of the same quality, satisfaction and durability which can be obtained in any of our triple-galvanized, high-carbon steel

Iowa Gates
The filling of this serviceable and ornamental gate is extra close diamond mesh. Gate has strong frame, patent latch, etc. Comes in all sizes; plain and fancy tops.
Style E Farm Gate, illustrated below, is another leader sold at a much lower price than asked for other gates of its kind. Painted or galvanized. All sizes.
The best lumber dealer in your town has these gates on sale. If you don't know his name, write us for booklet, name of dealer, special prices, etc.
IOWA GATE CO., 21st St., Cedar Falls, Ia.


It lies within your power to wipe
Cow Abortion
out of your herd and keep it out.
Use Dr. Roberts' Treatment. Apply it yourself. Properly applied, it never fails to stamp out this disease and clean the herd. Saves lives of calves. Write at once to
Dr. David Roberts
Veterinary Company
6141 Wisconsin Ave., Waukesha, Wis.

POLAND-CHINA HOGS.

POLAND-CHINA BOARS.
Spring males for sale, sired by Big Sensation and B.'s Great Hadley. They are the big, smooth kind, with quality and bone. Everything guaranteed. J. A. SCHALDECKER, Grafton, Neb.

BIG TYPE, BIG BONE POLANDS
A very choice lot of big, growthy, heavy boned spring boars for sale, sired by Blue Valley, Blue Valley Orange and Big Columbus. We have been breeding hogs for 25 years. If you are looking for big hogs with quality, write us for description and prices.
THOS. F. WALKER & SON, Alexandria, Neb.

HOLSTEIN-FRIESIAN

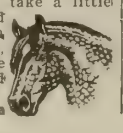
FRIESLAND FARM HOLSTEINS
We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

Purebred Registered
HOLSTEIN CATTLE
Last year a Californian Holstein made a yearly record of 784.13 pounds of fat from 25,881.8 pounds of milk.
After an interval of two months she began another yearly test, which has just come to a close, with a record of 868.1 pounds of butter-fat from 28,826.4 pounds of milk.
These two successive yearly tests, during which 54,800 pounds of milk were made, are more evidence that great records are not spasmodic efforts, but represent capacity permanently developed.
Send for FREE Illustrated Descriptive Booklets.
Holstein-Friesian Asso., F. L. Houghton, Sec'y. Box 179, Brattleboro, Vt.

JERSEY CATTLE

WINELAND FARM JERSEYS
Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.
H. C. YOUNG, Lincoln, Neb.

HORSES AND MULES

OUT OF THE BEATEN PATH
Away from crowding to city barns where price has to be higher or stallion plainer; take a little trip on the quiet to my farm and see big bunch registered Percheron studs weanlings to 4 years; growthy, useful money-makers for you. The farm is where they are raised and where you ought to buy them.
FRED CHANDLER, Rt. 7, Chariton, Iowa


Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Feeding Pigs for Pork

D. L., Stanton, Ia.: I have eighty-five head of pigs that weigh about 100 pounds apiece. How many bushels of corn will be required to bring them to 200 pounds each? I give them two bushels of ground wheat and oats for swill every day. How many pounds will you expect them to gain in ninety days? Would it pay me to buy corn at 65 cents a bushel to feed to 7-cent hogs? How would oil-meal be to mix with wheat and oats ground at $1.70 a hundred?

Editor's Answer—Figures on gain are very deceptive, as all gain depends on so many different conditions. Experiment stations, under the very best conditions, will produce a certain number of pounds of pork from every bushel of corn. No two of them agree in the amount of pork derived from a bushel of corn. The ordinary farmer cannot expect to equal their gains under ordinary conditions.

A little advice as to the best way to feed would give more practical benefit. Do not feed on the ground; feed in troughs, and in feeding corn feed only shelled corn, scattered thinly in the troughs so that hogs cannot eat too fast. Have plenty of fresh water always on hand, and it will be found that the hogs will go down to drink several times while cleaning up one feeding. Give them good shelter; keep them well protected from the wind, and keep them free from lice or any disturbing influences. Do not feed all they will eat. About two-thirds of what they will eat is the most rational amount to feed. Neither man nor animal do well when fed all they will take.

If a farmer has either clover or alfalfa, it would be uneconomic for him to buy oil-meal at the present market price to feed his hogs. They can get their protein better and in larger amounts from the clover and alfalfa than from the oil-meal, and get it at much less expense. It certainly will pay to feed 65-cent corn to 7-cent hogs, if the corn is fed in the right way and the hogs are in the right condition.

Damages for Breeding Accidents

H. W. E., Dickens, Neb.: I take the privilege of asking you to publish the Nebraska law on breeding of mares to horses or jacks. I feel that this question is of great importance to owners of such animals that stand for public service in this territory. Our advertisement states that care will be taken to avoid accidents, but I will not be responsible should any occur. Can anyone collect damages from me for a mare that he claims came to her death by an accident during the breeding of the mare? I see that some other farm papers have a law department, and I suppose you do answer law questions. I am anxious to know the Nebraska law on this matter. If every owner of stallions or jacks had to stand good for every mare in case of accident, how many would keep a stallion or jack for public service?

Editor's Answer—The statement that care will be taken to avoid accidents, but that the owner of the stallion will not be responsible should any accidents occur, protects such owner against damages, providing he takes proper care. The question as to whether the care taken was sufficient to release him from responsibility will be a matter for courts to decide, depending upon the nature of the accident.

Oklahoma's Surest Crop

J. L. P., Okl.: Dear Editor—I have just read, with interest, the last issue of your valuable paper. I couldn't get along without it; it contains so much valuable information for the farmer and stock raiser. I live in Roger Mills

county, Oklahoma, and I would like to speak a few words of praise for this part of the country. Enclosed you will find a picture of the sure crop of this country, and I also send poetry with it which will explain the sure crop. This is my first poetic spasm, written at the birth of my seventh girl baby:

You may sing and shout the praises
Of the heaps of yellow corn;
You may boast about your great hay crop
From dusk to early morn;
You may raise a crop of apples,
If the frost has done no harm,
Yet there is a crop more certain
That will grow on any farm.

This crop will yield great profits,
And is needed every day;
In fact, our noble country
Without it would pass away.
Laws should be made to protect it,
And boost it to the top—
This hardy, ever-bearing,
Never-failing baby crop.

Extending Time of State Fairs

L. L., Joliet, Ill.: I have been reading the article in the Twentieth Century Farmer regarding the extending of the time for state fairs. As I have been both an exhibitor and a sight-seer of these fairs for more than thirty years, I wish to say a word or so regarding the matter as I look at it. I think both exhibitors and sightseers should express themselves on this subject in order to fully understand the matter. Your suggestion of more time, I consider a good one. But an equally important matter is the manner of conducting the ex-

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

hibits, and this is the part which I wish at this time to speak on particularly.

I think the fairs should open on Monday morning, with only the cattle, hogs and draft horses on exhibit. This would give the people interested in that line a clear chance of taking in these departments without being bothered with the large crowds which come only to look around, with no particular purpose in view. By this arrangement the exhibitors would be able to obtain the attention of the crowd, and the crowd would not be drawn away by other excitements. By this arrangement the exhibitors and sightseers would be better served. These departments should be the only attraction for two days. On Wednesday morning the machinery and other exhibits should be opened, and the fair then progress with all of the shows opened and run together until Friday night, when the stock show would be over, and Saturday then could be children's day, or the day for the city people to attend, which would be a better day than any other for that class of sightseers, and would give time for the railroads to dispose of the stock and clear up things so that all other exhibits could be handled, besides clearing the stalls to admit of the trotting stock, which should be sent in on Saturday and Monday. The stock show of the second week should consist of only draft and other kinds of horses. The draft horses of the first week should be allowed to remain over the second week, but should be allowed to be entered as late as Tuesday of the first week. No trotting should be allowed on the grounds until Tuesday or later of the second week. This would be the week in which simply the sightseers would have their inning.

By arrangements along this line, not only the railroads and hotels, but the trolley lines, would be better able to handle the crowds with ease and practical comfort than under the present system. By arrangements rightly conducted along the line mentioned, the public would be able to understand what features of the fair would interest them most and arrange to attend during the time such features are in operation. They would feel that they had been better served by such division of the exhibits. I have attended many state fairs, and of late years I do not think I have attended any where I have been able to see half of what I wanted to examine. The agricultural department requires more time than any other feature of the exhibits on the ground, and should be allowed to remain from the opening after Tuesday of the first week until Friday evening of the second week.

There are several other suggestions I would like to mention, and give reasons why, but prefer to hear from some others before doing so.

Good Cows

Some cows produce ten times as much as others, and it is also true that one cow may produce three times as much as another per hundred pounds of feed consumed, which means more than three times as much profit. The poor producer which weighs 1,000 pounds requires nearly as many pounds of feed to maintain the body as the high producer which weighs 1,000 pounds; therefore, the cow which eats most has most food left above maintenance to turn into milk.

If the poor cow eats ten pounds of food above the amount required to maintain the body, and the good cow eats twenty-five pounds more, the good cow will return approximately twice as much milk as the poor cow, but it may require all the milk produced by the poor cow to pay for her keep.

Experiments indicate that one cow will make practically as good use of the food consumed, above maintenance, as another, and that the main difference is in the capacity to consume, and the tendency to put feed into milk instead of body fat.

The following are some contrasts taken from Circular 99 of this station: In one herd ten cows lacked $12.23 of paying for their keep. What kind of business man would the farmer make who paid these ten cows $12.23 for the privilege of milking and feeding them for one year? In this same herd two cows gave a profit of $64.65. Had this entire herd been as good as the best cow (not a phenomenal cow), the total profits would have been $415 instead of $52.42. A similar herd, consisting of thirteen cows, returned a profit of $607, an average profit of $46 per cow. Can we say that, from the milk producer's standpoint, such a cow is worth as much as forty-six cows returning $1 profit?

A few dairymen can buy enough cows to fill up their herds, but if all should attempt to do so, there would be the equivalent of at least three buyers for every good cow. This emphasizes the fact that we must depend on breeding and raising cows for our future herds.

When dairymen fully realize their value, high-producing cows will advance in price, and more low producers will go to the butcher's block, where they should go. One reason why better sires are not used and more heifers are not raised is because the great advantage in good cows is not realized by the average dairyman. —From Ohio Experiment Station Circular.

Ham and Bacon Show

The Nebraska Improved Live Stock Breeders' Association will hold a "ham and bacon show" at the Lincoln Auditorium during the week of Organized Agriculture, January 19-23, 1914. Prizes of $20, $15 and $10 for first, second and third, respectively, in home-cured hams and bacons will be given. Everyone in the state of Nebraska is invited to make entries. No charges will be made for entering exhibits. The exhibit must consist of home-cured meats. The awards will be made upon the basis of quality and curing. An expert meat judge has been secured to place the awards. Lectures will be given on the home curing of meats. If the person making entry wishes, the Live Stock Improvers' Association will auction the hams and bacons and send the proceeds to the owner, or the exhibit will be returned. The home curing of meats is becoming a lost art in many sections and it is hoped that this display may bring entries from many who pride themselves in their ability along this line. C. B. Lee of the University farm, Lincoln, has charge of the show, and communications may be sent to him.

Quality in Horses

The first point to be considered when we talk of quality in horses is that of general appearance. In noting this characteristic, the student studies the size and the weight of the horse before him, noting the symmetry of body to see that the body is not too long or too short and the student makes the study of the style and air exhibited by the horse, together with its disposition and character. Conformation is the next point noted and this includes, of course, the build of the horse in detail. It includes the shape of the head, neck, forehead and barrel, crops, thighs, hocks and, in fact, every part of the horse in detail. Constitution is a point that should always have special attention, including therein the size of the nostril, width and cleanness of throat latch, cleanness about the windpipe and chest and spring of ribs, together with the correlative point, width through the heart and the size of heart girth. Then comes the point in question—quality—which includes the fineness and density of the bone about the head with veins in evidence, a fine, mellow skin and a fine hair; then fineness and denseness of bone about the cannon, hocks and hind legs.

A horse that is meaty about the hock might be considered as lacking in quality, and probably he would lack quality in other parts as well. The horse that has quality is one that has refinement and denseness effectual throughout. One lacking in quality is coarse in hair, bone and skin, and has not the refinement desired. A dense coat is another indication of quality. The feet and legs of the horse should be carefully examined. Conformation of the feet and legs, the proper muscleing of the forearm and gaskin being the uppermost point examined under this special heading; then the set of limbs, size of bone below the knee and flatness, the size and shape of feet are considered the leading quality in horses, including an examination for unsoundness, and care should be taken in guarding against any malformation that would give rise to unsoundness. When the horse is put in motion his wind is observed, as well as when standing still. Action is the last but one of the most important points considered, and this includes a consideration of trueness of the gait—discrimination being made against winging or paddling or closeness of gait.

The saddle horse is scored on his ability to go properly three or four gaits. During the time that the horse is in action particular attention should be paid to the first characteristic mentioned above, viz.: The general appearance, style and vigor.

This gives an idea in regard to what is meant by each of the above terms used by the horseman. It is necessary that we have some universally understood terms in order that everyone may understand what is indicated when each term is employed.

Rickets in Pigs

Worms, malnutrition, inadequate feeding, lack of lime salts in the feed, are common causes of rickets in pigs. Stop feeding corn and substitute slop of middlings, ground (screened) oats, flaxseed meal and milk and add one ounce of limewater to the quart of slop or give a dram of precipitated phosphate of lime in feed twice daily. If worms are seen in the droppings give sulphate of iron copperas in the slop for five mornings in succession at rate of one dram for each 10 pounds of pigs and if necessary repeat the treatment in a couple of weeks. Every other day rub affected joints with iodine ointment.

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Review of Live Stock Market

By A. C. Davenport

MARKET conditions so far as the cattle trade of the country is concerned have shown few if any important changes of late. As noted a week ago the market has moved along in a sort of rut with no new developments. There has in fact been a genuine dearth of news. Generally speaking, prices have shown little change on an average. Range beeves have strengthened up a little and are quoted as firm to a little higher at most points. On the other hand, short-fed or warmed-up corn-fed steers have eased off, being around 25c lower than a week ago. In the case of shortfed cattle it is always at the season of the year a question whether the lower range of prices is due to a drop in the market or to the inferior quality of the cattle arriving. It would appear that the quality of the cattle was really responsible in a large degree for the weakness, but strictly good long-fed cattle suffered along with the more common grades with the exception of choice yearlings. Every year about this time it is noted that packers give the preference to range beef and discriminate against the warmed-up corn-feds, their explanation being that the rangers kill out better, that is make a larger percentage of beef.

Operators on the cattle markets of the country as a rule take a hopeful view of the situation. There is a feeling that while prices may not advance very much they will at least hold their own and that the market on an average will be satisfactory. Low weeks as well as high weeks are to be expected, but there is nothing in sight to indicate that the average for a good many weeks to come will be other than good.

Beef Prospects Fairly Good

The bulls are generally figuring on a short supply of beef steers for some little time to come. In the first place the run of fat cattle from the range is pretty well over with, though there probably will be some cattle coming from the range for a month or more. During October the six big markets received 94,000 less cattle than during the same month last year. At the same time the number of cattle on feed in many sections in the west is notably short of recent years, although some states farther east, as Ohio and Indiana, are said to have more cattle than usual in feed lots. For some weeks back the markets of the country have felt the influence of a liberal supply of farm cattle from Ohio, Pennsylvania and Virginia that has reduced eastern demand and curtailed the call for western beef. These cattle are now pretty well disposed of and the shipping demand at western markets ought to show improvement in the near future.

Thus far importations of live cattle and dressed beef have not proven large enough to have important influence upon the trade, though they have been used as a club by the packers to pound the market. It makes a good club and will undoubtedly be swung with a big flourish and blowing of trumpets as often as a few thousand quarters of Argentina beef show up at New York. Western stockmen, however, have a very effective weapon with which to meet the big stick of the packers and that is the temporary reduction of shipments of cattle. Fortunately for their own interests stockmen know how to use this weapon and the swinging of the packers' club and the word "Argentina" will mean in the wireless code of western stockmen, "Reduce shipments for a few days until the east has time to thaw out and digest the frozen beef from Argentina."

Hog Shortage in Sight

Hogs have undergone no great change during the last few days. Prices have fluctuated within narrow limits and at present writing values are not far from where they were a week ago. The fact is the market has not changed very much in the last twenty days. Packers have been bearish all the time and have lost no opportunity of pounding the market as often as receipts have been large enough to permit it. The breaks, however, have been of short duration and values seem to spring back again very quickly. Thus the net results of the packers bearish tendencies have been small the last few days. Packers made good during October, closing that month with the average market about 50 cents lower than it was at the opening. Thus the old tradition that October invariably closes lower than it opens held good.

What November will bring forth no one may say. Some feel that prices have not yet touched bottom and that hogs will go down to $7.00 on the basis of Omaha. That was the figure set in September by a good many and still adhered to by some. Others feel that the bottom has already been reached. Whatever may be the opinion as to the bottom being reached, practically all are agreed that by January 1, if not sooner, higher prices will prevail and that the spring market will be very strong.

The expectation of a higher market for the early months of 1914 is based on a firm belief in the coming scarcity of hogs as pointed out before in these columns. The markets of the country are still receiving a very large number of pigs, most of them from cholera infected districts. The high price of feed and the danger of disease is causing many growers to sacrifice their pigs. Cholera is still levying a heavy toll and all conditions would seem to indicate that those who are predicting a short supply for the not distant future are correct in their deductions.

The official figures showing total receipts at the six big markets for the month of October indicate an increase of 93,900 head as compared with the same month last year. It is possible that if the great number of pigs received had not been included in the receipts of hogs that there would have been little or no gain in the month's receipts. The scarcity of good hogs is already here and that fact accounts in large part for the market holding up as well as it has. This makes the contention of the bulls that hogs will show a shortage later on appear still more plausible. For the ten months of 1913 there is already a shortage in the receipts of the six big markets of over a half million head.

Good Prices Prevail for Sheep

Sheep and lambs have been doing exceedingly well during the last week or more, as viewed from a seller's standpoint. Apparently the run of fat stuff from the range is about over with for this season. Fed sheep and lambs are beginning to arrive, but under normal conditions receipts of such stock should be light for the next two or three weeks. In the meantime it is more than likely that supplies of both sheep and lambs suitable for packers' purposes will be light. This ought to mean a continuance at least of the present satisfactory prices. The market later on in the season must depend very largely upon the action taken by feeders. If anything should happen to cause feeders to try the experiment of all selling at the same time, it is possible that enough sheep and lambs might be thrown upon the market to break it down. On the other hand it is not believed at market centers that there are enough sheep or lambs on feed to any more than supply the consuming demand of the country. Should that prove to be the case it will only be necessary, in order to maintain prices, for feeders to let their holdings come to market gradually as wanted by the consuming demand. With feeders following a sane and conservative policy there is no reason why the market throughout the winter and spring season should not be satisfactory.

Thumps in Pigs

The name describes the disease. Affected pigs will be found standing still, jerking their bodies back and forth in a spasmodic manner. The trouble appears to come on especially soon after eating. Sometimes the spasms are not violent, and the only thing which can be seen to be wrong about the pigs is a curious jerking movement of the flanks, or a violent beating of the heart. Young pigs are affected mostly, although rarely it may occur in older animals.

The cause of thumps is too little exercise and overfeeding on poorly balanced rations. Just why these two things should cause thumps, no one knows, but all who have experience with the disease agree that it may be prevented by giving young pigs plenty of exercise and feeding moderate amounts of well-balanced ration.

Management of the Pregnant Mare

The mare in foal should be worked lightly or abundantly exercised every day. Exercise is absolutely necessary. She should occupy a roomy box stall. Here she will take some additional exercise and will not be afraid to lie down. She will be less likely to become "cast" and escape having "stocked" legs and dropsical swellings of the udder and abdomen. The bedding should be kept clean and dry.

Feed the mare sound, whole oats, bran and mixed or timothy hay. Avoid mouldy hay or silage, damaged grain, woody weathered fodder, dusty or rusty straw, or hay containing ergot. Keep pregnant mares out of corn stalk fields. Provide them with plenty of clean, pure water. In working mares, avoid jerking, severe pulling, wading through deep mud or manure piles; let the work be light, easy and steady. Keep the bowels active by feeding bran and a little flaxseed meal, carrots, or some sweet silage.

The mare goes forty-eight weeks, or about 340 days, with foal. As foaling time approaches decrease the grain ration and increase laxative foods to keep the bowels acting freely. Constipation is dangerous. When wax forms on the teats, place her in a prepared box stall where she can be watched until the foal is born.

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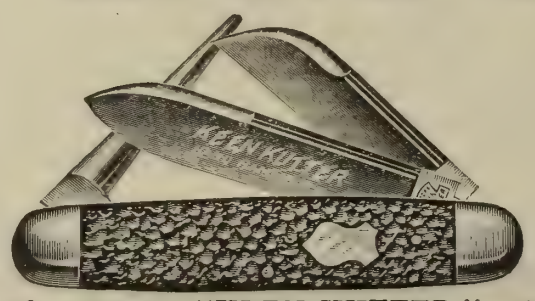

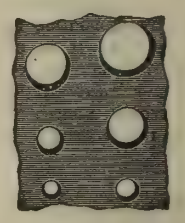

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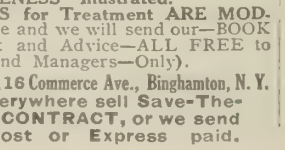

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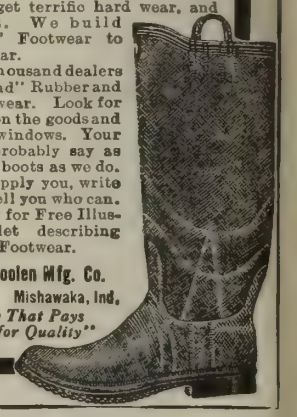

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The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Sheep Eat the Waste Products of the Farm

Small Flock Can Be Made Highly Profitable if Given the Right Kind of Care and Attention

THE sheep is employed more than any other animal kept on the farm to clean up the refuse and waste that accumulates about the farm. There is scarcely any form of vegetable or plant life that the sheep will not feed on and seem to thrive and do well. The delight of the sheep is a change of pasture; therefore the old saying, "A change of pasture is good for sheep." No animal seems to relish and enjoy the rich, green, rank herbage found around the waste places on the farm like the sheep. There is no other animal in all the list of grazers that will so thoroughly devastate a weed patch and thrive on it while the work is being carried on.

The sheep is not a vicious, disagreeable, unruly, hard animal to control and change about from one pasture or enclosure to another. The sheep delights in being on good terms with the shepherd. It can be taught by kindness to follow the person it is accustomed to and with whose voice it is familiar. The sheep is quite sensitive and observing and quickly distinguishes the stranger from the shepherd it is used to, in appearance and voice; thus the sheep, when kindly treated, may be trailed around over the farm as desired to any pasture, lot or inclosure by merely taking a pan of salt or a little feed and calling them. It is thus the little flock of sheep on the farm becomes so valuable as gleaners, and as a band of scavengers, so to speak, in taking up the waste that grows up as weeds, volunteer grains, grasses, etc., that gives the farm a sort of careless, neglected, unkept appearance.

Demand Careful Attention in Winter

The sheep should have and demands some protection and attention in the matter of feed, especially during the winter season. It is never safe or good management to turn the sheep out in the stock lots among other animals to pick up a living. Sheep and hogs were never intended to feed together, pasture together or to be together under any fixed conditions. Of course, in the casse of necessity, it may be safe to let them together for a short time in the same pasture or lot, if there are no very young lambs.

Everything is an enemy to the sheep—the dog, the wolf, the hog, the horse and the cow. The sheep is not a fighter; it flees from harm and danger. The dog will kill it because there is no flesh so satisfying to the canine race. The wolf is in the same list of enemies. The horses and colts, especially the younger horses, will run over the sheep, kick them, trample on them and delight in seeing them run. The cow horns them and seems pleased in their flight. The hog usually starts with the young, helpless lamb, and, once having gotten the taste of mutton, becomes mutton crazy and attacks even the old and full-grown sheep.

Sheep on the farm, in order to become profitable, must have their own yards, pastures and divisions, where they are free and clear of any annoyance from other animals. It is not infrequently the case that the milch cow pasture is shared by the little flock of sheep. There is practically nothing in the belief that cattle and sheep will not thrive on the same pasture. All over the New England and eastern states, where sheep comprise the main live stock industry, they are pastured in the same inclosures with quiet work horses and quiet milch cows, and no injurious effects from health influence are complained of either from the cows or the sheep. They are quite frequently stabled in the same barn throughout the entire winter, and yet no bad effect has been experienced after a hundred years' practice on some of the old Ohio and eastern states farms.

The strongest argument for the small farm flock is that they consume the waste on the otherwise well managed grain farm, or possibly feeder farm. It is hard to detect on some farms what the little breeding flock costs, if anything, because they are so nearly self-sustaining in their work of eating what is called waste. There should be a small grain ration given these sheep from late autumn to late spring in order to keep them always vigorous, strong and in good flesh. A poor or thin sheep is about the most pitiful, forelorn, disheartening piece of creation that man can be held responsible for producing.

The farm flock, large or small, may be made highly profitable, wool tariff or no wool tariff, and this depends largely upon the knowledge and disposition of the owner to properly manage the flock. Mutton is the prime factor now in the handling of the sheep, and this must not be neglected or lost sight of by the owner of sheep—mutton properties first and wool second. It must also be remembered that the fleece can be increased in each generation so as to help greatly in taking care of the expense of producing sheep; therefore the larger the fleece the better, providing you are growing it on a good type of sheep for mutton.

A very good plan in the handling of the little farm flock is to see that the members of this flock are well provided for the year round, pasture during the grazing season, shelter and feed during the winter. Some sheep owners permit their sheep to get thin in flesh during the autumn season, thus starting in the cold weather of winter under great disadvantage. It is a very expensive proposition to feed up a lot of thin-fleshed stock of any kind during the cold weather. It is also a great risk to start in the winter with such a lot of animals. The best and cheapest flesh to carry through the winter is the flesh produced on pasture during the summer or early autumn season.

Should Be in Good Flesh in Winter

All sheep that are to be kept on the farm during the winter should be in good flesh. If your breeding ewes do not improve in flesh just before the cold weather, best feed some grain with the hay. The only way to get a good lot of lambs is to have the mother sheep in fine, vigorous condition at time of breeding, and then feed so as to keep up this strong physical condition. It is practically impossible to develop a vigorous, strong offspring from a half-starved, declining mother. The she should be provided with an allowance of hay, fodder and grain, and this placed before them at regular, stated periods just as promptly as you feed the work team or the milch cows. It doesn't take much feed for a sheep, especially if allowed the privilege of a pasture to travel over at will, each day of the winter when not too stormy. The feed given to one of your milch cows will provide eight sheep with a good living during the same period summer and winter.

The Business End

THE industrial exports are increasing over agricultural exports at the rate of seven to one, because factory products are marketed in a more business-like way than farm products. The United States is now exporting $2,000,000 worth of goods a year. In the last twenty-five years our agricultural exports have increased 60 per cent, while our commercial exports have increased nearly 400 per cent. This is certainly a bad showing for the farmers. It is plain that rural development has not kept pace with manufacturing and city growth. There may be many reasons for this, but there is one which is more important than all others: that is our long neglect of the business side of farming. The late S. A. Knapp, who had charge of farm demonstration work in the Department of Agriculture, and who had more to do with the recent agricultural development in the south than any one man, used to say that one-eighth of successful farming required scientific knowledge, that three-eighths was an art and the remainder was simply business. The business end of husbandry has been sadly neglected, and that is the chief reason why agricultural growth makes such a poor showing in comparison with other national development.

B. F. YOAKUM.

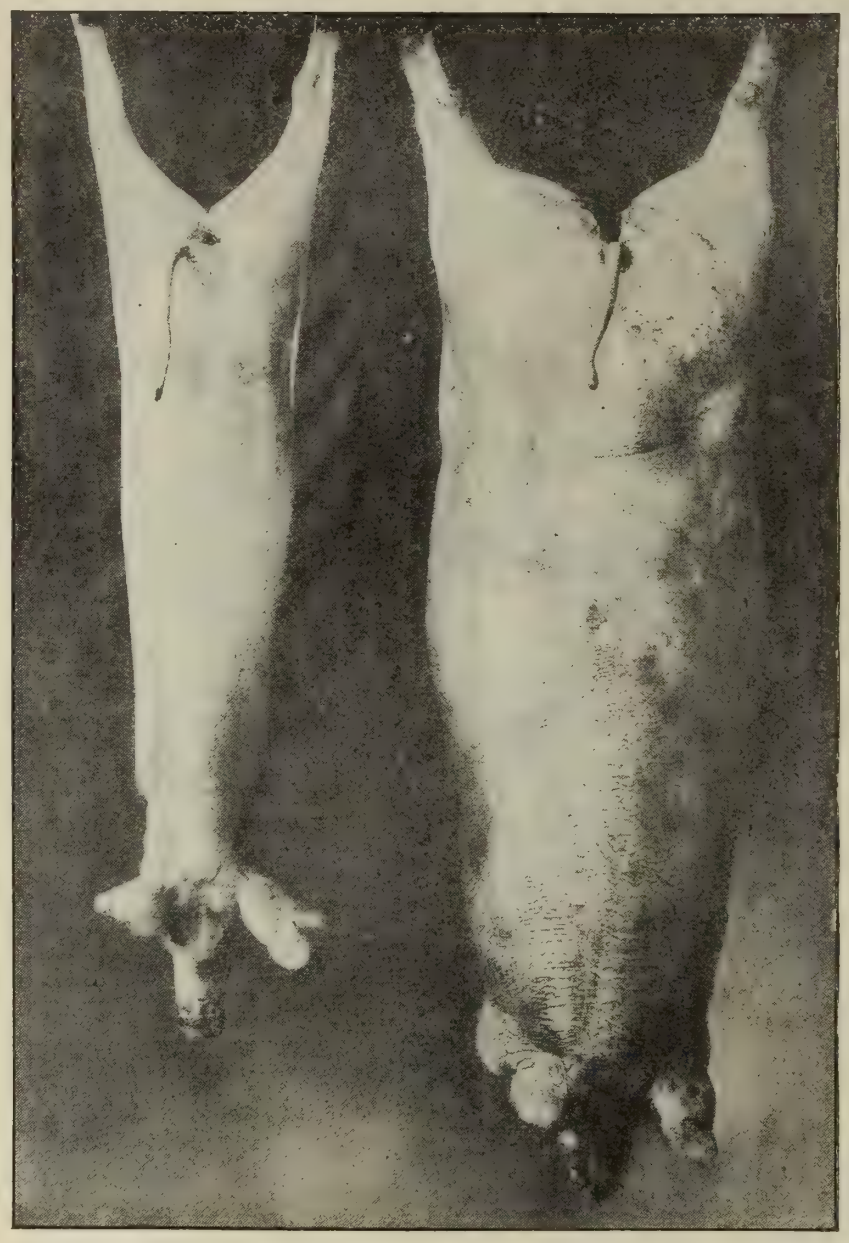
This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

An Eye-Proof of Right and Wrong Feeding

A Practical Demonstration of the Results of Different Feeding of Two Pigs From Same Litter

THE accompanying illustrations present a startling contrast. This contrast becomes still more startling when it is known that they are the carcasses of pigs of the same age and breeding; in fact, of pigs that were litter mates. The larger carcass is that of a pig fed on corn and alfalfa hay; the other is that of a pig fed exclusively on corn. This illustration should furnish to every reader a practical demonstration of the necessity of a properly balanced ration in profitable pork raising.

The other picture shows a cut through the side of each of the two pigs. This is, if possible, still more startling from the standpoint of the pork producer than the exhibit of the carcass as a whole. The illustrations are the work of the Kansas Agricultural College, where the pigs were fed and slaughtered.



These Pigs were Litter Mates—One Was Fed a Balanced Ration, the Other Fed Nothing but Corn

Two Main Kinds of Food

Certain lessons should be drawn from these illustrations, which every pork raiser should keep constantly in mind. As a general statement, it may be said that there are two main kinds of food for all animals. One kind of food furnishes the material out of which growth is made, is the material for muscle, bone, nerve and sinew. This is called by the technical scientists protein food, but the ordinary farmer might just as well know it by the name of growing food, as it is the food from which growth is made. Manifestly, if an animal is to grow muscle, bone and nerve and sinew, he must be fed something out of which these may be made. The food in itself must contain the elements necessary for growth. Unless food of this kind is furnished, the growth of the animal of necessity will be retarded for lack of proper materials out of which growth is built. The other kind of food furnishes the materials for producing animal heat.

Heat-Producing Food

An animal has a certain normal temperature which it must maintain at or near the normal point in all kinds of weather, in all temperatures and under all conditions. The animal derives its heat from the oxidization or burning of carbon in the blood in precisely the same way that an engine derives its heat from the burning of the carbon of the coal in the fire-box. Unless a sufficient amount of this heat-producing food is furnished to the animal, its temperature will fall below the normal. All of its vital functions will be impaired and it will soon die. This kind of food is called by the scientists carbohydrate food, because it consists of hydrated carbon. The carbon in such food exists as an element in the starch and sugar and certain other elements of the various kinds of food that the animal consumes. It would be well perhaps for every farmer to know it simply as a heat-producing food, since this name gives its true function, where the ordinary, unscientific man might not understand the meaning of the term "carbohydrate."

The first use of these heat-producing foods, as has been stated, is to provide animal heat. Their second use is to provide mechanical energy. An animal derives all its mechanical energy from heat in the same way that an engine derives all its energy from heat. In the animal the energy so derived is used not merely consciously and voluntarily, but involuntarily as well. All the involuntary movements of the body, such as the beating of the heart, derive their energy from this heat-producing food. The amount of energy consumed by the involuntary muscles of animals is astonishly great to the uninitiated.

There is a Difference in Animals

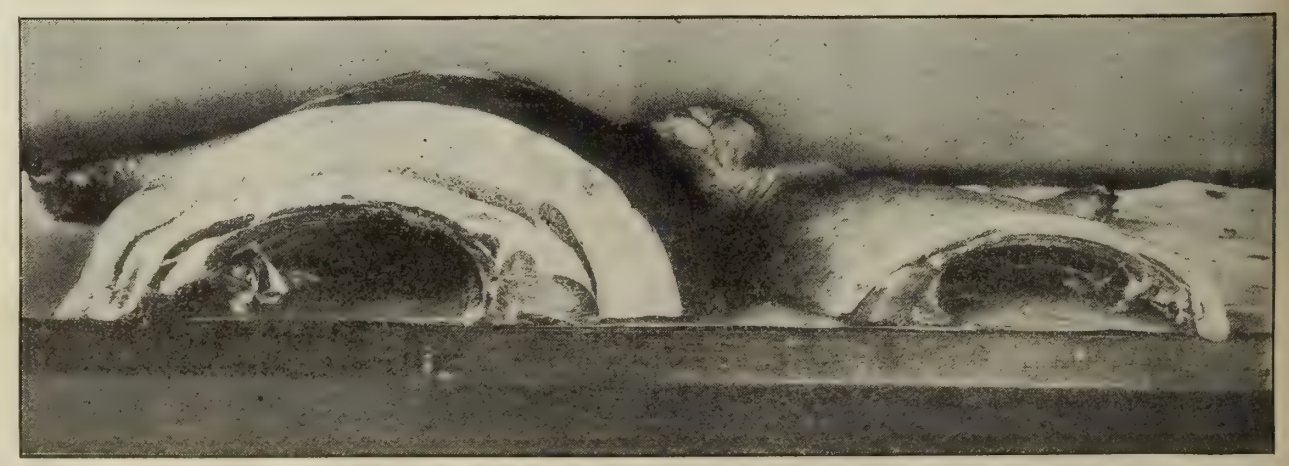
It is the generally accepted and generally true theory of all students of feeding problems that as the demands of the body for animal heat and for mechanical energy are supplied the excess of the heat-producing material that is left unconsumed is stored up in the body in the form of fat. But this is not always true. Certain animals are so constituted by nature that they oxidize in their blood—in other words, burn up in their blood—a large part of this material which other animals store in the form of fat.

For instance, it has been demonstrated that where cattle in preparation for the market are fed large quantities of corn, they must be fed in the open in order that they may radiate from their bodies the excess heat that the corn ration generates. Certain animals generate more heat from a given amount of corn than other animals, because some animals, as has already been stated, burn up the material—in other words oxidize it—that other animals store up in the form of fat. This capacity for oxidization, or for storing heat-producing material, differs with the different individual constitutions of different animals. In the illustrations shown it is evident that the small pig burned up a good deal of the heat-producing food that it derived from corn instead of storing it in the form of fat. The probability is that had this pig had the constitutional capacity for storing up fat, it would have presented a very fat carcass, with weak, loose, flabby muscles and a small, weak, bony structure.

Corn Lacks in Growing Food

Another lesson taught by the pictures is this: An animal fed a properly mixed ration is thereby enabled to make more economic use of its food and waste less of it than an animal that has an improper, unbalanced ration. Although the large pig had just as much corn, it had in addition a generous supply of protein derived from the alfalfa hay, and this enabled it, through the muscle-building material derived therefrom, to make economic use of the heat-producing element in the ration. The entire digestive tract is covered with a layer of muscles which produce the necessary motions for the proper digestion and assimilation of food. If the muscles of this coating are weak and flabby, there will be inability to make adequate use of the food received. Corn contains only one part of growing food to nine parts of heat-forming food. It

(CONTINUED ON PAGE SEVENTEN)



Fed Alfalfa Hay and Corn **Fed Corn Exclusively**

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

How to Rid the Farm of Needless Taxes

Cottonwood Stumps on a Nebraska Farm

Same Land After the Stumps Had Been Removed — Four Cuttings of Alfalfa in 1912

IT IS hardly necessary to point out that every non-producing, or, we we might say, "loafer," acre or half acre of ground is an item of expense and loss to the farmer, just as surely as two and two make four. Not only must taxes be paid on this "loafer" ground, but in case the farm is put up for sale the stump patch, thicket or hedgerow is one of the first things the prospective buyer points out as lessening the value of the place.

Then, too, it is generally the most fertile soil on the farm that is occupied in this way. Could actual figures be obtained as to the number of idle acres on all the farms in the United States, there is no doubt but that they would far exceed the average estimate that might be made, and go a long way toward explaining the high cost of living and the restricted incomes of many farms whose owners find it hard to make both ends meet.

Although the small stump patch and thicket found here and there on farms all over the country are bad enough, probably the most wasteful of all things is the old hedgerow, which perhaps at one time bore the name of "fence," but which never, even in its palmiest days, had much efficiency as such. The osage orange is probably the worst offender in this respect. In addition to its continually demanding attention, if it is to be of any value as a fence, it impoverishes the soil to a greater or less degree on both sides to a distance of from ten to twenty feet, depending on the size and age of the hedge. Aside from its own objectionable features, and as is also true of the stump patch or thicket, it is a harboring place for all kinds of weeds, gophers, woodchucks, mice and other vermin, all of which make the farmer's lot a harder one than is necessary.

Between now and the end of the 1914 planting season is the time for the farmer whose land is being taxed in this way to take steps toward clearing up. For instance, if the corn husking this fall, or the regular spring work, is interrupted by a period of rain, making the cultivated fields impassable for a day or two at a time, advantage may be taken of such intermissions to clear away a few stumps or rods of hedge.

With the modern methods to be easily and inexpensively had, grubbing is no longer the terrible task it was in earlier days, and a few hours now and then spent on the job will soon show surprising results, especially in the stump patch. Land which has been lying idle for years, practically worthless, with the assistance of a modern stump puller and perhaps a little dynamite, may be quickly made ready for the plow. The first year's crop will, in nine out of ten cases, pay the cost of the grubbing, not to mention the fact that the market value of the whole farm will have been greatly increased and the premises much improved in appearance.

In the days when the grub hoe and mattock were the only tools to be had, the clearing of land was a gigantic task, and undertaken only by those who were compelled to do it as a matter of making a living. This condition no longer exists. We now have the modern triple-power stump puller with which a team of ordinary horses can exert a pull of 300,000 pounds with the largest machine—a greater pulling power than is possessed by the most powerful locomotive built. These machines range in price from $50 to $150, making it an easy matter to pay for one, even when there are only two or three acres of stumps to be cleared or a few rods of hedge to be pulled.

With green stumps of very large size it may be advisable to use a small quantity of dynamite to shatter them, after which the job may be easily finished with the stump puller.

A Team of Ordinary Horses with This Machine Exert a Pull of 300,000 Pounds

Growing Peaches in Arkansas .....

THE accompanying illustration shows an orchard near Harrison, Ark., with fruit about ready to pick. Prof. M. G. Rohrbough, D. M. Haverly and some of their Omaha friends own 300 acres there, set to 50,000 trees. They had a fine crop this year and the fruit was good enough to bring top prices in the great central markets of St. Louis, Chicago and Omaha. Several cars brought over $1,000 per car, while others yielded $590 per car net f. o. b. at their siding two miles from Harrison. One ten-acre tract had four cars of 100 bushels each, from which they got $2,360 net. After deducting the cost of pruning, cultivating, etc., they had a net profit of over $2,000, or more than $200 per acre. This shows conclusively that the top of the Ozarks will grow peaches in abundance.

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Hogs, to make the most out of their ration, need water not merely once or twice or three times a day, but continually, where they can get it when they want it. A hog is enough like a man to want water when he wants it, and when he wants it it should be where he can get it.

The office of information of the Department of Agriculture at Washington furnishes directions for the eradication of the cimex lectularius. It takes considerable reading to find out that it refers to the ordinary bedbug, the detestable red rover of so many homes. A rose by any other name would smell as sweet.

In the early day farmers used to use wooden well curbs almost exclusively. Now there is very little well curbing used other than glazed sewer tile. This makes a sanitary and indestructible curb. In the end such a curb will be found to be the most economic, although its first cost may be a little more.

The American Society of Agricultural Engineers will hold its annual convention at the Great Northern hotel in Chicago December 29 to 31. Although much of the program will be given to the discussion of purely technical matters, considerable attention will be given to the practical application of mechanics for the use of the ordinary farmer.

Big Wheat Acreage

Big wheat acreage is the report that incidentally keeps cropping out through interviews with farmers from various localities, in practically all the winter wheat states in the Missouri valley and central west. The very good wheat crop of 1913, even in the sections of country most seriously damaged by drouth in corn and later crops, seemed to offer encouragement for the farmer to go to work preparing the ground and sowing the seed at the first opportunity of getting something in the ground to help offset the damaged crops of corn, pastures, etc.

It is quite certain that there was no mistake made in turning the efforts to sowing a big acreage of fall or winter wheat. There could not have been a better substitute for fall and winter feed than is now reported from all sections of the country. The practice of pasturing off the rank fall growth of wheat is considered the proper thing to do over the western and southern wheat-growing states. This should be conducted with great care and caution in the east, as the damage caused by tramping and pulling out of roots in damp and wet weather in the fall and winter is a feature that the western wheat states do not experience, due to the dryer weather and difference in the soil.

Kansas is reported with a largely increased acreage and the best growth ever had at this season of the year. A large yield of wheat has never proved disastrous to the farmer or the country. It is reasonably certain that both will be benefited by such a condition, and that there will be a place provided in the food demands of the world for all we will produce.

Diverse Co-operation

There are at present several of these organizations. Perhaps the most powerful and influential of them is the Farmers' Union. Then there are the two branches of the Equity Society of America, the Farmers' Educational and Co-operative Union, the Texas Co-Operative Union, besides several other organizations, each of them in its own way and according to a plan of its own, seeking to promote the cause of co-operation, especially among the farmers throughout the country. Each is perfecting organization in different states, and each is actively engaged in carrying on its own peculiar propaganda for co-operation. Each is worthy of confidence, and each seeks to promote the highest good of the greatest number.

The Twentieth Century Farmer is firmly of the opinion that "in union there is strength," and that there is a large waste of effort in diversity. It believes that all of these various organizations should unite in a single, national organization for the purpose of stimulating and developing co-operative effort among both producers and consumers. In order to perfect such an organization as this, it would be necessary for each of the component elements to hold in abeyance its peculiar distinctive tenets in which the other component elements of the organization cannot fully accord. There should be a single purpose to which all should be devoted, and every diversity tending toward lack of perfect harmony in co-operative effort for the general purpose should be eliminated.

The general public is liable to be confused as to the purposes of each of several organizations seeking their approval and co-operation, and is uncertain as to which of this number is most worthy of confidence.

In order to make effort for co-operation most effective, there should be singleness of purpose and singleness of entire devotion. All personal considerations should be eliminated and the entire effort devoted to the promotion of co-operation.

The Twentieth Century Farmer hopes that the different societies will take this suggestion kindly, and suggests that at the next national conference on marketing and farm credits, which will be held in Chicago in the early spring, representatives of these different organizations get together and organize a national co-operative society which will establish branches in each of the several states, in which all these other associations shall merge their identity. By this means, united, effective work may be accomplished, and all diversity of opinion and effort, which always tends to hinder accomplishment, will be eliminated.

System in Breeding Up

Notwithstanding the high prices and scarcity of cattle, especially breeding stock, there are many old cattle men who have the sense and courage to cull out of their herds all the undesirable females of all ages, and ship them to market. Here someone not so particular, or not so fully possessed of cattle intelligence, picks up these culls and establishes breeding herds. Thus the cattle world revolves.

The improvers of cattle take occasion at this season of the year to weed out all the undesirable calves and those possessing defects that may in any sense detract from the uniformity of the breeding character of the herd. Color is a very strong quality with many breeds. In fact, off color destroys the good impression of even being high grades, say nothing of pure-breds. Grade herds in some of the southern and southwestern cattle districts are grading up and shipping their off-colored young stock. This system needs only to be followed up for a few generations of cattle until the fixed color of the breed will be established.

Any careful, painstaking, self-respecting cattle, sheep or swine breeder may in a few years raise the standard of his herd in breeding quality until it produces, from a commercial meat point of view, equal to the average pure-bred. The secret of breeding up a valuable herd of high quality is the use of the best sires. It is from the high-quality sire that rapid progress is made in breeding up.

Big Prizes for Corn Show

Missouri goes right along with its annual corn show as though there had never been a dry season in that state. It, in fact, makes no apology, nor even hints at a corn shortage in 1913. A cash prize of $25 is referred to as one of the prizes for the largest yield of corn grown in the state. A gold watch is offered as first prize on both yellow and white corn. This applies to each of five sections that the state is divided into. These prizes are offered in both the young men's and boys' classes. This show will be held at the State University at Columbia January 12 to 16, 1914.

While there will be a great deal of disappointment among the boys who listed as contestants last spring, there will be the lesson and evidence of earnestness on the part of the promoters of the contest that means much to the boy who is not able, from dry weather interference, to take his place in the show ring. The boys' corn-growing contests are possibly doing more toward interesting the boys on the farm than any half dozen other incentives outside of a personal crop interest.

The fact that the boys' corn contest is a public enterprise is extensively advertised, and lends some notoriety and honor in the work, which appeals to the boy. The only essential lacking in many of these contests is value of prizes. The prizes should be valuable from a real money standpoint, and they should cover a little more territory. They do not go far enough to reach as many boys as the importance of these trials are worth. In place of there being three prizes, there should be at least ten—the first a large prize and the others scaled down to suit the money or articles offered.

The money incentive is what reaches the father; nothing gets his attention quicker or retains it longer. The boy has the same inclinations born in him, and the need of money and its value are cultivated in him from his earliest childhood. If you have a boys' corn-growing contest, and it has not stirred up much interest, just do as Missouri has done—put a lot of cash and gold watches into the contest and the boys will be with you.

This is the right season for getting a well that will furnish a permanent supply. If, after the dry weather of the last season, a man puts down a well that gives a good flow of water, he need have no fear of an adequate supply during any season that may come.

They are having trouble in California, Washington and southern Texas from the potato tuber moth. The young of the moth bore into the tuber and virtually destroy it. Growers should be careful to protect themselves against this pest in buying potato seed.

"If you can climb to the top without falling,
Do it. If not, go as high as you can.
Man is not honored by business or calling;
Business and calling are honored by man."

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Where to Inject Serum

The United States Live Stock Sanitary Association presented a memorial to the American Veterinary Medical Association requesting that the matter of the administration of hog cholera serum be investigated by that association. The Veterinary Association adopted a resolution endorsing the recommendation referred to.

It is a well known fact that abscesses frequently form at the place where hog cholera serum is injected. If the injection is made in the ham or shoulder, or in any other part of the animal that is especially valuable for human food, and an abscess results, considerable loss in food product will result.

It would be well, and would be equally effective, and would avoid loss of food product, if the injection were uniformly made in the part of the animal that is not especially valuable for food, in such places as the loose skin, flank or arm pit, or at the base of the ear. People that administer hog cholera serum should bear this in mind, and in inoculating should place the serum where it will immunize the hog and at the same time avoid all risk of loss of the valuable part of the food product. The recommendation of the Live Stock Sanitary Commission that none but competent operators should be allowed to use the serum, and that the strictest sanitary precautions be at all times observed, should be a regulation of law in all states.

The Twentieth Century Farmer offers still another suggestion. It believes it would be well to remove hogs that are to be immunized from their accustomed quarters to localities that are clean and sanitary, and have not been used by hogs, such as an orchard or a fresh pasture. In several cases severe outbreaks of septicaemia have followed the inoculation of hogs in their regular quarters. These outbreaks have occurred where the strictest sanitary precautions were observed. The probability is that the hogs operated on contracted the infection from the premises through the puncture caused by the injection syringe. In order to remove all possibility of such infection, it is suggested that the hogs to be immunized be disinfected and removed to fresh quarters before immunized. As soon as the puncture heals they might then be removed to their original quarters without danger of infection from external sources.

It is impossible to use too great precaution in the immunization of hogs. The most rigid sanitary regulations should be strictly observed.

Breeding for Efficiency

Breeders for the last few years have gone wild on the question of breeding for type. Now, type is not an end in itself; it is simply a means to an end, and type does not always subserve the true end of breeding. In breeding beef cattle, the true purpose should be not so much to breed animals that are true to a certain type as to breed animals that from a given amount of feed will produce the greatest amount of beef. Of course, as a general thing, it will be found that animals of a certain type accomplish this end. But it is not always true, and is not true often enough to permit breeding for type to be made the supreme object of breeding. It is best never to supplant the chief end to be gained by the chief means to be employed in gaining that end.

This is also true in breeding dairy cattle. The Meridale herd of Jerseys at Meridale farms in New York state has proved that this is the only logical method that should be used in breeding dairy cattle. At Meridale farms, type as a chief end to be gained has been ignored. The chief end always sought in breeding has been efficiency in production. The result is that the Meridale herd is notable for its long line of heavy producers at all ages. Some of the records are remarkable. One 12-year-old cow produced in one year 11,433 pounds of milk, which made 809 pounds of butter. Another 11-year-old produced 736 pounds and eleven ounces of butter in one year. These cows that made these records were worked at their normal capacity, and not one of them was fed or cared for in preparation for the test, and not one of them by the test was incapacitated for equal or greater usefulness in the future.

Startling as these figures of individual production are, the figures for the general average production for the whole herd are still more startling. During a period extending over a series of years, the average production of the entire herd has been increased more than 100 pounds per year. These figures seem almost incredible, but the proof is easily accessible. This herd made this record with only the ordinary care and attention given to it that any ordinary farmer may easily give to his own herd. None of them were fitted or worked for a test. This was their average, every-day working capacity.

This should be a lesson to all breeders that breeding for proficiency in production will do more for the dairy industry than breeding for type.

Some poultry experts assert that the little chickens that feather out first and are most rapid in early development will turn out to be the profit producers, and that those who go through the greater part of the summer without any feathers are engaged simply in getting ready to grow fine millinery. They say that nature takes the most time, and the most pains with what she aims to produce. If it is feathers that she aims to produce, nature will take her time to develop them.

There is going to be a serious shortage of seed corn in southern Nebraska and in Kansas, in fact throughout the entire southern half of the corn belt, for next year's planting. If every farmer every year would select double the amount of seed corn that he intends to use, and make this a permanent habit, it would prevent such a shortage. Old corn, well cared for, is frequently better as seed than new corn.

Now is the time for farmers seriously to consider the matter of changing to a system of winter dairying. Cows that are bred within the next two months will be ready for service in a winter dairy a year from now.

It is No Disgrace Not to Know Good Form or Etiquette

Thousands do not know: in cities as well as in the country. Most of us have not the time to learn: others have not had the chance.

That is why over 23,000 girls and women—men, too: hundreds of them—wrote last year to the "Good Manners and Good Form" editor of *The Ladies' Home Journal* and asked what, and how and when.

And they found out. For this editor knows: none better. She is a woman born and bred in the circles that know good manners and good form for every occasion: that *must* know: and she is not only glad to tell those who do not know, but she has the gift to tell what she knows clearly and to the point. And every year she tells thousands of folks: not in print, but by mail, in direct, specific and personal letters.

This etiquette department is one of the most popular and sought-after divisions of the personal service that *The Ladies' Home Journal* gives its readers. For twenty years it has been going on, until it is safe to say there is not a question of etiquette that it has not answered a hundred times. Nevertheless, it will answer you or any reader of the magazine. Glad to do it, too. And without any charge except a postage-stamp. A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring you a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

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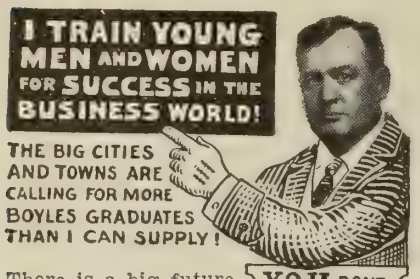

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Thousands of the highest salaried and most successful business men and business women in Omaha and other western cities came to my college direct from the farm. They did not know the first principles of business procedure—had not advanced beyond the lower grades of grammar school.

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I have the largest and most successful business college in the West. You can qualify here for expert work in all departments of business—as Stenographer, Bookkeeper, Telegrapher, Accountant, Civil Service Appointee, Expert Penman, Auditor, Teacher—in fact EVERY line of work done in the offices of the greatest Mercantile Houses, Banks, Railroads, and the United States Civil Service Department—and I positively GUARANTEE a position the day you are ready for it. My tuition rates are very reasonable, my college buildings are the largest and best equipped in the West. Omaha is an ideal city in which to live.

We can secure board and room for you by working a few hours daily outside of school hours.

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I want to send you a copy of one of the largest and most beautiful business books ever issued. It contains 116 BIG ILLUSTRATED PAGES, and it tells you everything about the great Boyles College and the training we are equipped to give you here—there are scores of interesting illustrations of Omaha, Boyles College, Recitation Rooms, etc. There are many letters from graduates and big business men and a list of 1,000 Boyles graduates now holding important positions. This book will convince YOU as it has thousands of others that Boyles College is the college for YOU and that NOW is the time to start. This book and other interesting literature will be mailed to you free. Address

BOYLES COLLEGE,
600 Boyles Building, Omaha, Neb.

Why Rent Farm Land —You Can Do Better

Stop renting—you don't get ahead that way. The other fellow gets too much of the profit. I can tell you how to get a farm of your own and start it right with very little money. Government land, small cost and payments so easy that they won't bother you.

The C. B. & Q. Railroad pays me to help you get a farm without much money, and I want you to write so I can tell you about it. Do it TODAY. D. Clem Deaver, Burlington Route, Room 369 Q Bldg., Omaha, Neb.

A Winter HOME IN SUMMER LAND

An All-the-year Home in Fruit and Flower Land

For the Farmer, Business Man, Manufacturer, Man of Leisure, Tired Man, Retired Man, The Boatman, Fisherman and The Hunter. Soil, Climate, Rainfall, ideal. Come and see. Write us what you want and we will try to help you find it. Illustrated booklets and **Facts about Florida FREE.**

FLORIDA EAST COAST RAILWAY (2)

J. E. INGRAHAM, V.-Pres., Room 128, City Bldg., St. Augustine, Fla. or **LOUIS LARSON**, Northwestern Agent, Room 128 109 W. Adams St., Chicago

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Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

Wilson Common-Sense Ear Drums

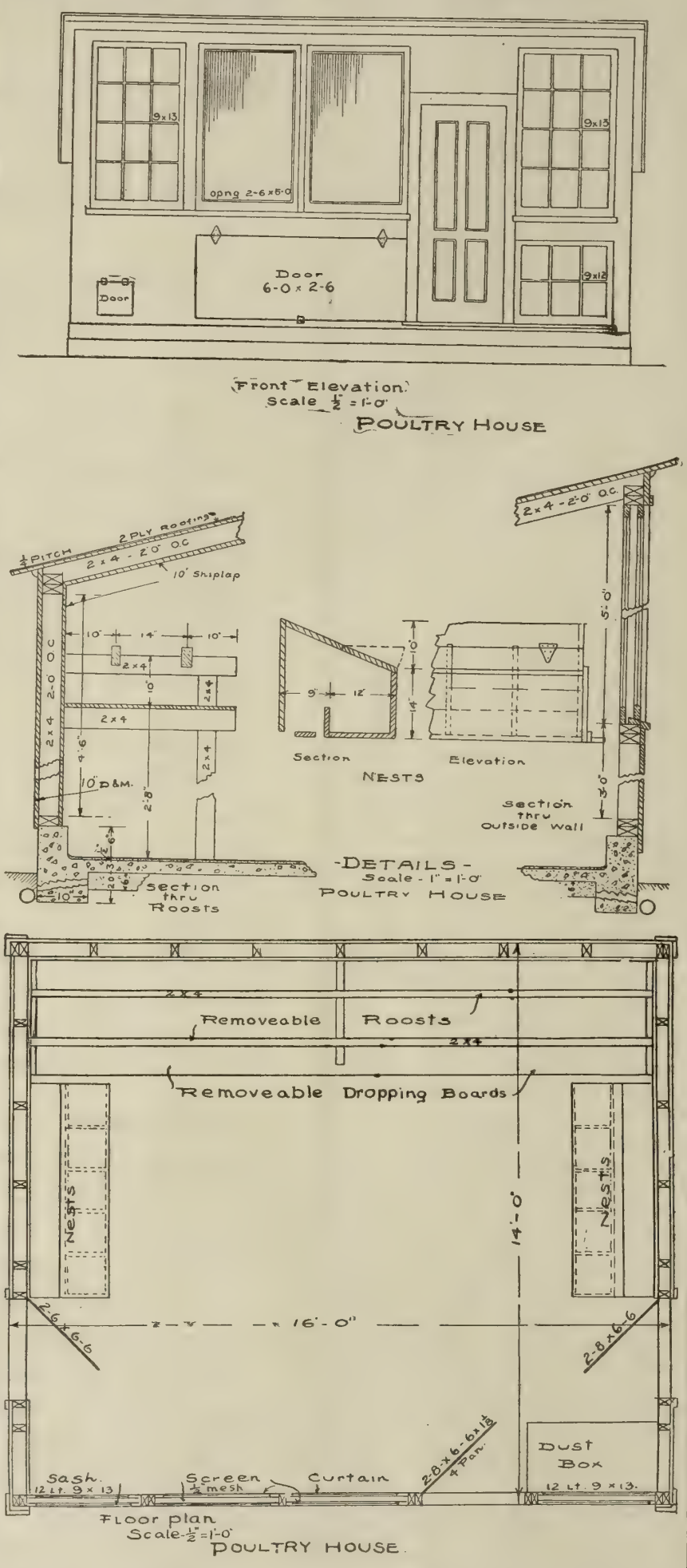
"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable.

Write *today* for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.

WILSON EAR DRUM CO., Incorporated
388 Inter-Southern Bldg. LOUISVILLE, KY.

Simple Poultry House Plan

Could Be Easily Built by Average Farmer



THE accompanying poultry house plan shows a building with outside dimensions 14x16 feet. The front of the building is planned to be eight feet in height and to slope down to four and one-half feet in the rear.

The general construction of the building is of frame, with 2x4 studding, covered with a one-inch dressed and matched lumber. The roof is made of matched lumber and a two-ply prepared roofing. The floor and foundation are made of concrete of standard construction so as to be well drained. The roosts in the rear of the house are made of common lumber and are so made, as is shown on the plans, that they can easily be removed for cleaning. The nests are so made as to be entirely enclosed and can eassily be cleaned when the hinged cover is raised. A small dust box is planned for one corner, which is well lighted by a six-light sash. The front wall of the poultry house is made so as to afford sufficient light and at the same time ventilation for the building. There are two sashes made up of twelve lights 9x13, which are glazed with a common single-strength glass, and then there are two other openings, two feet six inches by five feet in size, which are filled with or covered with a coarse mesh screen wire cloth and also with a canvas or some heavy cloth so as to afford the proper ventilation. The door, 6x2½ feet, which is under the screened openings, is to be opened during the warm part of the day so as to allow the floor to become dry. The large doors could be omitted, with the exception of the one in the front.

The poultry house as planned in the drawings is one that could be easily built by the average farmer, and, furthermore, the house could be built at a very small expense because of the fact that there is no wasted space and consequently no waste of material. W. E. F.

Story County, Iowa.

By six qualities may a fool be known: Anger, without cause; speech, without profit; change, without motive; inquiry, without an object; trust in a stranger, and incapacity to distinguish between friend and foe.

FAMILY OF FIVE
All Drank Coffee from Infancy

It is a common thing in this country to see whole families growing up with nervous systems weakened by coffee drinking.

That is because many parents do not realize that coffee contains a drug—caffeine — which causes the trouble. (The same drug is found in tea).

"There are five children in my family," writes an Iowa mother, "all of whom drank coffee from infancy up to two years ago.

"My husband and I had heart trouble and were advised to quit coffee. We did so and began to use Postum. We now are doing without medicine and are entirely relieved of heart trouble.

(Caffeine causes heart trouble when continually used as in coffee drinking).

"Our 11-year-old boy had a weak digestion from birth, and yet always craved and was given coffee. When we changed to Postum he liked it, and we gave him all he wanted. He has been restored to health by Postum and still likes it."

Name given by Postum Co., Battle Creek, Mich. Write for the little book, "The Road to Wellville."

Postum comes in two forms:

Regular Postum—must be boiled.

Instant Postum is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water and, with cream and sugar, makes a delicious beverage **instantly.** Grocers sell both kinds.

"There's a reason" for Postum.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Cattle Feeders' Associations

THE organization of state feeders' associations is an enterprise that appeals to the producer as a necessity in these times, when the whole world seems to be organized for the promotion of special avocations. The live stock feeder has in a general way been carrying his own burdens, trying to solve his own problems and difficulties, picking up for himself such information as he thought advantageous in the prosecution of his line of work. Feeding experiments conducted by agricultural colleges and experiment stations have been too generally looked upon as scientific impracticabilities, not adapted to the farm and ranch feed yard; therefore of little or no value from a feeder's standpoint.

In recent years there has been some change in opinion. The experiment station bulletins on feeding tests have been read and studied. This has been brought about by the increased facilities for advertising the work of the experiment station. There have been hundreds and thousands of young men and boys going back to the farm from the agricultural college, where they have taken part in the experiment station work, and have become interested in the results. They have become advertisers of these educational institutions and by their example and earnest advocacy have turned the tide of comment and opinion to work in favor of endorsement rather than disapproval and indifference of the experiments being conducted.

There is a very close business relationship between the feeder and the experiment station. If there can be any composition of feeds or methods of feeding that can be used to advantage by the feeder, he wants to know it, and should know it. If there is anything of advantage to feeders that may be discussed among them as a body, then organization or association may be made profitable. If there are any interests in the business common to all the feeders, then co-operation may be used as a means of acquiring it when individual effort would avail nothing.

The bringing together of the state experiment stations and the live stock feeders of the states is the foundation principle upon which these feeder associations should be organized. The feeding experiments should be planned and conducted with a view to meeting feeding propositions and feeding difficulties that will be suggested and approved by the state feeders' associations at a joint meeting of the experiment station representatives and the feeders' association members. The dissemination of information pertaining to the practical work of feeding will be alike instructive to both feeder and farmer, as the bulletin reports will contain every detail of the work.

The course pursued by the Indiana Cattle Feeders' Association is to call an annual fall meeting at a specified date at the state experiment station, where the cattle to be put under feed tests are inspected by visitors and members of the association when the feeding experiments begin. Persons who study the results of feeding trials at the experiment station are thus given an opportunity to see the class of cattle used and the methods followed in securing data. These meetings are programed with addresses from prominent cattle feeders and dealers of the corn belt. An annual spring meeting is also held, when these feeding tests are completed and the full results of the season's feeding analyzed for the benefit of all who attend. These fall and spring meetings have developed great interest among farmers and feeders from all parts of the state.

A Tale with Two Morals

Hoard's Dairyman, in a recent issue tells a story which points at least two morals so plainly that we cannot resist passing on part of it:

"Recently we took a trip with a professor of dairying from another state. He was buying cows, and it didn't take us long to discover that he knew what he was looking for. Some farmers sized the professor up as an 'easy mark,' but when he picked out their best cows without the slightest hesitation they squirmed out of the hole into which they had so nicely dropped with some plausible excuse that saved the day for them.

"One man claiming to have fine grades wanted $75 a head for them. The professor said: 'I wouldn't give him $50 for the best in the bunch.'

"Another man was very modest in his claim for his cows. We looked them over, and the man was asked how much. He said '$100 a head.' 'I'll take them,' said the professor.

"Now, what was the difference between these two herds? No difference in soil, climate, feed that could be raised or any other natural condition. One lot scorned at $50, the other snapped up at $100. All were grades. One herd would eat as much and take as much barn room as the other. Each farmer had the same kind of market for milk and butterfat.

"The difference was a difference in men. The same thing that, the world over, makes for failure or success. The man with the $50 cows couldn't afford to buy a good bull. The man with the $100 cows couldn't afford to own a poor bull. He got double the amount of butterfat to sell to the creamery, got double the price for his surplus stock, and a thousand times the satisfaction from his work. His bull was worth perhaps $500; the other man's was worth not over $50; yet this man couldn't afford to buy a good bull. There are lots of $50 men, but there is a rising generation of $100 men who are looking to the future and who have learned the difference in values."

One of the largest forest nurseries in the United States is conducted near Haugen, Mont. It is known as the Savenac nursery and has a capacity of 4,000,000 young trees a year.

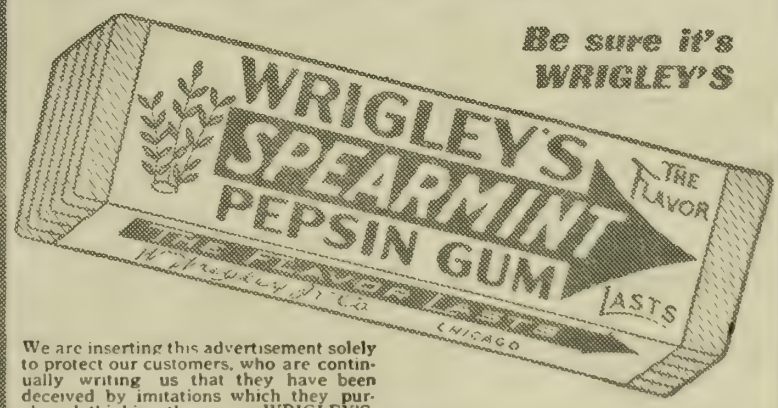
CAUTION!

The great popularity of ***the clean, pure, healthful***

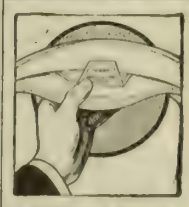
WRIGLEY'S SPEARMINT

is causing unscrupulous persons to wrap rank imitations that are not even real chewing gum so they resemble genuine WRIGLEY'S SPEARMINT. The better class of stores will not try to fool you with these imitations. They will be offered to you principally by street fakirs, peddlers and the candy departments of some 5 and 10 cent stores. These rank imitations cost dealers one cent a package or even less and are sold to careless people for almost any price.

If you want *Wrigley's* look before you buy. *Get what you pay for.*



We are inserting this advertisement solely to protect our customers, who are continually writing us that they have been deceived by imitations which they purchased thinking they were WRIGLEY'S.



Slidewell Shield
Patented Aug. 19, 1913

Graduated Tie Space
Patented Nov. 26, 1913

SLIDEWELL HALO COLLARS

BY recent issue of patents, the little tie-and-time-and-temper saving back button shield and the graduated tie space that gives the scarf free running room *when the collar is buttoned in place*, permanently become exclusive SLIDEWELL features.

The graduated tie space, like the back button shield, is permanent, and custom laundering cannot destroy it.

Until you know SLIDEWELL collar comfort and SLIDEWELL style and quality, you are missing much. Millions of men can tell you why.

Ask your dealer for the "Somerset" and "Stadium"—two smart Slidewell Collars for the winter season. *15c — 2 for 25c*

HALL, HARTWELL & CO. Troy, N. Y.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Rheumatic Twinges

yield immediately to Sloan's Liniment. It relieves aching and swollen parts instantly. Reduces inflammation and quiets that agonizing pain. Don't rub—it penetrates.

SLOAN'S LINIMENT

Kills Pain

gives quick relief from chest and throat affections. Have you tried Sloan's? Here's what others say:

Relief from Rheumatism

"My mother has used one 50c. bottle of Sloan's Liniment, and although she is over 83 years of age, she has obtained great relief from her rheumatism."—*Mrs. H. E. Lindeleaf, Gilroy, Cal.*

Good for Cold and Croup

"A little boy next door had croup. I gave the mother Sloan's Liniment to try. She gave him three drops on sugar before going to bed, and he got up without the croup in the morning."—*Mr. W. H. Strange, 3721 Elmwood Ave., Chicago, Ill.*

Neuralgia Gone

"Sloan's Liniment is the best medicine in the world. It has relieved me of neuralgia. Those pains have all gone and I can truly say your Liniment did stop them."—*Mrs. C. M. Dowker of Johannesburg, Mich.*

At all Dealers. Price 25c., 50c. & $1.00

Sloan's Instructive Booklet on Horses sent free.

DR. EARL S. SLOAN, Inc., BOSTON, MASS.

There is a warm, comfortable, healthful Winter ahead of the man who buys

Lambsdown

Fleece-Lined Underwear

Lambsdown's thick, downy fleece protects the body and wards off colds and grippe. *Lambsdown* is good for two seasons' wear.

Made for Men and Boys

in Union Suits and Separate Garments at 50c, 75c and up. Write for Bodygard Booklet No. 49.

UTICA KNITTING CO.

Utica New York

PATENT YOUR IDEAS

$9,000 offered for certain inventions. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. Patents advertised for sale at our expense in Manufacturers' Journals.

CHANDLEE & CHANDLEE, Patent Att'ys

Established 16 Years

923 F. Street, Washington, D. C.

Of Interest to Our Women Readers

Thanksgiving Day

I'm thankful for life, and I'm grateful for love;
The starbeams of hope that stream down from above
To shed on my pathway their radiant light,
To ease the dark cares of the over-long night;
I'm thankful for skies, with their unchanging blue,
That tell how eternal are things that are true.

I'm thankful to live in a land that is free,
With chances for all men, whoever they be,
To labor in fields of their own for the spoil
That comes to the hand that is willing to toil;
To stand without fear, without favor or grace,
From masters enthroned in inherited place.

I'm thankful for problems that tax us and test
The powers of man to their uttermost best;
For problems that strengthen the soul, and reveal
A structure of spirit that's fibered with steel;
For trials that come in accord with the plan
Divine for the better upbuilding of man.

I'm thankful for faith in the ultimate right,
When error shall die in the glow of the light;
I'm thankful, in hours of doubt and despair,
To hold the belief, in despite of the blare
Of them who'd give up and retreat from the fray,
That leaders will rise who can cope with the day.

I'm thankful for hearts with deep sympathy thrilled,
Who care for the weary, the weak, and the chilled;
For boys and for girls to inherit the land
With spirits alert, and the will to command—
Past, present, or future, whate'er may befall,
I've thanks in my heart for the blessings of all.

—John Kendrick Bangs.

Our Home Chat

"What does Thanksgiving day mean to us, anyhow?" asked a woman of some of her neighbors with whom she was sewing one November afternoon. "It means to me a crowd of relatives, all bringing their ill-behaved children; it means two days of cooking in preparation, and then another day of cleaning up, when the children are cross and their digestion upset from overeating."

"That's just what it means at our house, too," agreed another.

"We always go to mother's for Thanksgiving," said a little woman, "and she loves to have us come. She has to prepare for us, to be sure, but we all help her to clear up after the big dinner is over, so we get enough exercise, and the children go out into the yard to play a while, no matter what the weather is."

"Well, but after all," said the first speaker, "what is it all about? Do we really give thanks for anything in particular at that time? I don't; I'm too busy."

"Well, I do," said the little woman who went to "mother's." "I don't know why it is, but I always keep thinking how nice it is to have a mother and father to spend Thanksgiving with, and how glad I am that I have my husband and children, and that we have warm clothes to wear and good things to eat. Thanksgiving is not the only day I think of it, but such thoughts come particularly then because we are all together and have such good visits. I feel happy for days afterward, and I try to help mother with the work so she will not be tired."

"No wonder you like it," said the first woman. "You don't have the dinner to get."

"That is not the reason," said a little old lady in the corner. "It is because she has the proper Thanksgiving spirit. It is Thanksgiving with her all the year 'round. She has the Thanksgiving feeling in herself."

"Well, I wish I had," said the woman who started the subject. "But you can't get yourself into a thankful state for just a day. It has to be a habit, and I am afraid I have never taken the time to cultivate it." THE EDITOR.

The Girl and the Home

Dear Editor: It seems as if we didn't write until the spirit moved us, but while reading in the copy of September 13 in "Our Home Chat" of how some men got into a discussion on the bringing up of the American girl, I thought to myself, "I wish they would make a visit to York and see what a nice lot of dainty little cooks and dressmakers we have here, ranging from 13 to 18 years of age. They ought to go into the high school, where they are teaching domestic science. There never was as much money and time spent as there is now to make the American girl one of the neatest and best cooks in the world.

There are twenty little gas stoves and bakeovens, dishpans, frying pans and all kinds of kitchen utensils, and two girls have to cook at one stove, with a drawer to keep their rolling pin and other useful articles in. They take three lessons a week and have to keep everything in perfect order.

In the eighth grade they learn to sew. Each has to make herself a night dress, corset cover, hemstitched towel, with her initial on it, and, last of all, they have to get patterns and each cut and make herself a dress and have it all fitted and finished before graduation. In the accompanying picture the class all wear the dresses they have made.

In the ninth grade they learn to cook and bake, and in the tenth they learn to make jellies and can fruits, and toward the close of the school year they invite the whole school board, about twenty-two in number, to dinner. These girls of from 15 to 17 do all the buying of meats and vegetables, all the planning, cooking and serving for the school board, and they receive lots of compliments on their good cooking.

I think a step like this is worth taking, especially in cities, where the girls have so much time to run the streets with their friends after school, where a farmer girl has not the time and chance, and had rather help mother with the meals. I think all farmer girls should make good housekeepers, as, naturally, they have to help cook for the harvesters and threshers. In answer to Myrtle Owen's question, I think any farmer girl from 12 to 14 ought to be able to cook a meal for the folks at home if mother does not come home in time from town or church.

One day we had company, and Grace, 15, and Clara, 12, said: "Now, mamma, you stay with your company and we girls will get dinner all alone." I did not quite trust it, but at 12:30 they called dinner, and how good everything tasted!—beeksteak, cooked nice and tender; potatoes, mashed as fine as cream; lemon pie, fit for a king. My friend said, "What a blessing those two girls are, with the three older ones away from home married or teaching."

When we were making jelly, Grace said, "Now, today let me make the jelly as we made it in school." So she let it boil until, holding a cup sideways, a drop of jelly would stay in a round ball on the round surface; then it was done. We had such nice jelly! Served in a glass dish, it would stand firm.

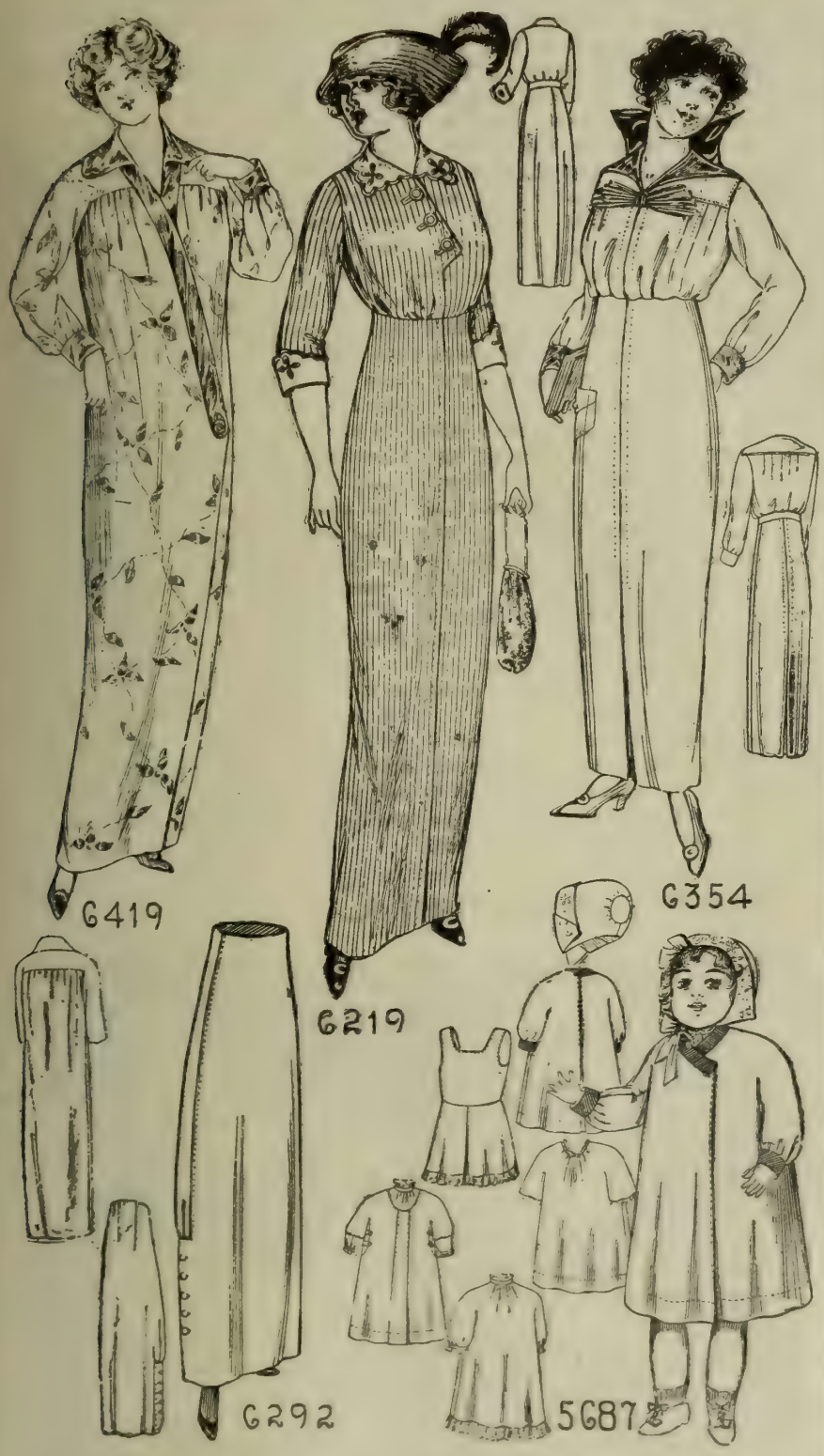
(CONTINUED ON PAGE THIRTEEN)

York (Neb.) High School Domestic Art Class, Wearing Dresses Made by Themselves—(Photo 1910)

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each



Description of Patterns

6419—Ladies' Kimono—The novel feature of this kimono is the cut of yoke and sleeves in one piece. The sleeves are of bishop shape, full at the wrist, but they may be elbow length if preferred. The skirt sections of the kimono are fairly ful* The neck trimmed with an ornamental collar and the closing slightly bias. The pattern 6419 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5¾ yards of 36-inch material, ⅝ yard of 27-inch satin to trim.

6219—Smart One-Piece Dress—The most fashionable of all gowns this season is the one-piece model. Our design shows a simple bodice, with ornamental closing, the neck finished with a low collar, the plain sleeves ending in a cuff. The four-gored skirt has a seam in the center of the front and also of the back. It has a front closing. The pattern 6219 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4 yards of 44-inch material.

6354—Misses' and Small Women's Dress—A pretty design for a one-piece dress shows the new yoke effect on the blouse and a plain, smart skirt. The blouse is tucked at the joining with the yoke, front and back, and is quite full at the waistline, this being one of the requirements this season. The pattern 6354 is cut in sizes 14, 16 and 18 years. Medium size requires 3¾ yards of 44-inch material.

6292—Ladies' Skirt—This skirt may have two gores or three, according to whether a seam is placed down the center of the back or not. The raised waistline is used and the skirt is gathered across the back. At the lower part of the front gore is a square extension overlapping a few gathers on the other gores. The skirt pattern No. 6292 is cut in sizes 22 to 30 inches waist measure. Medium size requires 4 yards of 27-inch material.

5687—Girl Doll's Set of One-Piece Clothes—This set of doll clothes will delight any little girl, as the outfit consists of a double-breasted box coat, jumper dress, gumpie and petticoat in one, combination underwaist and drawers, nightgown and cap. The pattern 5687 is cut in sizes for dolls measuring from 14 to 26 inches long from crown to sole. To make the set for a 22-inch doll it will require 1 yard of 40-inch material for the coat, 1 yard of 27-inch fabric for the dress, 1 yard of 27 inches wide for gumpie and petticoat, ⅜ yard of 36-inch material for underwaist and drawers, 1¼ yards of 27-inch material for nightgown, and ¼ yard of 20-inch goods for cap.

Farmers Are Buying "Elephant Head" Rubber Boots in Enormous Quantities

Ten thousand a day being sold is sure proof that Elephant Head Rubber Boots are living up to their reputation for being the toughest, strongest and best boots on the market.

Other rubber boots may be tough, but "Elephant Head" are tougher—the toughest, wear-resisting boots you can get.

WOONSOCKET

ELEPHANT HEAD

RUBBER BOOTS

Insist upon "Elephant Head" Brand Rubber Boots

Made of the Best Grade of Fine Para Rubber.

—made of extra strong duck.

—reinforced at every point

All the best dealers carry "Elephant Head" Brand Rubber Boots in all lengths and you can depend on them to carry the best of everything.

WOONSOCKET RUBBER CO.
Woonsocket, R. I.

Big Doll for You

D-L-I-
D-M-L-

Can you fill in the blank spaces above and complete the doll's name? You can do this if you try. Just write and tell me what the name is and I will tell you how you can get this beautiful doll, nearly two feet tall and jointed at shoulders and hips. Her eyes open and shut, she has long flaxen hair and is beautifully dressed. You will be the proudest girl in your neighborhood when you get this doll, and she is yours for just a little easy work. Be sure to write and tell me her name today so I can send you my great free offer.

PEOPLES CO.
927 Popular Bldg., DesMoines, Iowa

Latest Fashion Book

2 CENTS POSTPAID.

EVERY WOMAN HER OWN DRESSMAKER

Very Latest Fashion Book Only 2c

Read This Very Special Offer.

FOR the benefit of our readers who use patterns, we publish four times a year the well-known fashion book, **"EVERY WOMAN HER OWN DRESSMAKER."**

The **Spring** Fashion Nember is ready **February 1.**

The **Summer** Fashion Number is ready **May 1.**

The **Fall** Fashion Number is ready **August 1.**

The **Winter** Fashion Number is ready **November 1.**

The price is 5 cents a copy or 20 cents a year. **"EVERY WOMAN HER OWN DRESSMAKER"** tells how to make Coats, Waists, Skirts, Costumes, Aprons, Dressing Sacques, Underwear, Baby Clothes, Clothes for Boys and Girls, etc., etc. Every woman who uses patterns or does sewing at home should buy **"EVERY WOMAN HER OWN DRESSMAKER"** four times a year. Besides telling how to make clothes it illustrates and describes hundreds of the newest styles for Ladies, Misses and Children.

OUR SPECIAL OFFER—IF you use patterns, or if you order any pattern shown in this or any other issue of our magazine, we will send you the very latest issue of "EVERY WOMAN HER OWN DRESSMAKER" for 2c. Just send your address and 2c to Pattern Department Twentieth Century Farmer, Omaha, Neb.

A FINE VIOLIN

With Beginners' Complete Outfit, all for... $10

This is a superior quality Violin that we absolutely guarantee. It has a splendid tone and is beautifully finished. We are large wholesalers importing our Violins direct from European makers which is the reason we can sell this quality of Violin at so low a price. The outfit includes a good case, bow, chin rest, resin, tuning pipe, extra strings, instruction book and Free Lessons (Correspondence Method). Your money back if not perfectly satisfied. Other outfits from $7.50 to $50. Also Cornets, Guitars, etc. Catalog Free.

W. J. DYER & BRO.
Dept. [illegible] Fort Myers
Largest Musical Instrument House in the Northwest. Estab. 1877

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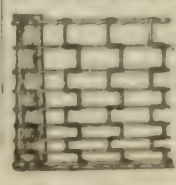
SUES & CO., Attys., 539 7th Street, Washington, D. C.

FARM FENCE



11½ cts. a rod for a 26 in. high fence; 17 1 4c. a rod for 47 inch high stock fence. 26 1-2c. all for a 50 inch heavy poultry [illegible] direct to the farmer. 30 Days Free Trial. Special cash offer, 80 rod spool, $1.85. Catalog free.

INTERLOCKING FENCE CO.
BOX 19 MORTON, ILLINOIS.

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Expert automobile mechanics get $100 to $150 a month, demonstrators and salesmen more. Good jobs are going begging—there are not enough experienced men to fill them—because the automobile industry is growing faster than men can be trained. Equip yourself for a good salary as expert mechanic or for entering the automobile business for yourself. Ours is the largest and best equipped auto school in the west, the only school in Nebraska with its large building devoted entirely to automobile training. Complete machine shops, all accessories, many makes of autos. Individual experience in large touring cars. Write for booklet.

NATIONAL AUTO TRAINING ASS'N.
2852 North 20th Street. OMAHA. NEB

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They're in demand now--big pay--we get positions for our graduates. Take our course--it's interesting, thorough, and teaches every detail of watchmaking and jewelry repairing.

FREE BOOK Send for our book "The Artisan." It explains everything thoroughly.

Stone's School of Watchmaking,
907 Globe Bldg. St. Paul, Minn.

When communicating with advertisers, please remember that you will favor both the publisher and advertiser by stating that you saw the advertisement in The Twentieth Century Farmer.

The Trained Man Is Sure of Success

The railroads, telegraph and telephone companies are always on the lookout for trained men in every district. **Big Salaries Are Paid.**

The Government continually needs men for good paying positions in all departments, especially since the establishment of the Parcel Post.

To get the proper training, you don't have to leave your house or slight your present work. The International Correspondence Schools train men in their own homes, fitting them to step into highly-paid positions.

Look over the list below. Select the occupation that most appeals to you.

Mail this coupon to the International Correspondence Schools, and they will send you full particulars as to how they can make you an expert.

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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm :

A Thanksgiving Fable

It was a hungry pussy cat, upon Thanksgiving morn,
And she watched a thankful little mouse that ate an ear of corn.
"If I ate that thankful little mouse, how thankful he should be,
When he has made a meal himself, to make a meal for me.

"Then, with his thanks for having fed, and his thanks for feeding me,
With all his thankfulness inside, how thankful I shall be."
Thus mused the hungry pussy cat, upon Thanksgiving day,
But the little mouse had overheard, and declined, with thanks, to stay.

—Oliver Herford.

The Editor's Corner

Probably many of you know and love Mowgli, the boy hero of the Jungle Books. Of all the fascinating books ever written for children there are none more dear to us than these, and there are even many grown people who are still young enough at heart to care for them. As you know, they were written by Rudyard Kipling, the great English author, who knows India, with its jungles, as we know our own hills and prairies. We found an interesting little anecdote the other day about Mr. Kipling. After he had written the first poems and stories that brought him fame and money, he was not satisfied, but went to the editor of a children's magazine, the St. Nicholas, and asked if he might not write something for the children, whom he loves. The result was the Mowgli stories, and these were followed by others that no doubt most of you know. Kipling is such a big, broad-minded man, and knows so much of the things that count in the world of men, that it is pleasant to learn that he loves the children so well that he did not consider his work complete until he had written something just for them.

Whenever you read a book that you especiaally like, do you notice who wrote it? It is well to do this, because it helps you in choosing a book in the future. If you see another book by the same author you are sure to want to read it. And then, too, when you learn to care for an author's work it is always interesting to learn something of his life as well, as you are sure to do if you are on the watch for such items, and it is almost like making a personal friend.

THE EDITOR.

My Thanksgiving Party

I was 4 years old, a little, slim, white-haired girl. My father, mother, sister Anna and myself were invited over to my Uncle Owen's home for Thanksgiving dinner. Uncle Owen's children, Lettie and Linn, were older than my sister and I. My mother put on my new navy blue dress, all trimmed in pretty white braid, and all the time she was dressing me kept telling me how careful I must be not to get my new gown dirty.

We got there about half-past 10 in the morning. All the Lowes were there—they lived across the road—Mr. and Mrs. Lowe, Ed, Clare and Leta. I was afraid of Ed, because he always had a toad or snake in his pocket, or perhaps carried an old tin can with bugs or caterpillars. Leta was about my age and my best friend. We commenced to play hide and seek right away and I fell off the back walk, head first, into the slop bucket, new dress and all. Goodness, if my mother wasn't mad! She took me home and changed my dress, put an ugly blue gingham one on me. She scolded me until I cried, then scolded me for crying, and said I never ought to have any pretty clothes. We went back, and everybody said, "Mary, where's that new dress? Where have you been, Mary?" and other tormenting things, so I cried some more.

Soon somebody said dinner was ready. Things smelled so good, and I was so hungry, that I forgot everything else. But we children did not get to eat at the first table like children do now; oh, no! We had to wait until the grown people were through. I remember every gizzard was gone before our table was ready, but we had a good time and plenty to eat. Ed Lowe ate three pieces of pie.

After dinner was over we had a show in the hay mow. It cost ten pins to get in. There was a small amount of hay in one end of the mow and this was used for a stage. The Lowe boys went over home and got some false faces, and Lettie and Linn got some old dresses to wear. Two of the boys wore red underwear tights, with striped scarfs for sashes, and walked the tight rope. There was a square hole in the floor, and Clare Lowe said it ought to be covered up, so he put a sled over it, and Leta and I sat on the sled, as we were the audience.

After the tight-rope walking and several fights on the stage, Ed Lowe started around to shake hands with the ladies. He had a negro false face and scared Leta so she jumped off the sled and it slipped, dumping me down through the hole in the floor into the corn-bin below. They were all scared nearly to death and ran down to pick me up. Lettie hired me to quit crying by giving me a little China doll. Everybody "crossed their hearts and hoped to die" if they told, but the accident broke up the show, and I didn't care to play any more, but went into the house, crawled up on my mother's lap and stayed there until we went home. That night I cried after I went to bed, and my mother said I had eaten too much dinner, and gave me lots of bad-tasting medicine.

MARY RUTLEDGE.

Awards in Picture Contest No. 7

There were nearly 100 answers again in the picture contest, and many of them were good. You have no idea how hard it is to decide to whom to give the prizes when there are so many good verses sent in. By the way, what made so many of you think the little animal in the picture was a lamb? We thought it was an Angora kid, but most of the verses called it a lamb? One child thought it was a dog. Remember, we consider age, spelling, neatness, meter and a number of other things in awarding these prizes, although the originality of the idea counts for the most.

(First Prize)

By Milly Van Doren, Aged 10, Merriman, Neb.

This picture is no puzzle,
If you'll just stop and look,
It's Mary and her little lamb,
So please send me your book.

(Second Prize)

By Bernice Holdridge, Auld, Cal.

There was a goat that had no mother;
He looked around to find another;
When he found this little friend,
All his troubles were at end.

By Imogene Dover, Aged 9, LaCygne, Kansas.

"I have a little lamb, with fleece as white as snow;
I feed him from a bottle, so's to make him grow,
And make his wool all nice and shaggy,
To shear and spin for yarn," says Maggie.

By Imogene Frazier, Aged 11, Missouri Valley, Ia.

Belle is a little lamb, you know,
Whose mother died not long ago;
Edna feeds it every day
With nice, warm milk and clover hay.

(CONTINUED ON PAGE THIRTEEN)

This is Bargain Day. The Twentieth Century Farmer to January 1, 1915, for $1.00

Timely Items of Interest to Poultry Raisers and Fanciers

IF TURKEYS are closely confined, more often than not you cannot get them fat at all. Indeed, they have been known, when put in confinement in good flesh, to begin losing it right away, until nothing much but the skeleton is left.

If turkeys are given their freedom, they will not roam far in cold weather, and when it is cold and snow is on the ground is the time of year they put on fat in quick order. No use having a poor Christmas turkey.

Boiled corn, to which you add a little oil meal, is the best of fattening food for turkeys. They relish it, and, even if new, it will not hurt digestion if boiled before feeding. A big sugar or soap kettle, whichever you may call it, is just the vessel for boiling up the turkey corn.

***

Don't forget that box of dusting material, kept where it will stay dry all through the freezing weather, and don't forget the grit and charcoal, even if you do forget the oyster shell. Grit and charcoal keep them healthy. Charcoal holds medicinal ingredients that are entirely beneficial to digestion by sweetening the contents of the crop and killing acidity.

***

Poultry on range can assimilate huge quantities of corn and yet keep well and lay well. Many poultry keepers are pleased with the amount of eggs they get, and furnish the hens little else but corn, and plenty of green stuff in summer, though not so much in winter. The reason a hen can keep healthy on corn if running at large on good days is because the hen must keep up at least six degrees more of heat than other kinds of animals, and corn supplies what she needs in that line.

***

There are persons who are partial to spotted cows, spotted dogs and spotted chickens, or spangled, as the spotted chicken is spoken of. The Houdan and Spangled Hamburg are evenly spotted, but the topknot hurts the first, and the small size the latter. Why don't more advertisers give us the Spangled Orpington, an evenly spotted white and black bird of large size, and, it is said, the equal of the Buff and Black in laying power.

***

A chicken off its feed, or sick, hunts the roost early in the evening, and a well known poultryman says that, in his experience, the hen that goes to roost first is the one off the roost last and is always a poor layer; also the hens that go farthest back on the roosts are the same, though strong and hearty. These are classed for culls. The layer is a hustler, late to bed and up early.

***

The colony plan that scatters the houses over a large area of ground means lots of work, and takes a capable business man to look after it aright and make it pay, for only too often the colony plan of keeping poultry means greater expense than when poultry is kept in one continuous house.

The continuous poultry house was not a success when wire was used only for partitions. It was a cold house then, and contagion starting in one compartment spread down the long house to all. But now the partitions are solid, and each compartment is practically a little house to itself, and much warmer than if standing out alone to the winds from all sides. These are now the favored houses. They are favored because the means of work are all at hand. You have your feed room, incubator and other working rooms at one end. You go down the alleyway, under roof, in storm and snow to feed the fowls. In the continuous poultry house the alleyway is usually built along the rear of the compartments.

***

The yearly records of certain hens at some of our late poultry-laying contests bring to mind the record of a light Brahma hen belonging to the veteran poultryman, Isaac Felch, that laid 300 eggs in less than a year. This was now over forty years ago. A White Plymouth Rock hen belonging to another responsible poultryman laid 310 eggs in the year 1903.

The Girl and the Home

(CONTINUED FROM PAGE TEN)

I ought to have sent this in sooner, but every evening we have had such splendid revival meetings. The evangelist said he could not do much if we did not all help; we could at least sing and bring someone along, which we all did.

As I see the editor frowning at this long letter, I must say a happy "hello" to all the busy farmer wives.

Nebraska. MRS. A. VON B.

Editor's Note—This is the kind of letter we like to receive. No wonder this mother has good daughters. She not only allows them to learn to do things, but she is not afraid to trust them to do things "all alone" in the home. The trouble with so many girls is that they are discouraged by not being allowed to work about the house without continual "bossing." Grace and Clara, of course, take a real interest in the home, where they are allowed to go ahead and do things their own way.

Picture Contest No. 7

(CONTINUED FROM PAGE TWELVE)

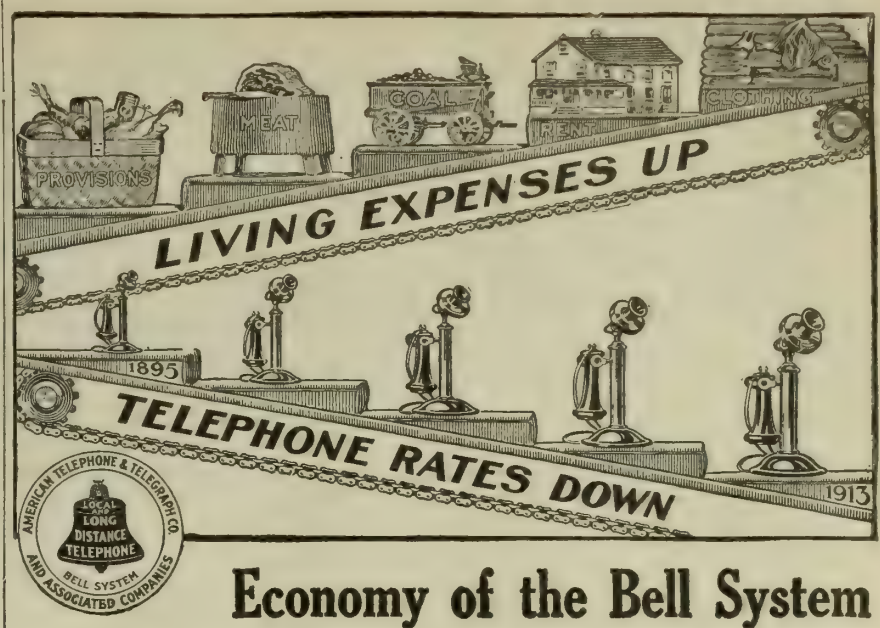
By Bonnie Marsh, Aged 11, Walters, Oklahoma.

Ruby has a little lamb,
With fleece as white as snow.
It likes to eat its dinner,
And so do we, you know.

By Clifford Nimrod, Wakefield, Neb.

Mary had a little lamb;
She gave it water at the dam;
When she called it by name,
Then it was very glad, and came.

Editor's Note—As the prize story this week was a long one, we have no room to print it. Consequently, next week we will print this week's prize story and next week's prize story, too. The winner this week was Zora Mowry, Arcadia, Neb.



Economy of the Bell System

Consider this significant fact: While most of the necessaries of life have gone up, the price of telephone service, which is one of the essential factors in our commercial and social life, has moved steadily downward.

Although a pound of these necessities still contains but sixteen ounces, the telephone user has been getting more and more service for less money.

On the average, the people of this country pay 49% more today for food, fuel and clothing than they did in 1895. Since then, the decrease in the average rates for telephone service has been more than one-half.

At the same time, the efficiency and value of the service to the subscriber has vastly increased. Today he can talk to an average of five times as many persons in each exchange as he could eighteen years ago.

This is the inevitable result of the comprehensive policy of the Bell system, which brings together the associated Bell companies and the communities they serve.

Through the very size and efficiency of their organization they accomplish improvements and effect economies which give the greatest service at the lowest rates.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

E. Myers, President, E. Myers Lye Company

How and Why Merry War Powdered Lye Makes Bigger Hog Profits

A well known authority on the subject of Hog Raising says: "Many hog raisers find it unprofitable to feed hogs after they weigh 250 pounds; the next 100 pounds costs too much. The secret of cheap production is first to grow strong frames on diversified grain and forage crops, *always keeping the hogs keen in appetite*, then giving them a high finishing feed to which they will respond."

How To Keep Hogs Always Keen In Appetite

The surest and cheapest way of keeping hogs keen is by feeding *Merry War POWDERED Lye daily* with their rations. *Then* when ready for their topping off they will *quickly* put on *FAT* with the change of food—there is *no waste* of feed—every pound of corn is changed into *profit making pork*, because every bit of feed is fully digested—and instead of taking the usual 5 to 6 weeks to put on an extra 50 pounds of live weight, your *Merry War POWDERED Lye* hog will add that extra 50 lbs. in 3 or 4 weeks—a clear *saving* in time and feed.

Prevents Hog Cholera

Merry War POWDERED Lye not only keeps hogs *keen in appetite* from weaning till market time—healthy, strong and in prime condition for quickest and cheapest fattening—but it also *prevents hog cholera* and *protects* hogs from that dreaded disease. You need it as part of the daily rations of your hogs. *Costs only 5c per month*, to keep for complete *protection*. *(2 FEEDS PER DAY.) There are no substitutes. Merry War POWDERED Lye* is a *specially prepared, Powdered* lye that *will prevent hog cholera.* The use of ordinary, old fashioned lye for hogs would be but a doubtful experiment—perhaps a most *dangerous* one. You can't afford to take chances. The actual *experience* of thousands of hog raisers has *proved* the real merits of *time-tried Merry War POWDERED Lye*—the greatest hog remedy the world has ever known.

"Merry War" Gave These Hogs Keen Appetites

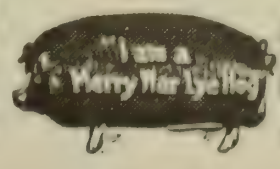
"Our country is full of hogs since feeding Merry War POWDERED Lye. They like the slop better with Merry War POWDERED Lye. My husband said: 'It does our hogs good and helps digest the corn they eat.'"

MRS. EMMA WUITKE, Richmond, Mo.

Make a Test For Yourself.

Sold at most dealers. Use a can full size of 4 dozen cans, $4.80. If your dealer can't supply you, write us, we buy dealers' names—we will see that you are supplied and send you, FREE, a copy of our valuable booklet, "How to Get the Biggest Profits from Hog Raising." "YOU MAY ORDER DIRECT FROM US IN CASE YOUR DEALERS WON'T SUPPLY YOU."

E. MYERS LYE COMPANY,
Dept. 88 St. Louis, Mo.



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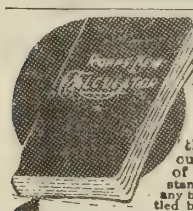

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We are giving Ropp's New Calculator FREE to every farmer or land owner who wants to put up a fence that will last. Ropp's Calculator should be in the hands of every farmer. It will instantly give the correct answer to any business problem that can be settled by arithmetic. We will also send you our free illustrated catalog on

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Which tells you why it is better than any other fence and where to get it. If you want a farm fence that will last, and stay trim and tight the year round, write for these FREE books today. 32

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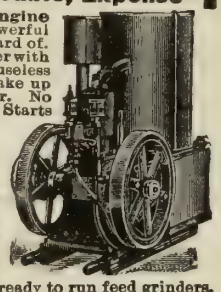
Detroit Kerosene Engine
Saves Time, Trouble, Expense



The **Detroit Kerosene Engine** is the simplest and most powerful engine you ever saw or heard of. Direct transmission of power with 3 moving parts only—no useless cams, gears or valves to take up power or get out of order. No trouble—no extra expense. Starts without cranking.

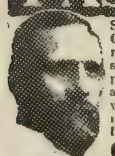
Runs on Cheap Kerosene

Will run on distillate and gasoline; but kerosene costs less than half as much as gasoline. Besides, kerosene contains more heat units than gasoline. Result—more power—steadier power—at one-half the expense of fuel. Comes to you all ready to run feed grinders, separators, pumps, saws, electric light plants etc. All sizes in stock ready to ship.

GUARANTEED 5 YEARS—Sent on trial direct from our factory at lowest factory prices. Don't buy an engine until you have seen the "Detroit." Write today for catalog and agent's special introductory price on first order from your territory. (188)

Detroit Engine Works, 372 Bellevue Ave., Detroit, Mich.

I Ask Only $1.00



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MANSON CAMPBELL Handles all grains and grass seeds, takes out weed seed, separates mixed grains; leaves big, pure seed. Over 300,000 Chathams in use, and every owner satisfied! Write a postal now for my FREE copyrighted book, "The Chatham System of Breeding Big Crops;" description, price, terms, etc. Address nearest office. Dept. 49

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Hot and cold running water for country homes. Complete system ready to install **$37.80.** Easily installed by anyone or money refunded. Enjoy the comforts of life!

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MISSOURI WATER & STEAM SUPPLY CO.,
1719 So. 6th St., St. Joseph, Mo.

The Keokuk Dam and Its Great Power Plant

By Frank G. Carpenter

KEOKUK, Ia., Nov. 15.—I have stopped off here on my way from St. Paul to New Orleans to see the Mississippi river in harness. That rampageous old water broncho has been lassoed by the cowboys of modern progress, and she is now plugging away doing work like a cart horse. She is already running the street cars and many of the mills and factories of St. Louis, which city is more than 100 miles off, and she will soon have the wheels moving over a vast district right here in the very heart of the nation.

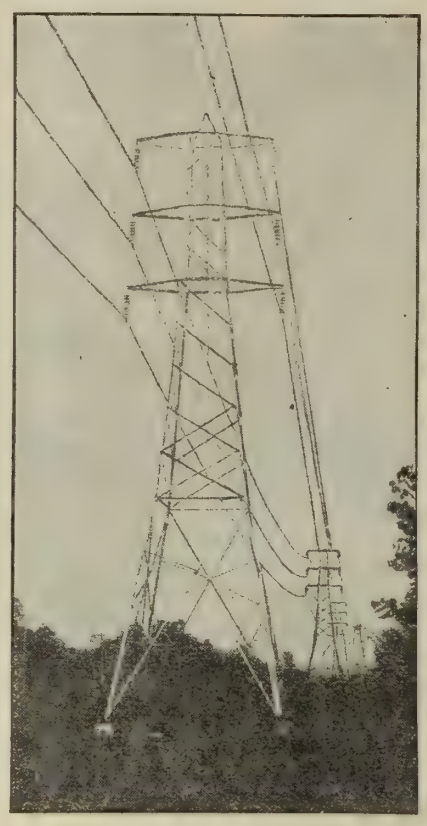
Aladdin of the Mississippi

Think of dropping a force equal to 200,000 horses, all pulling at once, right out of the skies into the center of one of the busiest populations on earth. That is what has been done by the Keokuk power plant. Talk of the palace of Aladdin and the slaves of the lamp. The Aladdin of the Mississippi valley is Hugh L. Cooper, the engineer who conceived and built the Keokuk dam, and the slaves of his lamp are the waters of this great river, which for ages and ages will now go on laboring day and night for the nation.

I wish I could impress upon you the nature of the country in which this power has been created. This is the heart of the Mississippi valley, where the land is worth $200 and upward per acre, and where a single crop, that of corn, brings in upward of a thousand millions of dollars every year. It is a country peppered with cities and towns and gridironed with railroads. It is a land where there are factories at every few miles, and where the people have so much money that the surpluses of the country banks would make old Croesus look sick. It is a land of energy and industry, and right here in the heart of it, out of a force which for ages has been running to waste, has jumped into being one of the greatest electric power plants known to man.

Compared with Other Dams

And now as to the dam and the works. I have seen something of the great dams of the world. I have tramped through the great locks at Panama, and watched the construction of the mighty dam at Gatun. The locks are of concrete and earth. I have seen the great dam at Assouan, 700 miles above the Mediterranean, which holds back the Nile, and gives Egypt a regular water supply throughout the year. That dam is built of granite, laid in cement. It is only about a third again as long as this dam at Keokuk, which is made of concrete, and its construction is just about the same. Both dams look like great stone viaducts built across the river. Each is a wall through which great sluices are cut, allowing the river to flow through or to be held back at will. Each sluice of the Keokuk dam has a spillway, much like the great spillway at Gatun, and this is regulated by a gate which can be raised and lowered to allow the river to go on or be held back at the engineers' will. The dams are thus great stone walls pierced by these gates.



Transmission Line to St. Louis

"Dam" Riddle No Good

You have heard the old riddle, "Why can't you dam the Mississippi river?" The answer is, "Why, dam it you can't." Well, that riddle is no good any longer. The Mississippi has been dammed here at the foot of the Des Moines rapids, and I walked today over the great structure of concrete, almost a mile long, which holds back the water and gives a steady flow for the creation of power the year through. The damming was made possible by the nature of the valley at this point. Here the bluffs that wall the river are closer than at any other point in its entire length, and the configuration of the valley is such that the waters can be held back without overflowing thousands of farms. At the same time they give a fall which in the distance of twelve miles above the dam measures twenty-three feet. It is this fall that gives the power. The waters of the Mississippi come down at times at the rate of over half a million cubic feet per second, and the dam throws them into mighty turbines, each of which will generate a power equal to a line of two-horse teams twelve miles in length. The turbines are connected with dynamos which generate the electricity, and the 200,000 horses thus made go flying over great copper cables to do their work for man. This, in a nutshell, is what damming the Mississippi means.

In the Assouan dam the water never flows over the top, but through the gates and through a canal at the side. When the gates are closed, enough water is held back to form a lake 140 miles long, and the amount of water thus held weighs more than one thousand million tons. At 100 tons to the car, it would take nearly 10,000,000 cars to carry that water, and if you loaded it all on one solid train, the cars would form a line reaching more than three times around the earth, or fully one-third of the distance between here and the moon. At flood time the volume of the Nile is so great, if it all could be impounded, that it would fill that lake in a day. The volume of the Mississippi here is far less in flood times, being only a bagatelle compared with that of the Nile.

Keokuk Works Wonderful

And still the works at Keokuk are more wonderful than those at Assouan as to the work they are doing in the industrial world. The Assouan dam is an irrigation proposition. It has added a million and a half acres of tillable land to the Nile valley and has created a property worth many millions. The Keokuk dam is a power plant. It is a creator of working force, and when the whole plant is completed it will have cost $25,000,000. It will then have a potentiality equal to that of 310,000 horses, and its owners will soon be ready to put 200,000 horsepower on the market. They have already sold 60,000 horsepower to St. Louis, having made a contract to furnish that much for the period of ninety-nine years, and they are now ready to supply the factories and other industries of the country about.

In addition to the electric plant itself, the Keokuk Power company, as a compensation to the United States for the use of the river, has, according to its contract with the government, built here a lock canal, and a dry dock for the use of the public. The dry dock is situated between the lock canal and the Iowa shore, and the Keokuk company agrees to furnish electricity which will keep it in operation for all time to come. The company also gives the power to operate the canal, and that by a special power plant, so that, it is said, the government has received benefits for its concession to use the river equal in value to $10,000,000 or $15,000,000.

A Walk Over the Works

And now come with me for a walk over the works. I shall ask Dr. G. Walter Barr of the Keokuk Water Power company to go with us and explain some of the details. He is the author of a little book entitled "Electric Power from the Mississippi River" and has studied the ins and outs of the great mass of machinery that is propelled by the stream. We ride for a mile through the old-fashioned town of Keokuk, passing beautiful residences shaded by great forest trees, till we come to the river. The houses extend close to the edge of the bluff, and before we go down the long stairs we have the dam, the power plant, the canal and the dry dock spread out before us. The dam does not look a mile long, nor can one appreciate that the white palace of concrete right under us covers al-

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most as much space as the great building of the Library of Congress at Washington. It is only when we climb down the hundreds of steps and tramp our legs tired in going through the miles of construction that we realize that these things are so.

Across the river we can see the great steel towers that carry the cables to St. Louis. The one nearest the power plant is on the Illinois shore, more than 2,800 feet distant, and those which run from there on for a distance of more than 100 miles are set 800 feet apart. Each tower is eighty feet high. It is built on a concrete foundation, and is so made that it will withstand cyclones and earthquakes. Dr. Barr tells me that the cables which carry the electricity are about as big around as your finger and that each consists of nineteen twisted wires of copper. He says that from the top of the towers a steel cable runs, and that this is so connected with the ground that it protects the copper cables from lightning. There are six copper cables hung to the towers, with the steel cable on top.

We walk down the steps to the river and stand for a moment watching the workmen in the dry dock. From here we cross over to the lock canal, through which several great passenger steamers are moving. It only takes ten minutes for a ship to pass through, and the canal thus saves two hours for the steamers between Keokuk and Montrose.

It required a half day to send the first ship through the great locks at Gatun. This lock was put into operation within forty-eight minutes after it was completed, and the first ship was worked through it in less than fifteen minutes. The Keokuk lock is wider than the locks at Gatun. It is not so long, as the Mississippi steamers are short.

Keokuk Dam, with Power Plant at the Right

Power House and Machinery

There is a wall from the canal lock which runs to the power house. We pass along this wall and gradually reach a great building of concrete, which looks like a mighty factory, or perhaps more like a marble palace, far out in the river. It is, however, only one-third of the width of the river from the Missouri shore, the dam extending from one end of it to the Illinois shore. The power house is built parallel with the river. Its foundations are in the bedrock about twenty-five feet below the surface of the limestone bottom of the Mississippi, and the height is that of a seventeen-story flat. The building has four floors, and it has a floor space of something like twenty acres.

We first enter the generating room. This is filled with the mighty electric generators. Each of these generators creates enough electricity to light an automobile road around the world, and altogether they would keep bright a milky way from the earth to the moon.

It is hard to conceive the size and delicacy of this massive machinery. A single turbine weighs 130,000 pounds, and the wheel and the machinery above it, all of which rest on a single bearing, weigh more than a half million pounds. Think of balancing 250 tons on a single bearing and making it work with the uniformity and exactness of a watch, and you have some conception of this turbine construction. Moreover, the whole is so carefully regulated that the machinery automatically produces just the amount of power required. Dr. Barr tells me that a few tons of more or less work at any point along the line will affect the generators producing it. He also says that whenever a woman stops a street car in St. Louis the effect of that stoppage is felt, and the regulation changed here in this power plant more than 100 miles away.

This work is the result of experiments which cost altogether about $2,000,000 to bring about the present perfection. Altogether something like $25,000,000 in stocks and bonds has been put into the works, and the present owners are from a dozen different parts of the world. A minor part of the stock is owned here in Keokuk, a great deal is owned in Boston and New England, and some is the property of investors in Canada, England, France and Belgium.

Just what the company is stocked at and what is its bonded indebtedness, I do not know, and there is but little doubt that it will eventually pay good, fat dividends for all time to come. It has an enormous market for its power, and its great transmission lines will be feeders to branch lines carrying this river of electricity into a score of cities. The lines so far built are to Burlington, Ia., and to St. Louis, and I understand that these, with their feeders, will probably consume all the horse power available.

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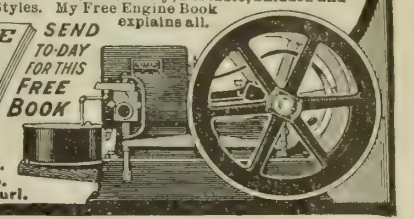

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Three Forks, Mont., March, 1912.

Dear Sir:

Your letter of recent date regarding my experience as a dry land homesteader in Montana received, and in reply will say: That I located 160 acres three miles south of Three Forks, Mont., on February 1, 1910, and commenced improving in the spring of that year. I built a two-room house, a rough shed for a barn, and broke 85 acres of the land, which I seeded with Turkey Red winter wheat the following fall.

During the winter of 1910-1911, I cut fence posts and commenced fencing the land, which I completed in the spring.

With practically no experience as a farmer I harvested from about 100 acres 2,540 bushels of wheat, which I marketed for $2,275.

My first year's crop considerably more than payed for the improvements, although I cannot give you the exact figures, as I am sorry to say that I did not keep a close record of the cost.

If I had this same crop to handle over again, with the experience I have gained from last season, I am satisfied that I could easily have gotten an increase of 25 per cent by better cultivation.

Hope this will give you the information desired; however, I shall be glad to give you any further data I may have if this does not cover what you wanted.

Yours truly,

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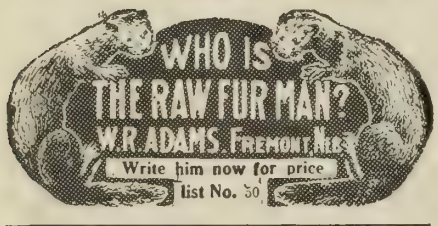

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This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

What Should Average Cow Produce?

D. M., Lincoln, Neb.: Will you kindly tell me how many pounds of butter-fat a common cow (not blooded dairy stock) should produce per year? I refer to a cow such as the average farmer has in this country that runs in the pasture in the summer (native grass), without extra feed, pastured on wheat fields a couple of months a year, and in winter fed on corn fodder, wheat or oat straw, etc., with very little or no grain. What I want to get at is the profit in keeping milch cows and raising stock as against farming in sections of the country that can expect to raise anything like a reasonable crop about once in five years.

Editor's Answer—This is a very difficult question to answer. It would be much easier to make an estimate on the amount of butter-fat the average cow in this territory produces than to estimate what she should produce. It is said that at the present time 65 per cent of the milch cows in the Missouri valley are not profit producers, that they cost at least as much as what is received in return for what they produce. When the farmers of this territory improve their dairy stock and care for it in the proper manner, the production will be vastly increased and the deficit caused by keeping unprofitable cattle will be converted into a profit.

The question asks for the production per year. Owing to the short lactation period, to the inferior grade of cattle and to the lack of proper care for such cattle, it is not believed that the average cow in this territory will produce more than 175 pounds of butter-fat per year. This is a humiliating statement to make, and does not reflect much credit on the dairy industry of this part of the country, but it is probably very near the truth. This amount might be indefinitely increased by improving the quality of the dairy herd through careful breeding and through proper care of the herd throughout the entire season.

Doctor's Theory of the Spleen

Dr. O. K. B., Plattsmouth, Neb.: In your worthy paper of October 25, page 20, L. E. S., Council Bluffs, Ia., asks for an explanation of the functions of the spleen of the hog, to which the paper could give no answer. I will supply it, in part at least, enough to give L. E. S. a good understanding of the organ. First, the internal anatomy of a hog is identical with that of man in both male and female. The various organs perform like duties in both classes; therefore, what we attribute to one will serve equally well in the other.

The spleen is a ductless gland, is a soft, brittle, highly vascular organ of dark purplish color. Functional, it is the graveyard of the red corpuscles. Authorities differ as to its definite purpose and claim it, like the much lauded appendix, can be removed from the body without causing any appreciable disturbance in the normal metabolism. Yet, like the much needed appendix, both have a grave mission to perform. The blood, as L. E. S. knows, is composed of mililons of red and white corpuscles, held in suspension in a serum or lymph, the duty of the red corpuscles being to supply the various body cells with various upbuilding elements and to carry off waste product. Therefore, we might class them as vehicles which, performing continuous duty, become worn out in time, just like egg cases, tomato cases, potato crates or gunnysacks. These become worn out in the course of time as they pass from place to place, city to city, store to store. Someone will in the end discard them, burn them or throw them on the dump to be buried. Just so do the red corpuscles serve their duty as they pass through the spleen, which they must. They are there passed upon as to their fitness for further use. Those in a healthy, whole and sound state pass on; those that are worn, played out, etc., have served their time, are returned, become disintegrated, are passed into the intestines and from the body. This is its chief function. Therefore, I term it the graveyard of the red corpuscles.

On the other hand, it manufactures white corpuscles or leucocytes, though this is a secondary function, since leucocytes are also manufactured in other tissues, whereas in no other organ or tissue do red corpuscles die.

I hope this explanation will suffice L. E. S. I shall be glad to be of further service.

Editor's Answer—This correspondent sets forth one theory of the use of the spleen, as was stated in a previous issue. There are several theories, none of which has been demonstrated, and each of which has its supporters.

Lower Farm Interest Rates

G. H. R., San Jacinto, Cal.: Fully half of the farmers of this valley are mortgaged and paying a high rate of interest, according to one of the employes in a bank in a position to know. Think what cheap money would mean to us here—the hope of "getting paid up" some time, life a little less hard as we go, a chance to give our children a start in life. Even the merchants would benefit thereby. For my own sake, as well as for the sake of some of the "down-at-the-heel," debt-burdened farmers, I hope that bill for cheap money goes through.

Editor's Note—There are several bills before congress for providing cheap money for the farmers, and now the National Association of Building and Loan Companies proposes to take the matter up and see what it can do toward providing cheaper funds. The farmer has the best security in the world to offer for a loan and pays the highest rate of interest. According to economic law, the rate of interest charged should be proportioned to the hazard involved in making the loan. Loans on real estate, on farms, involve the least hazard, and for this reason should command the lowest rate. Relief from the present exorbitant rate charged to farmers is certain to come as the result of this wide-spread agitation for cheaper money.

Effect of High Altitude on Chickens

C. J. F., Beulah, Wyo.: In reply to Mrs. R. R. McK. in the October 18th issue of your paper, I will say that I have lived in northeastern Wyoming for the last thirty years and have never heard of any such trouble as she speaks of. In fact, I never heard of a place in which chickens were more healthy than here. One very seldom hears of a case of roup, and cholera in chickens or hogs is unknown.

Editor's Note—The communication of Mrs. R. R. McK., Fremont, Neb., to which reference is made, asks whether the change to a high altitude would injure her chickens. The correspondent answers that question.

Note from Prof. Alway

I have just read an item in the October 4th issue of the Twentieth Century Farmer regarding cornstalk disease. It mentions the occurrence of prussic acid in cornstalks. Insofar as I am aware, no prussic acid has been reported from any American cornstalks. Bruunich of Australia some years ago reported finding small quantities of prussic acid in the growing maize. In the summer of 1907 Mr. Trumbull and I examined a great many corn plants at various stages of

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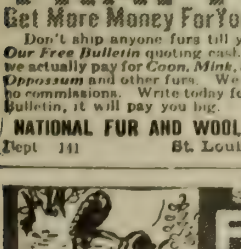

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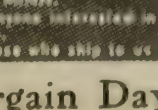

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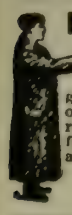

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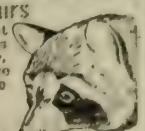

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growth without finding a trace of prussic acid. The following winter I visited Broken Bow, where there were heavy losses of cattle in cornstalk fields. To make sure that no prussic acid was lost in transit, I took laboratory equipment with me and examined the stalks right there. I was unable to find any trace. Last winter a former assistant in chemistry on the campus wrote me that she had found prussic acid in cornstalks. I invited her to come down to the Nebraska Experiment Station and bring a supply of the stalks. We tested these with great care, but failed to find any prussic acid. Prussic acid is so abundant in sorghum that a single plant two or three inches high gives evidence of it.

F. J. A.

Editor's Note—Prof. Alway is well known throughout the Missouri valley territory through his work as soil chemist in connection with the Nebraska Experiment Station. His many friends in this region will be glad to hear from him and will be especially interested in the facts that he communicates.

He is now with the division of soils in the Department of Agriculture in the University of Minnesota.

An Eye-Proof of Right and Wrong Feeding

(CONTINUED FROM PAGE FOUR.)

will be seen at once from this that the supply of growing food is inadequate for a pig fed exclusively on corn.

As a corollary to what has been stated, it is urged that the balanced ration be fed as a mixed ration, that the animal take both kinds of food practically at the same time. It will not do for a feeder to feed carbohydrate food one week or one month exclusively, and then the next week or the next month feed a protein ration exclusively. All the evils of an unbalanced ration would be experienced by this method, and none of the advantages of the balanced ration would be derived from it.

New Use for Motorcycles

We note in a religious publication the statement that two Texas missionaries have been provided with motorcycles in order to cover the territory assigned to them. This is a new use for the motorcycle, and goes to show how many are the ways in which valuable inventions along any line may be utilized.

Leisey's Durocs Average $51

One of the most successful sales of Duroc-Jersey males held so far this year was that of Robert Leisey at Wisner, Neb., on November 7. Without doubt, the offering as a whole was one of the very tops of the year. There was not a single tail-ender in the entire lot, and as for size, bone and quality they were hard to beat. The offering consisted of spring boars entirely, and made an average of $51. The top boar went to Glenn Perry of Plattsmouth, Neb., at $155. He is a son of J. S. Model, and a plumb good one. J. J. Kane of Wisner was the runner-up. Colonel N. G. Kraschel conducted the sale in his usual effective manner. A list of the boars selling for $30 or over follows:

No.		Price.
1	Harry Tidreck, Winside, Neb.	$115.00
2	T. J. Overbol, Allen, Neb.	55.00
3	Frands Nelson, Fremont, Neb.	57.50
4	Hollis Taylor, Battle Creek, Neb.	39.00
5	Henry Speck, Ethan, N. D.	30.00
6	C. Knobbe, Wisner, Neb.	31.00
7	B. H. Von Seggren, Wisner.	60.00
8	P. P. Bogner, Howells, Neb.	42.00
9	W. H. Hensler, West Point, Neb.	34.00
10	B. H. Steffensmeyer, Howells.	38.00
11	Edward Taylor, Plainview, Neb	42.00
12	M. Matz, Wisner	34.00
14	J. N. Forbes, Plainview.	52.50
16	Jess Cohee, Beemer, Neb.	33.00
17	O. Kochler, Pilger, Neb.	38.00
20	J. A. Dlouhy, North Bend, Neb.	40.00
22	M. J. Smith, Allen, Neb	40.00
23	Phillip Brummer, Howells	38.00
25	F. H. Steffensmeyer, Howells	38.00
26	Gus Test, Wakefield, Neb.	36.00
27	Glenn Perry, Plattsmouth, Neb.	155.00
28	Harry Fuller, Osmond, Neb.	35.50
29	C. Knobbe, West Point	62.50
30	J. J. Schowalter, Brunswick, Neb.	38.00
31	Herman Magdanz, Wisner	52.50
32	B. Steffensmeyer, Howells	37.00
33	August Stolenmeyer, Wisner	50.00

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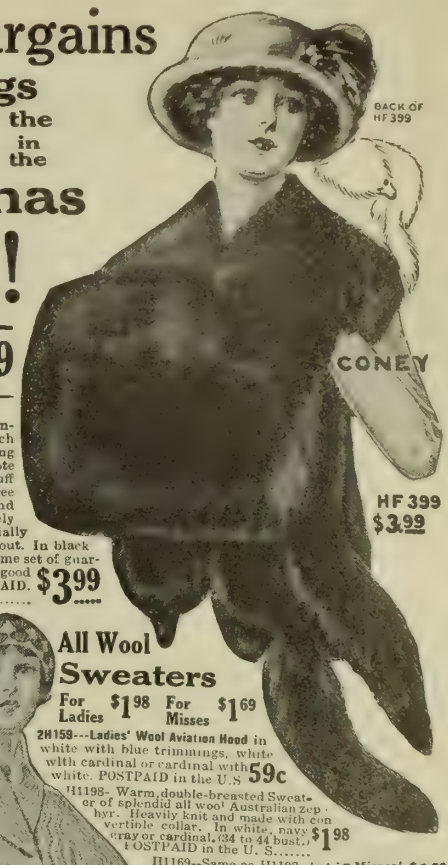

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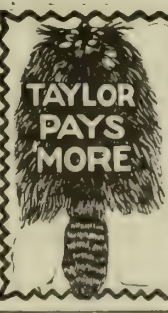

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Review of Live Stock Market

By A. C. Davenport

LACK of confidence in the future of the market or an inordinate desire on the part of shippers to get rid of their holdings of cattle has given the markets of the country entirely too many cattle for the good of the selling interests. Nearly all the big markets have had burdensome receipts, Chicago especially being overloaded. The supply of stock at Chicago enabled packers to administer a severe pounding to the market last week, with the result that any advance that may have been acquired earlier was wiped out, thus carrying values back to the low point of the previous week. Conditions at Chicago had a depressing effect upon other market points, creating a weak and lower tendency even at market centers where receipts were not especially large. It should be borne in mind, however, that the declines that took place on killing cattle were only about equivalent to the advance that took place at the beginning of the week, so that at the close prices were not materially different from what they were after the decline of the previous week. Thus it will be understood that no great change has taken place in values within the last week or more. In fact, market conditions so far as fat stock is concerned have shown little change from that outlined a week ago. There is still a lack of snappy buying on the part of both packers and shippers, due to a variety of causes, among which might be mentioned liberal supplies of farm cattle at eastern points and the haste to market their cattle noted among western feeders.

When the whole subject is summed up it will be admitted by all that conditions are only about normal for this season of the year. There are always a good many feeders who get sick of the cattle feeding proposition early in the winter and cash in their holdings regardless of market conditions. Many of these cattle are decidedly on the trashy order and are not as good as grassers from the range. This fact is evidenced by the preference shown by packers for range cattle at this season of the year. For the last few weeks it has been noticeable that range steers have been snapped up quickly by the packers at good, strong prices, even on days when warmed-up or half-fat cornfeds were slow and weak.

The feeling is general that as soon as weak holders of cattle have unloaded receipts can hardly fail to be very much lighter. At the same time range cattle are becoming very much scarcer on the markets of the country, and before the end of the month the bull crowd feels that the market ought at least to take on a more healthy tone and that the trade ought to be more snappy and hence more satisfactory, even if prices do not make material gains.

The dullness prevailing in the market for beef cattle during the last two weeks or more has been reflected in the trade for stock cattle and feeders. Naturally enough, the country will not buy freely of feeder cattle when corn is high and when the packers do not appear very anxious for fat cattle. It is only natural that the country should be slow about making beef when no one seems anxious to buy the product. Thus the markets of the country have all been slow, with prices showing more or less of a decline so far as the different grades of stock cattle and feeders are concerned. While this may not be satisfactory to the sellers of such cattle, it is nevertheless a good thing for the trade as a whole. No one pretends to deny that prices on feeder cattle have been entirely too high all the season, making the fattening of the cattle for market a precarious undertaking. Feeder cattle have sold so high during most of the year that beef cattle must command excessively high prices to make the feeder any money. If the present dullness in the beef trade should result in a permanent lower basis for feeder cattle, it will have served at least one good purpose.

Hogs have fluctuated within rather narrow limits. Prices advance sharply for a day or two, then slump almost as quickly, only to recover lost ground later on. Thus, while packers have taken advantage of every opportunity afforded by liberal receipts to depress prices, net results have been of little importance. Average prices paid during the last week have shown little change as compared with those prevailing during the previous week. It will be seen from this that the hog market remains practically in the same position as outlined last week and week before. It is simply a waiting market. Everyone feels that later on prices must advance sharply, but for the time being packers are bearish and are bound to fight the market over every inch of the ground so long as receipts are at all liberal. Unless all signs fail, it will be a hard market for those who are buying and shipping from the country to operate on, as fluctuations are almost certain to be frequent and sharp.

Fat sheep and lambs have done splendidly during the last week or more. Receipts everywhere have been quite moderate, while the buying demand has been very active, and the market as a whole in a most healthy and satisfactory condition. Prices advanced rapidly day after day until the market reached the highest point attained since last August. Just at present writing the market shows a sharp drop in values, due to the advance having been most too rapid to be permanent. Still, the feeling remains firm, and until severe storms or other causes make feeders more anxious to unload, there is no reason for anticipating other than a good, strong market.

Advancing prices for fat sheep and lambs have been a good stimulant for the market on feeder sheep and lambs. The demand for desirable feeders from the range has been very brisk at many points and offerings on most days have sold freely at prices showing an inclination toward strength. In fact, the weakness developed in feeder lambs about the first of the month seems to have disappeared, and prices generally have recovered lost ground, with a prospect of continuing on a satisfactory basis until the close of the range season.

Live Stock Notes

Poland-Chinas for Sale

Attention is called in this issue of the Twentieth Century Farmer to the advertisement of W. J. Eavey of Geneva, Neb., who is offering thirty head of spring males and forty head of spring gilts for sale. Mr. Eavey has one of the good Poland-China herds of Nebraska, and considers that he has the best lot of pigs this year that he has ever raised. In the first place, these hogs are all immune, and this alone should recommend them to anyone wanting a first-class male or a few gilts. Mr. Eavey is thoroughly equipped to raise hogs as they should be raised. He has a modern, up-to-date hog house, with all the necessary accessories, such as alfalfa racks, feeding floors, etc. The pigs he is offering for sale at this time are sired by Blue Ribbon Hastings and Big Sensation. Better write him at once for further information, mentioning the Twentieth Century Farmer.

Poland-China Herd Headers

Thomas F. Walker & Son of Alexandria, Neb., still have a number of mighty choice Poland-China spring males that they are offering for sale. Among these are two boars deserving of more than passing mention. One of these is sired by Blue Valley and weighs around 325 pounds. He has plenty of strength, good, deep side lines, the best of feet, better than eight-inch bone and is nicely marked. The other one is sired by Blue Valley Orange, of February farrow, and weighs about 335 pounds. He has better than an eight-inch bone and is an outstanding herd header proposition. The dam of this boar is the dam of Blue Valley. These are not all the males they have for sale by any means, but they are two of the outstanding good ones. If you are in the market for something of this kind, you had better get busy and write them at once, mentioning the Twentieth Century Farmer.

Extraordinary Aberdeen-Angus Sale

On December 3, during the week of the International show, the American Aberdeen-Angus Breeders' Association will hold its annual combination sale. The offering consists of fifty-two head of the best Aberdeen-Angus cattle from a point of breeding and individuality, that has ever been listed for a sale at Chicago. The animals have been selected from the leading herds of the country and over 80 per cent of the offering is represented by the Blackbird, Trojan Erica, Pride and Queen Mother families. There are twenty bulls listed, which are of show-yard character and fit to put at the head of any herd in the country. The females are a superb lot, teeming with the best blood of the breed, and many of them have long lists of honors from recent fairs and shows. Anyone in the market for a top-notch bull to place at the head of a herd, or for a few choice females, cannot afford to miss this sale. Everything is guaranteed by the association through its members and contributors, who are as follows: R. M. Anderson & Sons, O. V. Battles, Dwight Cutler, W. J. Miller, L. McWhorter & Son, Omer Catterson, Wilson Bros., John S. Goodwin, M. A. Judy, L. E. Fey, F. B. Turnbull, C. D. and E. F. Caldwell, Escher & Ryan, J. D. Rogers, A. C. Binnie, Kansas Agricultural College, Escher & Dalgety and M. D. Himes. Send to Charles Gray, Union Stock Yards, Chicago, for catalogue, and attend this sale.

Stuthman's Duroc Males

Henry Stuthman of Pilger, Neb., is offering a number of very choice Duroc-Jersey males for sale. He has five fall boars by Melina's Wonder that are especially good. They are big, smooth fellows, with plenty of bone and stretch, and ready for hard service. He also has a number of spring males by Melina's Wonder, Colonel Tippy, Crimson Wonder Select, Proud Colonel Junior and others. These boars are right in every way and he is pricing them worth the money. Write him at once for further information, mentioning the Twentieth Century Farmer.

T W Stacks

UNIVERSITY OF ILLINOIS

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, November 29, 1913 | Number 677

Bright and Breezy

Not Like His Grandfather

"Doctor, I'm getting tired of this everlasting dunning. You ought to have more respect for me than that. My grandfather was one of the earliest settlers."

"Well, I wish you had inherited that quality, and would settle early."

Proof of Gentility

A well known race horse owner said to a veterinary surgeon: "How is it you haven't called on me for your account?" "Oh," said the vet, "I never ask a gentleman for money." "Indeed! Then how d'you get on if he don't pay?" "Why, after a certain time I conclude he's not a gentleman, and then I ask him."

Well Trained Beasts

"Mother," a young man said, "would you believe that it takes 5,000 elephants a year to make our piano keys and billiard balls?"

"Make our piano keys and billiard balls!" cried the old lady. "Well! I always understood that elephants were intelligent creatures, but I never knew before that they'd been trained to make piano keys and billiard balls!"

Might Be Catching

A physician tells a story of a man who moved into a dilapidated old cottage and was found by the doctor busily whitewashing it inside and out.

"I'm glad to see you making this old place look so nice and neat," said the physician; "it's been an eyesore in the neighborhood for years."

"'Tain't nothing to me about eyesores; the couple that lived here had twins three times, and I hear whitewash is a good disinfectant. Ye see, we've got ten children already."

He Got in Bad

It was getting windy on the corner and Clem Jacobs announced that he was going to go home and change his clothes. He was clad for warmer weather and was getting uncomfortable. "The wind blows in here, and here, and here," he remarked to a friend, indicating the places. "It's no sort of a costume for this weather." A fashionably dressed woman passed just then and overheard his last two sentences. "Shut your mouth, you loafer!" she snapped, turning scarlet and hurrying along indignantly.

Vote for Mother-in-Law

A young, recently married couple had been having the usually half pathetic and wholly amusing experiences incident to somewhat limited means and total inexperience. One Saturday there was a hitch in the delivery of the marketing and Sunday found them with a practically empty larder. When dinner time came the young wife burst into tears.

"Oh, this is horrible!" she wept. "Not a thing in the house fit for a dog to eat. I am going home to mamma!"

"If you don't mind, dear, the husband exclaimed, as he visibly brightened and reached for his hat, "I'll go with you."

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Apples Finest Fruit There Is

THERE is money in raising apples; not apples for home consumption only, but apples for the market. There is a good market for good apples—the kind that you can raise on your farm in Nebraska, Iowa, Kansas or any of the middle western states. In the next issue of the Twentieth Century Farmer we are going to tell you something of the experiences of men who have tried apple raising in this section of the country. We are also going to give you some good advice, from a man who knows what he is talking about, as to the marketing of these apples once they are raised. There are other good things in store for you in this coming issue, but it will be devoted mainly to apples and will contain information on that subject that should be of value to each and every one of our readers.

Prattle of the Youngsters

Quite Different

Mother—Willie, is it possible you are teaching the parrot to swear?

Willie—No, mamma; I'm just telling it what it mustn't say.

Slightly Mixed

"What is the kaiser?" asked the teacher.

"The kaiser," replied the schoolgirl, "is a stream of hot water that spouts up and disturbs the earth.

Not in Danger Now

"Why, Tommy," exclaimed the Sunday school teacher, "don't you say your prayers every night before you go to bed?"

"Not any more," replied Tommy; "I uster when I slept in a foldin' bed, though."

Plenty of Material

Alice, aged 5, was helping her mother dust the drawing room. She was hidden beneath the piano, when her mother heard her exclaim:

"Oh, mother, there's enough dust under here for God to make a man!"—Everybody's.

Foolish Questions

The dirty little newsboy was busily crying his wares.

A fussy old lady standing near accosted him:

"Little boy, do you earn your living selling papers?" she inquired.

"Does I look like it?" he scornfully demanded. "Naw, I owns er steam yacht and er automobile. I sells dese fer charity!"

Gave Her Away

A young man was lounging on the summer veranda. Close by sat a pretty widow with her little son. Presently the youngster ran up to the young man and was patted on the head.

"Wha'th your name?" lisped the little fellow.

The young man told him.

"Ith you married?"

"No, I am not," said the young man.

The youngster then turned to the pretty widow, saying: "What elthe mutht I athk him, mamma?"

Poor Aunty!

Mrs. Flint always demanded instant and unquestioning obedience from her children. One afternoon a storm came up and she sent her son John to close the trap door leading to the roof.

"But mother—" said John.

"John, I told you to shut the trap door."

"Yes, but mother—"

"John, shut that trap door!"

"All right, mother, if you say so, but—"

"John!"

John slowly climbed the stairs and shut the trap door. The storm howled and raged. Two hours later the family gathered for tea. When the meal was half over Aunt Mary had not appeared, and Mrs. Flint started an investigation. She did not ask many questions. John answered the first one:

"Please, mother, she is up on the roof."

Pulling Out the Pesky Hedge, Roots and All

Fighting Graperoot Worms in Nebraska

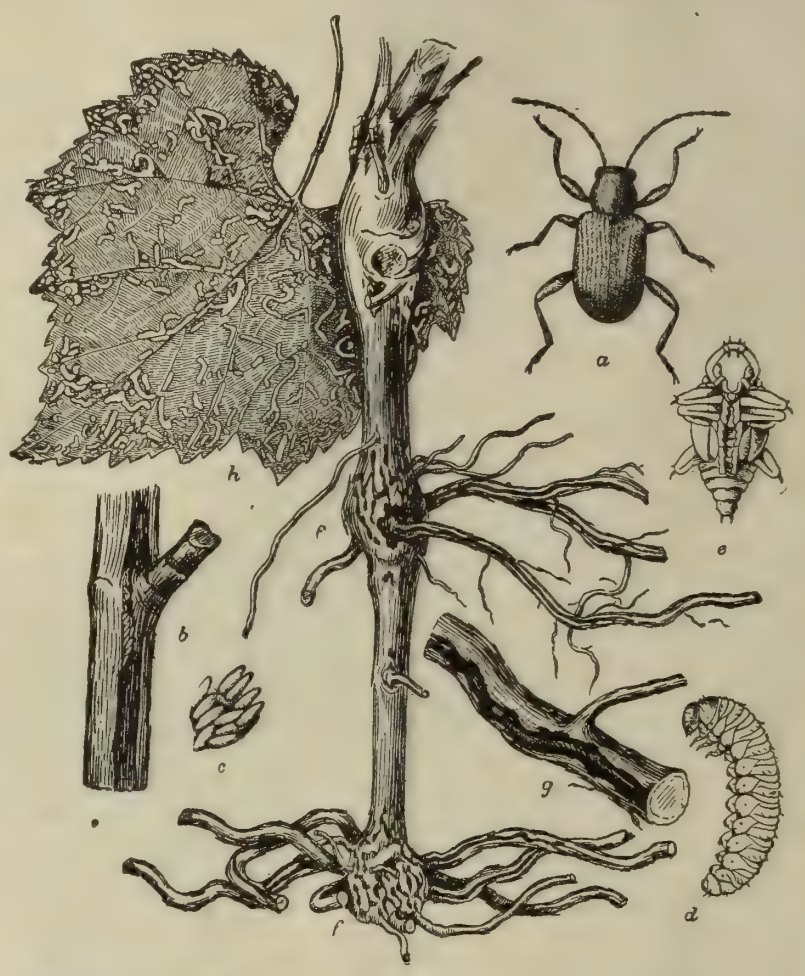
This Pest Should Be Controlled Before Missouri Valley Vineyards Are Seriously Injured

DURING the month of May, 1913, there were many complaints from the owners of vineyards in the vicinity of Omaha that their vines were being badly bored by the apple-twig borer. As these beetles do not usually attack vines until they have been weakened from some other cause, it was deemed desirable to investigate the condition of these infested vineyards. Accordingly, on May 24, in company with Prof. E. M. Wilcox and J. R. Cooper, respectively of the agricultural, botany and horticulture departments of the experiment station, the writer made a thorough examination of several vineyards near Florence.

It was found that in many cases not only was the apple-twig borer present in considerable abundance, but many vines of all ages were quite dead. An examination of the roots of these dead vines quickly revealed the cause of their condition, for the entire system of fine rootlets had been destroyed and the bark of the roots themselves was extensively burrowed and gnawed—typical work of the graperoot worm. Although we had known for years that this insect was present in small numbers in eastern Nebraska, this was the first case of serious injury in this state which had come to our notice, and, judging from the severity and extent of the trouble, the insect had apparently been a serious pest in the vineyards about Omaha for several years.

Object of the Investigation

Believing that this insect may be the cause of grape troubles elsewhere in the state, either at the present time or in the near future, and that because of the semi-concealed nature of its attack the cause of this trouble is not likely to be quickly recognized unless intelligently looked for, this brief discussion of the habits, life history and means of control of the graperoot worm has been prepared for the grape growers of this state.



Graperoot Worm—A, adult or beetle; b, eggs on cane, about natural size; c, eggs, enlarged; d, full-grown larva; e, pupa; f, f and g, roots of grape, showing injury by larvae; h, grape leaf, showing characteristic chain-like feeding marks made by beetle; a, c, d, e, much enlarged; b, g, about natural size; f, h, reduced.

The graperoot worm is a native insect, which originally fed principally upon wild grape vines and which still attacks them to a limited extent. Shortly after the civil war instances of damage to cultivated grapes by this insect began to be noted in the upper Mississippi valley, and the insect soon became a vineyard pest of prime importance. For the last twenty years especially it has been destructively abundant in this locality and is now known to occur from eastern Nebraska and Kansas, Arkansas and northeastern Texas through Iowa, Missouri, Illinois, Indiana, Kentucky and Ohio to southern New York, Connecticut, Pennsylvania, Maryland, the Virginias and northern North Carolina.

The injury by the graperoot worm is of a two-fold nature. First the larvae attack and feed upon the roots of the vines, devouring the root fibers, channeling the larger roots and even eating pits in the main trunk, and, second, the adult beetles from these worms gather on the leaves and eat holes in the surface, leaving chain-like lines on the leaf as a result of this activity. The work of the larvae on the roots is, however, much the more serious form of attack, and the dying out of the vines, such as was observed this year, is the frequent result of it. Old and vigorous vines will withstand a considerable amount of attack, sometimes until the roots are largely consumed and the half-severed root ends are decayed, provided the soil is rich and is kept in good condition and the root fibers thrown out escape further attack. But if these new root fibers are consumed also, or conditions are otherwise adverse, the vines become sickly, fail to grow and produce only small fruit clusters, or they even suffer the premature dropping of the leaves and the shrivelling up of the fruit, followed by the death of the vine. The attack of the beetles on the leaves is ordinarily not very serious, but in some cases, especially on young plants, when the beetles are very numerous, the leaves may be so badly shredded that they discolor and die, causing a consequent severe setback to the vines.

Life of This Vineyard Pest

The graperoot worm has but a single generation in a year. Winter is passed as three-fourths-grown larvae, in cells deep in the soil of the vineyard and under the roots. In May these larvae leave their winter cells and feed slightly for three weeks or thereabouts, completing their growth. They then begin to form their pupal cells by rolling and twisting about so as to pack the surrounding soil two or three inches below the surface, requiring about two weeks for this task. On the average three weeks are spent as larvae in this pupal cell, during which period the larva undergoes marked structural changes and is extremely helpless and delicate, this finally resulting in the formation of the pupa, equally helpless and delicate. Pupae begin to occur the second week in June and continue to be present in the soil until the end of July. The pupal period lasts from twelve to twenty-one days, with an average of seventeen days. Even after the pupa has transformed to the beetle stage, several days are spent in the pupal cell before the beetle ventures above ground. In two to seven days, with an average of four days, the soft, yellowish, freshly transformed beetle has hardened and assumed its normal color and is ready to leave the cell. After two or three days of digging, the beetle reaches the surface of the soil and makes its way out.

The beetles begin coming out the last few days in June and continue until the end of July, when they have practically all emerged. The beetles are about a quarter of an inch long and are covered with very short, grayish hairs, so as to appear hoary in color. In looser, more porous, sandy or loamy soils they come out somewhat earlier than in heavy, compact, clay soils, sometimes as much as a week earlier, and in hillside vineyards the emergence is usually later than in valley vineyards. The beetles quickly seek out the grape leaves and feed upon them, causing the injury already described. Within a few days after emergence mating begins, and from nine to twenty-four days after coming out, with an average of about sixteen days, the female beetles begin their egg laying.

Laying and Hatching of Eggs

They first cease feeding and become somewhat sluggish, locate on the canes and then lay their eggs under the loose bark of the canes and trunk of the grape. The eggs are laid in clusters of about twenty-five to thirty-five individual eggs, but sometimes there are as many as sixty or as few as four in a cluster. These clusters have the individual eggs glued together and the cluster as a whole glued to the bark or wood by means of an adhesive secretion. At average intervals of four days the female deposits such a cluster, until on the average four or five, but sometimes as many as nine, of such clusters are laid. The average number of eggs laid by this insect is about 112, but as few as fourteen or as many as 263 may be laid, this depending upon the vitality of the individual female insect. Egg laying begins early in July and continues until latter September, but the bulk of the eggs, practically three-fourths of them, are laid during the last ten days August The individual beetle lives on the average about a month, but some individuals may live for twice that period of time.

The hatching period of the eggs is from ten to twenty-four days, but on the average is about twelve days. On hatching the little larva drops to the ground and makes its way to the roots of the vine through cracks in the soil and by burrowing. These larvae are very tenacious of life and can exist for over a week without food, though prior to finding grape rootlets they feed upon humus in the soil, and they have been known to travel for several hours at a rate of six feet an hour and to burrow through nearly a foot and a half of soil in four days. However, probably many of them perish before finding the roots of their food plant. The young larvae feed first upon the finer roots and root fibers, and later, as they become larger, furrow and notch the larger roots. They work within two or three feet of the crown of the vine, and at different depths in the soil. During the latter summer and until quite late in the fall the larvae feed extensively, doing much harm and completing about three-fourths of their growth. When cold weather arrives, that is, by latter October and early November, they go down deeper into the soil, usually slightly below the

roots of the vines, and there construct an earthen cell in which they spend the winter.

Methods of Fighting the Worm

Graperoot worms sometimes fall prey to predacious ground beetles and their larvae, and are eaten to a very limited extent by white grubs. The eggs of this specie are attacked and destroyed by mites, lady-beetle larvae, lace-winged fly larvae and ants. There are also parasites that live on them. Natural enemies, however, do not seem to be a very powerful factor in controlling this pest, and when favorable conditions occur they increase to such an extent that artificial means of control are necessary.

In the artificial control of graperoot worm the insect is most advantageously attacked in the pupa and beetle stages. The egg clusters are so well concealed and protected in their position under the bark of the grape canes that it is practically impossible to reach them with a killing wash, especially as the vines are in full leaf at the time the eggs are laid. Attempts to kill the larvae in the soil have likewise proved a failure, either because of total ineffectiveness, prohibitive cost or injury to the vines.

We have seen, however, that in the spring, as the time for pupation approaches, the larvae approach the surface of the soil and form their pupal cells at a depth of only two to four inches, and that this pupating normally begins about the second week in June, reaching a maximum about the middle of June and gradually decreasing toward the end of the month. The vineyardist can readily discover the pupae about this time by removing a few inches of soil from about the bases of the vines. When pupation is found to have commenced, the soil beneath the trellis should be removed to a depth of three or four inches with a horse hoe, and the soil immediately surrounding the base of the vine then thoroughly cultivated with the hand hoe. The pupal cells are thus broken up, and the delicate and helpless pupae, being unable to reconstruct them, perish from exposure to the air and sunlight. Especially is this method valuable in loose or sandy soils, where the pupal cells are so easily crumbled that they are easily broken up by this cultivation.

If a ridge of earth is thrown beneath the trellis at the last cultivation of the previous summer, the pupae will tend to form their cells in this ridge, well above the roots of the vine, thus making easy their disturbance by cultivation, with small chance of injury to the roots of the vine with the horse hoe. This ridge should not be thrown up in the spring, because the leaves and trash which have accumulated under the trellis during the winter will be thrown at the bottom of the ridge and there will form a barrier through which the larvae will not penetrate when working upward in the soil to form their pupal cells, and they are consequently not disturbed when the ridge is thrown back by the hoe later in the spring.

Spraying Sometimes Necessary

The above method of control by cultivation is especially successful in normally moist springs and on loose soils. In seasons when pupation comes unusually late the vineyardist is often reluctant to postpone the first cultivation to so late a date, and quite reasonably so, because early and thorough cultivation is a very important thing to do in the vineyard. Consequently, in some abnormally late and dry seasons, it might be better management not to await the pupation period for cultivation, but to cultivate at the usual time and depend upon spraying to take care of the insects. Moreover, in dry years it may be difficult to cultivate with a horse hoe as thoroughly and deeply as is necessary to disturb the pupal cells, especially in clay soils, if the cultivation is put off until latter June. In such cases the vineyardist must use his best judgment, remembering that in normal years the cultivation may be, [illegible]e at such a time and

(CONTINUED ON PAGE SEVENTEEN)

Real Road Boosting or Political Hot Air?

A Sane, Sensible Appeal to Avoid Mistakes that Are Likely to Be Made in the Campaign For Better Roads

DURING the last five years I have enjoyed the privilege of boosting good roads in the columns of this and other agricultural magazines. I have consistently urged the betterment of county roads along sane and systematic lines. So far as I can remember, I have never advocated the improvement of all roads to the same degree of perfection, and I have not suggested that good roads can be had without money and without price.

The above facts are presented because I purpose to deal briefly with a consideration that seems to have grown out of the universal agitation for better roads. As might be expected, there is a tendency to go to extremes in an endeavor to encourage highway improvement, and I believe it is possible to carry this good road boosting a point where the reaction will bring about a most deplorable state of affairs.

Two Mistakes to Be Avoided

There is not the slightest doubt in my mind that we must have better roads. Nearly every reasonable person admits that fact without argument. We know that money judiciously expended for highway improvement returns enormous dividends in cash, besides elevating the moral tone and bettering the social, intellectual and sanitary conditions of the community. But there are two mistakes that must be avoided: We must not forget that serviceable roads cost money, and we must be sure that our highway funds are judiciously expended.

If we assume, as I believe we may, that good roads are desirable, we may as well expect to pay for them. So far as I know, the "worth while" things of this world cost us something in time and conscientious effort. Both have a money value. So that to talk about good roads that cost nothing is but to talk nonsense. The ultimate cost of a certain piece of road, for instance, may be largely in the expenditure for competent supervision. But whether it be for brain or brawn, muscle or material, it requires real dollars to produce a serviceable highway.

Things to Be Taken Into Account

This brings us to the question, What is a serviceable highway? I must admit that the correct answer depends upon the conditions to be met. We can say, however, that a serviceable road is one that answers the purpose for which it was built; and this, of course, leads us to the conclusion that what is a good road for one condition of traffic may be a poor road for more severe traffic conditions. In other words, all roads are not of equal importance, and all roads should not be improved to the same degree of perfection.

Right here is where the nonsensical road boosting comes in. In their anxiety to forward the good roads movement, men and organizations wade into an educational campaign that has no definite object in view. They overlook the point that the best argument for road betterment is a good road that serves the greatest volume of traffic or the greatest number of taxpayers. They seem to lose sight of the fact that a piece of hard-surfaced road set down in the middle of a mudhole must fail to give service and will ultimately go to pieces.

The Farm-to-Market Roads

The reader no doubt knows of many instances of unsatisfactory highway improvement resulting from the misdirected efforts of uninformed agitators. Take, for instance, the cross-state highways that are being promoted in so many states. Undoubtedly the idea of a cross-state or through highway is admirable, and will some day be a realization throughout the country, but remember that the idea is much easier worked out in the thickly settled east than in the middle and northwestern states.

My position is that the cross-state highway should come after the farm-to-market roads are perfected, and that these latter roads should be judiciously planned with a county highway system as an objective. It is but a simple matter, then, to connect the main county roads that best serve the purpose of a cross-state highway.

What Horn Is the Booster Honking?

When a man climbs in the good roads band wagon we must keep an eye on the instrument he plays. Don't forget that a great many highway boosters are honking the horn of the political machine for personal reasons. Quite often your commissioners are up to that game. Perhaps your local automobile club will suggest a good roads day, that the members may go out and "work the roads." Will the commissioners go out and show them where to work? Will they? And why not? At $8 per day some fellows can afford to boost the road business, the taxpayers, of course, paying dearly for the boosting, while the politicians campaign for votes.

I happen to know of a county where the commissioners decided to go in for good roads. They very wisely purchased a complete grading outfit and undertook to grade a great mileage of earth roads. But they neglected to buy a road roller, and they refused to employ a capable road superintendent to plan their road and bridge improvements. There are good roads boosters and builders who know it all, and that's a pretty bad fix to get into.

One Way to Hurt Cause of Good Roads

Another trio of misinformed officials proposed to start a road-building campaign by constructing a mile of gravel highway. The road will carry an enormous traffic, yet no effort has been made to measure it by means of a traffic census. No person connected with the administration is familiar with the construction of hard-surfaced roads, yet the commissioners will dictate the improvement. No consideration is given the fact that a gravel or water-bound macadam can hardly be expected to give service under the existing climatic conditions, but if the road goes to pieces the cause of good roads will have suffered a serious setback.

Good road boosting is a favorite pastime of chambers of commerce orators. These wise and fluent men delight in expounding the principles of highway improvement the while their well-filled stomachs linger near the festive board. They are not all like that, of course. There is much good in the attitude of some business men's clubs and associations.

But the fact remains that proposed highway improvement projects should be subjected to closest scrutiny. The taxpayer must remember that his money is about to be spent, and, without attempting to dictate the expenditures, he must be satisfied that the work is honestly conceived, earnestly planned, capably supervised.

The saying that "every knock is a boost" isn't true of road projects. Don't let anybody tell you that good roads can be had without cost. That's knocking your future road system and taking money from your pocket.

JOHN N. EDY.

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There is a farmer in Wyoming who is using Russian thistle for silage. He has to haul water a long distance to mix with the thistle. The experiment is being watched with interest, and, if it proves successful, will be a wonderful aid to farmers in dry sections.

It pays to buy the best stock to be had. This was demonstrated in the recent dispersion sale of the fine Holstein herd of William Galloway, when King Sergis Pontiac Combination sold for $3,500. Mr. Galloway bought this young bull about one year ago for $1,500, a price that many breeders thought too high. Two thousand dollars is a very fair profit to make in one year on one animal.

Missouri reports a shortage of of live stock on its feeding farms. The dry weather of last summer frightened many farmers out of the feeding business and much stock was rushed to market at the beginning of the season. What still remains in going into the winter in good condition and plenty of feed for this reduced number is reported.

Recent experiments made by the agricultural chemistry department of the University of Wisconsin have disproved the belief held by many that feeding corn silage to live stock and returning it to the land in the shape of manure would increase the formation of acids in the soil. The normal animal completely oxidizes the acids formed and the manure is as valuable as any other.

Prof. Hunt is Dead

The Twentieth Century Farmer has to announce the sad news of the death of Prof. E. W. Hunt, who for more than a year has served this paper and its readers as an associate editor. Last November, when Prof. Hunt began his editorial work, we told you something of his life and experience—of how he had, through his tremendous vitality and great mental power, reached the head of the department of English in the University of Nebraska, becoming one of the most conspicuous figures in the institution. Because of failing health he was forced to give up this work and retired to a farm in eastern Nebraska, where for nearly twenty years he studied agricultural problems at first hand and made his farm one of the most productive in the state.

During the last year Prof. Hunt has contributed to the columns of the Twentieth Century Farmer some of the strongest editorials and practical farming articles ever published by any agricultural paper. He has answered many of the queries sent in by readers, and in their interests has made investigations of subjects of interest to the farmers of this section of the country and reported the results of these investigations fairly, impartially and fearlessly.

There are few men better known among farmers and men connected with the farming interests of the country than Prof. Hunt. He was a man of striking personality and once known could never be forgotten. He had many bitter enemies, but more loyal personal friends and admirers. He was an acknowledged authority on a large number of agricultural subjects.

On the morning of November 19 he failed to appear at the office at the usual time. As it grew later and later and he did not appear, his associates became alarmed and went to his hotel to look for him. He was found sleeping peacefully. He had spent a pleasant evening and retired as usual, dropping into a sleep from which he never awakened.

Improving the Southern Mule

The southern mule has had a good reputation in the mule markets, especially the big Missouri mule. Missouri has had a number of years advance in the anticipating of the demand of the mule trade, and is now, and has been for years, producing a type and quality of mule that brings big prices and is always in demand. It is necessary in producing a big, good-selling mule to pay some attention to the parentage. The very best of sires and dams are selected for this industry.

It is reported that the state of Georgia is becoming interested in the breeding of large mules and has buying orders in the Chicago horse markets for several carloads of large, grade Percheron mares to be taken to the Georgia agricultural farm for the purpose of demonstrating what can be done in the mule breeding industry when the proper basis of production is established.

There is a demand in the southern states, where agricultural development has been started, for a better class of teams than are now used. The Percheron blood is a sure worker, well tempered and will produce the kind of mule that the farmer needs. This idea of purchase is much better than buying up old, wornout mares, of all breeds and no breed, for a purpose of so great ultimate results as the creation of good team power and service. Other states might take notice and gain a pointer or two from Georgia.

Mulch for Winter Wheat

How to make economic use of the straw is quite a problem for the wheat growers of the Missouri valley. Most of it in the past has been wasted. In one county in Nebraska 95 per cent of the straw piles have been burned annually for years. This is a criminal, economic waste. The farmers that have learned not to burn straw piles usually do their threshing in the field and leave the straw piles to rot down in the course of years. They might just about as well burn it up. Practically all its value as a fertilizer or as feed is lost by this method.

During the coming winter there will be quite a shortage in roughage for live stock, and wheat straw that has been properly stacked can much of it be used for feed, and thus make it render economic service.

One of the best uses for such straw is to use it as a winter mulch for winter wheat. When used in this way it helps to protect the crowns of the wheat plants from the adversities of the winter season, from the wind, which dries out the soil, and also helps to catch and hold the snow and rainfall. When wheat straw is used in this way it gradually decomposes and adds a valuable fertilizing element to the soil. But in order for this wheat straw mulch to be an unmixed dressing for the wheat it is necessary that it be evenly distributed and that the mulch be not made too heavy. It is almost impossible to distribute this mulch by hand in such a way as to meet necessary requirements. What has been needed for years has been some kind of an implement that would serve this purpose in the best manner possible. Manufacturers recognizing the need have placed such an implement on the market. It is known as a straw spreader. It will distribute wheat straw or any kind of straw evenly over winter wheat and provide just such a mulch as the spreader desires. If a man has seventy acres in winter wheat, by the proper use of a straw spreader, he can increase his yield sufficiently in one season to pay for the spreader and still have it for use in succeeding seasons.

Winter Storm Protection

How many owners of live stock on farm and range have provided storm protection for their animals sufficient to afford security from the cold, sweeping blasts of the winter's snow storms? This is not an idle reminder. Storms and blizzards in recent years have been responsible for more loss of live stock than all other causes combined. A snow storm cannot be provided for when the sheds, stables and shelter have been neglected until the storm is on. It is a great risk to keep more stock than can be comfortably housed in case of storm.

It is questionable whether it pays to winter stock out in the open where the cold winds whistle around them day and night. All kinds of stock seek relief by crowding close together. The windbreak is greatly appreciated by horses, cattle and sheep. This is evidenced in their seeking the low places in the pastures, the brush, the thicket and woodlands, and huddling behind the hills from the direction of the storm. In open land, where nature has provided no protection from the wind and storm, the closed shed, stable or tight-board fence is a necessity.

It is difficult to estimate the loss in flesh caused by neglect in winter protection. It is considerable with the older and stronger animals and very pronounced with the thin and young stock. There can scarcely be an excuse for having an animal outdoors on any farm during the cold weather of winter. Straw sheds are old-fashioned, though cheap, and none are more comfortable in times of storm. A cheap, though substantial, framework can be put up and covered, roof and sides, with straw that will not look bad, and makes one of the most comfortable and secure protections from storm that can be had.

It is a good plan to take a pencil and do a little figuring as to what a little winter storm exposure will cost if you only lose fifty pounds per head on a dozen cattle. At present prices this is worth from 6 to 7 cents per pound, and by next April it will be worth much more. It is safe to say that the common cattle stock of the country as at present wintered will not weigh next spring within 100 pounds per head of their weight when taken off pasture.

There can be no approximate estimate placed upon the beef that is frozen and starved off of the range cattle or the cattle kept under half-range conditions, where they are fed hay part of the time and forced to pick up a living on the range or bare pasture the balance of the feeding season. The old idea of economy in wintering stock was to see how cheaply they could be gotten through the winter. This is a ruinous practice and must give way to one of growth and development. Keep fewer animals and keep them growing, paying for their feed in winter as well as in the green-grass season. This is the only method by which the beef makers and the live stock producers of the country can operate with profit on high-priced lands.

Cattle and Cornstalks

Cattle that at this time are turned into a cornstalk pasture are subject to two different affections. Each is entirely separate and distinct from the other. Each may be easily differentiated from the other, and neither should ever be confounded with the other.

Cattle that have been in short feed and are gaunt and hungry when turned to a cornstalk pasture, if left entirely to themselves, will eat altogether too much of the dry corn fodder. The result is that the rumen becomes impacted with the mass of semi-masticated fodder. This is in part due to the lack of sufficient water while feeding to give sufficient moisture to the contents of the rumen. The result is an acute indigestion, followed by inflammation and bloat, from which the animal dies unless speedily relieved.

In order to avoid this difficulty, farmers are advised to give their cattle a good, heavy feed, to have them well filled up before turning them into the stalks. Under such circumstances they are not as likely to overload with the dry corn fodder.

This disease is not by any means the much talked about and much dreaded "cornstalk disease," although many farmers regard it as such. They have been led so to regard it by the extravagant claims and ignorant diagnoses put forward by "vertinarians." (No, this is not a blunder in English; it is merely a word, newly coined, to name a distinct class. It has no reference whatever to veterinarians; they constitute an honorable and useful guild. It refers rather to the ignorant, untrained, quackish "horse carpenters" with which nearly every community is infested). When called to attend such a case, they immediately name the trouble cornstalk disease, give immense doses of Glauber's salts, and, if the animal happens to recover, make loud-mouthed claims through the community that they have cured cornstalk disease.

The real cornstalk disease is an entirely different matter. No one knows what causes it. No one knows precisely of what nature it is. It is supposed to be an acute poisoning from some material that occurs sporadically in stalk fields. Many people attribute it to a green mold that is sometimes found there. It is nearly always fatal, although some cases suffering from a mild attack have been known to recover. There is no treatment known that affords any certainty of success in combating the difficulty.

Any farmer may easily distinguish one from the other by this fact: The animals suffering from impacted rumen are full and bloated as a rule, while the animals suffering from cornstalk disease are in nearly all cases gaunt and thin.

By proper precaution the farmer may protect himself against the first of these troubles. There is no protection known against cornstalk disease except keeping the cattle out of the field. Some authorities claim that cattle fed on fodder that has been shock cured never suffer from cornstalk disease, but this is by no means certain. A few years ago, at Callaway, Neb., cattle that were fed exclusively on shock-cured corn fodder suffered from the disease, and many of them died.

This, however, may be noted—that cornstalk disease seems to increase in frequency as one proceeds west from the Missouri river. In the vicinity of the Missouri river it is at its minimum. But, like sorghum poisoning, the farther one goes west the more the disease seems to increase.

Costly Lesson, But Good One

Lessons of economy are most effectively taught by practical demonstration. In seasons of plenty all humankind becomes buoyant with self-reliance. It takes reverses and scarcity to influence humanity, to make us stop and consider the uncertainty of crops and the uncertainty of the elements that contribute to growth, prosperity and plenty.

The results of the dry year just now closing are possibly of more educational advantage to the farmer and stockman throughout the states coming under the blighting influences of this partial crop disaster than all other arguments for economical production that could be summoned. The need of more care in the cultivation and use of fodder and forage crops as feed on the farm has been from necessity worked out to a degree that previously was not understood. The use of the silo became a necessity on thousands of farms where formerly no amount of argument or scientific evidence had the least effect in persuading or influencing its adoption.

A crop failure teaches economy on the farm when all other influences fail. It puts a little more systematic and careful planning into practice. Things go along with a little more precision and exactness in management and operation. There is more thought given to the smaller things; the details are more closely observed. As a general rule there is more reading, study and observation. There is need of saving in every department on the farm, and this is true of the entire household.

The saving of feed during the fat years to carry over to meet the possible lean years is an old-time practice of our forefathers and one which cannot be seriously questioned. The surplus hay should be stored so as to carry over to the following summer with as little waste as possible. Haystacks may be raked down and topped out in the early spring so as to keep with but little damage. There is nothing more satisfying and helpful on the farm than a full crib of corn, while the new crop is yet growing. "As good as old wheat in the bin" is an old saying, but true. This wheat or corn is a satisfaction to its possessor until the new crop is harvested. The farmer who practices economy in the operation of his farm has few regrets in the choice of his calling.

If one is to attempt winter dairying, it would be well for him also to consider seriously the matter of improving the quality of his dairy stock. This means the selection of a proper sire, and this is the season of the year when such selection should be carefully and seriously undertaken.

The Personal Advice of the Greatest Pianist in the World is Free to Every Student

Josef Hofmann is now universally conceded by the foremost musical critics to be the greatest pianist in the world. Eight years ago this wonderful pianist joined the editorial staff of *The Ladies' Home Journal* to answer personally the questions of piano students. During this time he has answered thousands of questions. So excellent were these answers that they attracted the instant attention of piano-teachers who use them today in their classes. Two books have been made and published from these answers.

This is not a case of a famous man having his work done for him by another. Mr. Hofmann personally writes every answer printed on his page in *The Ladies' Home Journal*. It is *his* advice that is printed. Musical critics concede that it is the first time that a pianist has succeeded in really saying something worth while about piano playing, in print.

Every girl and woman, no matter how far removed from a teacher she may live, has, therefore, to help her in her piano work the personal advice of the greatest of all pianists. This is what Mr. Hofmann's department is for. A booklet, entitled "The Story of 600,000 Invisible Hands," tells something about this service. A postal-card request will bring a copy.

A year's subscription to *The Ladies' Home Journal*, by mail, costs $1.50, or it may be bought from any Newsdealer or Boy Agent at 15 cents a copy.

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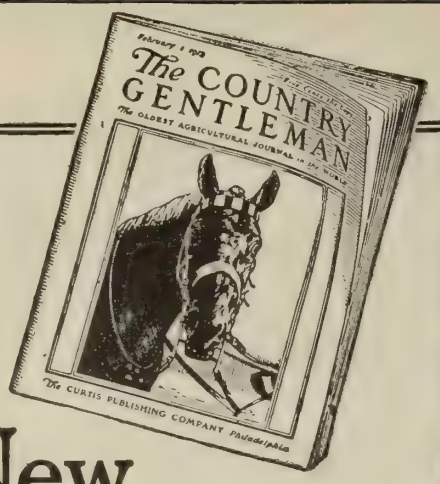

Old Farms Made New

An old man can never be made young. A worn-out reaper is fit only for the junk heap. A horse that is past usefulness must be retired.

But an old farm can be made new!

The owner of a hundred-acre farm was beating all his neighbors in crops, yet his business was a fizzle.

It looked as if he'd have to quit the game to make a living. But he told his troubles to a farm-management expert. The expert got busy and made that farm over from pasture to corncrib. He moved fences, started rotations—did just the things an expert replanning a factory would do.

And when he was done the deficit had been turned into a profit.

For several years the Department of Agriculture, through its field agents, has been experimenting with various farms, with the owners' coöperation, along the lines of system and efficiency. We are able to publish the results in a series of four articles, of which this is the first, under the title, *Old Farms Made New.* They tell how to replan a farm for economy in time and labor.

PECANS—A Tree Crop of Tomorrow

A plantation owner set out a sixteen-acre pecan orchard at a cost of $600. Three years later a friend asked, "What will you take for it?"

"It's not for sale," the owner answered, and $1800, $3000, $4000, wouldn't budge him. Why?

"Because when it is ten years old I can sell it for $16,000—$1000 an acre," he declared. Now it is nine years old and he wouldn't take $16,000, because it will soon be paying twenty per cent. on that valuation.

Tree Crops is the next big thing in farming, says Dr. J. Russell Smith, and he understands this subject better than anyone we know. He studied the nut orchards of this country, and some friends of the University of Pennsylvania thought so highly of his work that they sent him on an 18,000-mile trip through Southern Europe and North Africa, where pecans, chestnuts, walnuts, olives, dates and the rest have flourished for centuries.

He returned with a new faith in tree crops. He tells in this series of articles how the nut industry must be reëstablished in America.

Fresh Fowl—or Frozen

Cold storage is a saving grace to the farmer—it prevents glutted markets and equalizes prices the year round.

The poultryman especially will find that the cold-storage plant is his best friend. Here's a story that tells what it means to you as no other article you ever read has told.

A Woman and a Windmill

In the homesteading game on Uncle Sam's free land women win out as well as men; women of pluck and common sense, like this woman who took a windmill along with her when she went out to try to make a home for herself.

"Any woman can do it," she says, "if she will buckle down cheerfully and not try to be a parlor ornament."

This *real* story of a *real* woman is better than fiction.

Out West—The Little Landers

Can a family farm a quarter of an acre and get a living out of it? That's the claim back of Southern California's Little-Lander movement. Ever hear of the little landers? We have investigated them. You may be interested in the result.

These Are a Few of the Big Features You Will Find in One of Our Four December Issues. But They Are Not All

Growing Alfalfa for Market. A hundred dollars an acre in a droughty year looks good to Kansas farmers, and their cornfields are rapidly becoming alfalfa fields. Have you tried alfalfa as a money crop?

When Dairymen Get Together. For a long time the dairymen have been divided into many factions. Dealers and producers have waged continual warfare. Ice cream manufacturers have been misunderstood. Breeders have followed false gods and have maligned each other's breeds. But harmony is coming. The last National Dairy Show was really a peace conference as well as a school for producers, dealers and manufacturers. Our article on the Dairy Show will have a new point of view. It's not merely a list of prize winners, but a foresight into dairy futures.

Progressive Agriculture. A girl made $107 from tomatoes on a tenth of an acre. A boy raised 167 bushels of corn on an acre. Uncle Sam is teaching 92,000 boys and 33,000 girls how to get the most from the farm, and they are teaching their fathers and mothers.

Then there's a great woman's department, with the advance guard of Christmas shopping suggestions and holiday recipes and helpful hints for the "Mainspring of the farm"—the wife and mother. And a dozen more articles dealing with the two important features of the farm business—economy in production; profit in marketing.

IF FARMING IS YOUR *BUSINESS* YOU NEED

The COUNTRY GENTLEMAN

Five Cents the Copy, of all Newsdealers. $1.50 the Year, by Mail

THE CURTIS PUBLISHING COMPANY, Independence Square
Philadelphia, Pa.

Nebraska Farmers' Congress

To Be Held in Omaha December 9-12, 1913

THE Nebraska Farmers' Congress is all that is implied in the title. It is an association in which every agricultural association in the state is entitled to representation, and where every man, woman and child engaged in agricultural production may have a hearing. Every farmers' club, farmers' union, grange, breeders' association, farmers' institute, farmers' society of equity, agricultural society, dairymen's association, poultry association or any other farmers' association in the state is entitled to ten delegates, and every farmer should see to it at once that his association has its delegates named and lists sent to the secretary of the congress; and, whether or not a farmer belongs to any association, he should attend the congress.

At Omaha the interests of the school children in the 8,000 country school districts of the state will be considered in the two sessions devoted to the rural schools.

A farm credit system will be considered at the next session of the national congress. Fifty billions of farm property will be affected, and nearly three billions of this property are in Nebraska. Two sessions of the Omaha meeting are given to the discussion of this great economic question in the effort to get lower rates of interest for farmers.

Three-fifths of the taxable wealth of Nebraska is owned by its farmers, yet they are not represented in the tax commission now investigating our tax system. Two sessions of the congress will be given to debating this very important matter, and our farmers should not absent themselves from the congress, where the State Tax Commission will attend and discuss the problem with the delegates.

Millions of the taxpayers' money is involved in the question of removal of the State University, and consideration of this question will be had at Omaha. Besides these subjects enumerated above will be farm mutual insurance, marketing of fruit, the Rochdale system of cooperative stores, home economics and other important questions.

Upon arrival at Omaha, go to the Rome hotel and register at the secretary's desk, where location for rooms may be secured.

W. S. DELANO,
Secretary Nebraska Farmers' Congress.

Program in Detail

DECEMBER 9

1:30 P. M.—Address of welcome by J. C. Dahlman, mayor of Omaha, and George H. Kelley, president Omaha Commercial Club. Response and president's annual address, George Coupland, president of the congress. Appointment of committees, and introduction of resolutions and memorials. Address, "The Home First," Mrs. Emma Reed Davission, University. Discussion. Address, "The Home and School," Prof. Alice Loomis, State University. Discussion.

7:30 P. M.—"Does the Rural School Fill the Needs of the Country People; If Not, Why Not?" Discussion, open to all.

8:30 P. M.—"Shall We Have Higher Grades in the Rural School; If So, How Shall It Be Brought About?" Discussion, open to all. Speakers will be supplied by the Nebraska Conference on Rural Schools.

DECEMBER 10

9:30 A. M.—Introduction of resolutions and memorials. Address, "The Rural School and the Country Home," Prof. H. C. Filley, State University. Discussion. "The Rural School and Citizenship." Discussion, open to all.

1:30 P. M.—Address, "Can European Rural Credit System Be Made Applicable to the American Farmer," Gordon Jones, vice chairman American Commission, Denver, Colo. Discussion by delegates.

7:30 P. M.—Address, "The Rural Credit System from the Viewpoint of the Farmer," Prof. G. W. Lauman, department of rural economics of Cornell University. Discussion by delegates.

DECEMBER 11

9:30 A. M.—Reports of officers and committees. Address, "The Fruit Growers' Co-operative Association; What It Has Done, and What It Expects to Accomplish," E. M. Pollard, vice president of the congress. Discussion by delegates. Address, "The Rochdale System of Co-operation," Thomas Guerin, secretary Burt County Farmers' Club. Discussion.

1:30 P. M.—Introduction of memorials and resolutions. Address, "Farmers' Co-operative Creameries in Nebraska and Elsewhere," Herbert Quick, editor Farm and Fireside. Discussion, open to all. Address, "Should the State Board of Agriculture Be Reorganized?" T. F. Sturgess, editor Twentieth Century Farmer. Discussion by delegates.

7:30 P. M.—Address, "Consolidation of the State University;" affirmative, Ross Hammond of Fremont; negative, Harry A. Reese, Lincoln. Discussion by delegates.

DECEMBER 12

9:30 A. M.—Reports of committees and election of officers. Address, "Present Condition of Farm Mutual Insurance in Nebraska and Needed Improvements," W. E. Straub, ex-president National Association of Farm Mutual Insurance Associations. Discussion by delegates. Miscellaneous business.

1:30 P. M.—Addresses, "Tax System of Nebraska," "Needed Changes and Other Phases of Taxation," "How to Take Some of the Burden of Taxation from the Farmer," Earl Gaddis and other members of the State Tax Commission. General discussion by delegates.

7:30 P. M.—Continuance of the tax discussion by Dr. George Virtue of the commission and other members. Discussion by Leonard Herron, editor Nebraska Farmer. Discussion by delegates. Final reports of committees.

Treatment of Heaves

Repeated gorging of the stomach with food or water, and often both, according to Dr. J. H. Standish of the Nova Scotia Department of Agriculture, is the cause of heaves. The symptoms are deep breathing, evidenced by the expanding nostrils and double lifting of the flanks, both of which are increased if the animal is forced up a grade at a fast trot or gallop when the stomach is distended with food or water; generally, also, a hacking cough is an accompaniment, mostly in the morning.

The disease is incurable, but may be palliated by feeding easily digested, nutritive food in small quantities. Give such food as early cut, well cured, clean timothy hay, perfectly dampened with weak lime water; oats, wheat bran, flaxseed, ground, and in winter roots, carrots, turnips, mangels or sugar beets, the oats to be boiled twice a week. Give four drams of ginger and two drams of baking soda in the food at night, or oil of tar in dessert spoon doses. In some cases better results are secured by alternating these daily or weekly, and some cases are benefited by four to ten-grain doses of white arsenic once a day. But care in feeding and watering is necessary in any treatmnt. Oat straw, if early cut and well cured, is often preferable to hay. In either case, shake the hay or straw well to remove all dust.

Young Colts with Crooked Legs

By H. J. Gramlich

OFTEN colts have such crooked legs when foaled that it would seem impossible that they would ever straighten. Colts born with their front legs badly bowed forward at the knees generally overcome that defect by the time they are a year old. As a rule, some indications of this defect are to be seen when the colt is entered in the fall show as a weanling. The cause of this condition in the foal at birth is not generally known, although it is supposed that the position of the embryo in the mare may have something to do with it.

Colts having croked hind limbs at birth usually keep this defect permanently. The sickle-hock formation, commonly called the "curby leg," is much objected to by horsemen. It indicates unsoundness. A severe strain will spring a curb, and as a rule no amount of rubbing or other treatment will remove it from such a limb.

The accompanying illustrations show how a particular colt straightened up in its limbs after birth. This colt is a pure-bred Belgian. The dam is a very blocky-typed 3-year-old, weighing 1,500 pounds. She is a trifle crooked in her hind legs, but the defectively curved limbs of the foal may have been caused by the mare being so extremely short-coupled. The sire is likewise imported. While of blocky type, yet his hind legs cannot be faulted for being crooked.

Day After Birth

Three Weeks of Age

Three and One-Half Months

The first picture shows the foal the day after birth. At this stage it resembled a giraffe as much as a horse, the withers being some three inches higher than the hips. As shown by the picture, both the front and hind legs were very crooked.

The second photo was taken at 2 weeks of age. As the colt is standing stretched out, one cannot see the crook in the hind limbs, though the knees are still sprung forward. The flank has let down considerably, and the top line has come to be nearly parallel with the ground.

In the last photo we have the same colt at 3½ months. In this the front legs look straight, but a slight crook is still in evidence in the hind ones. Another fault has made itself evident by this time, namely, a distinct droop in the back. This was inherited from the sire. The large middle is due indirectly to burned-up pastures and directly to too much coarse rough feed.

National Live Stock Meetings

THIRTY national live stock organizations hold their annual meetings at Chicago during the International Live Stock Exposition. For the benefit of our readers, we print the date and time of these meetings and location of the hall, as follows:

CONVENTION HALLS

No. 1—Second floor International amphitheater.

No. 2—Third floor Live Stock Record building, entrance through Saddle and Sirloin Club.

No. 3—Second floor Live Stock Record building (formerly designated as wool office).

No. 4—Second floor Live Stock Record building (corner room).

No. 5—Second floor Live Stock Record building (second door to left, near head of stairway).

No. 6—Second floor Swine Department (above harness shop).

No. 7—Second floor Swine Department (above harness shop).

No. 8—Second floor Live Stock Record building (Aberdeen-Angus office).

MONDAY, DECEMBER 1

Percheron Society of America, Congress hotel, 8 p. m.

TUESDAY, DECEMBER 2

American Shire Horse Association, hall No. 3, 7 p. m.

American Polled Hereford Breeders' Association, hall No. 4, 7:30 p. m.

National Association of Stallion Registration Boards, hall No. 2, 7:30 p. m.

Continental Dorset Club, Hall No. 5, 7:30 p. m.

American Berkshire Association, Stock Yards Inn, 7 p. m.

American Aberdeen-Angus Breeders' Association, Grand Pacific hotel, 8 p. m.

American Cotswold Registry Association, hall No. 7, 7:30 p. m.

American Society of Animal Production, hall No. 6, 8 p. m.

International Live Stock Exposition Association, Saddle and Sirloin Club, 8 p. m.

WEDNESDAY, DECEMBER 3

National Duroc-Jersey Record Association, hall No. 5, 1:30 p. m.

American Poland-China Record Association, hall No. 3, 2 p. m.

Red Polled Cattle Club of America, hall No. 4, 2 p. m.

American Association of Importers and Breeders of Belgian Horses, hall No. 2, 7:30 p. m.

American Galloway Breeders' Association, hall No. 5, 8 p. m.

American Shropshire Registry Association, hall No. 3, 8 p. m.

American Hampshire Sheep Breeders' Association, hall No. 4, 4:20 p. m.

National Lincoln Sheep Breeders' Association, hall No. 6, 8 p. m.

American Cheviot Society, hall No. 7, 8 p. m.

American Duroc-Jersey Swine Breeders' Association, La Salle hotel, 8 p. m.

Chester White Congress, La Salle hotel, 8 p. m.

American Shorthorn Breeders' Association, Congress hotel, 8 p. m.

O. I. C. Swine Breeders' Association, La Salle hotel, 8 p. m.

American Rambouillet Sheep Breeders' Association, hall No. 8, 8 p. m.

THURSDAY, DECEMBER 4

American Yorkshire Club, Stock Yards Inn, 7 p. m.

American Southdown Breeders' Association, hall No. 3, 7 p. m.

American Oxford Down Record Association, hall No. 4, 8 p. m.

American Tamworth Swine Breeders' Association, hall No. 5, 8 p. m.

American Suffolk Horse Association, Breeders' building, 8 p. m.

Polled Durham Breeders' Association, Grand Pacific hotel, 7:30 p. m.

FRIDAY, DECEMBER 5

American Shetland Pony Club, Stock Yards Inn, 4:30 p. m.

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No chemist's analysis of Grape-Nuts can begin to show the real value of the food—the practical value as shown by personal experience.

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"For two years I have used Grape-Nuts, with milk and a little cream, for breakfast. I am comfortably hungry for my dinner at noon.

"I use little meat, plenty of vegetables and fruit in season, for the noon meal, and, if tired at tea time, take Grape-Nuts alone, and feel perfectly nourished.

"Nerve and brain power and memory are much improved since using Grape-Nuts. I am over sixty and weigh 155 lbs. My son and husband, seeing how I had improved, are now using Grape-Nuts.

"My son, who is a traveling man, eats nothing for breakfast but Grape-Nuts and a glass of milk. An aunt, over 70, seems fully nourished on Grape-Nuts and cream." "There's a Reason."

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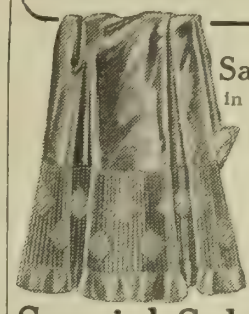

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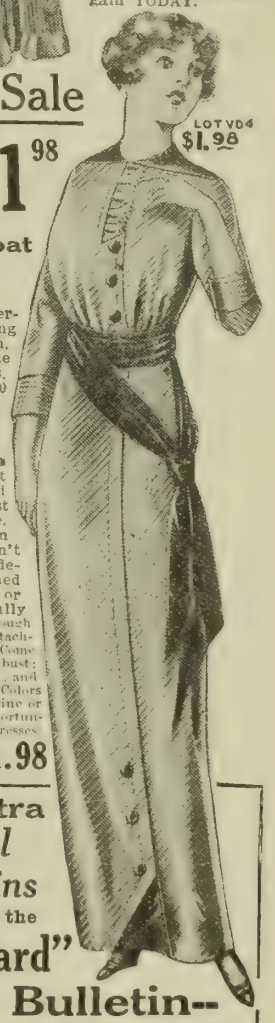

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Of Interest to Our Women Readers

Twentieth Century Farmer

The Twentieth Century Farmer, my friends,
Is the paper for old and for young,
And the good information on each printed page
Is the cause of the praises now sung.

From the buying of land to the cholera cure,
And the raising of products and kine,
The prevention of ailments most certain and sure,
Are printed and stamped on each line.

How eagerly watched for and carefully read
By every subscriber we meet,
And we scan the bright sayings the dear children write
That are carefuly printed each week.

The Twentieth Century Farmer, my friends,
Dwells largely on politics, too.
You get quite the latest on current events,
And the markets and gardening new.

Each week it will tell you where fine stock is sold,
Also tells you how fine stock is raised,
How farmers may care for their poultry and swine,
For which they are afterward praised.

The Twentieth Century Farmer should dwell
In the homes through the land everywhere,
And its presence be chanted and wafted and sung
With the soft-sighing winds through the air.

Iowa. Ina E. Heath.

Our Home Chat

Within the last few years the retailers' associations, housewives' leagues and other organizations in the larger cities have been placarding billboards and advertising in newspapers and street cars and other places, "Do Your Christmas Shopping Early." This is not meant for city people alone. The men and women on the farm are appealed to as well.

How often, on the day before Christmas even, the people from the farms near by crowd the stores, rushing madly up and down the aisles, waxing impatient at the delay, in haste to be off on the long homeward journey. The poor clerks are driven wild by the haste, the long hours and the polluted atmosphere of the crowded, hot and close store rooms. Have you ever stopped to think that these large stores often keep open every night during Christmas week, and these girls are forced to serve a hurrying and impatient public many extra hours for at least six days? They do not welcome the Christmas season. It is no holiday time for them. You all know O. Henry's stories, or should. Read his little volume of stories called "The Four Million" sometime. There are some stories in it that will tell you exactly how these people feel about Christmas.

If you want to make Christmas a happy time—or at least a time of less misery—for these girls, "do your Christmas shopping early." Instead of making a purchasing trip to the city a day or even a week before Christmas, do it now.

This will be a deed of charity to the store employes. You will get no thanks for it—one seldom does for the most unselfish deeds—but you will have the consciousness of having done a really good act. And another thing: A woman said the other day to me, "This new scheme of doing your Christmas shopping early is certainly popular. Why, last year I went downtown to buy some little things I had neglected until the week before Christmas and there wasn't a decent thing in the stores. They were picked bare." A word to the wise! Don't let the city people who follow the advice they see placarded in the street cars rush in and get all the bargains.

THE EDITOR.

Canning Meat

I was quite successful in canning beef last spring, and I want to tell the sisters about it, for I think it would be wise to can in the same way some of the many young roosters that are something of a nuisance just now. You know how it is; the best portions are usually used first, and I only had portions of the forward quarter to experiment with. I boiled it, salting to taste, until it would slip the bones. I was careful to break the leg bone so I would get all the gelatine, as I had read that the juice must be rich enough to jelly when cold. I skimmed out the meat, picking out all the bones, and set it away until the next day. I then warmed up the juice, pressed the larger pieces of meat into the cans, put the smaller pieces through the meat grinder and put into cans, filled the cans up with juice, pressing the meat down, put on rubbers and cover loosely, set them into lard cans which had old cloth on the bottom and were filled three-fourths to the top with warm water, covered the lard cans and went about my other work, leaving them to boil over two hours; then I drew them to the back of the stove, lifted the covers and filled the cans with boiling, salted water, screwed the covers on tight and left them until next day in the water. Not having quite enough new rubbers, I used a few old ones, marking them to see if they kept, and they did not, and I saw where I had made a mistake. The ground meat we especially enjoyed. It was always ready for hash, toast, etc.

If some of you have never tried frying down pork, try doing so this way: Let the meat become thoroughly cold and then fry and salt as for the table, only not quite so much. Place in layers in a jar or tin pail (lard cans are fine), filling in as you fry with the grease that fries out. I cover the stove with spiders and drippers and also put some in the oven. When done place a plate and weight on top, and be sure the meat is all covered with grease, and, if there is not enough, melt some lard. When you take out some to use put it in the spider and melt the adhering grease and pour back enough of it so that the remaining meat is covered. It is always ready, and will keep in the hottest weather.

How much we enjoy the Farmer!

Idaho. MRS. G. H.

Lonesome Farmer's Wife

Kind Editor—I have read with interest the letters of "Mrs. Custer County" and "Contented Farmer's Wife," and, while I am not an overworked farmer's wife, yet there are many things lacking in my section of the country. The greatest drawback I find is the lack of social intercourse. Have lived in this section about fifteen months, with neighbors within a fourth of a mile, yet I find I really have no neighbors. Two of my closest ones have called once in the time I have lived here. There are no amusements of any sort, and I am out too far to join anything in town. We are not such old people yet (29 and 30), and enjoy young folks coming in for a party or games now and then, and the older folks to spend an evening at cards, music or just talk. But, as none of these things take place in our neighborhood, I want to ask the sisters and our editor for a few suggestions of how to pass away these long winter evenings. There are three of us—my husband, myself and a hired man. Good books are always interesting, and, while we have a large public library, I do not know what to ask for. I am going to thank you all in advance, for I know I shall have some helpful information, which may help a few other lonesome sisters besides myself.

MRS. LONESOME WYOMING.

Editor's Note—If you care to read, why not take up some particular country, such as England, Italy, Egypt or some other country, and read aloud about it each evening. The librarian will help you get good books if you tell her in what subject you are interested. Cribbage is a good game to learn, and chess would be excellent. Perhaps your neighbors would like to visit with you if they once got started. Why not all go and spend the evening with the closest ones now and then? Evidently your neighborhood has not been in the habit of being neighborly. Perhaps you may be the one to introduce the custom. If any of our readers have had this same experience, we should be glad to hear what they have done about it.

An Optimistic View

To the Editor: There has been a good deal in the papers of late about the poor, downtrodden farmer's wife, and a few years ago there was room for complaint, as the average farmer's wife was nothing more nor less than a slave, drudging from morning till night, with little prospect of anything better. Her only chance of social enjoyment or self-culture was to go to town with the butter and eggs perhaps once a week and exchange them for provisions, and perhaps go to a neighbor's house once or twice during the year. But this condition is rapidly changing, and the life of the average farmer's wife, I believe, compares quite favorably with that of her city cousin in the same circumstances. The telephone, the rural route and the automobile are doing a great deal to brighten the lives of the farmers and their families. They bring them within easy reach of the schools, the churches and the social life of the cities and towns, and make them feel that, after all, country life is worth living. Yes, the prospects of the farmers' wives are looking up, and the much agitated question of keeping the boys and girls on the farms is nearly solved. MRS. ELIZEBETH.

Iowa.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6427—Ladies' Dress—A very smart suit in two combined materials, or equally appropriate for one. The blouse is in semi-coat effect, plain, with deep shoulder, a small collar and a diagonal closing. Ends of the blouse show below the girdle. The skirt has a plain front panel and plain sides and back, with or without the peplum. The pattern 6427 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4½ yards of 44-inch material.

6316—Misses' Dress—In this model we have the simple yoke style, which is so becoming to all figures. The yoke in this case is square and fairly deep, with the balance of the waist, both front and back gathered where it is attached. The skirt is cut in four gores. The pattern 6316 is cut in sizes 14, 16 and 18 years. Medium size requires 4⅞ yards of 36-inch material.

6247—Girls' Middy Blouse—The middy blouse of this season is somewhat changed from the old style. It has the usual drop shoulder and open neck, with fancy collar. The sleeve is plain top and bottom and the lower edge of the blouse is gathered into a wide, flat belt. The blouse pattern No. 6247 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2⅝ yards of 36-inch material.

6421—Ladies' Dressing Sacque—This is a one-piece garment, sleeves and body cut in one, but, if the material be narrow, a seam may be placed in the center of the back. The wide collar should be of lace or embroidery, which may also form the border of the cap. Crepe, silk, challie or cashmere can be used for this dressing sacque. The pattern 6421 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4 yards of 27-inch material.

6413 Ladies' Blouse Coat—No garment is more stylish than the blouse coat at the present time, and this design shows the latest cut, with sleeves and body in one, peplum slightly full and a long shawl collar. In place of collar and cuffs fur banding may be used if preferred, and the coat closed up quite to the throat. The pattern 6413 is cut in sizes 34 to 42 inches bust measure. Medium size requires 4 yards of 44-inch material and 2 yards of 46-inch satin to trim.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

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Mayer Honorbilt Work Shoes outwear all other shoes because they are made from specially selected, tough and seasoned stock—heavy oak tanned soles—solid counters—double leather toes and double rows of stitching. They stand hard knocks and rough wear, yet are not heavy or clumsy looking. For strength, wearing quality and comfort demand Mayer Honorbilt Work Shoes.

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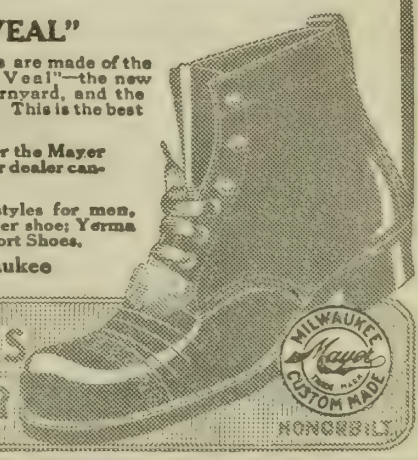

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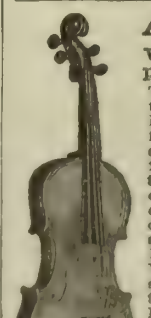

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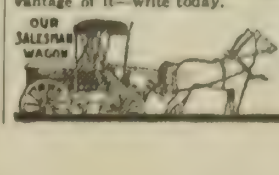

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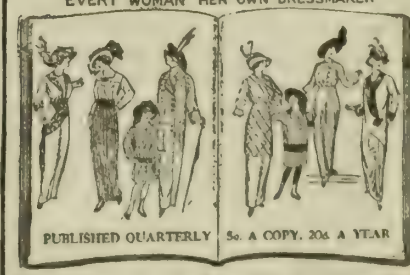

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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm

Life of the Kingbird

Up at the earliest dawning,
While the blossoms are dewey and sweet.
Searching the orchard and meadows
For the morsels the baby birds eat;
Perched on a telephone wire
That the soft breezes sway 'neath his weight.
Joyous, triumphant, exultant,
Sits the kingbird and calls to his mate.

Watchful, though seemingly careless,
High aloft by the green growing grain,
Quick, so the eye can scarce follow,
He has flown and is back there again.
Beetles and grasshoppers straying
Within range of his sharp little eyes—
These are the food for his babies
That will quiet their harsh, hungry cries.

Busy, industrious, useful,
From the earliest dawn until night,
Rollicking over the meadows,
Where he seizes his prey in mid flight;
Waging the maddest of battles
With the hawk and the big robber crow,
Driving them out of his kingdom,
Terrified by their fierce little foe.

This is the life of the kingbird
That he leads all the long summer through,
Guarding our orchards and grain fields,
Always working for me and for you;
Calling, ecstatically calling,
Through the long, sultry days, in the sun,
Feeling that greatest of joys—
That he knows his work is well done.

The Kingbird

The chief of the fly catchers in this region is the plucky little kingbird. He is a silver-gray bird, with a white breast and a white-tipped tail. He lives almost altogether on insects, which he catches on the wing, with a few seeds and a little fruit for dessert. A flash of his soft, gray wings, a click of his bill, and the beetle or fly has met its doom, while the kingbird circles back to its watching place. He can see an insect over 150 feet away, which is more than we can do.

There is a strong prejudice against the kingbird, as he is supposed to prey on honey bees. In fact, the kingbird is also known as the "bee martin." This superstition has about as much foundation as the old belief that tomatoes were poisonous. Sometimes tomatoes do disagree with one, but not often; also kingbirds sometimes catch bees, but it seems to be entirely accidental. Government and other experts have made thorough tests and find that drones are eaten once in a while, but the workers that carry the stings almost never. It is probably a most unpleasant surprise to the kingbird when he gets one. "But," says one man, "I have seen a kingbird sit in front of a hive and catch the bees as they fly in and out." Oh, no you have not. What the kingbird was eating were the robber flies. So, you see, you wronged a good friend, after all, for he was protecting the bees instead of destroying them.

The kingbird's main amusement is chasing chicken hawks and crows, for which he has a particular hatred. He is friendly with other birds, but these two he just can't endure, and will fly at them and peck them whenever they appear, until they are glad to hurry away again.

THE EDITOR.

(Prize Story)

The Long and Short of It

A True Story by Buford Arn, Aged 11, Savannah, Mo.

In 1860 the settlers of western

The Kingbird

Kansas suffered severely during the drouth of that year, and the young men went to the buffalo range, a few miles west of where Salina now stands, for meat.

My grandfather was out with a party, and one day, seeing a buffalo standing on the brink of a dry ravine, he went along the bottom until he thought he was near the game. Climbing up the bank, he was right under a fat cow sleeping in the sunshine. It was a dangerous move to fire at a buffalo at such short range, but, as everybody was hungry and the children were crying for food, he concluded to take chances. So, placing the muzzle of his gun six inches from her heart, he fired. The cow went up in the air, and grandfather speeded down the ravine a quarter of a mile before he took observations. The cow was dead about fifty yards from where shot.

When the hunters were skinning the cow, a wolf was seen to stop in a buffalo wallow a mile away. Grandfather elevated his gun forty-five degrees and fired. Not seeing the wolf move on, he went back to the place and found the wolf dead, with a bullet hole in its head. So that is the long and short of grandpa's last buffalo hunt.

(Prize Story)

The Discontented Daisies

By Zora Mowry, Aged 13, Arcadia, Neb.

Three beautiful daisies stood on the bank of a small brook, nodding their graceful heads till they almost touched the cool water as it rippled over the stones. A pretty butterfly alighted on one. It rested its tired wings and then stared on its journey.

"Oh, dear!" said the daisy, "I wish I were a butterfly. I wouldn't have to stand in the hot sun all day and wave my head back and forth to please the breeze. I could fly in the shade of the green trees and get a drink from the well."

"Why, my dear friend, you should be ashamed of yourself," said the eldest one of the three. "You should be thankful that God has made you a beautiful flower and be content."

"I don't care what you say. I wish I were a butterfly, so you might as well keep still," snapped the younger one. At that moment it noticed a change. It had bright eyes and pretty wings. "Oh—h-h!" it said, as it spread its wings and flew away. It flew until it was tired and then rested in a cozy corner all night. The next morning it tried to fly, but couldn't. Its wings were tired, its back ached, it was thirsty and warm. It suffered much, but not long. Soon its troubles were over; it was dead, and that was the end of that daisy-butterfly.

But meantime another one—a discontened one—saw a little fish swimming happily about in the water. "Oh!" sighed the unhappy little flower, "I wish I were a fish, to enjoy life as that one does."

"Shame!" said the elder one. "Do not go away and leave me for mere pleasure like the one that was lost yesterday."

"Oh, well, I'd not be so disgraced as I am, an ugly white-faced daisy." As the elder daisy raised its head to answer it saw, to its sorrow and surprise, a different sort of head, with an ugly, big mouth. In an instant a loud splash was heard and there was but one daisy left on the bank. The daisy-fish swam to the river and there its life was ended by a fish four times its own size, who thought it would make a pretty good meal.

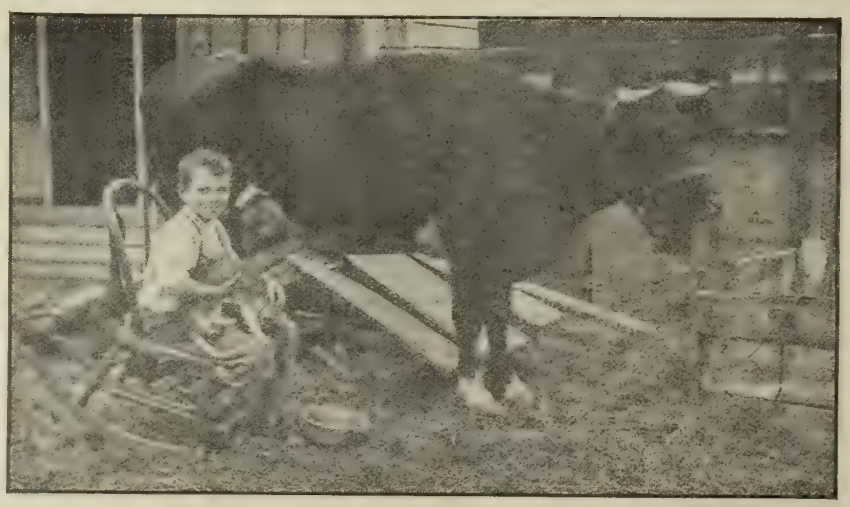
The elder daisy stood on the bank, happy and contented with the life God had given it, and when winter came it found itself in a cozy bed in mother earth.

Note—This is last week's prize story, which we were unable to print in that issue on account of lack of space.

Additional Stories

Jennie Gross, Chicago, Ill.; Raymond McTaggart, Emerson, Neb.; Imogene Crosby, Demeng, N. M.; Fannie Bellen, North Platte, Neb.; William Sladek, Pierce, Neb.; Esther Neuman, North St. Paul, Minn.; Agnes Barrott, Stevensville, Mont.; Joe Donat, Brainard, Neb.; Alvin Gloe, Martell Neb.; Bessie Kirkpatrick, Coleridge, Neb.; Joy Miller, Moulton, Neb.; Katherine Haughn, Scribner, Neb.; Velma Huff, Nebraska City, Neb.; Blanche Holeman, Waukee, Ia.; Leonard Mercer, Collender, Ia.; Harlan Northrup, Guthrie Center, Ia.; Cleo Lucas, Anthon, Ia.; Rufina Reitober, Viola, Kan.; Elsie E. Young, Summerfield, Kan.; Ethel Lee, Burlingame, Kan.; Katherine Kerns, Parkman, Wyo.; Ethel Conner, Afton, Wyo.; Bertha E. Hayes, Fayetteville, Ark.; Edmund Cady, Jackson, Minn.

Picture Contest No. 8



This is the picture about which you are to write a verse of four lines. Each of the two children writing the best verses will receive a book as a prize. Write plainly, giving your name, age and address. Neatness, spelling, punctuation and the age of the writer will be taken into consideration in awarding the prizes, as well as the quality of the verse. All verses must be addressed to Picture Contest Editor, Twentieth Century Farmer, and must reach this office not later than December 13.

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But after all, a trial is the best answer.

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Post Toasties

How Farmers Can Best Market Poultry and Eggs

ON THESE pages we have from time to time hinted a need for a poultry and egg standard. We have a standard for all of the breeds, but not for the product of the breeds—eggs and meat.

But now the American Poultry Association has decided to issue a standard for poultry and eggs, with hope that by its means the farmer and producer may improve their stock and methods of marketing that stock.

This is a highly important suggestion, as the poultry product now stands third on all lists of products from the farm. One might not willingly believe that the little hen is rolling the wealth of Uncle Sam's domain to third place from the top, but, belief or no belief, she is doing it, and her product needs close consideration.

Book of Poultry and Egg Standard

This book is to be an official publication, and solely to govern the ground from the farmer's viewpoint, and the chairman of the committee appointed to look after this work is Robert H. Essex, Buffalo, N. Y. He is now, through the best of our farm papers, appealing to all farmers for co-operation with himself and the committee in the making of this standard.

Addressed to the Farmers

Chairman Essex has this to say to the farmers:

"The farmer has so often been told by experiment station lecturers that he can make more money with standard-bred fowls than the mongrel that now nearly every farmer of enterprise possesses at least one standard-bred male, and many of them have a whole flock.

"The placing of the standard-breds upon farms where not so many years ago but mongrels were to be found has added materially to the income of the farmer's wife, who generally looks after the poultry.

"It may have occurred so gradually as not to be noticeable to her, but is certain that the standard-bred poultry or the half-bred poultry now marketed from farms weighs considerably more than an equal number of mongrels formerly weighed, and it has cost the farmer no more to feed them than the mongrels. If he has added but one pound to each individual fowl, then in marketing 100 fowls he has gained 100 pounds, and it should be remembered that he gets more per pound for a good standard-bred carcass than for a skinny mongrel.

The Farmer's Advantage

"The farmer has every advantage over the city poultry keeper, with one exception, marketing his eggs and poultry. His advantage consists in having the ground over which his fowls may range, and thus maintain their health and strength, and he has the grain to feed them. It is the one exception I wish to speak of. If he has added to his income by breeding standard-bred birds, he can add still more to his income by marketing eggs and fowls at a greater profit. It is all a question of care and management—a question of improvement in the market product, no difference who the buyer may be, huckster, dealer, commission merchant or consumer.

"The question to be considered, if the farmer would get a higher price per pound for his fowls and a higher price per dozen or per case for his eggs, is, 'How can I market them to greater advantage?' It is an important question. Its importance is so clear to me that I am safe in saying it would be equally plain to any farmer who could follow his eggs and poultry from his farm until they reach the consumer, as I have done, and note the varying conditions in which they arrive on the consumer's table. What is to be done that the farmer can assure himself that the proper course is being adopted in handling poultry and eggs so that he may get the larger profits? There is one way that will shortly be opened to the farmer to improve his conditions considerably. The book of standard for poultry and eggs which is soon to be prepared for the use of farmers, hucksters, dealers, packers, commission merchants, will offer instructions on the important points on marketing poultry and eggs so that much of the loss that now comes to farmers may be avoided.

"Write and tell us about the greatest difficulties you have to meet with in marketing your poultry and eggs; where your greatest loss occurs and disappointment arises.

"Do you keep pure-bred poultry of a single variety, and do you try to market poultry of a uniform color, size and shape?

"Where, and in what temperature, do you keep your eggs when holding for market? What other farm product do you keep nearby?

"How often do you market your eggs, especially in hot weather?

"How are they marketed; sold to the huckster who calls at our door, sold for cash to the local dealer, or traded for merchandise?

"Do you make a practice of sorting out small and dirty or misshapen eggs and keeping these at home?

"Do the dealers who buy your eggs during the summer months candle them and only pay you for good eggs, or do they take them as they come?

"Do you know how to grade and candle eggs? Do you do this before sending them to market? Do you keep male birds with your laying hens during summer months?

"Will you write us telling of your troubles? The American Poultry Association has given $5,000 to investigate this subject. I cannot answer you all personally, but, with the consent of the editor of this paper, I will answer you in these columns. This will save trouble."—R. J. Essex, Buffalo, N. Y.

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This machine can be used in nearly every section of the United States. It will cut and grind the fodder mentioned above and with this can be ground dry ear corn or shelled grains independently or mixed with the hay so that every feeder can produce his own balanced ration

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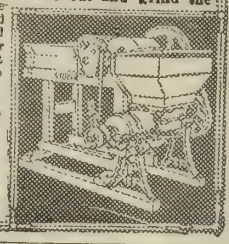

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Debt and Socialism Increasing in Japan

By Frank G. Carpenter

WASHINGTON, D. C.—The death of Prince Katsura has removed another of the elder statemen who have so long formed the advisory board of the emperor, and have, in fact, controlled the policy of Japan. It is a question how long his majesty and the men who are left can hold the people in check. I have just received a confidential letter from an eminent authority in Tokio, describing the unrest among the Japanese masses. The enormous appropriations for the army and navy, as well as the extraordinary expenses of the government and the colonies, have brought in a reign of high prices which shows no sign of decrease. At the end of the Japanese war it was promised that expenditures would be reduced and the military establishment cut down. Nothing of the kind has been done.

On the contrary the cost of the government has increased, and during the coming year the expenses are to be something like 585,000,000 yen. This is equal to more than $5 gold for every man, woman and child in the country, or an average of $25 per family. In many localities the farmers are working for 25 or 30 cents a day and there are women employed in the factories who do not get more than 15 or 20 cents for ten or twelve hours' work.

The Japanese army on a peace basis nominally amounts to 225,000 men or about twice as many as we have in the United States. It is really much larger, for every boy is now forced into the ranks and there are reserve forces like those of Germany. The islands are divided into military districts corresponding to the divisions of the army, and each division has recruits in its own district. Liability to service begins at the age of 17 and the actual service commences at 20. The total strength of the field forces just now amounts to about 600,000 men. This is fully one-tenth of the whole population, and at the same ratio we would have about 1,000,000 American troops. The army in equipping this enormous force, and the taking of several hundred thousand productive workers out of the ranks of industry, has a serious effect upon the productiveness of the Japanese nation. The army last year cost 75,000,000 yen.

In addition to the cost of the army is that of the navy, which now ranks among the strongest of the world. The expenses for this are now about $20,000,000 a year. The Japanese government has also large shipbuilding yards and armor factories. It is making its own guns and building and equipping its own men-of-war, and at the same time subsidizing merchant ships. Nearly every great Japanese steamer which goes to Europe, America, Australia and Bombay gets more or less money from the public treasury, and there are factories which are subsidized in one way or other.

At the same time the public debt steadily increases. It now amounts to $1,200,000,000, or about $125 per family. There is also a great deal of private indebtedness, and it is said that 85 per cent of the farmers are paying interest on mortgages.

The distress and pauperism which comes from the high cost of living and comparatively low wages are fomented and increased by the yellow journals. A large socialistic element has grown up, and it is from this that we hear the demands for war with China and with the United States. The socialistic party is rapidly increasing, and the indications are that the emperor and the elder statesmen cannot long hold the masses in check. When I was in Japan prior to the breaking out of the war between Japan and Russia, I was confidentially told that Japan would have to do something in order to take the attention of the people away from local troubles, and to keep them from demanding a greater share in the government. The same conditions prevail now, and they may result in the nation being rushed into trouble with other countries. The Japanese-Russian war was largely undertaken by the Japanese to keep their own people in order.

Take the assassination of Mr. Abe, the high Japanese official who advocated moderation as to the troubles in California, and who wanted milder demands made upon China.

Prince Ito

This was brought about by the mob, and it may be that his death was decreed by some of the secret societies of the socialistic set. Mr. Abe was assassinated as he was about to go into his own house. Two men grabbed him and one held his arms while the other stabbed him in the stomach, and performed upon him what, had he done it himself, might be called hari-kari.

One of the assassins is said to have committed suicide, seating himself first on a map of Japan. At the same time he sent two yen, a sum equal to $1, to the dead official's family, and left the following letter:

Some Japanese Patriotism.

"I stabbed Mr. Abe. Why did I commit the murder? He is responsible for the weakness of Japanese diplomacy. The act is the outcome of my sincere wishes for the welfare of the state. I stabbed him deep. He screamed and cried: 'Oh, hurt.' What an unmanly attitude. I understand Bushido, and therefore hate to commit suicide in the open air, like a vagrant. I have been seeking a place to die until now. Please forgive. I have killed him, but I entertained no grudge against him. When I remember his family, I cannot stop my tears. I deeply sympathize with the members of his family."

This man was probably one of the Soshi of Japan. The Soshi became prominent just after the war with China, and in a short time spread throughout the empire. They probably still exist under a different name. I have never seen them described in letters of travel. They are a kind of cross between an anarchist and a political striker, and I am told that every political meeting is filled with them. They have committed many assassinations, and for a time those allied to one politician fought with bands of the same kind allied to other politicians.

While I was last in Japan a band of ten Soshi assaulted a member of Parliament while he was on the way to the House of Parliament, and one of them threw a bottle of sulphuric acid at him, but failed to strike him. A few days later a band of twenty Soshi attacked the office of one of the newspapers and stoned the editor, and other outrages occurred.

I am told that many of these Soshi came from the old Samurai or retainers of the Daimios, the nobles of the country who ruled Japan under the shogun before the new government came in. Each Daimio then had a number of these fighting men about him, but when the emperor came out of his seclusion and took hold of the government the fighting men were out of a job. Some of them got places in the new administration, some went into private life and took up industries of one kind or other, and not a few sat and sulked. It is the descendants of these men who are fomenting much of the trouble today. I was told that some of them had attached themselves to politicians and that a few of the Soshi had organized into bands where they worked together for their own mutual benefit. I was told that they are not fond of foreigners and that they were the basis of the anti-foreign element of the country. Not a few came from the overeducated of the young Japan. Thousands of young Japanese have prepared themselves to enter the professions. The country is honeycombed with schools and universities and many of the graduates of the colleges have hoped to either get places under the government or be lawyers, doctors, engineers and whatnot. The supply for such professions has been greater than the demand and a large part of the surplus has devoted itself to political agitations and socialistic fomentation. The Japanese are naturally high-spirited and excitable, and between this element and the sensational newspaper the anti-government and war following has been growing by leaps and bounds.

How People Are Handled

Indeed, the great wonder is that the emperor and the elder statesmen have been able to handle the Japanese people as they have. It is only the reverence for the emperor which has been built up through generations which has enabled them to do so. This reverence still exists, but it is a question as to whether it is not on the wane. It was owing to the veneration for the mikado that the really great men who have acted as his advisers for the last generation have been able to introduce the modern civilization. It was they who laid out the plans for the great country of today and carried them out to a successful conclusion.

Among the more famous of the men were such as Prince Ito, Innouye, Count Okuma and others. Prince Katsura, who died a month or so ago, was of the same class, and so was Prince Yamagata, who was at the head of the army when I was last in Japan. I have met all of these men from time to time during my travels through the Japanese empire, and have had heart-to-heart talks with many of them. They were all of extraordinary ability, and men who would have made their mark in any nation or in any government.

It was in 1909 that I had a long interview with Prince Katsura, who was then the premier of the Japanese empire. He was also secretary of the treasury, and was doing all that he could to bring Japan out of its financial troubles. Prince Katsura had command of a division in the Chinese-Japanese war, and he was war minister during the troubles with Russia. He told me that he did not like to be considered a military hero. Said he:

"I am for peace, peace, always peace. It is wrong to look upon the Japanese as consumed with a lust for conquest. We are a peaceful nation, and when we fought with Russia it was only because we could not honorably refuse to do so."

Prince Katsura denied that there was any ill-feeling in Japan toward the United States. He said that Japan looked upon America as its great and good friend, and that it was the hope of the government that the relations of the two countries would always be friendly. He said that any war between Japan and the United States would involve the whole world, and what the world needed was peace rather than war.

At that time Prince Katsura wrote me out a message for the United States, and I printed a facsimile of it in one of my letters. I have the original before me. It consists of some Japanese characters beautifully written in the hand of his excellency on a wide strip of white silk. It is signed with the seal of the marquis. Translated it is:

"For Japan and the United States mutual friendship and mutual harmony."

It was sentiments like that that caused Katsura to lose his job. The mob went against him, and they terrorized the emperor to such an extent that he asked Katsura to resign. Katsura did so and tried to organize a new party, a party of peace rather than war. He found, how-

ever, that this war spirit and this socialistic element were stronger than he and it was for this reason that he withdrew from public life. He remained in seclusion until his death a few weeks ago.

Deprecates Military Spirit

It was at this same time that I met Prince Yamagata, the great general and statesman. He was to Japan what Grant was to the United States. He was the organizer of the Japanese army, and it was his military ability that did much to make it one of the greatest fighting machines of modern times. Yamagata deprecated the military spirit which was growing in Japan. Said he:

"We do not want to be considered a warlike nation and we hope to continue our national life along the lines of peace, not war. Our military establishment has been created for defense, and not for conquest and we hope that the time will eventually come when we can dispense with it. As for us we do not want war with any nation and most certainly not with our old friend, the United States."

Prince Yamagata objected, as many of the Japanese do, to being put in a special class on account of his yellow skin. I had asked him as to the yellow peril, and whether China and Japan were not combining to conquer the world. He replied that there was no such thing as the yellow peril and there was no radical difference in the minds of the east and the west. "We have the same ambitions as to the betterment of mankind and of the world, and there is no reason why you should get us off by ourselves."

One of the greatest losses that Japan has ever sustained in its great men was the assassination of Prince Ito in Manchuria by a fanatic Korean about a year after I had had this talk with Yamagata. Ito was the Li Hung Chang of Japan. He stood to the old mikado as Prince Otto von Bismarck did to old Kaiser Wilhelm, and he was one of the great organizing and constructing statesmen of the empire. He was a boy at the time that Japan was opened to foreigners, and he told me how he and Count Innouye ran away to England to study the secret of foreign military and naval supremacy. He said that they were made to work their way as common sailors, and told me how when they landed in London and were wandering about the streets hungry and not knowing where to go his boy friend Innouye laid down a silver dollar on the counter of a bakery and picked up a loaf of bread, expecting to get some change back. The baker, who saw they were foreigners, put the dollar into his till and motioned them to go on. It was the last dollar they had and they walked about for some time before they found the English business house to which money had been forwarded for them.

At that place they had a credit of $8,000, and this enabled them to spend the year or more in England, after which they went back to Japan and told the great men with whom they were connected that there was no use in the nation trying to fight the British. This was not welcome news and some of the high-blooded Japanese Soshi of that day tried to assassinate them as they left the council to go home. The effect of their news confirmed the opinion of the princes that they must have modern civilization in Japan, and that was a part of the beginning of the Japan of today.

Ito Enters the Cabinet

It was a little later that the emperor was transformed from a puppet into a live acting monarch, and then Ito became a leading figure. He was soon made a member of the cabinet of the mikado and became one of his chief advisers. He continued so throughout his life, and had a great deal to do with making Japan what it is now.

With other things, Ito introduced our banking system into Japan. He came to the United States and studied modern finance here in the Treasury department at Washington. He told me he was very grateful to our government for the facilities it gave him. He said this was when General Grant was president and George S. Boutwell secretary of the treasury. In that talk Prince Ito said:

"I shall always be a friend to the United States, and I believe that the best element of our people have the greatest friendship for your nation."

I have had altogether three long interviews with Prince Ito. The first occurred twenty years ago at the house of the prince in Tokio. He was then the Japanese premier and acted as such during the war with China, which occurred shortly after my talk. My second interview with him was in 1900, just before the war with Russia. He gave me to understand that the relations of the two people were strained, but said that the governments were friendly. Nevertheless within six months after that war was declared and some of the greatest battles of all time were fought. In that interview Ito talked of the Philippine islands, which had just come into our hands. He said that he was glad that the Americans had taken possession of them, and

Prince Katsura

Yamagata

that he thought it was our duty to develop them and their people.

My last interview with Marquis Ito was only a few months before his death. I was about leaving Japan for Korea to write a series of letters about that country. Ito had been governor general of Korea, and he had the welfare of the Koreans greatly at heart. He asked me to come out to his country villa near Tokio and spend the day with him. I did so, and we had a long conversation about himself and his country, and also about Korea and other matters relating to the far east. Here he reiterated his former sentiments relating to the United States. President Roosevelt was then in the White House, and he expressed the greatest admiration and regard for him. Mr. Roosevelt had sent him a photograph and the prince had had this enlarged to portrait size and framed. He had one of his servants bring him the framed picture into the room, and place it on a chair before us so that we had Theodore Roosevelt looking at us, a silent participant in our talk. I venture that this is the only time that Mr. Roosevelt has kept silent in any tripartite conversation.

In talking of the future of Japan Prince Ito emphatically said that the mission of his nation was peace rather than war. He hoped that Japan would engage in trading and manufacturing and evidently thought that it had a situation in the far east compared to that which England has in Europe, one that fits it to be a great commercial and industrial nation.

He said that he thought the friendly relations of Japan and the United States would continue, but intimated that he did not like our treatment of Japanese immigrants and that the Japanese children of California ought not to be discriminated against in the schools.

I referred to Korea, and he said that he was anxious that that country should develop along modern lines, and that the people be given a modern civilization. I know that he did all that he could for Korea, and nevertheless it was a Korean who took his life. The assassination occurred in Manchuria, where Prince Ito had gone from Chemulpo, Korea. His body was brought back to Tokio for burial. At the time of the funeral the emperor and empress each sent representatives and thousands upon thousands accompanied the great coffin which was carried on the shoulders of men to Hibiya park, where the funeral ceremonies took place in front of the Shinto shrine.

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Efficiency of the Dairy Cow

The dairy cow can often be brought up to a high degree of efficiency by some very simple means. The persistency of the milker will pay well for all the extra time spent. Try to make the cow think she has not given enough and she will set about to make it up next time. A little milk left in the udder will make her think she is giving more than she is expected to, and at the next milking she will not have quite so much for you. There is a great difference in the per cent of butter-fat in the first and the last milk drawn. The first will sometimes be as low as 1 per cent and the last has been known to run as high as 12 per cent. It pays to work for the strippings. The manipulation of the udder will often result in the increase of a pound of milk. This is usually done, after the milker has secured all the milk he can, by taking the teat in the hand and pushing the udder up close against the body, repeating this about three times with each quarter. Then take each quarter in turn between the hands, with the hands close to the body, and rub down. The extra milk secured at a single milking may not pay for the time, but it will stimulate the cow to give that much more at the next milking without extra work. Here is where the profit will come in. We all know that a cow with which the calf is allowed to run will very soon adjust the flow of milk to the needs of the calf, and it is equally true that the dairy cow can and will increase the milk flow if encouraged by the milker. Get all the strippings. It will pay.

E. P. CLEMENT,
County Agriculturist, Colorado.

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Liming for Colorado Soil

W. C. P., Brighton, Colo.: I would like to ask some advice on using lime as a fertilizer. I can get all the lime I want for the hauling, a distance of one mile. It is lime that was used by a sugar factory in making sugar. My soil is a sandy loam, with a clay subsoil. I keep a dairy and feed some cattle. I manure eight to ten acres each year with about fourteen to sixteen spreader loads to the acre. Now, I would like to know if such lime as I speak of would be of material benefit to such land as I described; also, what would be the best method of putting this on the land? Would it be best to haul direct to the land and distribute by hand, or haul it to the cattle yard and let the cattle tramp the lime in the manure and then distribute all together?

Editor's Note—Unless the soil of this correspondent is already saturated with lime, the lime described would be of material benefit to the land. The best manner in which to apply it would be with the manure spreader. If it is so fine that it will leak through the manure spreader too much, the bottom of the manure spreader apron might be covered with a canvas, which could be kept out of the way of the beater when unloading. It should not be put into the barnyard and mixed with the manure, because this method would destroy a large part of the value of both.

Wheat for Milch Cows

W. M. M., Wild Horse, Colo.: Would like to know if boiled wheat is a good ration for milch cows? I am feeding about two pounds of dry wheat, and, when boiled makes about five pounds per cow. I was thinking of getting cottonseed meal and feeding two pounds per cow with the boiled wheat. Their roughage is buffalo grass, except when the range is covered, and then feed corn fodder and straw. What would be a proper grain ration?

Editor's Answer—Boiled wheat is all right, but it would be much better to grind the wheat and feed it in the form of a slop. For purposes of milk production alone, it would be better to sell the wheat and buy bran. The amount to be fed to each cow depends upon the cow. No two cows are exactly alike in the amount of feed of which they can make economic use. Every feeder must find out by experiment what is the best ration for each animal. Begin with a certain amount and gradually increase the amount of feed as long as the production of milk continues to increase, feeding the ration that produces the greatest amount of milk. To feed more than this is waste; to feed less lessens production. Every feeder must find out for himself by practical experiment what is the best ration for each individual.

From a Nebraska Farmer

A. M. S., Ulysses, Neb.: I saw in the Twentieth Century Farmer of November 8 a picture of Sharkey, a 2½-year-old

Shorthorn bull from Oregon. I thought I would send you a picture of a Nebraska recorded bull, named Master Mason, 2½ years old and owned by me. How does he compare with the Oregon bull? Sharkey might beat mine on a racetrack, but would be in a show ring?

Shipping Cream Direct

This office is in receipt of the following letter, which is published, the name and date line being reserved:

Gentlemen: We are enclosing a clipping from the Omaha Trade Exhibit that we think you had better turn over to your dairy editor for a reply. We think this self-confessed thief writing the article is surely pretty far afield when he openly admits that it is unsafe for a farmer to ship his cream direct, because he will be sure to get an unfair and dishonest test by so doing. Does he really mean to admit that his company would so handle a shipment of cream were it to receive the same? Is it necessary that it should employ a $40 man out in the state at each cream point to keep it from robbing the cream producer? In comparing the shipping plant with the mail-order house, what are we to judge? The farmer sends the mail-order house his money and waits for results. And look at the growth of the mail-order business. If they are beating the farmer, he evidently relishes it, doesn't he, The growth and expansion of the mail-order business in the last few years seems to indicate that he does. Do you suppose that it ever occurred to the writer of that article that there might be, among all the untrustworthy, direct-shipping creameries, one honest one, and will not that one have a moral advantage over the others? The whole article sounds pretty weak and illogical to us, and we should like to see your dairy editor take it up and dissect it in an early issue.

Editor's Note: The opponents of direct shipping urge that the trouble does not lie with the creamery, but with the cream producers, who are so suspicious as to think that the creameries will rob them if they get a chance to do so. Some of them also urge that the farmer had rather take less for his cream and get his check at the time he delivers his cream than to ship his cream to the creamery and wait for the return of the check. Each one of the objectors claims that he himself is perfectly honest and will give the cream producer honest tests and honest weights, but that some of his competitors cannot be trusted to do this, and that consequently the adoption of the direct shipping plan will ultimately result in a loss to the cream producer. If any of these objections are sound, it is a startling reflection on the business ethics adopted by the cream receiving station advocates.

The direct shipping plan is sure to come as a result of business evolution, though it may be necessary, in order to put it squarely on its feet, to take the matter of weighing and testing cream away from the creameries and put it in charge of a state bureau that will stand between the creameries and the cream producer and will exercise absolute fairness to both parties.

Following is the article printed in the Omaha Trade Exhibit:

An effort is being made on the part of some creameries in large centers to do away with local buyers and have the farmers send in their cream direct to the creamery for testing and payment.

This is a tendency that some of the other creameries are fighting, and among them are some of the largest in the world, old-established creameries and butter companies that see in this tendency a number of dangers, not only for their own business, but for the dairy business and the prosperity of the farming communities.

In this matter the local retail merchants should also be concerned, for two big reasons—first, anything that hurts the farmer hurts the merchant; second, it tends directly toward the mail-order habit, besides doing away with the local cream stations and the men who operate them.

One of the largest Omaha creameries combating this tendency has submitted the following reasons why the farmers should patronize the local stations and cream buyers rather than ship the cream direct, and it will be seen that these same arguments are such as apply to your own business and the mail-order game. Read these through and lend your influence to keep the business at home:

Cream has a hidden value. Nothing but an accurate test by the Babcock system will reveal it.

When the creameries, both small and large, tested the cream they were buying, it did not pay the farmers to milk; did it?

Neither the farmer nor the creamery should be allowed to say what cream tests. One is selling and the other is buying. A "cut" or "raise" of one point in test practically means a cent lower or higher in price.

A disinterested person is the only proper person to make a test. No one would think one party to a lawsuit a fit person to act as judge at the trial.

If you have no local buyer, your guide is gone. Where will you go to find a disinterested judge? How will you know whether the man who is buying your cream is giving you all there is in it? Why should you insist on a party whose interest is hostile to yours acting as your judge?

Every individual who ships his cream to a centralizer is doing his best to drive out local testing, and so wipe out the profit in milking. It costs the creamery and the farmer something to keep a disinterested tester, but there is no outlay the farmer makes that saves him as much money. No other method pays the honest creamery. The other method pays the dishonest creamery. No other will build up the dairy industry, which is the backbone of prosperity in Nebraska, and that is why we use this method. The individual shipper destroys his local town, wipes out his local market, and in turn depreciates the value of his farm. Buyers will pay more for land close to a good town, which has good stores and shops, as well as good schools and churches.

Care of Auto Tires

A little cut in a tire, like a little habit, if allowed to grow, soon gets beyond control and eventually destroys the tire. A close watch should be kept of these little cuts. They should be cleansed from sand and dirt with gasoline and then filled with cement and quick-repair gum. This gum will set in a few hours and become an integral part of the tire and prevent future trouble. A very large cut after thus being treated should be vulcanized at the earliest possible moment. To ignore these casing cuts altogether is to invite sand blisters and mud-boils, which are caused by sand and dust entering the cut and working in between the tread and the fabric of the casing.

Fighting Graperoot Worms in Nebraska

(CONTINUED FROM PAGE FIVE)

under such conditions as to prove an exceedingly valuable supplementary aid to spraying, and one involving no additional expense to him.

The principal method of control is spraying with arsenical poison so as to kill the beetles shortly after their emergence from the soil and before they have laid their eggs. As the time for the emergence of the beetles draws near, that is, toward the end of June and early July, the vineyardist should make daily examinations of his vines to ascertain exactly when the beetles begin to appear. It will be found that considerable variation in this point occurs from season to season, sometimes as much as two or three weeks in successive seasons, so that no definite calendar dates can be assigned, but the time must be determined by field observations each year. With the appearance of the first beetle all preliminary preparations for spraying the vines should have been made, and actual spraying operations should be started at once.

It is important that the beetles be killed by their first feeding after emergence, when they eat very freely, and before they have had an opportunity to deposit their eggs. In spraying for these beetles arsenate of lead has given the most satisfactory results, and it should be used at a strength of three pounds to fifty gallons of regular 5-5-50 formula Bordeaux mixture. By using Bordeaux instead of water the same application fights the fungous diseases of the grape as well as the rootworm beetles.

Application may be made with a gasoline engine sprayer in large vineyards, or with hand-power sprayers in small ones, maintaining a pressure of not less than 100 pounds and applying at least 100 gallons of spray to the acre as a mist spray. Nozzles of the Vermorel or Cyclone types should be used. If the vineyard is a large one, a gasoline engine spraying outfit specially adapted for vineyard work by an arrangement of fixed nozzles, three on each side, the upper pair reaching out over the top of the row and throwing a downward spray and the two side pairs throwing a spray on the side of the vines, is the most satisfactory. With this arrangement from eight to ten acres a day can be sprayed. About a week or ten days after the first application a second spraying should be given the vineyard to cover the new foliage and to destroy the beetles which had not emerged at the time of the first application. This second application should not be made later than the middle of July, so there may be no danger of staining the fruit or of poisoning the fruit, although there is little or no real danger to persons in connection with the latter contingency.

Replanting the Vineyard

When replanting of an old vineyard is found necessary, some immune crop should be grown on this ground for at least one season in order that the graperoot worms in the soil may be allowed to emerge or caused to starve before the young vines are planted. Otherwise, with the soil heavily infested with these larvae, serious injury to the young vines may result by their attack on the roots and the subsequent attack of the beetles on the leaves. If numbers of the beetles appear on these young plants anyway, the plants should be given a thorough spraying with arsenate of lead at the rate of three pounds to fifty gallons of water.

As a rule permanent and serious infestation of a vineyard does not take place until the third season of its growth, and it is during the next few years that especial care should be taken to keep the rootworms in check by spraying and cultivation. When old bearing vineyards have been badly injured by this insect, the seriously affected vines may sometimes be helped by cutting them back to the ground so that the whole vitality of the plant may be centered on the renewal of vegetative growth. A heavy application of barnyard manure or a highly nitrogenous commercial fertilizer should be made and the vines protected by thorough cultivation and spraying at the proper time. MYRON H. SWENK,

Maple Sugar Industry in Vermont

An official inventory of the Vermont maple sugar industry has been taken, so that the rest of the country can know how much genuine sugar and sirup the state produces. Last spring 6,680,000 pounds of sugar was made and 450,000 gallons of sirup. That is about 45,000 gallons more sirup than was reported to the national census enumerators in 1900, but more than a million pounds less sugar. The state census enumerators found that only about one-half of the sugar maple trees were tapped this year, and that if the sugar orchards were all worked to their full capacity the yield might be doubled. That is good news for those who like "flapjacks."—Youth's Companion.

Much of the so-called silk nowadays is made of wood. Germany produces more than 1,000,000 pounds of this cellulose silk, worth $1,500,000. A ton of wood worth $10 yields cellulose worth $20, and this cellulose yields silk worth $850.

Live Stock Notes

George Schwab Heard From

George W. Schwab, proprietor of Pleasant View Breeding Farm at Clay Center, Neb., reports everything coming along in ship shape with him. He says, in part: "I have been very busy crating and shipping the hogs sold and also inspecting Red Polled cattle and getting them on board cars for shipment. I have just shipped to Yuma, Colo., nine heifers and a good bull. This is one of the nicest bunches of Red Polls ever sold from Pleasant View farm. As soon as this shipment was on board the cars we got an order for four to go to Missouri, and the nice thing about this is that this man has, in the last four years, bought from us four herd boars, seven bred sows, four Red Polls, and is now figuring with us on a Percheron stallion of the Pleasant View caliber. Boars have been shipped the last ten days to Missouri, Kansas, Oklahoma, Colorado, Idaho and to various points in Nebraska. We have been, and are yet, equal to the rush. We have plenty of strong yearling boars, as well as some later ones, that are now ready for immediate shipment. We also still have several good Red Poll bulls of serviceable age for sale, as well as a few females." The above facts are ample evidence that Mr. Schwab is breeding a class of stuff that is meeting the popular demand. If you are in the market for anything of this kind, write him for further particulars, mentioning this paper.

Carpenter Sells Durocs February 2

We called on Ernest H. Carpenter of Fontanelle, Neb., last week and spent some time in looking over his splendid herd of Duroc-Jerseys. Mr. Carpenter has been enjoying a very good trade in spring males and still has a few on hand. He has one of the best bunches of spring gilts that it has been our pleasure to see for some time. They are the big, smooth, growthy, roomy kind, with plenty of bone and quality, and we want to say right here that if nothing happens in the meantime Mr. Carpenter will have an offering to sell on February 2 that will be worth the while of any man to go and see, especially if he is in the market for some bred sows. These gilts are sired by Prince Critic, Wallace's Sensation, Model Boy, Golden Model 4th, Fancy Wonder and others. They will be bred to Blue Ribbon Model Junior, Carpenter's Golden Model and Ivan's Golden Model. Keep his herd in mind and watch these columns for further announcements.

Top Poland-China Males

While in the vicinity of Boone, Neb., last week we called on Jacob Dietsch, breeder of Poland-Chinas at that place. Mr. Dietsch has been breeding Poland-Chinas for a number of years and has succeeded in breeding up a herd that is one of the really good ones of the state. He has been breeding for size and bone, with quality, and a look at his herd will quickly convince the visitor that he has not failed in his intention. At this time he has a number of splendid spring boars that he is offering for sale. We cannot too strongly recommend these hogs, as they are absolutely right in every respect, and he is pricing them worth the money. They are sired by D's Hadley by B's Great Hadley, and Dietsch's Jumbo by Great Hadley. These males will weigh around 200 pounds at this time and are in first-class breeding condition. They are out of dams carrying the blood lines of Big Hadley, Expansion, Wade's Jumbo and others. Write him for further information, mentioning this paper.

Sale Dates

Shorthorn Cattle

December 16 and 17—C. A. Saunders, Manilla, Ia. Sale at South Omaha.

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Friesian Cattle

February 3-4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Holstein Cattle

December 2—Corn Belt Breeders' Consignment sale at South Omaha, Neb.; A. L. Haecker, manager, Lincoln, Neb.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher, Botna, Ia. Sale at South Omaha, Neb.

Hampshire Hogs

March 18, 1914—Roy Fisher, Winside,

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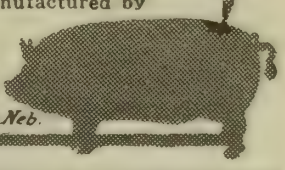

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Farm buildings of Fred Wille, breeder of Poland-China hogs and Guernsey cattle at Columbus, Neb. He has a number of extra choice spring boars that he is offering for sale at this time.

Review of Live Stock Market

By A. C. Davenport

PANICKY conditions have been the ruling force in the cattle market during the greater part of November. Without waiting for the cattle from the range to stop coming, the feeders of the corn belt began rushing their half-fat steers to market. This movement commenced shortly after the first of the month, or about the time the papers were full of news regarding shipments of beef from Argentina and of live cattle from Canada. It is always the case that packers at this season prefer range beef steers to the half-fat corn-feds. The large supplies of half-fat steers at all markets and packers' discrimination against them in favor of rangers caused the market to break early in November. The downward movement in prices really started at Chicago, where the receipts were so large as to practically glut the market.

Had shippers been in a normal state of mind they would have reduced shipments at once, giving the market a chance to recover. They would have reasoned something like this: This is no time to ship half-fat corn-feds while a good many range beeves that kill out a much better percentage are still coming forward; this is no time to flood the market with half-fat cattle when the poultry holidays are near at hand. Unfortunately for their own good, shippers seemed to be in a panic of fear, and when a man is scared his brain never works right. Instead of limiting shipments when the market began breaking, they rushed the cattle forward more rapidly than ever. The Chicago market became badly demoralized and prices everywhere suffered a sharp break. Not only did the half-fat cattle that were the cause of all the trouble break, but even long-fed, prime beeves suffered in like proportion, and the decline spread to range cattle as well. It was a bad slump all along the line. Many thousands of cattle were thrown upon the bargain counter and sold at a loss—a useless sacrifice to a senseless scare.

Operators have often observed that the cattle market breaks at this season nine years out of ten. Weak holders—the men who are always getting scared and always losing money in the cattle feeding game—seem especially fond of flooding the markets with their half-fat cattle just before Thanksgiving and again just previous to the Christmas holidays. It would be impossible to pick any other time in the whole year when half-fat cattle would sell to poorer advantage than just before the two holiday seasons mentioned. To begin with, the demand for beef during the last half of November is greatly reduced by the popular fancy for poultry at that season. Packers are not at all anxious to fill their coolers with beef in November when they know the consuming demand will be light, and if shippers insist upon flooding the markets with cattle at that time packers would be unworthy the name of business men if they did not take advantage of it to buy the cattle lower.

No Demand for Half-Fat Cattle

At the time of the Chrstimas holidays the demand for beef is again greatly reduced in favor of poultry. Still, at Chrstimas time there is a fair demand for a limited amount of choice to fancy beef, which gives rise to the inquiry early in December for the so-called Christmas cattle. This demand is naturally limited in volume and requires long-fed and very prime beeves. There is no place in the whole market scheme for the half-fat beeves during the holiday season. It is an unfortunate fact that, while not wanted, the half-fat cattle seem to have a special penchant for showing up at that time. They are the unbidden guests at all markets during the holiday season and serve no good purpose. On the contrary, they make all kinds of trouble by losing their owner's money and by breaking the market and forcing even good cattle to sell lower.

The future of the market until the coming of the new year is very uncertain. Prices must depend very largely upon the attitude of shippers. Until the weak and panicky holders have unloaded there is not much hope of the market making any permanent improvement. The heavy break that has recently taken place would naturally be expected to cause a reduction in shipments, giving the market a breathing spell and a chance to recover some of the lost ground. Should this take place, operators on the market are afraid that the improvement would only act as a signal to start weak holders to shipping again and that there would be another flood of half-fat cattle early in December, when, for reasons noted above, the market would be in no condition to withstand it. On this account a good many are inclined to the belief that the market will be more or less uneven and unsatisfactory until after the holidays.

Light Hogs Still Coming

Hogs have shown no great change during the last week. Prices have fluctuated more or less and there has been a sharp break in pigs and underweight, light hogs, which have been coming forward in large numbers at some points. While light hogs and pigs, as noted, have shown considerable weakness, there would appear to be a growing feeling among operators on the market that prices on good hogs at least have about touched bottom for some time to come. The fact is, the bears, who were predicting that hogs would go to 7 cents, on the basis of Missouri river markets, have about given up that idea, and the talk now more frequently heard on the market is that prices have touched bottom. Of course, inferior grades of hogs and pigs that are not especially sought after might find a still lower level.

The very fact that there are so many pigs coming to market as to break prices, is making the bulls more firm in the belief that there will be later on a decided scarcity in mature hogs that must cause a sharp advance in prices. As a matter of fact, most bulls do not look for any great advance in the immediate future, but most of them are fixing upon the latter part of winter as the time when the shortage in supplies will begin to make itself felt to an extent sufficient to start a real advance in prices.

Sheep Prices Satisfactory

Sheep and lambs have been selling to very good advantage on most days of late, prices being very satisfactory to selling interests. The season for strictly range sheep and lambs is most over with, but there will be for some little time quite a good many sheep and lambs from the range states that have been run in wheat fields or on some other feed. Fed sheep and lambs are beginning to come forward quite freely and it is presumed that the number will increase rapidly as the season advances.

The future of the market on sheep and lambs is decidedly uncertain, but as a rule operators expect a rather uneven market for the next few weeks. That is very apt to be the case durng tihe last month of the year; in fact, receipts may be expected to govern the situation very largely. Given mild weather and an encouraging outlook, feeders are very apt to hang on to their holdings, thus keeping the market moderately supplied with fat stuff. In such an event prices can hardly fail to continue strong. On the other hand, anything that might cause heavy runs at market points would be very likely to result in lower prices.

Preparing Sheep for Slaughter

Wherever possible, it is advisable to take the sheep off feed for from twelve to twenty-four hours before slaughtering, with the exception of lambs, which will fret too much if taken from the dams and will consequently be in a feverish condition when slaughtered. As with all stock, however, sheep should be given all the water they want to drink.

Always handle the sheep quietly, so that they do not become excited and overheated before killing. Special care should be taken to see that sheep are not handled by the wool. Pulling the fleece by grabbing a sheep on the back or on the side will leave discolored, bruised spots on the carcass. Kicking or pounding the animal has the same effect. Always catch a sheep by the neck, rear flank, or hind leg, and hold it by placing one hand in the groove of the lower jaw and the other at the dock.

Besides causing bruises and discoloration of the carcass, handling by the wool is painful to the sheep. The fleeces of sheep selected for slaughter should be dry, as it is hard to obtain a clean, untainted carcass if the fleece is wet.

After such careful preparation for slaughter, the animal bleeds more thoroughly, the carcass cools out more rapidly, the entrils are easier to handle, the danger of cutting is lessened, the carcass makes a better appearance, and the flesh has a better color.—T. G. Patterson, University Farm, St. Paul.

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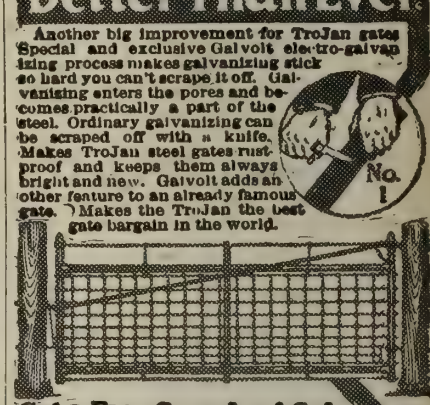

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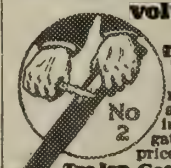

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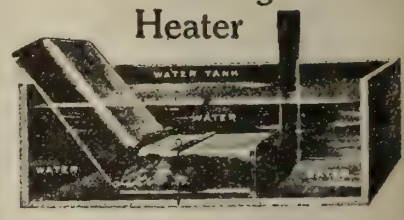

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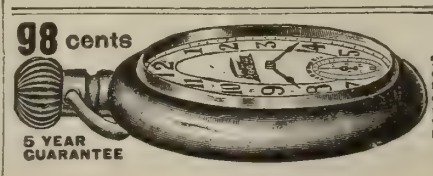

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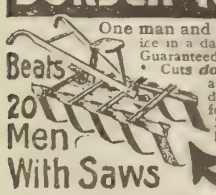

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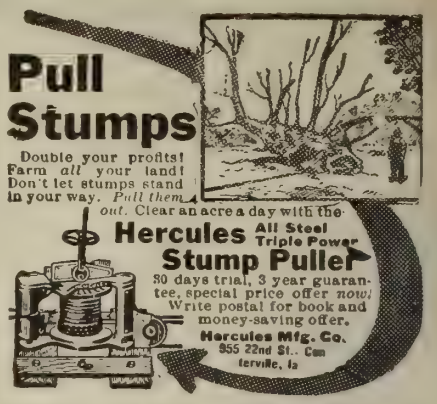
If you intend to be present at this meeting, and desire information concerning arrangements, address W. S. Delano, Secretary, Lincoln, Neb.



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THE TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Caring for the Breeding Ewes in Winter

They Need Good Feed and Care and Plenty of Exercise in Order to Produce Well Developed Lambs

ASSUMING that the breeding season has closed and the winter care of the breeding flock has commenced, what shall be the system of care, feed and management of this flock in order to secure the best results in lambs, fleece and general condition of the flock? This is the proposition that presents itself to the flock owner, whether he is conscious of it or not.

There are a few general principles in live stock management that may be said to be self-evident truths. There is no questioning their practical application in the successful handling of stock, and these may be said to apply to all kinds of animals usual on the farm. In the first place, it never pays to let the farm animals, the meat-producing varieties, to lose flesh, especially on the approach of winter. This is the easiest and cheapest flesh to acquire, but that is no reason why it is not worth as much to the animal and its owner as that acquired under a more expensive system of feeding.

Retain the Pasture Flesh

There is one well recognized principle in the live stock business that, when adhered to, has invariably made the owner money, and that is to get all the growth and development you can on your animals, and then give them such feed and care as to retain it. The old careless custom of acquiring flesh and growth by means of pasture through the spring, summer and fall seasons, then starving and freezing this off through the winter, does not appeal to the present-day, sensible stock owner as the way to make money in live stock. It cannot be entitled to the dignity of being called a plan of handling stock. It is merely ignorance of the principles of supply and demand and their application. It is the undermining of legitimate business, the needless and criminal waste of acquired resources.

The ewe flock should now be in a good, thrifty condition of flesh, sprightly, active, strong and showing evidence of good health. These are the conditions that must be present in order to secure the best results in the offspring. You know what you have in your ewe, because she is before your eyes; you see her every day, and you have some reason to expect a certain quality of lamb; but this lamb's quality and value depends to a considerable extent upon the kind of care and attention you give the ewe during the 152 days of the gestation period.

Exercise Important for Ewes

It is important to start the ewe off in good, strong, vigorous health, and in good flesh, and keep her up in this strong, robust condition. The ewe, by some shepherds, is thought in dangerous condition when fleshy at lambing time. This depends entirely on the opportunity for exercise. The ewe flock should have their winter quarters adjoining a pasture, where they could be turned out each day, or every day suitable for them to be outdoors, so they can exercise by traveling over the pasture field. It is the exercise they need. This feature of their winter life should be imposed upon them daily, especially if the ewes are fleshy, well fed on grain feed. A fleshy ewe is just so much better qualified to nurse her lamb properly if she is in good, full flesh; but she is in a much more dangerous physical condition for this period of motherhood unless she is exercised and kept active and strong.

It might be truthfully said that there are two conditions that the careless, inexperienced sheep owner should avoid—that of a thin, starved, weak ewe at lambing time, and the fat, fleshy ewe. The medium-fleshed ewes will stand more inattention at this period, and have less troubles from the lambing, and a much less death rate of both lambs and ewes. The fleshy ewe should be in the hands of a careful, skillful shepherd, and then she is the best prospect for the lambing season.

Care for the Embryo Lamb

No shepherd or caretaker of sheep can be placed against the handicap of the five months of the embryo existence of the lamb where the mother has been poorly and irregularly fed and cared for and then hope to develop as good a sheep from this impoverished infant as where the lamb has had all the advantages of embryo growth and development that nature could contribute during this period. No shepherd of experience will take a lot of poorly summered lambs at weaning time and hope to develop them to their natural size such as they would have acquired had they been well cared for and properly grown during their nursing period. A stunted animal after birth is a hard proposition and usually a money loser, but the stunted animal before birth is a much more hopeless proposition. Therefore the urgency and necessity of the very best care and attention of the ewe flock during the period of pregnancy.

Exercise, exercise, all through the gestation period, is the need, is the demand, and this the ewes will take of their own accord, without any effort or forcing, if they are given the privilege in the beginning and not confined too much in the stable. Outdoor exercise is the secret of success in the raising of a large per cent of the lambs and having what many call "good luck" with the ewes. Plenty of feed and every-day exercise when the weather will permit is the secret of healthy lambs and good nursing ewes.

Feed for the Breeding Flock

The question of feed for the breeding flock is often asked. A good quality of clover hay or alfalfa hay is the essential rough feed—all they will eat up clean twice a day. Grain feed can be greatly diversified when the sheep are provided good quality of hay. Of course, nothing so nearly fills the demand for the sheep as a mixture of corn and oats. Bran and ground feed of various kinds are used, generally mixed with the corn and oats. Sheep do not need ground grain, however. It is more economical to feed whole grain to sheep, as they grind it perfectly. The sheep is not a very heavy feeder. About eight to ten average sheep of the merino breed are supposed to equal one full-grown cow in amount of feed consumed. The mutton breeds will run lower in numbers, as they are larger consumers of both hay and grain. The owner of a farm flock will soon decide upon what he thinks a proper ration for his sheep. The beginning of grain feed in the late fall should be very light. A few ears of corn broken and thrown out on the pasture is a good way to start them; they get a very even chance in this way, and they seem to show thrift almost from the start.

Root crops and silage are used now quite generally by the breeders and owners of pure-bred flocks. Root crops, such as turnips, mangels, rutabagas and sugar beets have formed a part of the ration for breeding flocks almost from the beginning of the pure-bred sheep business in this country. Silage is a comparatively new feed for sheep, but is rapidly coming into use. It is recommended by breeders who have used it. The recommendation, however, suggests feeding at first lightly, one to two pounds per head per day, with grain; after the lambing period it may be increased to three and four pounds.. There can be no question of its value as a milk-producing feed. The root crops are easily raised, but must be stored in cave or root cellar in order to carry them safely into winter. A little caution must be observed in starting sheep on any kind of feed and in changing the feeds. Breeding ewes should never be put on full feed of any variety, except hay or fodder feeds. Keep them a little hungry, so they will relish their feed and quickly eat what is given them in the feed troughs. A little judgment must be used in directing the novice or beginner when the ration is at a safe point in quantity.

The shallow, flat-bottom trough is the best saving plan for general feeding, with a little flare on the sides and a narrow board extending lengthwise above the trough to keep the sheep from crossing it and soiling the feed.

Rules in Brief

In general the rules for caring for the breeding ewes in winter may be summed up as follows:

Do not allow them to lose the flesh acquired on summer and fall pasture.

See that they are given plenty of exercise.

Supply plenty of feed.

Remember that they need variety in their feed, just as human beings do.

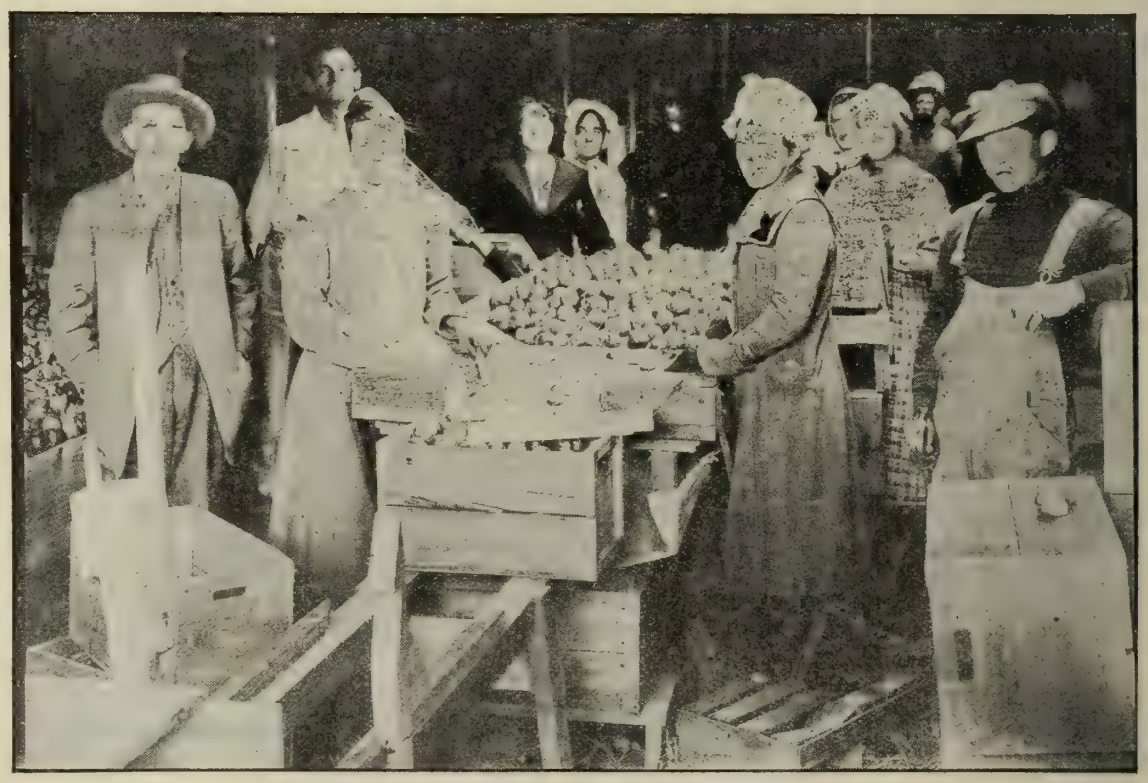
Use your head.

Apple Cultivation in Its Various Phases

Some Interesting Information as to the Growing and Handling of this Important Fruit Crop

UP IN the sand hills of western Nebraska there is a large tract of land that until quite recently was government land. The government at one time planned to raise jack pine on this land, but the cattle trampled the seedling pines and the wind blew them out of the ground and the experiment was a failure. In 1897 E. F. Stephens of Crete and David Hunter of Sutherland tried another experiment. They planted apple trees on this apparently worthless soil. When these trees were 5 years old they commenced bearing and have borne more apples each year from that time to this, with the exception of one year, when a late frost caught some of the trees and reduced the production to 6,000 bushels. During the last four years this orchard has produced 42,000 bushels of apples. Mr. Stephens has now withdrawn from this partnership and Mr. Hunter is managing the orchard by himself. This year he shipped fourteen carloads of apples to Chicago. These apples are big, red ones, of as fine appearance and flavor as can be found anywhere, and command a good price on the market. Mr. Hunter has also tried peaches on this land, with fair success, and cherries and plums do well there. Especially is this true near the Wyoming line, where the conditions are especially suited to plum culture

Apple Pickers in the Hunter Orchard



Sorting the Hunter Apples for Shipment

Methods of Marketing

Throughout the Missouri valley country a large share of the apple crop is sold to packers and their agents. Buyers travel from orchard to orchard and contract for the crop. Some of the packers make a specialty of high-grade orchards and will only purchase from orchards that have been sprayed and fairly well cared for. Apples are sold to better advantage if the grower will place on the grader for the purchaser to pack.

Frequently buyers try to buy apples on the trees. In August the crop often does not look so abundant as later. A buyer of experience in this way often secures your apple crop for one-fourth the true value.

Reputable commission houses purchase and handle fruit. Many buyers, however, are not responsible, and the seller should make careful inquiry through his bank before selecting a party whom he will trust. Some growers load a car and go with it to a promising western or northern point and sell from the car. Others trust the car to a good salesman, who pursues this policy.

If you desire to supply the local market, it should be thoroughly studied before planting your orchard, and such varieties grown as will please this market. On summer and fall apples the best price can be secured by cultivating this trade. Cultivate the market asking for apples good to eat out of the hand. Find your market by correspondence or in some other way before your crop matures. Having found merchants willing to take the fruit, determine to please and satisfy them from year to year.

Fruit Growers' Associations

The proper way to secure the best results is through an association, where the community grows enough fruit to justify an association. The superintendent or manager of this association finds a market for all, keeping carefully and widely in touch with the better markets.

Western apples have been so long advertised and pushed by the means of these associations that the people of the middle west have learned to ask for them. The apples grown in this section are consequently often bought up by the western dealers, labeled with their labels and sold to the people of the middle west as Oregon or Idaho apples. The consumer of the Missouri valley states does not know that as good apples can be grown here as anywhere in the United States.

The fruit growers of eastern Nebraska have recently organized an association that is marketing the apples of that section. They have a manager, C. G. Marshall, who superintends the grading, packing and handling of the crops. The association has adopted a label, which is attached to every box and barrel of fruit sent out by any member of the association. By means of this label the association expects to educate the consumers to know eastern Nebraska apples, and by the excellence of the product they hope to teach the consumer to ask for eastern Nebraska apples.

Grading and Packing

Grading, packing and storing are among the important features of apple cultivation. Prof. C. P. Close of the Maryland Experiment Station has the following to say in relation to these features of the business:

"The winter varieties should be divided into at least four grades—first for boxes, first for barrels, second for barrels, and culls. All first-grade fruit should be two and one-half inches or larger in diameter, except the small-fruited varieties, and with these this grade may include medium size and above. No blemished or bruised fruit is allowed in this grade. That which goes into boxes must be of fine finish, high in color and even in size. The first-grade barrel stock must also be free from blemishes and bruises and ought to be of about the same size in the same barrel. This grade presents a better appearance if the apples in each barrel are nearly the same size. Second-grade fruit includes that from two and one-quarter to two and one-half inches in diameter and sound and free from blemishes. The culls include all of the rest, and usually ought not to be sent to market to compete with the better grades. The best culls ought to be used for evaporating and canning stock.

"The standard box is 10½ by 11½ by 18

inches, inside measurement. This box will accommodate the commercial sizes better than a box of any other dimensions. For large apples the western growers use the California special box, 10 by 11 by 20 inches, inside measurement. The ends are three-fourths of an inch thick, the sides three-eighths of an inch, the top and bottom one-fourth of an inch. There are cleats on the ends of tops and bottoms.

"The art of packing apples in boxes is not easily described in writing; it must be learned by teaching and practice. There are no spaces between the apples, and each layer fits snugly into the box. The fruit in each box must vary but little in size, and the largest must be placed in the center to make a bulge. When the box is packed the fruit at the ends projects slightly above the top and at the center about an inch above. When the nailing press draws the ends down for nailing, the bulge is divided between the top and bottom and every fruit is held firmly in place. A packed box should be laid on its side, and never on the top or bottom, or the fruit will be bruised.

"The number of apples each box contains, the name of the variety and the grower's name should be stamped on one end of the box. A neat and attractive label pasted on one end adds to the appearance of the package, and is a good investment."

Cold Air Storage

The Pacific northwest seems destined to grow thousands of cars of commercial apples. The climate and soil favor the production of apples of high quality, brilliant coloring and large quantities per acre. The grower cannot expect the railway systems to move the entire crop in October, November and December. A considerble portion of the potato crop seeks a market at the same season of the year. Since the grower cannot legitimately ask or expect transportation for all of his crop of apples in autumn, some method of storage for at least half of the apple crop seems necessary.

Some southern Idaho growers have tried natural cold-air storage, for which the elevation and climate of their part of the country seems peculiarly suited. The temperature of the air at night in middle and late autumn and the early spring is low enough to make it practicable to utilize this cold night air in lowering the temperature of the storage room to 40 and 45 degrees, and during the winter to carry an equitable temperature of about 34 degrees. By the use of a properly constructed building and electrically-driven fans, the warm air of midday may be expelled and the building filled with cool night air. In this manner fruit can be pre-cooled before shipment, thus assisting in maintaining such conditions as will retard the ripening of the apple. These conditions have led to the building of storage buildings constructed to exclude the sun heat of midday, as well as the cold of midwinter.

Red Apple Wanted by the Buying Public

By Carl Schurz Lowden

THE apples that predominate so generally on the markets, with the street venders, at shows and fairs are red in color. Such an apple is no better, perhaps, than one of some other shade, but as long as the general public prefers this specific kind the growers will continue to produce and sell it in amazing quantities. One horticulturist recently referred to the Ben Davis as "an enduring monument of the survival of the unfittest." Whether this is true or not may be a mooted question, but, in my estimation, the popularity of this variety is largely because it happens to be red. There is no getting around the fact that the buying public wants the red apple, possibly because it takes a high polish and looks to be very toothsome. It is usually of good quality and therefore can be depended on to keep well. It sells easily, and that is the main point insofar as the orchardist is concerned. For general utility, quality, beauty, popularity, regularity of bearing and universal adaptability the red apple as a class is undoubtedly in the front rank.

Popularity is Increasing

The production and quality of orchards is rising steadily, and now the most menacing problem to be solved is that of distribution. Co-operation and united effort spell the solution. When this problem is finally solved the large quantities of fruit which heretofore have rotted on the ground each year for want of a market will be saved, and apples will be even more abundant, cheaper and more generally used.

We are coming to the day and age of apple shows, where a person can see almost any number of varieties and sub-varieties, and acquire much useful information merely for the asking; in fact, the beginning of this desired era is evident now, for the movement has made great headway in a comparatively short time. The western growers set the example in pushing the apple industry forward, and today men of the type of Luther Burbank, the California plant wizard, are busily experimenting and blazing the way for new developments in apple culture.

Government statistics, it is said, show that the average yield of apples throughout the United States is only one-half bushel to the tree, and one can readily see there exists much room for improvement.

To Increase the Yield

The yield obtainable from any orchard depends on the careful handling of the fruit, and year-after-year maintenance of the health of the trees. The San Jose scale is one of the many deadly enemies of the tree, and, if allowed to get a good start, the orchard is doomed. The curicula, gouger bugs and various insects and parasites are pests against which a steady fight must be waged. When the trees are pruned the work must be done with scientific precision and all stubs treated according to improved methods. A careless, indifferent picker can ruin much of next year's crop by jerking the apple from the limb and thus destroying many buds. Injudicious grading or sorting may get the grower a reputation which is not of the best. Slack measurement, which is now illegal, should be regarded as a cardinal sin and not to be thought of as a legitimate practice. A few years ago everybody was doing this very thing with impunity, but, as an old colored exhorter once said, "The world sure do move," and so we find that fairness is the rule today.

Welcome to Apple Season

Seems like I'm crazy for apples—
Been without any so long;
Now that it's time for the fruit to be prime,
Say, I just burst into song.

Other fruit's good in its season,
But, ah, how I welcome the fall,
That part of the year when the apples are here—
The bulliest fruit of them all.

There's a tang to the taste of an apple,
A zest like the keen autumn breeze,
With a savor that's won from the smile of the sun
When it ripened the fruit on the trees.

Oh, I've hungered and thirsted for apples,
With the appetite keen of a boy,
And the season which brings in this viand of kings
For me is a season of joy.

For autumn means rosy-cheeked apples,
And apples mean cider and pie,
And dumplings and such, which you can't praise too much,
No matter how hard you may try.

So here's to his highness, the apple,
Who comes with the crispness of fall,
When my palate's athrill as I take in my fill
Of the luckiest fruit of them all.

—Frank L. Stanton

Proper Spray to Use

One of the most successful growers in the central states is J. Tilson Higgins of Shelby county, Indiana, who grows red apples exclusively, as this class of fruit pays him better than any other. The orchard covers about forty acres, is well kept, sprayed regularly, and consequently is a sure bearer. Mr. Higgins uses a large power sprayer, with lime sulphur for fungicide, arsenate of lead for insecticide, Bordeaux mixture for scale and blotch. The large annual yield from the orchard amply testifies to the value of these solutions. S. H. Burton, a buyer of apples and expert in strawberry culture, who superintended the picking and packing this year, states that the following methods of spraying were used:

First—Spray during winter dormant period to prevent scale and blotch—one gallon of lime sulphur and arsenate of lead solution, equal parts, to eight gallons of water.

Second—Spray when blossom buds are turning pink, which should catch the first brood of insects—two and one-half gallons of arsenate of lead and an equal amount of lime sulphur to fifty gallons of water.

Third—Spray with same solution when petals are falling.

Fourth—Spray with same solution the first week in June to destroy the second brood of moths and poison many gouger bugs and curicula.

The fifth spray consists of Bordeaux mixture for scale or blotch, which may be evident notwithstanding all the four previous sprays. If the apples seem to be in a healthy condition and all right, it is unnecessary to apply the mixture.

Specialized Branch of Agriculture

The trend of affairs nowadays is steadily toward specialization, and apple growing is one of the most highly specialized branches of agriculture. Apples fit for marketing cannot be produced if neglect gets a foothold. This is as true of one variety as of any other, and as true today as when long years ago Henry Ward Beecher said: "Long summers, brilliantly clear atmosphere, great warmth and dryness during the fall ripening months give our fruits great size, color and flavor." Getting rich quick by way of the apple route is largely a fabrication, for after the planting of the trees there is a period of ten or twelve years before they begin to yield any returns. To be made really successful, apple growing requires as much knowledge, adaptability and close attention as any other crop which the farmer puts in. The fact of the matter is that to make the work pay big a man must be an enthusiast through and through, recognize the whims of the buying public, and preferably grow red apples.

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In districts where the dry weather damaged the crops to an extent that has demanded economy in the feed the farmers' institutes have taken up the discussion of these topics. The best method of wintering the various kinds of stock is co-operation of communities of farmers in getting wholesale rates on commercial feeds, oil meal, cottonseed meal, bran, etc.

There is a general tendency now among farmers to keep a better class of farm animals. The high prices of stock of all kinds have been an incentive toward keeping a better quality in view of getting all the advantages possible out of the feed consumed. The discrimination in quality grows closer and closer with the buyer as prices advance. The breeder of pure-bred stock is also assisting in this work of improvement by culling more closely in the males he reserves for sale as breeders.

The wheat field should not be made an open-winter pasture for the stock to run on at will. There will be times that the stock should be kept off the wheat, otherwise the crop may be seriously damaged. In moist or wet weather there is a liability of injury from trampling by cattle and horses. The winter pasturing in dry districts has become a custom, and is well understood by those who practice this means of securing the wheat pasture. Early-sown wheat affords a good fall and winter pasture in most of the country south of the central part of Nebraska.

A Word to Hog Growers

Selfish men are found in all walks of life. That the professions are not free from this kind of people is shown by the effort being made to place the distribution and use of hog cholera serum in the state of Nebraska in the hands of the State Veterinary Association. Representatives of this association are asking the State Live Stock Sanitary Board to name only members of this organization to do the inspecting and testing of live stock. This would be a dangerous thing to do. The veterinary association is a voluntary organization. Some of the best veterinarians of the state are not members. The sanitary board should not put into the hands of this association a club with which to build up its membership. Besides, the board should select its own inspectors, naming only men of character and standing in their profession.

In addition to the foregoing the veterinarians are also asking that the sanitary board adopt a rule which will not allow farmers to treat their own hogs, and this rule would also prevent county farm demonstrators from using hog cholera serum unless they are graduate veterinarians. This paper believes that the person most deeply interested in the eradication of hog cholera is the hog grower. This was in the minds of the law-makers when they inserted the provision in the law enacted creating the Nebraska Live Stock Sanitary Board which provided that a majority of the members shall be live stock men.

We would urge stockmen to either write this paper or F. C. Crocker at Filley, Neb., president of the Nebraska Swine Breeders' Association, protesting against the adoption of the regulations and rules that the veterinary association is trying to have adopted. The sanitary board is to take action in this matter at its next meeting. Prompt action is necessary.

Seed Corn Problem

There are reports coming up locally every few days of the unfavorable prospect for good quality of seed corn. This has only one significant proposition to it, and that is that it is a timely warning to all farmers, land owners and renters of farms to commence now and look up the seed corn they will need for next year's planting. It is very poor management to put off laying in the supply of seed until it is needed to plant.

In many of the most severely damaged crop districts it would be unwise to depend on getting seed from the 1913 crop. The seed from the cribbed corn of 1912 is reported in excellent germinating condition by many who have tested it. This supply, where satisfactory in quality and condition, should be taken at once and put in a safe, dry loft, or room, where it cannot draw dampness or be injured by mice. There is plenty of the 1913 crop that will be ready any time, and this is reported in fine condition.

The time of buying seed corn on a guess as to its growing qualities has passed. Every buyer should test his seed or have a very safe guarantee of its germinating properties. The seed tester should be the key to the situation with everyone who plants. It is too much of a risk, too much labor, to plant poor seed when good, guaranteed quality can be had just as easily. Look up your seed at once. Prices will not be lower. As spring approaches, the demand from the tardy will cause an upward tendency. There is no need of sacrificing in quality of corn; maintain the improved breeds, but secure soundness and germinating quality.

Live Stock Growing Contests

The next move in boys' contests will be the growing of some kind of live stock, presumably pigs. Several states that have succeeded with the boys' corn-growing contests now propose taking up live stock growing for the boys. These contests will most likely be confined to counties, and the contest exhibition be held at the county fair. The basis of contest could be for the boy under a specified age, say 18, who raises the best five pigs under 6 months old, get of one sire, exhibited by the boy who raised them. The same plan of contest could be carried on with calves, colts and lambs. It would result in greatly increasing the live stock exhibited at the fairs, and this would increase county fair interest, resulting in a larger attendance and a better fair, and certainly an improvement in the live stock of the county.

The live stock business on the farm is becoming more and more a matter of responsibility with the boy. The boys' live stock judging contests that are becoming popular all over the country have had the tendency to put the boy forward as a judge of quality in the animal, and the farmer stands back with a degree of pride and consults the boy as to quality of sires and the general principles of hereditary tendencies in their breeding. The boy of today on the farm has the opportunity of becoming an expert judge of live stock, if it is in him. The disposition of those in charge of the agricultural schools is to take the information to the farm and there enlist the interest of the boy with the father.

The farmers' institute, the farmers' club and the farm director or farm instructor that is employed by many counties throughout many states are forcing a recognition of improved agriculture and improved live stock breeding and feeding that only a few years ago would have been regarded as impossible. By degrees the farmer is becoming himself a student. When old, gray-haired men will crowd to the front seats in demonstration cars of the lecture trains that are being run over the country on many lines of railroad, that the people may see and be informed, without money and without price, of the wonderful things being accomplished through scientific effort, then there is reason to rejoice that knowledge has prevailed over prejudice.

The hope of the country is in the boy, the coming man, and agricultural education is exerting an influence now that is plainly pointing toward more boys on the farm. The stimulus of contest, the excitement it engenders in the developing mind, is just the kind of stimulus the boy needs to help develop him.

Milch Cows in Demand

The milch cow population of the country has been decreasing for the last three years, and this in the face of a constantly increasing population of people. In 1910 there were reported 21,801,000 milch cows, the largest number ever reported in the United States in any one year. In 1911 there were 20,823,000, a falling off of 978,000 head in this one year. In 1912 there was 20,699,000, showing a decrease in numbers in this year of 124,000 cows. In 1913 there were reported 20,497,000, a decrease of 202,000 from 1912 to 1913. These estimates are all based upon the first day of January of the years indicated. It is plain to be seen that the January report of 1914 will show a still greater yearly decline than the years just mentioned.

Previous to 1910 we find that there has been a steady increase in milch cows and other cattle in the United States for the last thirty years and longer, with the exception of five years between 1895 and 1900, when there was a considerable decline, attributed to the influence of hard times preceding. The last high mark reached in the milch cow population was in 1910, since which time the numbers have been on the decrease.

The present scarcity of milch cows and the very high prices that prevail for the fresh cows are frequently referred to as something hard to understand. Why do cow owners now ask $75 to $150 for the better class of common grade cows? It is plain enough—the supply is short. Many things have had a tendency to shorten the available milch cow population. The enforcement of the tuberculin test has been a strong factor in depleting the ranks of the milch cow. The butter-fat test has also weeded out thousands of cows that have been listed as milkers.

There is also a general tendency to a higher ideal in the requirements of the family cow and the dairy cow. The city milk supply is generally on a fresh-cow basis. The city dairyman or the dairyman who is the main factor in the city supply figures on buying his cows fresh, or soon to be fresh, and as soon as a cow drops down in her milk flow she is fed up and sent to the butcher and sold for beef. There is a continuous stream of this class of milch cows going out of existence simply because they decline in milk flow. On the farm where dairying is a feature, the better class of cows are bred and carried over until fresh.

More cows and better ones are demanded. The present demand for milk and butter is too urgent to be otherwise satisfied under this practice of vealing and heifer calves and sending to the slaughter so large a per cent of the cows as fast as they show evidence of decline in milk below a good profit. It is the big milker that is wanted, and all other classes of cows must sooner or later drop out of the milch-cow class.

Fitting Sheep for Show

There is a recent publication, sent out by the Wisconsin Agricultural Experiment Station, on the subject of "Fitting Yearling Wethers and Lambs for Exhibition." This is a very interesting and instructive bulletin for the sheep owner, whether he is a feeder and fitter for the show ring or merely a grower of sheep. It instructs very accurately as to the quality of individual for exhibition purposes and the method of handling, feeding and development necessary to put the specimen in the most acceptable form for competition.

The fitting of sheep for the show ring, especially the mutton classes, has become so technical in its details that the ordinary sheep owner and caretaker would stand but little chance in the show ring, with his out-of-condition specimen. The show ring is becoming more and more a display of fixing and finish of the animal.

This little pamphlet has been written and prepared for publication by George C. Murphy and Frank Kleinheinz of the animal husbandry department of the Agricultural Experiment Station of the University of Wisconsin. The latter named gentleman is well and favorably known all over the United States and Canada where sheep shows have been held. This bulletin should be read by all sheep breeders. It is Bulletin No. 232, University of Wisconsin, Madison.

Pure-Breds for Farmers

Why should the farmer say, "It is all right for Neighbor Jones to raise pure-bred cattle; he has the time to fuss around and attend to them, but I have no time to devote to pampering a few cattle?" Pure-bred cattle do not necessarily need any more fuss and attention than grade cattle. All cattle demand attention to secure the best results. A good horse always gets a little better attention than a scrub. He is curried, brushed and given a little better care. Why is this true? Just because you admire the good horse and you feel a little proud of him. You like to hear your neighbors speak in a complimentary way of his fine appearance and comment on his good qualities. This is natural. It is human nature. Man is chuck full of conceit when you get at him right.

It is true of all kinds of live stock on the farm. The better the cattle are, and the more money they cost, the better care and attention they will get. The pure-bred cattle, just because they are pure-bred, do not need this extra care; they can get along without it. There are some of the best pure-bred cattle in the country out on the western range, where no one except the herders see them in months, yet they are thriving, getting along all right, making much more money for their owners than are the common grade cattle. The range cattle owner and his herder think a great deal more of these pure-breds and like to show them and brag a little about them, and this is natural.

There is a great opportunity now for the keeper of grade cattle to sell them and get pure-breds in their stead. This change can never be made with less cost than now. There is a great rush for stock cattle, any kind of breed or cross-breed, so they are cattle. There is not enough difference between the selling prices of the common grade cattle and the pure-breds when the advantages of breed and breeding are considered. You will really never know what this difference is until you own some good pure-bred animals for a year or two and demonstrate it on your own farm. Who ever heard of a man breeding pure-bred cattle and then turning back to the common grade unless he went around by the poor-farm route?

Read the live stock journals carefully and observe the number of farmers all over the country who are buying a few pure-bred cows, heifers and a herd bull for a starter. These purchases are not all made here in the corn-belt country, not by a long shot. Ranchmen away out on the desert lands of the arid west are buying a few pure-bred cows, and good bulls are being bought by the carload. It will only be a matter of a few years when the range country will be in advance of the farming districts of the central west in quality of beef cattle. Everything west is centralizing into beef breeds—no dairy-bred cattle on the range, and no cross-breeding beef and dairy stock. If you want to become a successful cattle breeder, breed distinct beef cattle or dairy cattle, and make your choice according to your fancy and taste in cattle and the business you are to pursue, and you will make no mistake.

The Jersey Cattle Club is to be commended for a step it has recently taken. It has disbarred some Jersey breeders forever from membership in the club and their cattle from registration privileges on account of dishonest practices. This dishonesty consisted mainly in using the papers of dead animals for inferior living animals.

Montana has about finished harvesting the sugar beet crop, and reports an increase of about 20 per cent over last year. The total value of the crop is estimated at nearly a million and a half dollars.

The bee keepers are boosting sweet clover. They want to see it made a cultivated crop instead of being considered a noxious weed, as they say it makes the finest kind of honey.

A writer in a college bulletin remarks that "the backbone of the nation is its stomach." We wonder where this professor studied anatomy.

Turkeys are declared by the government to rid a lawn or field of the grubs of May beetles in a short time.

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Write us for our special direct-from-mill-to-you winter offer. It'll pay you well to order your lumber now even if you won't use it for three, four or even six months. The extra saving will mean an interest on your money of 10% or better.

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Get-Together Hog Banquet

Cholera Serum and Inoculation Discussed

THE get-together banquet of farm and town people at Beatrice, Neb., Monday evening, November 24, was a significant matter. A true get-together, community spirit prevailed, which is essential to true co-operation. The object of the meeting was to bring the farmers in touch with the work of Dr. C. E. Cosford of the bureau of animal industry of the Department of Agriculture. Dr. Cosford is to have charge of the hog cholera demonstration work in Johnson county and the northern half of Gage county, which locality has been set aside by the government as a demonstration district.

President Pease of the Beatrice Commercial Club presided, and the speakers were Governor Morehead, Lieutenant Governor McKelvie, F. C Crocker of the Nebraska Sanitary Live Stock Board, Dr. C. E. Cosford, Dr. J. H. Gain, Prof. C. W. Pugsley of the University of Nebraska, and T. F. Sturgess, editor of the Twentieth Century Farmer. Congressman C. H. Sloan, author of the bill appropriating $75,000 for the hog cholera demonstration work under the direction of the Department of Agriculture, was present and explained the provisions of the bill and the difficulties encountered in securing its passage.

Hog Cholera Demonstration Plan

A provision was made that $75,000 of the bureau's appropriation for the year ending June 30, 1914, be set aside for demonstrating the best method of preventing and eradicating hog cholera. The United States Department of Agriculture has decided to make these demonstrations in four counties, one in Indiana, one in Iowa, one in Missouri, and the north half of Gage and the whole of Johnson counties in Nebraska.

Before beginning work in Nebraska the bureau was assured of the co-operation of the Nebraska College of Agriculture and the State Live Stock Sanitary Board in carrying out the demonstration. Treatment will, of course, be free to the farmers in this territory, but the department insists that the hog raisers shall co-operate, and that a complete survey of these counties be made before treatment begins, securing the names and locations of all hog owners, the number of hogs in the county when work begins, and the losses from cholera in previous years.

The chief of the bureau advises that Dr. Cosford will be unable to begin active eradication work during the present fall and winter, owing to an insufficient supply of serum. The demand in the other counties was greater than anticipated.

Farmer Volunteer Workers

In addition to the county organizations there will be a volunteer organization in each township, consisting of one central man and nine subsidiary assistants, one assistant for each four sections in the township. The duty of the volunteer assistants will be: First, to make the survey of the territory assigned them; second, when active work begins they will keep in touch with conditions in their territory and report promptly the outbreak of any disease to the central man, who will report to the bureau office. Dr. Cosford will endeavor, by prompt investigation, and treatment where necessary, to confine the infection to the original farm.

It is not claimed that the serum treatment will cure hog cholera, but it is claimed that practically all hogs that are in a normal condition when vaccinated will remain so. Hence the importance of prompt investigation and treatment.

General Preventive Measures

Dr. C. E. Cosford in his address had the following to say on the prevention and treatment of hog cholera:

All that is necessary to prevent hog cholera is to keep the germ of the disease away from the herd. It has been shown that in the vast majority of cases this germ is transported mechanically, in the bodies of sick hogs and on the feet of men or animals, including birds. It thus follows that the chances of an outbreak of hog cholera will be greatly lessened, if not completely avoided, if a herd is protected from these carriers of the infection. The enforcement of a complete quarantine, is, however, not practicable under average farm conditions, and the best that can be hoped for is the lessening of the opportunity for infection by placing the herd on a part of the farm that will be the least accessible to men or animals from other farms. Hog lots should never be located near public roads if this can be avoided. All newly purchased stock should be kept separate from the main herd for at least thirty days.

In addition to protecting the herd by methods of quarantine, careful attention should be given to the general health of the herd. The hogs should be provided with clean, dry sleeping places, and the lots and feeding troughs should be kept clean. It is well occasionally to scatter slacked lime about the lots and to wash and disinfect the troughs. Probably the best disinfectant for this purpose is the compound of cresol (U. S. P.), which can be prepared at any drug store. One part of this should be mixed with thirty parts of water and the troughs scrubbed with it. The disinfectant is then washed out of the troughs with water.

After an outbreak of hog cholera the yards and pens should be thoroughly cleaned, all dead hogs should be burned or buried deep with quicklime, the litter should be collected and burned and lime scattered freely over the ground. The sheds and hog houses should be washed thoroughly with the solution of cresol, as above described, before new stock is brought on the place. Feeding troughs that have been used by sick pigs should be burned if made of wood, but, if this is not practicable, they should be scrubbed clean and thoroughly soaked with the cresol solution, the latter being washed out before the troughs are used again.

It is possible to start an outbreak of hog cholera in a herd by bringing hogs on the farm that have had the disease and have apparently recovered. We have no definite information concerning the length of time that such hogs may be able to communicate the disease to others, but for safety's sake two or three months should be allowed to elapse after complete recovery before placing such animals with susceptible pigs, and then only after washing or dipping in a disinfectant solution (compound solution of cresol, one to 100).

Prevention by Inoculation

Careful and persistent attention to general preventive measures, such as quarantine, disinfection, proper feeding, etc., on the part of farmers generally would no doubt result in a material reduction in the yearly losses from hog cholera, and the importance of observing these precautions cannot be overestimated. However, as it is regarded as impracticable to enforce a general and completely effective quarantine, the bureau of animal industry endeavored for a number of years to find a medicine or serum which could be used for preventing hog cholera or for curing hogs sick with that disease. It is a well known fact that hogs which have recovered from hog cholera are thereafter immune against that disease. The experiments of the bureau of animal industry resulted in the discovery that when such immunes are injected with blood from a sick hog the immune is not made sick, but as a result of this injection its blood acquires the power to protect other hogs from cholera. It has been established beyond question that the early observations were correct, and that it is entirely possible to protect hogs if they are treated with serum from a properly treated immune hog.

The method of producing this serum is briefly as follows: A vigorous, immune hog—that is, one which has recovered from an attack of hog cholera, or one that has been exposed to the disease without contracting it—is treated with a large quantity of blood from a hog sick with hog cholera. After a week or two blood is drawn from the immune by cutting off the end of the tail. After standing, the blood clot is removed and the serum or fluid portion of the blood is mixed with a weak solution of carbolic acid and filled into sterilized bottles. We have in this fluid portion of the immune's blood the serum which will protect hogs from hog cholera. This serum is used in either one of two ways, namely—first, the serum inoculation; second, the simultaneous inoculation. These two methods of treatment are carried out as follows:

Serum Inoculation

The hogs which are to be protected are injected on the inside of the hind leg with a suitable dose of the serum alone. This injection will serve to protect hogs from cholera for several weeks and in some cases for a longer time. But if the hog is not exposed to hog cholera within a few weeks after this treatment, the immunity which is conferred by the serum will gradually lessen in degree, and the hog may again become susceptible. If, however,, the hog is exposed to hog cholera within a short time after the injection of the serum, the immunity becomes, so far as experiments have shown, of permanent and lifelong duration.

Simultaneous Inoculation

In this form of vaccination the same serum is used as is employed when the serum alone is used, but in addition to the serum there is injected on the opposite side of the body, in the same manner as the serum, a very small amount of blood taken from a hog sick with hog cholera. This simultaneous injection of serum and virulent blood confers upon the injected pig a permanent and lasting immunity, and is therefore to be recommended in cases of well herds which may not be exposed for some time after the treatment.

The one-price-marked-on-the-goods house is the place where a customer is most likely to get full value for his money, rather than the house where hieroglyphics mark the selling price, permitting the adroit storekeeper or salesman to extract from the trusting and uninformed customer more than the article is worth. Bargaining and haggling and negotiating, as is the general custom abroad, is very offensive to the American who wishes to order by mail or telephone or telegraph without wasting his time.—Leslie's.

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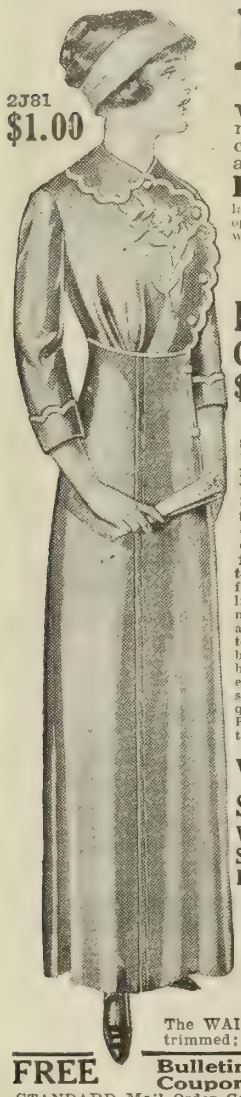

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Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm

A Gentleman

I knew him for a gentleman
By signs that never fail;
His coat was rather rough and worn,
His cheeks were thin and pale—
A lad who had his way to make,
With little time for play—
I knew him for a gentleman
By certain signs today.

He met his mother on the street;
Off came his little cap.
My door was shut; he waited there
Until I heard his rap.
He took the bundle from my hand;
And when I dropped my pen
He sprang to pick it up for me,
This gentleman of ten.

He does not push and crowd along,
His voice is gently pitched;
He does not fling his book about
As if he were bewitched.
He stands aside to let you pass;
He always shuts the door;
He runs on errands willingly
To farm and mill and store.

He thinks of you before himself;
He serves you if he can;
For, in whatever company,
The manners make the man.
At ten or forty 'tis the same,
The manner tells the tale,
And I discern the gentleman
By signs that never fail.
—Harper's Young People.

The Editor's Corner

Dear Boys and Girls—Every now and then we have a picture on our page which is neither a bird picture nor a contest picture, and we always receive several verses about it. We are afraid some of you are disappointed when you send in verses about such a picture. For instance, the picture appearing on this page is not a contest picture at all. The contest now going on is about the boy, the cow and the cat picture. These pictures are always labeled "Picture Contest."

About the stories, be careful not to make them too long. We sometimes print a story over 200 words long, if it is an especially good one, but we prefer shorter ones, so that we can print other stories at the same time.

In answer to a question that is sometimes asked, the stories do not have to be true ones. They must, however, be original. By that we mean you must write them yourselves, and not copy them from books. We are very sorry to say that one story which not long ago received honorable mention on our page was not an original one. Perhaps the little girl who sent it in did not realize what she was doing, but we had a letter from a teacher saying that the story was copied from a reader which his classes were using, and that all the children in the school were commenting on it. These stolen stories are always recognized by someone, even though they may deceive your editor. Do you like to have your names connected with a thing like that? Most of you do not, I am sure, as most of the stories are original, but every now and then we receive one which we know is not. Please be careful about this. THE EDITOR.

(Prize Story)

A Camping Trip

By Mary Barret, Aged 13, Green River, Wyo.

Once upon a time three of my girl friends and papa and I went on a camping trip. We started about 4 o'clock in the afternoon. Papa got the bedding and Dutch ovens to cook with ready, and we furnished the lunch. Papa had the team ready and we left home on Saturday night. I rode horseback most of the way. Papa killed some rabbits and we had them for supper. Then papa rolled down the bed and we all slept in it. My, but it was crowded! In the night, when we would awaken and see the stars, you would think they were electric lights.

In the morning papa got up and started the fire; then Clara and I got up. The other girls thought it was early, but soon they got up. We had breakfast before the sun was up and each of us had to wash her own dishes. Then papa harnessed the team and everything was packed up and we started home. On the way one of the girls put up an umbrella and it blew out of her hands and the wagon ran over it. When we reached home Sunday morning we were very dirty.

(Honorable Mention)

Nig

By Fred Helmers, Aged 13, Nock Valley, Ia.

Nig was the name of a little black colt. There was another little colt and her name was Lucy. When Nig was old enough to run around he was always playing some trick. He would take a sack, or whatever he could find, and tear it up. One day papa was sitting on a box and Nig came up and pulled him over backward. He ran away then.

Another time, when all the horses were out in the pasture, Nig came up and bit Lucy. He started to run, and Lucy ran after him. They ran up by the barn and there was a plank about four feet high and Nig jumped over it leaving Lucy to do the best she could. When they were about 1 year old we sold them.

Additional Stories

Clyde Scott, Exeter, Neb.; Hildur Kinman, Keene, Neb.; Esther Cover, Cozad, Neb.; Silas Atchison, Sigourney, Ia.; Charles McNamara, Winterset, Ia.; Josephine Lorenzan, Walnut, Ia.; Ruth Kubik, Toledo, Ia; Orville Pendergrass, Flagstaff, Ariz.; Mary Sheed, Maramec, Okl.; Mabel Kling, Carson, N. M.; Clarence Peterson, Racine, Wis.; Ilene Griffin, Centerville, S. D.; Francis Griffin, Centerville, S. D.

The Young Apple Pickers

Some of Our Young People at Rockville, Neb., Helping on the Farm

WIFE WON
Husband Finally Convinced

Some people are wise enough to try new foods and beverages and then generous enough to give others the benefit of their experience. A wife writes:

"No slave in chains, it seemed to me, was more helpless than I, a coffee captive. Yet there were innumerable warnings—waking from a troubled sleep with a feeling of suffocation, at times dizzy and out of breath, attacks of palpitation of the heart that frightened me.

(Tea is just as injurious as coffee, because it contains caffeine, the same drug found in coffee).

"At last my nervous system was so disarranged that my physician ordered 'no more coffee.' I capitulated.

"Determined to give Postum a fair trial, I prepared it according to directions on the pkg., obtaining a dark brown liquid with a rich, snappy flavor similar to coffee. When cream and sugar were added, it was not only good, but delicious.

"Noting its beneficial effects in me, the rest of the family adopted it—all except my husband, who would not admit that coffee hurt him. Several weeks elapsed, during which I drank Postum two or three times a day, when, to my surprise, my husband said: 'I have decided to drink Postum. Your improvement is so apparent—you have such fine color—that I propose to give credit where credit is due.' And now we are coffee slaves no longer."

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Make the first step right now by sending me your name and address for my big, free, 116-page business book. Asking for the book does not obligate you in the least way. But remember, a good paying position awaits every Boyles graduate. I guarantee a position.

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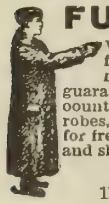
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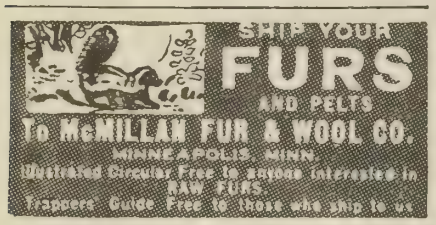

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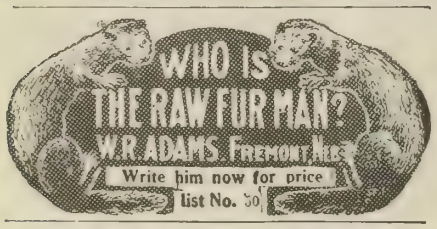

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Of Interest to Our Women Readers

Off to School

It doesn't seem a year ago that I was
tumbling out of bed,
The icy steps that lead below at 1 a. m.,
barefoot, to tread,
And, puttering 'round the kitchen stove,
while chills ran up and down my
form,
As I stood there and waited for her bottled dinner to get warm;
Then sampled it to see that it was not
too hot or not too cool;
That doesn't seem a year ago, and now
she's trudging off to school.

It doesn't seem a month ago that I was
teaching her to walk,
And holding out my arms to her—and
that was 'fore she learned to talk.
I stood her up against the wall, eager,
yet watchful lest she fall;
Then suddenly she came to me—the first
two steps those feet so small
Had, unassisted, ever made! Those feet
I hope to guide and rule;
That doesn't seem a month ago—and now
she's tfudging off to school.

Oh, Father Time, line deep my brow, and
tinge my thinning hair with gray,
Deal harshly with my battered form as
you go speeding on your way;
Print on my face your marks of years,
and stamp me with your yesterdays,
But, oh, tread softly now, I pray, the
ground whereon my baby plays;
Pass over her with gentle touch; to keep
her young break every rule;
But yesterday she was a babe—and now
she's trudging off to school.
—E. A. Guest.

Our Home Chat

This is going to be a little heart-to-heart talk from the editor of this department to the women readers of the Twentieth Century Farmer. You have been sending in so many and such interesting letters lately that I wish you might read them all. However, there is not room to publish so many and we can only give you a few of them. If your letter is not published, don't think for an instant that the effort was wasted and you might just as well not have written. Be sure that it was read, and read with interest. There have been ever so many splendid letters written about the work of the farmer's wife, and we are going to keep on publishing them, but we may never succeed in publishing all of them. Many of them say practically the same thing, and in much the same way. Of these we publish the first and then let that writer speak for the rest. We have a number of letters laid away which we want to publish and will try to place before you at some time in the near future, and we wish there were room to print them all as soon as they are received.

It is a great help to the editor to have you write in your opinions of the home chats and the contributed articles, and often, when the readers are especially pleased with the letters of any particular contributor, they write in asking for her address. We take great pleasure in furnishing these addresses, where we know the writer has no objection, feeling that in this way you often make long-distance friendships that will be a source of pleasure to you for years to come.

In many of the papers lately there have been paragraphs to the effect that many letters are received that are not signed or are signed only by pen names. Our readers, both in this and in other departments, very seldom do this. We never print the name of a contributor unless we have reason to know that there is no objection, and even then we do not give the address; nor do we ever print a letter unless the writer gives us her name and address. We are glad that our readers generally have enough confidence in us to do this. Many of the letters in the columns of the Home Department are signed by fictitious names, but we know the real names and vouch for the writers.

Now, all this is just another way of saying "thank you," and of assuring you that the many letters received are appreciated, and you are always cordially invited to write to the editor of this department expressing approval or disapproval of any item or asking for information of any kind, which we will gladly secure for you. THE EDITOR.

Flat Pocketbook

The season is at hand to prepare for Christmas giving. The flatness of the pocketbook seems more noticeable about Christmas time than at any other, because there are so many demands upon it, and because the heart of the giver is usually so large in proportion. If we could have pocketbooks as big as our hearts! Think of it! But, then, not having them, let us stretch the ones we have to the fullest limit of their elasticity.

Carpet work doesn't seem like a very Christmasy sounding thing, but it can be made to be. Last year I had among my things a scarf made from unbleached linen crash, not the kitchen-brown kind, but the unbleached, or half bleached. This was about a yard and a quarter in length, hemstitched across the ends, and it had a heavy lace crocheted from carpet warp on the ends, and this crocheting was in turn fringed with a five-inch fringe. The result was very pretty, indeed, and serviceable; much to be preferred to some dainty, useless thing made of fancy ribbons. The crash for such a scarf might cost 16 cents; the carpet warp costs 21 cents a pound, and it crochets an almost endless amount of things.

Then, for 25 cents each or less, one could make dresser scarfs, sideboard scarfs, small table covers, table runners to use over a bare table (and two crossing in the center of the table are pretty), pillow tops made from the crash, with an inset of crocheting done with the warp, in almost any pretty design. I am just now making some butterflies in filet crochet. The inset of crocheting could be made to run diagonally between two corners of linen, or straight, or with a linen center and an entire crochet border, or with a crochet center and a linen border. A centerpiece made from linen has a crocheted center with two deer and trees on it. This crocheting is done with thread, and the result is very handsome. With the present vogue for crocheting, tatting and the old-fashioned embroidery, the woman at all handy may make many Christmas gifts whose entire cost will not be more than 25 cents each.

Many bed spreads are made of crocheted strips, or blocks interspersed with linen squares. A very pretty spread could be made of the unbleached linen crash mentioned above, making a strip of crocheting for the center and bordering it on either side by the crash, hemstitched. Follow this with an edge of lace or insertion and finish with a heavy fringe of the warp. This is not so inexpensive as some smaller things, but it is a big gift when it is done.

It does not take very long to crochet an entire pillow top of the carpet warp, using any design desired, and it is astonishing how many filet designs there are in crochet. One can buy a book of patterns, containing a thousand designs or more, for 25 cents, and so have a large choice to use.

A strip of tatting to trim a corset cover, or a waist, neck and sleeves, with a few medallions to inset across the front, makes a gift appreciated by anyone who does not tat herself. Such a gift costs almost nothing but for the material, and enough to make many yards of plain tatting can be bought for 20 cents, and the work is fascinating and so light that it is hardly work at all.

Have an object in view in making these things, and work for that object, not haphazardly. Tatting to edge a handkerchief, or to trim a jabot, or even to make and trim a jabot, costs very little, and the result is so much more worth while than some useless thing. The idea is to give as much satisfaction to yourself and your friend as you can by your gifts. A little money thoughtfully expended and a little work neatly and daintily done makes a gift to be prized by the recipient and is a pleasure to the giver to give, and makes Christmas time a time of joy and not of anxiety and worry. Try it. Plan, work, achieve something worth while.

ROSE SEELYE-MILLER.
South Dakota.

Farm Versus City Wives

Personally, I am contented as a farmer's wife in our four-roomed cottage. My neighbor women seem satisfied to abide on the farm. Most of them are in only fair circumstances. Between rich and poor, not so strong a distinction exists as in the cities; therefore, there is less envy, covetousness, etc., which influence and often work havoc in city homes. Many mothers prefer to rear children in the country, away from evil associations and limited spaces, always providing there are school privileges.

Poor people may more easily supply their families with good food in the country and even save a percentage of their income. The farm woman knows she helps honorably to produce the living by her chickens, garden, fruit or dairy products. This makes her feel a healthful independence. The city woman, wishing to help, has small chance.

As to the work, in summer it does come like the collapse of the one-hoss shay—"all at once and nothing first." Chickens, garden, fruit, and city visitors, clamor for attention.

(CONTINUED ON PAGE SEVENTEEN)

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6332—Misses' and Small Women's Dress—The one-piece dress remains a favorite. It is usually simple, depending for attractiveness upon the cut rather than trimming. Collar and cuffs are often of contrasting materials. In this design there is seen the dropped shoulder, the new fullness at the waistline and a simple straight skirt. Sleeves may be long or short and waistline high or normal. Any of the new wool or silk stuffs may be used for this design. The misses' and small women's dress pattern No. 6332 is cut in sizes 14, 16 and 18 years. Medium size requires 4¼ yards of 36-inch material.

6347—Misses' and Small Women's Coat—Separate coats are much favored just now, owing to the popularity of the one-piece frock and the separate blouse and skirts. This low-belted design is extremely modish. If desired, it may be fashioned of one of the brightly-hued polo cloths now so much in vogue, or it may be made of velour de laine, cheviot or serge, in navy blue or some other pretty color. The pockets on each side of the belt are useful as well as ornamental. Pattern No. 6347 is cut in sizes 14, 16 and 18 years. Medium size requires 3⅜ yards of 44-inch material.

6457—Rag Doll—Most children give to their rag dolls a far greater love than they bestow on their Parisian beauties. All should have one. This pattern gives the body and a one-piece dress and bloomers. The hair and face must be stitched in or painted in. The garments are made after patterns for children as to style and are just what the little owner might be wearing herself. The doll pattern No. 6457 is cut in sizes 16, 20 and 24 inches in length. To make the doll in the medium size requires ¾ yard of 27-inch material and for the dress and bloomers 1⅜ yards of 27-inch fabric, with one yard of ribbon.

4664—Ladies' Apron—Linen, lawn, muslin or dotted Swiss can be used to make this apron, with the trimming of hand embroidery and edging. A pocket is made at the right side of the front. The pattern 4664 is cut in one size and requires 1⅝ yards of 27-inch or 1⅛ yards of 36-inch material, ¾ yard of beading and 1⅞ yards of ribbon.

6336—Girls' Dress—A delightfully plain little dress is shown here. The blouse closes surplice fashion and is trimmed with scalloped edges and novelty buttons. Collar and cuffs are of a contrasting color and the long Russian waist is confined with a soft, pretty sash of striped silk. The pattern No. 6336 is cut in sizes 6 to 12 years. Medium size requires 2⅝ yards of 36-inch material, with ½ yard of contrasting goods.

5964—Girls' Dress—The blouse of this dress closes at the left side of the front. The skirt is a three-gored model, joined to an underwaist. Serge or broadcloth can be used to make this dress with the collar and cuffs of contrasting material. The pattern 5964 is cut in sizes 6, 8, 10 and 12 years. Medium size requires 2¾ yards of 44-inch material, with ½ yard of 27-inch contrasting goods. The underwaist requires ½ yard of 36-inch material.

6470—Men's and Boys' Bathrobe—This garment is a necessity to all men and boys. It can be made of a blanket woven for the purpose, or of eiderdown cloth, or Turkish towelling. It is of plain sacque cut, with high neck, finished with a small roll collar and plain, wide sleeves. A cord and tassel finishes the waist. The pattern No. 6470 is cut in sizes 8, 10, 12 and 16 years and 36, 40 and 42 inches chest measure. The 36-inch size requires 3⅝ yards of 44-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age.

Good Use for Bread Crumbs

Tomato Patties—Moisten one quart of stale bread crumbs with stewed tomatoes, enough to make them mouldable; one cup of grated cheese, one egg and a piece of butter the size of an egg, salt and pepper. Mould into patties, roll in crumbs and fry in butter or lard. Serve hot, garnished with parsley.

Breaded Eggs in Ramkins—Place a small piece of butter in the bottom of the dish, over this a layer of bread crumbs. Break in a fresh egg, season with salt and pepper; over this another layer of bread crumbs, with a generous layer of grated cheese, and dots of butter for the last layer. Bake about ten minutes. Serve hot from the ramkins.

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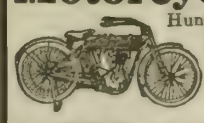

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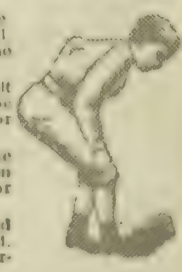

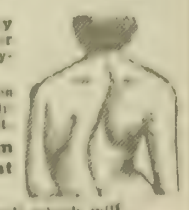

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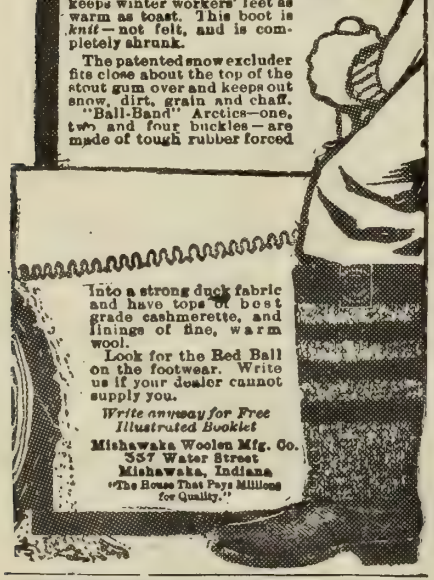

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Yuan Shih Kai, the Greatest Man in China

By Frank G. Carpenter

WASHINGTON, D. C., Nov. 21.—I want to tell you something about Yuan Shih Kai, who has just been re-elected president of the Chinese republic. He is the Napoleon, the Bismarck, the Li Hung Chang of the 400,000,000 who make up the China of today. He is greater and more powerful than Li ever was, and wrapped up in him is the immediate future of that mighty country. I have been traveling in the footsteps of Yuan off and on for the last twenty-five years. I first heard of him when I went to Korea in 1888. That country was then a kingdom under the protection of China, and Yuan Shih Kai had been sent there by Li Hung Chang to dictate to the king how the country should be run. He lived at Seoul in great state, with hundreds of retainers about him and wives and concubines galore.

It was due to Yuan that the Japanese were driven out of Korea shortly before my visit, and he was really the cause of the first war between China and Japan, which resulted in the humiliation of his nation. A little rebellion had broken out in Korea and Yuan, contrary to the treaties of 1885, by which each of the great powers agreed not to land troops in Korea without informing the other powers, had Chinese soldiers brought over to quell the uprising.

That was in 1894. I saw something of the rebellion. There were envoys kneeling out in the street in front of the king's palace for day after day while I was in Seoul, and later, when I crossed the country on horseback and bullback, traveling for several weeks through the mountains, I met everywhere a dissatisfied people and was only safe because I had a special letter of protection which was given me by the king. This commended me to the local governors, who were instructed to further my travels in every possible way. The rebellion increased later on, and by the time I reached Japan the war between China and Japan was brewing. As a result of

Tuan Fang

it Yuan Shih Kai was forced to leave Korea, and he fled to Tientsin, leaving his mother and concubines behind.

Protege of Li Hung Chang

Yuan was an especial protege of Li Hung Chang, and it was through him, in connection with Li, that the modern army of China was organized. When the war with Japan closed, he was for a time sent into retirement, but long before the Boxer troubles he had come again to the front and had been made viceroy of Shantung. He was a special favorite of the empress dowager and had won her gratitude by his treachery to the young emperor. When the Emperor Kwang Su began to introduce foreign civilization in connection with Kank Yu Wei, he took Yuan into his confidence and gave him so many offices that he became known as "Yuan, the reformer." He was allowed to drill

Yuan Shih Kai

and equip modern soldiers and he was really at the head of the best troops in China.

In the meantime the old empress dowager, who had nominally retired from the government, was dictating to the young emperor how he should do, and Kang Yu Wei and the emperor concluded to put her out of the way. Yuan Shih Kai was selected as the tool for this purpose, and while he knelt on his knees before the emperor in the palace, his majesty commanded him to move his army to Tientsin and there kill the Viceroy Yung Lu. After that he was to come on to Peking and surround the palace and kill the empress dowager. This was a big contract, and Yuan said he would have to have sealed instructions before he would undertake it. These orders the emperor refused to give. Thereupon Yuan Shih Kai apparently consented and left Peking, the emperor expecting he would do the job.

After considering the matter for twenty-four hours, Yuan concluded that the job was too dangerous, and he went to Tientsin and laid the whole plot before Yung Lu. Yung Lu took a few soldiers and went on a special train post haste to Peking. He marched out to the summer palace, where the empress dowager was then living, and laid the situation before her. At her orders he then came into Peking and entered the palace. He captured the emperor and confined him in a building on a little island in the palace grounds. A day later the empress dowager came back. She dethroned the emperor, and from that time until her death she was supreme. When she died the emperor suddenly took sick, and it is supposed that he was poisoned by her orders. Some say he was killed by Yuan Shih Kai for fear of his revenge should he again be on the throne.

Yuan a Wise Man

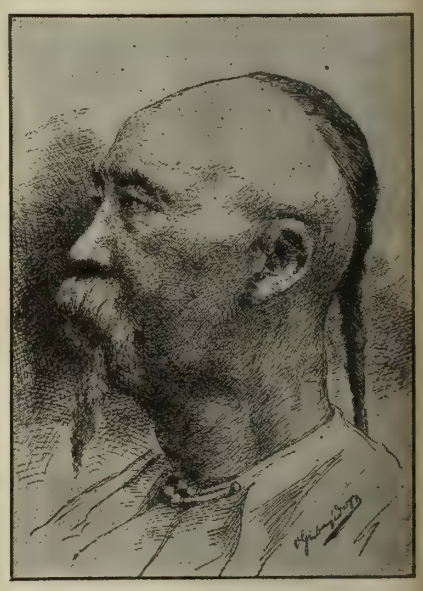
In this way Yuan and Yung Lu really saved the empress dowager's life, and it is no wonder that she was grateful. It was as a kind of thank offering to Yung Yu that she had his grandson, the little Pu Yi, elevated to the throne, and it was not her fault that the boy is not emperor today. She also gave Yuan Shi Kai many high offices and showered him with commissions of one kind or other.

I am told that some of these commissions would have resulted in Yuan's ruin had he carried them out, but just as he refused to obey the emperor, so his good sense showed him that he would have to disobey the empress dowager. One of these cases occurred during the Boxer rebellion. I was in southern China at the time and one of Yuan Shih Kai's foreign advisers told me the story.

The empress dowager was supreme at Pekin. The Boxers were rampant at all the chief centers, and here and there they were slaughtering missionaries and demanding that all foreigners leave. The empress dowager sent word to Yuan Shih Kai to take his troops and move forward to Tientsin and kill all the foreigners there. Yuan delayed on one plea or other until the siege of Pekin occurred, after which the old dowager got a holy fear of all outsiders. She was forced to leave the Chinese capital, and only came back to power under the most bitter humiliation. She then realized that had Yuan carried out her instructions as to Tientsin China would have been ruined. At any rate, Yuan was never called to account for his delay. He made himself popular with the foreigners by his protection of them during the Boxer rebellion and at its close was found to have great influence with the foreign powers. As soon as the troubles were settled he came to the support of the empress dowager and took his place as the strongest and most progressive man of the progressive movemen which was then inaugurated.

I was in China at the time that the empress dowager died, and Yuan was then the viceroy of Chihli, and was the greatest man in the empire outside the government. He had introduced modern schools and industrial establishments. He was reorganizing the army and instituting all sorts of reforms.

After the empress dowager's death he had much to do with the government under the baby emperor, until the Manchus and others who were bossing the administration concluded he was getting too powerful, and they sent him into retirement on the ground that his legs were too sore for him to perform his duties. Then the last great revolution came on, and Yuan again sprang to the front. The empire was shattered, and the republic arose. I doubt not he could have taken an army and gotten possession of the throne himself. Many thought he would



Li Hung Chang

do so, but he was content to let China be a republic, and he is now its president and practically its dictator.

This, very briefly, is the outline of the career of a republican president who is the ruler of four or five times as many people as Woodrow Wilson. It is only the outline. His whole career has been full of romance, and the story would make a book of surpassing interest. Yuan Shih Kai was only 31 years old when I first saw him in Korea, and he is only about 55 now. He started life as a poor boy, but like many poor Chinese boys, was given enough schooling to enable him to pass the examinations and get into the army. He rose so rapidly that he was resident general of Korea before he reached 30, and from then on he has been in the thick of things and making history.

During his stay in Korea he was dictatorial and insulting to the Koreans and the foreigners. The Chinese-Japanese war made him a diplomat, and he is now one of the most conservative of statesmen. He thinks twice before he acts, and

still he is not afraid to make decisions and act promptly.

How He Put Down Rebellion

I was told in Peking how Yuan Shih Kai put down a rebellion while he was viceroy of Chihli. This was just after the Boxer rebellion, when the foreigners still held Tientsin. Yuan had moved with his viceregal court to Pao Tingfu. The country was still filled with the turmoil of the revolution, and it was necessary that Yuan should show the foreigners that he could control. He sent orders to the rebels that they must submit and upon their refusing to do so ordered a regiment of soldiers to march to the town where they were, and, if they did not at once put down their arms, to slaughter them en masse. The rebels showed fight and Yuan Shih Kai wiped out the town, killing 1,000 of the people in less than one hour.

The day after this Yuan said to the American who told me this story:

"I suppose your people at Tientsin will criticise my action, but if they do so you may tell them that that is the way I do business and that future rebellions will be handled like this."

The story of this slaughter went over north China, and it struck terror to the hearts of the Boxers. It also convinced the foreigners that Yuan meant business.

I am told that Yuan is a born military leader and that he would rather talk any time to a military man than to a civilian. He looks best when he is in uniform and is riding at the head of his troops. Of late years he has grown fat and his complexion is sallow and discolored. He is short and heavy, with a big head, on broad, flat shoulders. He has little black eyes, which shine out of puffy slant lids. His hair is now white and his mustache is the color of snow. He looks shorter in the European clothes which he now wears than he did in the gorgeous Chinese silk costume, embroidered with gold, which formed his official attire up to the time of the last revolution. He has also cut off his queue, and altogether has lost much of his striking appearance. He is, I venture, six or eight inches shorter than was Li Hung Chang, and, physically speaking, he is by no means so impressive.

Yuan Shih Kai is said to have aged greatly since he came back to power. He has always been a high liver. He has a half-dozen wives of various degrees, and it is currently said that he loves them not wisely, but too well. The late ambassador Bryce, who went to China after leaving Washington a short time ago, has been reported as saying that Yuan is sadly addicted to the opium habit and that he observed that the president was under the influence of opium during the audience. I do not believe Mr. Bryce said anything of the kind. He is too much of a diplomat to have done so, even though he were sure that the above were a fact.

Young Men at the Helm

Yuan Shih Kai is the last of the really great statesmen of the old regime. The most of the other men are comparatively young. Many of them are graduates of our colleges, and the day is soon coming when China will be ruled by men who are educated in America. Tang Shao Yi is a graduate of Yale. The present Chinese minister at Washington went to the high school of the national capital and graduated at Cornell. Sun Yat Sen, who is now in this country, was educated in the English schools of the Hawaiian Islands and the whole empire begins to throb with young blood.

As to Yuan Shih Kai—he ties the past to the present. He was a great man thirty years ago and he has been a part of all the history of China during the last generation. He was co-temporary with Prince Ching, Chang Chi Tung, Yung Lu and Li Hung Chang. He was brought up as it were by Li Hung Chang, and the two for years worked together. He was close to the empress dowager and to the emperor Kwang Su. He has known every foreigner of note who has come to China within the last thirty years, and although never outside Asia, he has a good knowledge of our civilization and of what the great powers are doing in the work of the world.

Indeed, it seems to me that some of the most interesting characters of the last generation have been Chinese. These people are a strange mixture of barbarism and civilization. They love their friends and they kill their enemies; and the man in power has no hesitation about cutting off the head of him who stands in his way. During my last visit to China, about five years ago, I met Tuan Fang, the viceroy of Nanking, a great scholar, a well known general, and the ruler of more people than we have in the United States. He traveled around the world as one of a commission to get up the present constitution of the Chinese republic, and in a sense was the Thomas Jefferson of the new republic. During his travels he stopped in Egypt and made a collection of mummies, which he brought back with him to found, as I suppose, a museum. He showed me these mummies, and also many rare archeological objects which he had gathered from different parts of the Chinese empire. Some of his finds dated back for 1,000 years before Rome was founded, and he had one stone tablet which was written in 1500 B. C. The other day Frederick McCormick, who is connected with the American-Asiatic Archeological society, dropped in upon me fresh from China. I spoke of Tuan Fang and asked what had become of him. He replied:

"His enemies have cut him shorter by a head."

Such was the fate of a man who in many respects was like Gladstone, and who was as much of a patriot as was Jefferson or Washington.

Li Hung Chang's Fame Grows

I am told that Li Hung Chang's name grows greater in China as the years go on. A memorial tablet has been put up for him in Peking and temples have been erected in his honor in the many cities where he ruled as an official. I visited the temple in Tientsin. It is in the heart of the new section of the city, surrounded by great schools and factories. Two mighty marble lions, larger than life, guard the entrance; it has a high wall about it, and also huge gates with tiled roofs. The temple grounds cover acres. A wide stone pavement leads from the front gate to the main building, in which is a great tablet of stone bearing an inscription commemorating Li Hung Chang's greatness and services. The temple is large; it is beautifully carved and magnificently decorated with red and gold. On the road leading to it stand twelve marble tablets, each about four feet wide and twice as tall as a man. Upon them is inscribed a short history of Li. In this building is an altar upon which sacrifices are offered.

There is a statue of Li at Shanghai and he has a temple at Canton. I am told that he could have made himself emperor of China at almost any time during the last twenty-five years of his life, and that even before that General "Chinese" Gordon planned to do this. Gordon had asked Li for the use of his army for a month, and Li had consented, supposing he intended to put down some minor rebellions nearby. He was about to start when Li asked where he was going. General Gordon replied that he was about to march on Peking and proclaim him emperor of China. Li at once countermanded his promise and the plot fell through.

I have had a half dozen interviews with Li Hung Chang during my several visits to Asia. Before I first went to see him in 1888, when he was viceroy of Chihli, I was warned by our consul that it was foolish to try to get a newspaper story. Said the consul:

"You will not have a chance to ask a question. The old viceroy will turn you inside out like a glove. He will ask you about everything under the sun and will keep you talking while he himself says nothing."

Forewarned in this way, I decided to ask a question to my every answer and did so. The plan worked like a charm. Li's brain was a dynamo which could not help throwing out sparks if anything struck it, and as a result my questions gave me three columns of excellent stuff. I pursued the same policy in future conversations and was always successful.

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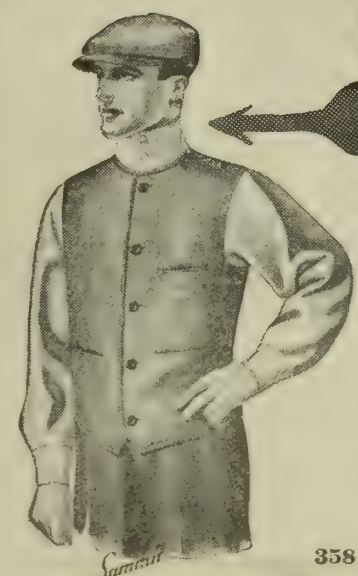

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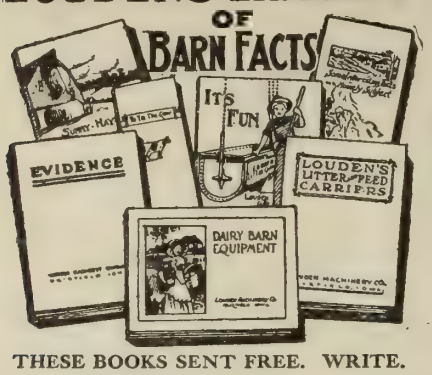

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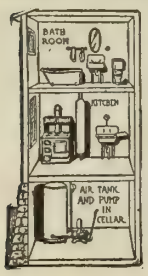

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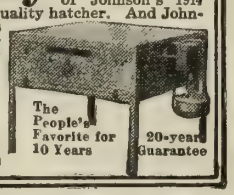

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Timely Items of Interest to Poultry Raisers and Fanciers

DID our subscriber from Nebraska, who asked about taking her Wyandottes to Wyoming in the spring, read the reply of F. E., Eaton, Colo., to her query in Our Readers' Exchange of November 8? In this reply it is stated that she can safely take these Wyandottes to this part of Wyoming and the altitude will not trouble them much, if any. The kind reply states that six Golden Wyandottes and six Black Langshan hens shipped to that altitude from Clinton, Mo., two years ago in June began laying next day, and the twelve laid well all summer. The writer goes on to say that, though the altitude in northeastern Wyoming is 4,978 feet, he has never had to complain of a lack of eggs from his flock, some of the hens laying as many as 180 eggs a year. I give this letter nearly in full again because of its hopeful attitude toward increasing the poultry business in these high altitude states, for no doubt but at the first failures to be met with in any altitude the owner gives up and puts the blame all on the altitude, when the blame lies elsewhere.

The Tariff Off

Dwight Hale, new editor of Successful Poultry Journal, says: "While the new tariff takes the duty off eggs, it also helps the man with eggs to sell and feed to buy when it takes it off grain also. At least this will give him a chance to produce his goods at a cost that will enable him to compete with his neighbor across the line. We are not worrying about the eggs from Canada, but when we read of those eggs from China being imported by the shipload, each egg wrapped in mud for who knows how long, 'scuse us, please; not any of that kind for us."

Eggs everywhere have never been so high as of late, surely. They are now 40 and 50 cents a dozen in rural towns. In certain cities the well-to-do class is calling a boycott on buying these high-priced eggs, because the scarcity, they claim, makes the high price, and if they do not buy so lavishly at the high price, more will be left on the market, the price will be reduced, and the working people, who need them, can afford to buy them. I'm not sure this is the right way to go at leveling prices.

Baby Ostriches

You have heard of knitting stockings for the baby chicks in early spring? It is a joke. But it is no joke on certain ostrich farms in southern California to see baby ostriches wearing a coat. An ostrich egg usually measures about six inches through, will weigh over three pounds and equals about two dozen hen eggs in contents. The chick hatched from it is about one foot high from the top of his funny, fuzzy head to his feet, and he is subject to colds from wet grass and ground, gapes and all things that menace the life of a chick of the smaller kinds of fowls. In the lands of cool nights or wet days the little fellows are often dressed up in tight-fitting frocks of felt. These are sewed tight about the almost naked body and neck, and kept there until the birds are strong enough to do without them, which is not long, as by the time they are 3 weeks old they are as large as a full-grown turkey. The baby ostrich grows to be the largest of all birds, with the chance of living longest. It often weighs 300 pounds when grown.

Egg Farming

The advantages of farming for eggs over that of profits in dressed poultry is greater than at a casual glance you might imagine. Farming for eggs alone, especially with those living near large cities, is fast on the increase. The old saying that the eggs from the poultry yard will pay for the horse while the sale of the meat is paying for the saddle, is more applicable in this day of high-priced eggs the year around than when it first became a proverb. The advantage of egg farming is that the produce is ready at once to send away, and, though the egg farmer pens away the male birds, or keeps none except at breeding time, thus insuring the eggs to stay fresh a long time, there is no egg farm so remote but that eggs can be taken away once a week. The advantage is, you know exactly what you are going to get for your eggs. If sent right, they should neither lose in number or condition. The product in this line can be computed on months ahead in price, as the price usually has its regular time to vary, and at its lowest never goes too low these days. On the other hand, while the egg farmer must necessarily have poultry to sell, and while this is an important addition to his profit, he is never so sure of his profits here as on eggs. If he dresses his poultry, he is at some expense in doing it, and it is liable to injury on the trip, and is losing weight, and no difference what the price, or how low, must be disposed of right away. Dressed poultry cannot wait a better price, and, if you sell it undressed, you take low prices at the times of year you have it most in plenty to sell, and so in both cases egg farming is best.

IDA M. SHEPLER.

Nebraska Hen No Slouch

C. W. Pool, commissioner of labor, says of the Nebraska hen: "She is no slouch, let me tell you. Last year she brought to the pockets of the Nebraska farmers no less than $10,000,000, besides all she supplied him for his table. Owing to the high price of meat, no doubt, but the 127,732 families living on the farms used more eggs at home than ever before. Despite this, there were shipped from Nebraska stations 47,628,822 dozen eggs, to say nothing of live and dressed poultry."

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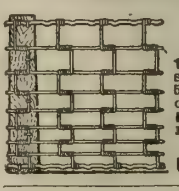

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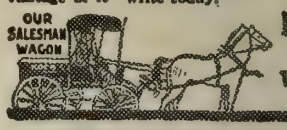

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International Laying Contest

Birds Attracting Attention at Storrs, Conn.

No. 1 shows championship hen, Baroness IV, at right, and her sister, belonging to Thomas Barron of England. They laid 544 eggs in the year.

No. 2 is the Connecticutt Leghorn whose record of 267 eggs last year made her leading American bird and gave her second place in the contest.

No. 3 is the Philadelphia Plymouth Rock that laid sixty-one eggs in sixty-one consecutive days.

No. 4 shows the White Wyandottes selected from sixteen Idaho birds. These hens upheld the honor of the great northwest.

Farmers' Institute Work in Nebraska

THE farmers in Nebraska have their fall work well along and the corn is mostly harvested. December is usually a good month so far as weather conditions are concerned, and reports from the institute officers indicate that the interest could not be better. The meetings held in November show an increase of about 10 per cent in attendance above that of last year.

The total for the season so far shows that during October, November and December seventy Nebraska points will have agricultural meetings and that there will be a total of 135 days' work. This does not include the special meetings or the meetings held in the counties by the farm demonstrators; neither does it include the work of the boys' and girls' clubs or the women's clubs.

The department is having to refuse many towns making requests for short-course work. It is impossible to secure suitable short-course instructors, and hence some towns which are ready for the work have to be denied for the time being. The short-course work is meeting with a great deal of interest and is undoubtedly the logical outgrowth of the farmers' institute. Eleven meetings have been held thus far in December. Future dates are given below:

Beatrice—Tuesday and Wednesday, December 9 and 10

Union Hall (Liberty)—Tuesday, December 9.

Virginia—Thursday, December 11.

Lewiston —Friday, December 12.

Diller Saturday, December 12.

Atkinson Tuesday and Wednesday, December 9 and 10

Page Tuesday, December 9.

Stanton Wednesday and Thursday, December 10 and 11.

Wisner Thursday and Friday, December 11 and 12.

West Point Friday and Saturday, December 12 and 13.

Weeping Water Wednesday, December 17.

Union Thursday, December 18.

Hayelock Thursday and Friday, December 18 and 19.

Springfield Friday and Saturday, December 19 and 20.

Hordville Monday and Tuesday, December 15 and 16.

Polk—Tuesday and Wednesday, December 16 and 17

Stromsburg Wednesday and Thursday, December 17 and 18.

Ravenna Thursday and Friday, December 18 and 19

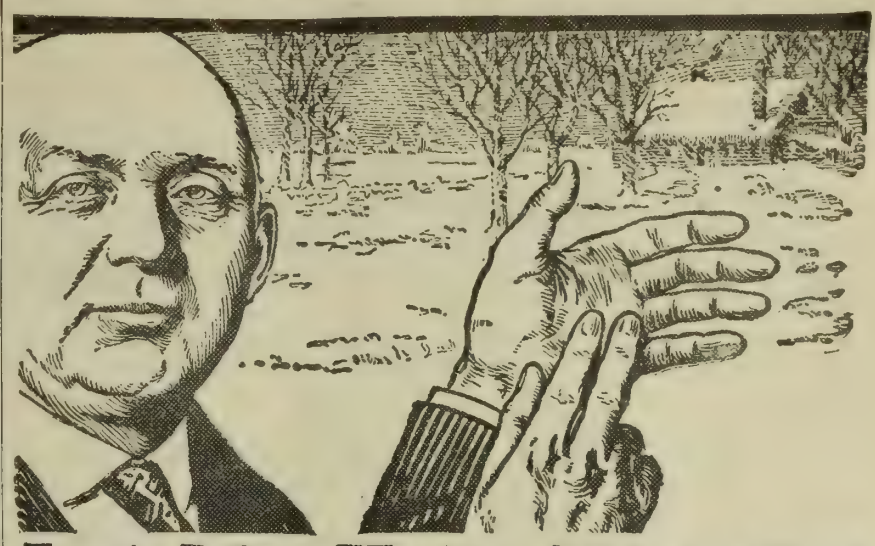
Weston Friday and Saturday, December 19 and 20

SHORT COURSES

Central City—December 8 to 12, inclusive.

Exeter—December 15 to 19, inclusive.

C. W. PUGSLEY,
Superintendent Agricultural Extension Service



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I make my biggest egg profits in the winter months, because I see to it that my own hens lay regularly then. You can make your hens lay in winter the same as mine do.

Under ordinary winter conditions hens lay poorly, because they are cooped up, deprived of green stuff and cannot get exercise. The egg organs consequently become sluggish and inactive and the hen puts on fat instead of converting her ration into eggs. Hens must have a tonic during winter to tone them up, invigorate the dormant egg organs and keep them healthy.

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Dr. Hess Stock Tonic contains tonics that improve the appetite and tone up the digestion, laxatives for regulating the bowels, and vermifuges that will positively expel worms. I guarantee it. 25-lb. pail $1.60; 100-lb. sack $5.00. Smaller packages as low as 50c. Except in Canada, the far West and the South.

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Dr. Hess Poultry PAN-A-CE-A

is just such a tonic. It makes hens lay. It contains ingredients for toning up the whole digestive system and enriching the blood. The U. S. Dispensatory and all noted veterinarians certify each ingredient to do what I claim for it. Pan-a-ce-a is a scientific preparation—back of it is my 25 years' experience as a doctor of medicine, veterinary scientist and successful poultry raiser. But I don't want you to try my Pan-a-ce-a on anybody's claim or say so, but on a

Money-Back Guarantee

So sure am I that Dr. Hess Poultry Pan-a-ce-a will make your hens lay during winter, that I have authorized your dealer to supply you with enough to feed your whole flock, and if it does not do as I claim, return the empty packages and get your money back. Pan-a-ce-a is never sold by peddlers, only by reliable dealers whom you know. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50. Except in Canada and the far West. Send for my new poultry book—it's a stunner and it's free.

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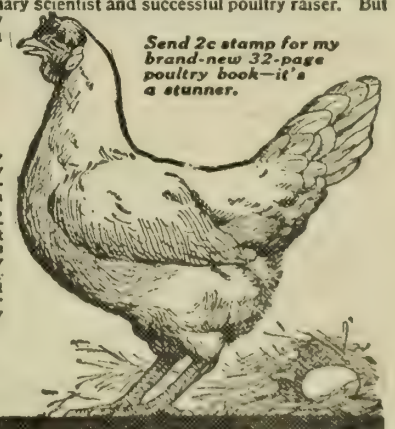
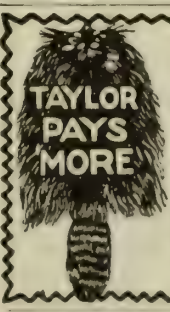


Send 2c stamp for my brand-new 32-page poultry book—it's a stunner.



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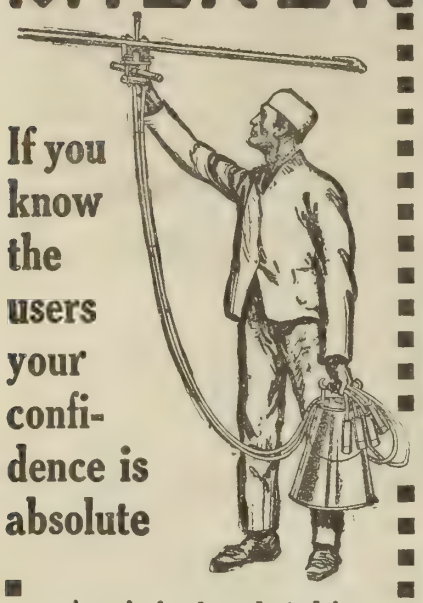

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Cheaper Money

David Lubin, delegate of the United States to the International Institute of Agriculture at Rome, writes:

In the presentation of a scheme for national and state legislation, legislation that would be likely to receive the serious attention of the American people, there should be an avoidance of socialistic or populistic elements. The United States can lend no money to farmers because they are farmers, any more than it can lend to shoemakers because they are shoemakers. Besides, in the event of foreclosure the federal government would not be strong enough to foreclose against farmers.

There is room for the United States to act in this matter of rural credits, and that is to act in the capacity of umpire, not of guarantor. It could do this by supplying a rigorous system of safeguarding the mode of procedure.

Editor's Note—No one is expecting the government to lend money to the farmers simply because they are farmers. The agitation is merely for the government to loan money with farm land as the security for the repayment of the loan. If the loan were made under proper conditions, it would not become necessary for the government itself to foreclose. It seems entirely logical that, since in a representative government the common people are the real governors, these people should be permitted to loan to themselves under proper safeguards.

Hog Cholera Inquiry

C. C., Miami, Tex.: Have just read your article on "Save the Hogs," and, as I am a novice in caring for sick hogs, will appreciate a little advice. I think my place is infected with hog cholera. Have lost only one, but have one that has been sick several weeks. The disease is among some hogs purchased this fall, but have kept them away from my home bunch. As it is nearing time for cold weather in this part, will that destroy the germ? Am preparing to vaccinate. Will vaccination render meat hogs unfti to butcher for any given length of time?

Answer—It is very possible that what you take for cholera is worms or some other trouble. If you have the carcass of the hog that died you should have a post-mortem examination made to ascertain whether or not cholera is the trouble. Cold weather will not kill the germs of cholera. If you find that cholera is present, you should secure serum from your experiment station at College Station. In our issue of November 22 you will find an editorial called "Where to Inject the Serum" that will probably help you. You are doing well in keeping these hogs away from your herd.

Seed for Acre of Lima Beans

C. S., Hotchkiss, Colo.: Could you tell me how many lima beans it takes to plant an acre? What will they yield per acre?

Editor's Answer—It takes from eight to ten quarts to plant an acre to lima beans.

The yield depends upon the condition of the soil, upon the climate and upon the method and thoroughness of cultivation. When all these are favorable and best, the yield will be from seventy-five to eighty bushels to the acre. This yield will be decreased in proportion as conditions for growth are less favorable.

Landlord and Tenant

J. H., Mead, Neb.: I have read your editorial on the "Landlord and Tenant" problem, and must say that you take a very independent view of the question; in fact, much more so than other agricultural journals with which I am familiar. It certainly is a problem that will never down unless you eliminate one or the other.

There is little use expecting the landlord and the tenant to get along on good terms, as one is suspicious of the other, and it seems to me that the simplest solution of the matter is by the adoption of the single tax, which would make it possible for the tenant to become a land owner and pay interest instead of rent, and pay off the principal whenever he could. It would also have a tendency to lower land values, which are largely speculative anyway, and make it easier for young men to purchase farms.

It is a nice thing to boast of our high-priced land, but are we not paying too high a price for it? Making a land owner of the tenant will give him a greater pride in his work, and he will be more inclined to conserve the fertility of the soil. High-priced land has a tendency to create a land-owning class which has a tendency to become a privileged class, and appropriates to itself more rights and privileges than it should have, and I do not think we wish to support such a class in this country. We probably have all seen the landlord using his power and vote to defeat some worthy object at election time and forcing his tenants to vote as he wished.

I hope that in the future you will have more to say on the landlord and tenant problem.

Editor's Answer—It cannot be expected that much good will come out of a system in which the interests of the landlord and tenant are mutually in oposition. One large land owner had adopted what might be called the co-operative system of tenancy, which makes the interests of the landlord identical with the interests of the tenant, so that if one succeeds the other must, and if one fails the other fails. This land-owner rents for a term of years. He puts up his land against the tenant's labor. Each owns an undivided half in all the live stock and in all the farm equipment of every kind. The tenant has from the farm whatever he needs for his individual family use. Of everything that is sold from the farm the landlord receives half and the tenant half. In the matter of repairs the landlord furnishes the material and the tenant does the work. If the tenant is unable to finance himself, the landlord finances him, taking as his security for the loan a lien on the tenant's undivided half of the live stock and farm equipment and crops. This makes the interests of the landlord identical with the interests of the tenant. Neither can help himself without helping the other. Each is interested in making the farm permanently productive. This is a safe system to follow where satisfactory tenants can be found.

It is by no means certain that land values are too high. A land value depends on its capacity to produce, not on the tenant's or farmer's capacity to make it productive. There is not an acre of ordinary arable land in the Missouri valley territory that cannot be made, by proper farming methods, to pay the current interest rate on a valuation of $300 per acre. The thing to criticise is our lax and inefficient methods in agriculture rather than the high price at which land owners hold their land.

Moving Poultry

Mrs. C. P., Wyoming: I would like to say, in reply to Mrs. R. R. McK., that I think change of climate injures chickens. We came from Iowa to Sheridan, Wyo., ten years ago, bringing a flock of about 100 Plymouth Rocks. The first year we got scarcely any eggs; at the best laying period not over three dozen a day, and they didn't set, and what chicks they hatched were not strong. Since I have heard of several like examples, I would not move hens, though they do fine when acclimated.

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Farm Versus City Wives

(CONTINUED FROM PAGE TEN)

ht here is where the wise farm nan may show her superiority in nagement to the average city e. Forecasting ahead, she does summer sewing the winter be-, and gets the spring cleaning of the way early. She systema-s her work.

Much of the city woman's strength pent rather uselessly, answering r bells, telephone, peddlers or at-ding upon the formalities of so- life. Farmers' daughters mostly farmers, thus proving that they not fear imposition.

All good farm men appreciate r wives. In case of illness, or en time permits, farmers are sur-ingly handy about the house. t city men have no chance to do , as their work takes them away n home. The helpful, sympa-tic attitude of a husband is the ir of life to a woman's heart, and love's sake she will toil early late and then feel less abused than some city sisters having more conveniences.

MRS. WILBUR KRISTENSON.
Iowa.

Silo as Popular as the Auto

The number of silos that may be seen in every farming community is evidence of the belief that canned goods for the live stock is not only the cheapest, but best feed. The reform from dry feed to the silo-preserved article got into the mind and understanding of the live stock owner without much argument. It takes pretty severe measures to convince some people of their greatest needs, but the dry weather of last summer brought conviction in a hurry. Everybody believes in silos, and it only took a little cross-cut argument by Providence to get them into action. The silo is now as popular with the farmers as the automobile with the city people. It is not a matter of "Does it pay?" but "What make of silo shall I get?" The silo will be almost as common on the farm from this time forward as the well that supplies the water for the family.

Henry Stuthman of Pilger, Neb., is offering a number of spring and fall males sired by this boar.

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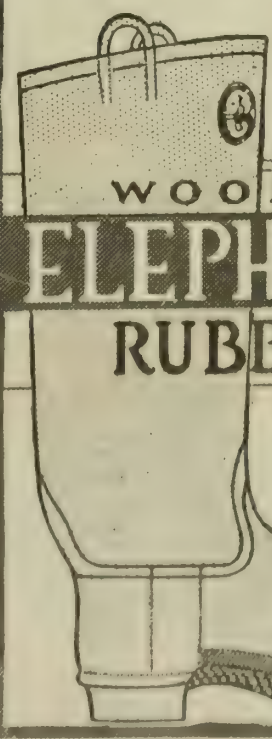

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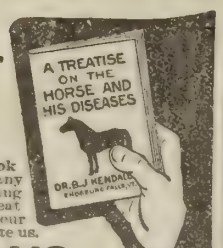

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A splendid lot of fall and spring males for sale, sired by Melina's Wonder, Crimson Wonder Select and Colonel Tippy. They are strictly right and worth the money. Henry Stuthman, Pilger, Neb.

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25 head spring boars, all immuned. Sired by Blue Ribbon Hastings, Big Sensation and A Wonder Surprise. The real big kind, not fat, but in the best of breeding condition. Real herd headers. Everything guaranteed. Prices reasonable. W. J. EAVEY, GENEVA, NEB.

Review of Live Stock Market

By A. C. Davenport

LIVE stock markets are very uncertain during a holiday week. It would hardly seem possible that the intervention of one holiday could so upset a market for a whole week, but, improbable as it may seem, it is a disturbing influence that must be reckoned with. While there is always a demand for some stock, the inquiry for most kinds, especially cattle and sheep, is usually very moderate. If there happen to be anything like liberal receipts at the market centers it is generally very hard to dispose of the offerings and buyers take advantage of the glutted condition of the market to buy at very low prices. On the other hand, if receipts are very light during a holiday week much higher prices result frequently.

The uncertainty of the market during a holiday week has made shippers very timid about sending in anything at such a time. In fact, most conservative shippers try to avoid shipping during a holiday week. Others, knowing that the majority of shippers will stay away, take a long chance by shipping in a few cattle or sheep, hoping to find the market bare and thus realize high prices. If too many of the latter class happen to play the game at the same time, away goes the market with a crash. Thanksgiving week has many times been very disastrous to venturesome shippers and so many of them have been hurt in years gone by that they have grown cautious.

This year all the markets were very lightly supplied with cattle and the result was a sharp advance at all points. It was very fortunate that such was the case, as the cattle market had been glutted with receipts at Chicago the greater part of November and was badly in need of a chance to recover some of the lost ground. Thus it happened that during last week advances of 25c and in many cases 50c were reported at the different market points on cattle. It is well understood, however, that the advance was due only to the very light receipts. Had runs been at all liberal the market would undoubtedly have been very weak and unsatisfactory.

At present writing stockmen are looking forward to the coming week with no little apprehension. It is very generally felt that there is nothing in sight to encourage a belief that the consuming demand will be large. On the contrary, this is the poultry season when the demand is always moderate. The warm and unseasonable weather prevailing in all sections of the country has at the same time a tendency to reduce the consumption of meats of all kinds. As if to render the situation still worse for the selling interests three boatloads of Argentina beef are reported to be on the way to New York. One of these boats, carrying 1,000 carcasses of beef, is due to arrive the first week in December. This same first week in December also is the time of holding the great live stock show in Chicago. In previous years a great many visitors to this show have tried to kill two birds with one stone, that is, see the show and at the same time look after the sale of one or more cars of stock. Nothing is better calculated to glut the Chicago live stock market than this practice, as demonstrated by the experience of previous years. Given big receipts of cattle and a thousand carcasses of Argentina beef to talk about, the packers would disappoint both their friends and enemies if they did not bring out the warclub and pound the market to a pulp. It will be noted from this that the immediate outlook for the market is not very cheerful from a seller's standpoint, but it is all up to the country. If feeders and shippers will use good judgment in letting the cattle come forward slowly, there is no reason why a money-losing glut cannot be avoided.

The fact is, December of all the months of the year calls for the greatest exercise of good judgment in the shipment of cattle. It is the worst month of the year for the marketing of half fat beeves; this is something worth remembering and having remembered it shippers would be money ahead if they would act upon it.

Hogs, the country over, have suffered a considerable break during the last few days. The large receipts of pigs and immature light hogs broke the market sharply on that kind. As the runs continued large, heavy hogs were finally weakened and they, too, declined more or less at all points.

The run of light hogs and pigs has proven larger than was expected. It would appear that a good many growers who have no disease in their herds are shipping their hogs before they are mature. They figure that it is better to sell now and realize less money for their light hogs and pigs than to carry them longer and feed out their corn and take chances with the cholera. In other words, they are selling their hogs and their corn and are thus playing a "sure thing game." Until these people have unloaded there is not much promise of the market making any permanent improvement.

The fact that receipts have proven larger than expected has increased bearish sentiment very materially and a good many operators are of the opinion that the bottom has not yet been reached. On the other hand, almost all are agreed that when the cholera infested herds are cleaned up and the weak holders have unloaded there must be a decided shortage in supplies and higher prices. The only point of difference is the date when the real advance will set in. Some believe that there will be a pretty fair run all winter and that hogs will not soar very high before summer. Others have figured out that Kansas City and St. Louis receipts must fall down very soon on account of last summer's drouth in much of the territory tributory to those markets. They also figure that the heavy marketing of pigs must be felt in reduced receipts of hogs at other points before very long. According to the views of those who reason along such lines hogs will sprout wings and begin to soar upward before the winter is very old.

No change of importance has taken place in the situation as regards sheep and lambs. Prices have fluctuated at the different market centers, but no radical or important changes have taken place. Prevailing prices have been fairly satisfactory and as a rule are making the feeders a little money. As noted before in these columns operators on the sheep market are not anticipating any great change for the near future. It would look very much as if the market for the next month at least would depend very largely upon the question of receipts. In other words as often as runs become a little burdensome lower prices are to be expected, but sheep men do not look for any stampede on the part of feeders to sell and as often as the market breaks to any extent they are expecting a letup in shipments that would have a tendency to restore the market. If these expectations are realized the general market ought not to show much change. As a matter of course in December it does not take very much half fat or unfinished stuff to break the market, as the demand is limited largely to the better grades of killers.

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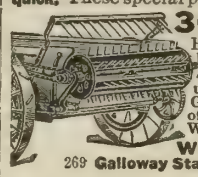

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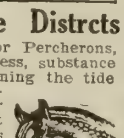

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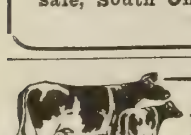

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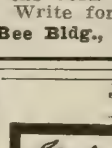

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Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.
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Poland-China Boars

G. W. Feuerstein of Fremont, Neb., is starting an advertisement on another page of this issue of the Twentieth Century Farmer, in which he is offering some extra choice Poland-China spring males for sale. These boars are of the big, long, heavy-boned kind and will weigh around 225 pounds at this time. They are sired by Long Boy 3d by Long Boy 2d, one of the best big boars in Nebraska. They are largely out of sows carrying the blood lines of Blue Valley Quality and Blue Valey Exception. Mr. Feuerstein also has several extra choice Shorthorn bulls for sale. These bulls are of milking strains and are good ones. If you want anything in his line, write him for further particulars, mentioning this paper.

Sale Dates

Shorthorn Cattle

December 16 and 17—C. A. Saunders, Manilla, Ia. Sale at South Omaha.

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Friesian Cattle

February 3-4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher, Botna, Ia. Sale at South Omaha, Neb.

Hampshire Hogs

March 18, 1914—Roy Fisher, Winside,

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

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Bright and Breezy

No More Objections

He came home proudly and announced that he had insured his life in her favor for $20,000.

"You are so kind and thoughtful, dearest," she said, sweetly. "I'll never say another word against your getting a motorcycle."

Poor Kitty

The professor tapped the bell sharply. The maid quickly responded.

"Margaret, please take the cat out of the room. I cannot have it making such a noise while I am at work. Where is it?"

"Why, sir! You are sitting on it!"

Didn't Quite Suit

A horse dealer was showing a horse to a prospective buyer. After running him back and forth for a few minutes, he said to the buyer: "What do you think of his coat, isn't he a dandy?"

The buyer noticed that the horse had the heaves. "Yes," he replied, "I like his coat all right, but I don't like his pants."

Wasted Sympathy

The girl who had just returned from her second six weeks' tour of Europe beamed compassionately on the woman who modestly confessed that she had been abroad only once.

"Too bad," said the girl, patronizingly. "I always feel so sorry for anybody who is not able to get back a second time. How long were you there?"

"Ten years," said the woman.

The six weeks' tripper changed the subject.

Cautious

A woman entered a dentist's office to have several teeth extracted, and after talking it over with the dentist agreed to take gas. "You will be unconscious for only a few minutes," she was reassured. The woman took her pocketbook out and began to count her money. "Never mind that now," said the dentist. "You do not have to pay until I've finished." "I wasn't going to pay you," explained the woman; "I was going to count my money."

One of Our Conquerors

The maneuvers, in which the Red and the Blue armies had engaged in mimic warfare, had ended. They were the subject of conversation on the porch of a summer hotel, says the Newark Star.

"Yes, I was at the maneuvers," remarked a talkative stranger. "I was with the Blue army."

"Tell us about it," said one of the listeners.

"Well, the first day I took one of the Red's officers."

"Yes?"

"And the next day I took eight men."

"Well! Well!"

"Yes, and the day before we quit I took a lot of transport wagons, and followed that up by taking a big gun."

"Say, my friend," said one of the group who had been listening in astonishment to these tales of military prowess, "what are you, anyway?"

"Oh," replied the stranger, "I am a photographer."

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What Feterita is and Does

WITHIN the last six years a new grain has been introduced into this country and widely advertised. We have been told that it will resist drouth, that it will give us enormous yields, that it is easy to grow; in fact, that it is the ideal grain sorghum crop. We have heard of this wonderful feterita on all sides, and thousands of acres in the United States have been planted to it. At the end of six years we ought to know whether these claims made for it are true. If it is all that is claimed for it, we want to devote our time to growing it. If it is not, we want to know what the trouble is. In the next issue of the Twentieth Century Farmer A. C. Hartenbower will tell you the whole truth about this much-talked-of plant. Mr. Hartenbower lives in Oklahoma, where this crop has been largely grown, and he has had opportunities of observing it over a wide area. If you are thinking of devoting some space to this sorghum crop the coming year, be sure to read what he has to say on the subject.

Prattle of the Youngsters

Perfectly Obvious

Johnny—Mamma, Tommy Brown's mother makes him go to Sunday school every Sunday morning.

Mamma—How do you know she makes him go?

Johnny—Because he goes.

Only Lacked Material

Elizabeth's father was taking her for her first walk in her new home in a mountainous section. He said: "Just think, Elizabeth, God made all these beautiful mountains; isn't it wonderful?"

Elizabeth, who was aged 5, promptly replied, "H'm! I could, too, if I had the dirt."

Annoying

A Boston man has a son who has just entered school. He was supposed to be enjoying it, but one morning he walked into the dining room, where his father was having his breakfast, and remarked:

"I'm tired of going to school, pa. I think I'll stop."

"Why?" asked the father. "What is your objection to going to school?"

"Oh," answered the boy, "it breaks up the day so."

Practical

A certain school teacher was giving her class reading. It came to a part about a woman drowning herself. The teacher asked a boy to read again. He began: "She threw herself into the river. Her husband, horror-stricken, rushed to the bank—" The teacher interrupted: "Now tell me why the husband rushed to the bank?" Quick and sharp came the answer: Please, ma'am, to get the insurance money."

"Temp'rut" Zone Defined

"In what zone do we live?" asked the teacher.

"The Temp'rut zone," chanted the well drilled class.

"Right. And what do we mean by 'temperate?' Willie, you may answer."

"Temp'rut is where it's freezin' cold half the time an' roastin' hot the other half the time."

If Willie wasn't sent to the head for that, it wasn't because he didn't deserve the honor.

Couldn't Swallow Anything

A little 4-year-old came running into the room where her mother and a guest were sitting.

"My dolly's sick," she said, "and I don't know what's the matter. I gave her water and she can't swallow that; the doctor gave her a pill and she can't swallow that."

"Then," said her mother, "I don't see but what you had better try Christian Science for her."

"We have tried it," said she, "and she can't swallow that."

Easy to Guess

Vera (8 years old)—What does Transatlantic mean, mother?

Mother—Across the Atlantic, of course. But you mustn't bother me.

Vera—Does "trans" always mean across?

Mother—I suppose it does. Now, if you don't stop bothering me with your questions, I shall send you right to bed.

Vera (after a few minutes' silence)—Then does transparent mean cross parent?

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Crop Rotations in Grain Sorghum Belt

Farmers Having Greatest Success Have Adopted Crop Rotation in Their Agricultural Operations

By A. C. Hartenbower

THE very nature of the growth of kafir, milo and the other grain sorghum crops, and the climatic conditions under which these crops are grown, render a rotation almost a necessity in their continued successful production.

In the grain sorghum belt a notion is prevalent that kafir and the other grain sorghums are "hard on the land." While there is, no doubt, good reason for this general opinion among growers, yet the cause is due to the methods used in handling the soils rather than to the crops themselves. Since these crops require about the same amounts of the different essential plant foods in proportion to the dry matter produced, as do the other staple farm crops, it is evident that the basis for this notion is due to causes other than the exhaustion of the plant food of the soil.

"Hard on Land" Physically

The fact that kafir has been continuously grown for a number of years in many sections of the southwest without producing more detrimental effects than those noted from the continuous culture of wheat and other crops, is sufficient evidence to prove that, if proper attention is given to handling the soil, these sorghums can be produced without any more rapid deterioration of the soil than in the production of other crops. Sorghums, then, are "hard on the land" from a physical standpoint rather from a chemical standpoint, and this fact renders difficult the storage and conservation of moisture when ordinary methods of farming are practiced. By a rotation of crops, particularly where a leguminous crop is included, the physical condition of the soil is much more easily maintained.

The chief object, then, for providing a crop rotation in the regions where the grain sorghums are produced is to maintain a proper soil structure in order to be better able to store and retain moisture. Generally speaking, the soils upon which these crops are grown are abundantly supplied with plant food, because the loss of plant food by leaching is very limited, crop yields are comparatively low, and there is thus not such an annual drain of plant food as in the more humid sections. While a rotation is not, then, as essential in this section for maintaining the chemical condition of the soil, yet there are other objects to consider aside from the maintenance of the physical condition of the soil. Among these may be mentioned, first, to keep weeds in check; second, to combat the ravages of insect enemies and plant diseases, and, third, to provide a profitable system of farm management.

Weeds

Certain weeds thrive best when a field is planted to the same crop year after year. By rotating the cultivated crops the weed crops will also be rotated to a considerable extent, and as a result they will be more easily held in check.

Insect Enemies and Plant Diseases

While the injuries done by insects and plant diseases to kafir and the other grain sorghums have been up to the present time of little consequence, yet the fact that reports are coming in occasionally to the effect that localities are suffering from the midge or from other insects, such as caterpillars, indicates that where the grain sorghums are grown continuously on the same land for many years the same thing will happen as in the case of the other staple crops, such as corn and cotton. In many sections of the south cotton growing has become unprofitable as a result of the destructive effects of the boll-weevil, and in many other sections the cotton boll worm has greatly reduced the profits. When conditions such as these arise it is absolutely necessary to grow some other crops, or, in other words, a rotation is forced upon the grower. To prevent such injurious effects by insects is a very important object of a rotation of crops. What has been said regarding insect enemies will apply in the same way to plant diseases. Why not start a rotation now, and thereby do your share toward preventing the increased destructiveness of insect enemies and plant disease to your grain sorghums and other crops?

Farm Management

The growing of but one crop continuously on the farm under the prevailing methods of soil management cannot be long profitably continued. A study of the history of agricultural sections, beginning with the country when it was new and following it until it has reached old age, so far as crop production is concerned, will bear out this statement. A rotation should be planned in such a way that it will provide employment for the teams, the machinery and the hired help and the farmer himself during the year. It may be argued that the average farmer has plenty to do regardless of any rotation scheme. This is true in most cases, but the trouble is that a great deal of his time is spent in unproductive labor, such as caring for teams that are themselves idle. Idle teams and hands and unproductive labor on the part of the farmer himself are big items in the profitableness of farming and a sensible rotation of crops will serve to greatly decrease the animal loss thus incurred.

Planning a Rotation

Primarily the planning of any rotation for any particular farm depends upon the crops which can be grown and the kind of farming practiced, whether grain farming or live stock farming. The latter is determined by local soil and market conditions, available labor and capital and personal tastes.

The principal crops grown in the grain sorghum belt are kafir and the other grain sorghums, wheat, oats, cotton and legumes, more especially alfalfa and cow-peas. There are numerous minor crops, among which are barley, rye, saccharine sorghums and millet. Cotton is grown only in the southeastern portion of the grain sorghum belt, but in that section it constitutes a very important crop. Sweet clover as a green manure or green cover crop, and to some extent as a pasture and hay plant, is attracting considerable attention, and may become of considerable importance, but as yet it is of no practical use. Taking these crops as a basis, according to their local adaptation, the individual farmer can devise a scheme of rotation which, although not as good as in the most humid sections, will in the main bring about the desired results.

The Oklahoma Experiment Station and the most progressive farmers have proved that it is impossible to plant cow-peas and other annual leguminous crops as catch crops after wheat or oats have been harvested over all except the eastern border of the grain sorghum belt. When this leguminous crop is successfully included in a rotation, then it must be planted as a regular crop in the rotation, that is, planted in the spring and not in the early or mid-summer after other crops have been harvested.

Valuable Rotations

While the specific rotation must be worked out for the conditions prevailing on the local farm as a unit, a three-year crop rotation has proved very popular in the grain sorghum belt. This rotation consists of wheat or oats the first year, kafir or other grain sorghum crop the second year, and cow-peas or peanuts the third year. Where cotton is grown as a principal crop in the rotation, the wheat or the oats, generally the former, are replaced with this crop, or the rotation is increased to four years. These rotations, especially the first one named, permit fall plowing two seasons and thereby allow the farmer to store up a maximum supply of the fall, winter and early spring rains. This moisture storage is absolutely essential under the conditions prevailing in the grain sorghum belt. Aside from the moisture conservation and storing, the rotation fits in well with the mixed farming found there. Where cotton is included in the rotation, the four-year one appears to be the most feasible.

In any case, then, a crop rotation is valuable in growing the grain sorghum crops, and those farmers who are having the greatest success in growing these crops have adopted a crop rotation in their farming operations.

International Live Stock Show at Chicago

Horses, Cattle, Hogs and Sheep More Numerous and of Better Quality than Ever Before

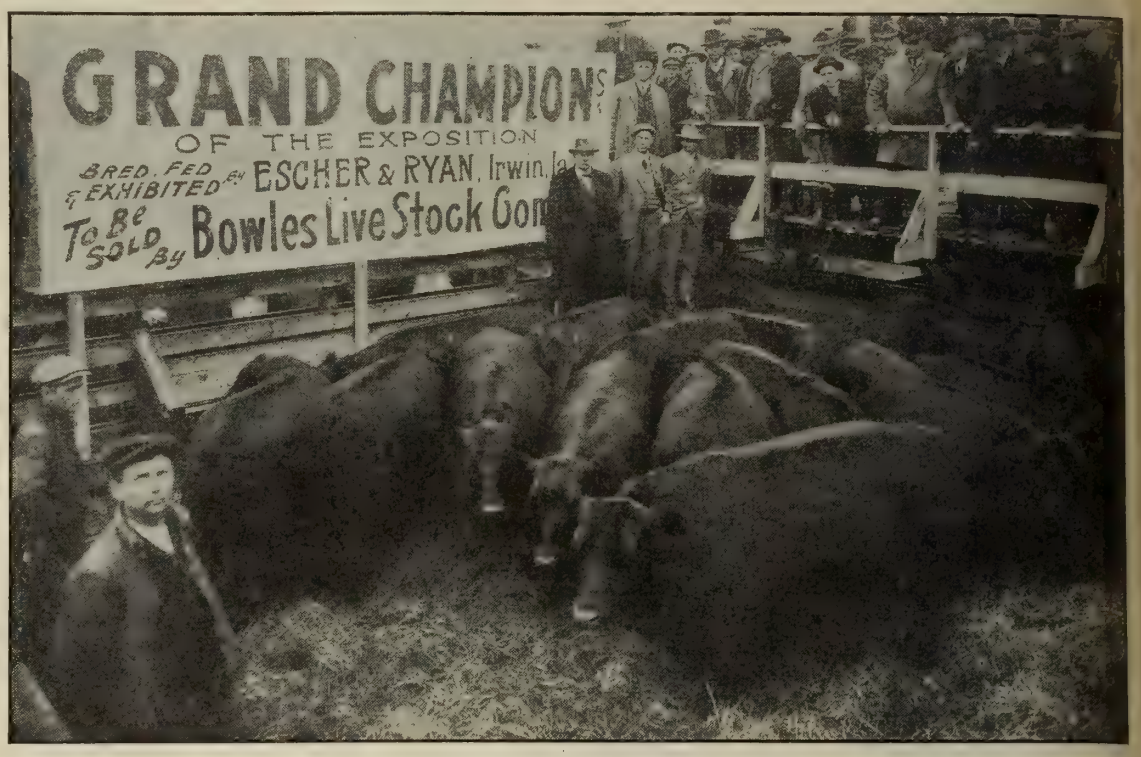
THE International Live Stock Show held at Chicago last week recorded the greatest display in the history of its career as a world-wide live stock exposition. There is no hesitency on the part of live stock experts, live stock judges and live stock authorities who have visited the great shows in this and other countries to pronounce the International the greatest and best display in the world. The progress of the association since its organization has been a steady, healthy development, backed up by the largest aggregation of substantial and skilled breeders and feeders to be found in any country on either continent. While this show is open to the world and patronized by other countries and the best that foreign countries can produce and American money can purchase, there is a distinctively American talent displayed in every department of this show, that challenges the world for supremacy.

The International Live Stock Show is the greatest source of live stock information, for those who avail themselves of its opportunities and resources, of any educational influence that time, talent or money can procure. The excellencies of animal creation, developed and rounded out by the skill and ingenuity of human devices, sympathy and attention produce the animals which set the standard which man is pleased to call ideal, but which, in fact, are only another step forward toward the goal of perfection, that never will be reached.

In all respects this great American live stock exposition has in 1913 excelled every effort heretofore made. From all departments comes the general expression of approval, "better than ever before." These very impressive lessons of comparison go deep into the memory of observers, and they are carried home to thousands of farms where live stock is being kept, bred and fed. This means a raising of the breeding standard, it means more attention, it means better stock and better appliances, and the tendency is progress, advancement all along the line.

Cattle

The cattle division suggested but one general comment,—"The best display of cattle I ever saw." The large classes, especially in the two prominent breeds of cattle, Shorthorns and Herfords, attracted general attention. The uniformity in quality, type and finish of the beef breeds —Shorthorns, Herefords, Angus and Galloways was a matter of general comment by cattle judges. Each year there seems to be an advance made by the breeders and exhibitors. This is one of the positive evidences of the great benefit



Grand Champion Carload Lot of Cattle

the cattle show is exerting upon the stock of the country.

Grand Champion Bull

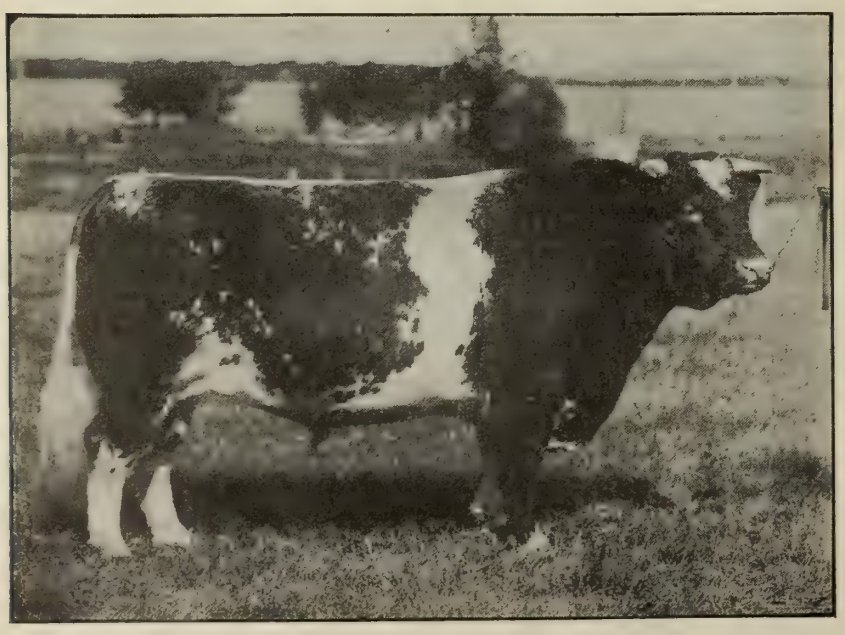
The crowning of Ringmaster as grand champion Shorthorn at the International marks a heretofore unheard of event. No other animal of any kind was ever made grand champion three times at so great a show as this. In 1912 he was not shown. However, he is as smooth today as he was in 1910 and 1911, when he won his first laurels. From a show yard standpoint, this bull has certainly proved to be a marvel. If his calves just come on now and make records, there will be no grounds for complaint. Although six years of age, he is smoother in his covering and mellower in his skin than most calves of six months. So great was the excitement when he received the purple ribbon that Leslie Smith's friends boosted him across the bull's shoulders and held him there for several moments.

Champion Bull Calf

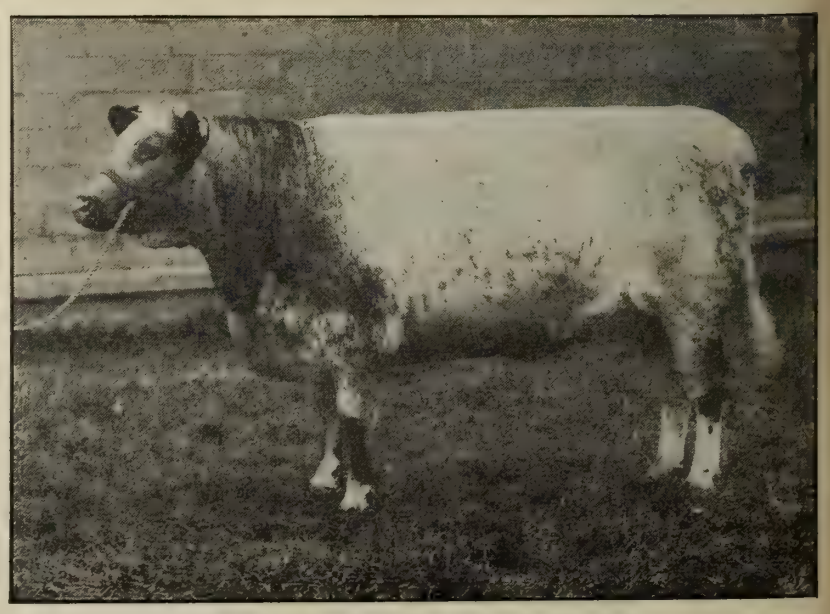
C. A. Saunders of Manilla, Ia., is this season exhibiting a phenomenal calf. At the International, this youngster weighed 1,320 pounds at just fifteen months of age. Mr. Saunders pronounces him the best doer he has ever tried to show. In a class of twenty-five senior bull calves, he was easily the winner, and was later made junior champion. The renowned Ringmaster captured grand championship, but this does not weaken the calf in any way. Cumberland's Type is a roan of the low-down blocky kind. His flesh is thick and evenly laid on. He shows much masculinity for a calf in his teens and will surely grow to a bull of the large, rugged type. For many years the Saunders calves have been sweeping the fair circuits. At the Kansas City Royal this calf headed his class, although weighing 200 pounds less than at the present time.

Dairy Shorthorns

Dual purpose cattle have fast been coming to their own. Many Shorthorn breeders have founded herds based on records at the pail of recent years. To foster this feeling, the International several years ago started classes for dairy Shorthorns. The exhibit in this department this year received much attention from the hosts of farmers in evidence. These cattle were grouped by themselves in the south wing of the main building and were indeed good to look at. Large, roomy cows with big udders, and long, winding milk veins of such size as to guarantee milk production. May & Otis of Pennsylvania had the largest exhibit. Their cows were uniformly good, and many of them would have passed for Holsteins had they but been black and white. It was in this herd that the world's



Ringmaster, Champion Shorthorn Bull



Maxwalton Missie 2d, Grand Champion Shorthorn Cow.

record of the breed was made, a cow having produced 18,075 pounds of milk containing 735 pounds of butter, in one year.

There is a place for good cattle of any type in this country, and the milking Shorthorn has a bright future here, as well as in old England. May & Otis milk upwards of eighty cows, all of which are registered. They have no Scotch blood in their herd, but a preponderance of Bates exists. If these high milking strains will but reproduce themselves, then the remaining obstacle to their popularity will be removed. They surely have the practical farmer upon their side of the ledger.

Grand Champion Steer

For the second year in succession, a man named McGregor swooped down from Manitoba and captured the much-coveted steer prize from States' breeders and colleges. This time it was with a half-brother to the 1912 champion, both being out of the same cow but sired by different Angus bulls. No more universal favorite ever received championship honors than this calf. He was a popular winner from the start. Evidently corn and alfalfa are not necessary in beef production. This steer's feed consisted of oats, barley, turnips and prairie hay, with a small amount of oil meal added at times. He was thickly and firmly covered. Many competing steers appeared gobby and rough as compared with this calf. Last year's champion dressed 70.9 per cent, the highest percentage of a champion up to date.

Carlot Cattle Show

Last year's brutal price slaughter on show cattle failed to hurt this year's display in that section. Feeders were back stronger than ever and seemed to carry confidence that their show cattle would at least bring market prices this time. The sifting committee discarded forty loads before the judges started on their work. This committee has perhaps caused many sore spots in doing its work in years past, but without a doubt it has had much to do with the improvement in quality at the present show. Feeders know better now than to try to enter a load of common cattle for prizes. Escher & Ryon of Botna, Ia., captured championship on one of their loads of Angus yearlings. This firm showed three loads of two-year-olds, three of yearlings and one of three-year-olds, and won two firsts and two seconds with them, besides champion and reserve champion. This is the third time they have won championship honors on doddies of their own raising. They rank as the largest Angus breeders in the country at the present time, their herd of purebred cows numbering over 400 head. From a carload of yearlings, they entered six steers in the individual class, and all were in the money save one. These steers competed with the best stall-feds which breeders and colleges could put forth.

Red Polls

This popular dual purpose breed made the lightest showing ever made at Chicago. If breeders are not careful the dairy Shorthorn people will be stealing their popularity from them. Fred Wherle of South Dakota judged the five herds on show. As usual, it was hard to stick to type in every class. Eight grand aged cows made the best show of the day. They carried deep, roomy bodies, with wide loins and large pendulous udders. Bull classes lacked the quality of International caliber.

University of Nebraska Cattle

The University of Nebraska this year showed twelve head of fat cattle. A very credible showing was made, considering the immensity of the fat cattle show. In Galloways their two-year-old won first and championship. He was later awarded third prize on the foot in the carcass contest, all breeds competing. He carried very firm, even flesh, and his ribs sprung immensely well for one of his breed. The calf was awarded first in his class, while the yearling took third, thus giving the college first on Galloway herd.

A pure bred Angus steer won second in the open class of thirty-four. He was later placed first in the block test class on foot. Herefords did not win much for the college. One Shorthorn rated third. Practically all the middle west colleges showed steers, and many individual breeders had winning entries.

Horses

The draft horse show was a marvel of excellence, beauty and quality; a display that the great throngs of sightseers were never weary of gazing at. Admiration seemed to be depicted on every countenance as these long lines of finely groomed and proud animals were paraded before the crowded amphitheater. The draft horse seemed to have a place in the estimation of the people that no feature of machinery or invention of man could supplant. In fact, the horse was supreme at the show, to all appearances, as a power producer and utility appliance for the operation of the farm.

Percherons

The Percherons put up a grand display from start to finish. They were surely a fine lot of horseflesh, and ringside interest followed them closely. On Tuesday the entire seating capacity of the arena was taxed all day, and the crowd kept their seats until 1:15 in the afternoon, waiting to see what the judges were going to do with the three-year-old stallions.

Thirty aged stallions put up a close fight. Intitule, last year's second prize horse, was left in third place. He sold last year for a figure said to exceed $7,000 by quite a margin.

Sixty two-year-old stallions formed the largest ring of the entire show. Twenty-five of them were sent to the barn without trying their action. Mr. Tascheau, the largest horse dealer in La Perche, admitted this class to be the equal of the best ones of their district in France. Burgess secured first and Dunhams second, the latter colt being a black and weighing 2,200 pounds. The Burgess colt moved somewhat better but was lighter of bone.

Yearlings were a strong class. Of the sixteen winners, thirteen were American bred. The Burgess gray, sweepstakes at the Illinois fair, was allotted first place. Second to him stood an 18-months-old Illinois-raised colt weighing 1,730 pounds.

If one may judge by the show put up by the breeders of Percherons, we would be safe in saying that this breed is becoming the American draft horse.

Belgians

No breed of draft horse has made the show ring progress which the Belgians have this year. Des Moines witnessed a good big showing, characterized by quality as well as scale, but the Chicago show far excelled that at the Iowa fair. Ringside hangers-on pronounced it the finest showing ever made by the breed on this side of the water. The old-fashioned, gummy-legged Belgian was not in evidence this year. Instead, we found good tops, deep bodies, level croups, well placed legs and lots of quality. These are all essential to any real draft horse and perhaps are carrying the popularity of the breed. Of the eleven yearling stallions, only one was imported and he stood eleventh, so America can probably soon boast of as good as the mother country.

Shires

The English carthorse was not so well represented as usual. Belgians seem to be pushing the hairy-legged horses for popularity. The exhibit contained many animals of merit. The American breeds on show tended to a lighter feather on their legs than the imported ones. In muddy sections, the hairy leg is almost intolerable to a man who does not like to work.

A few years back there were many gray Shires being imported. This year a very good yearling was shown of a very unusual mark. One hind leg was white, the marking extending clear up, over the hip. The balance of the body was a beautiful, dark bay. Had this colt been properly marked, he probably would never have left England.

An Illinois bred stallion was shown as a three-year old, weighing 2,100 pounds. He was a very good individual and testified amply that we can grow good horses here if we will feed them.

Clydesdales

Scotland this year parted with a championship mare and stallion. This is unusual, to say the least. In France it is the custom, but the shrewd Scotchman has always kept his prize winners for stud purposes. Money has, as a rule, failed to tempt him. Fyvie Baron, a son of the greatest of all Clydes, Baron's Pride, left Scotland last season for the reputed sum of $5,000. He won championship as a yearling at Aberdeen in 1908, and his colts have been good winners of recent years at Scotch shows. He was outstanding winner in the aged class at Chicago. Second to him stood the Saskatchewan horse, Prince Robert. He has been the Canadian champion the past season. The long trip left him in bad fix, however, and he was only shown at the walk, as he had a fever of 104 on show day. The aged mare, Nerissa, was champion in Scotland a few years back. She proved to be an easy winner in her class at Chicago.

The Clydesdales are good horses with lots of quality and action, but they looked small and light middled as compared with the other draft horses on display. Furthermore, the judges seemed to disregard size in their rating and seek alone for quality and action. From a class of eighteen two-year-old stallions, they placed a 1,200-pound colt in second place. Some Belgian weanlings on show were nearly his size. The American farmer demands a horse with a good deep flank. This insures his making good use of feed. When Clyde men get to breeding good deep-bodied horses of typical quality they will be able to better plead their cause.

Canadian Clydesdales

The provincial governments of Saskatchewan and British Columbia sent a fine display of Clydesdale horses to Chicago. It was a long, hard trip for the horses. Many of them came 3,500 miles, leaving a dry temperature of four below zero and arriving in Chicago during a damp, mucky spell when the thermometer registered 65 above. The government paid the transportation charges on the horses and entered them in the show, leaving but the feed bills for the individual owners to meet. The prize money went to the owner of the animal in each case. Despite the fact that most of the colts were coughing and gaunt when shown, they succeeded in capturing many prizes. They were rather smaller than the States' Clydes but possessed worlds of quality and had well set limbs. Word comes from many of these northern farmers that the draft horse has won out over the big tractor from a dollars and cents standpoint. They assert that by working brood mares and raising colts, they can produce crops for one-fourth less cost, even on level prairies. Naturally, they prefer the feathery-limbed Clyde, because of their Scotch descent, and consequently the government saw fit to help boost their favorite into the greatest of show rings.

Swine

In the sheep and swine divisions there was as great evidence of the tendency among breeders to improve in quality. There were also increased numbers exhibited. The mutton producers show no evidence of going out of the business. They are optimistic on the sheep future of this country. Better sheep and more wool is the declaration of the breeder now.

The hog cholera scare has about ceased to have an influence in keeping exhibitors at home. The sanitary observances are more strictly carried out at the shows than on most farms where hogs are produced; besides, the immunizing with hog cholera serum is generally practiced. The hog has been bred in the corn belt country until there is a type established that is generally known as the "lard hog." This type could, with equal propriety, be called the "corn hog," since the liberal use of corn and alfalfa seems to arrive at the same result in type of hog, after a few generations of breeding and feeding. There is a comparatively new breed of hogs now in the

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Co-operation again! This time the American Highway Association and the American Bar Association are going to co-operate, making an effort to get the road laws of the various states more uniform. This is a good work and we hope the co-operation will be effective.

Giving pigs to school children is the latest idea of the stock market people. The Portland Stock Yards company has given a pig to every city and country school in Oregon and Washington, the only requirement being that records shall be kept of the kind, quantity and quality of feed given it to determine the cost of preparing it for market. When ready for market the stock yards will buy the pigs back at market price. The officials of the company expect the school children to compete for the distinction of making the most money from their particular school pig.

Many feeders of cattle are now giving strong endorsement of the silo on the short feed, saying if it had not been for the silage they could not have afforded to put cattle in the feed yard this fall. With the silage and a ration of cottonseed or oil meal, with some cornmeal, they have been enabled to feed and make a profit. The feeding of silage to beef cattle is becoming more popular as it is being tested by the actual beef cattle feeder. There will be an immense amount of it fed this winter, and the tests will cover practically all kinds of stock, both for fattening purposes and for stock carrying condition.

Prosperous Farm Conditions

There are no features of farm production that cannot be made quite profitable at the present time. There seems to be a good demand for everything produced. All lines of fruits and vegetables find a ready sale at good remunerative prices. The producer has only to pay a little attention to what is most needed in the local and general markets of the country and direct his efforts accordingly, and his labors are rewarded. All kinds of fodder and feed crops are bringing good prices to the farmer who gives his land proper attention and produces good yields.

The raiser of live stock has never been able to get better prices than now, all things considered. Horses, cattle, sheep, hogs and poultry are all bringing strong prices, compared with prices under normal conditions. Farm lands and grazing lands are each year steadily increasing in selling value. There seems to be a market for everything and all that is produced. The tendency and inclination of the people is to make money and spend money. There is no special evidence of a fear of cessation of prosperity.

The farmer is not hunting buyers for his produce; buyers are hunting the produce. There is an activity in all lines of trade in which farming and farm operations are associated. "The time to make hay is while the sun shines" is the proverbial old saying, and might be safely acted upon in a practical way by all who are now enjoying a good business. It is not in the line of human events that a high tide of prosperity continues without limit.

There have been conditions and influences highly encouraging to the growth and prosperity of crops throughout this country for the last twenty years. Other parts of the world have not been so highly prospered. The advantages thus placed before the producer and laborer should be dealt with in view of economy and saving for a period of less fortunate conditions.

The Agricultural College

This is a period of activity, energy and progress. It is the alert, intelligent, up-to-date farmer who, in the strictest application of the term, succeeds. Success is measured at the present time upon a sliding scale, with many qualifications. The agricultural school helps make successful farmers. It teaches them the principles which underlie soil management and animal production. It gives them a knowledge of the remedies for animal disease and insect pests and makes them acquainted with the most approved methods of farm operations and farm management.

The important points in connection with every farm are, first, that it be so handled that its owner shall be master of the labor applied in its operation, rather than a slave to labor; second, and just as important, is the knowledge of how to produce the largest net profit with the least expenditure of energy upon the farm. The farm must be used, not as a mine of wealth from which we may draw an inexhaustible supply of plant food in crops and live stock, but as the basis of production, and must be handled by some system which will enable it to continue this production without being worn out and exhausted as the years go by.

The great problem of the farmer is to utilize land and maintain its productivity and at the same time, by intelligent farm management, secure a maximum return for the labor expended upon this land. Today the agricultural products of the great central west furnish its chief source of wealth, because agriculture is the channel through which the greater part of the labor of its people is utilized. With the passing years land is becoming more and more valuable, and the aplication of labor to land is commanding the attention of the best trained minds among men of all stations in life.

In view of these facts, the Twentieth Century Farmer takes this opportunity to remind the young men of the country who are seeking for a better education that agriculture, the greatest industry of our nation, is certain to offer a profitable field of operation to the educated man. There has never been a period in the history of the world when greater systematic effort has been put forth for the study and intelligent operation of the soil, the cultivation of crops and the improvement of live stock.

Organization Influence

In almost every state are formed state organizations representing the various branches of agricultural industry. To these associations are entrusted the guidance and direction of the work the various organizations represent. A community of interests cannot be properly helpful to the public good without organization. The tendency of the present age is toward co-operative interests. It is only necessary for the promoters of any breed of live stock to organize and they at once receive a standing that brings them creditably before the attention of the public. If there is merit in the enterprise upon which the organization is based, public opinion will recognize it and assist in its advancement.

It has been the history of all state associations—live stock, dairy, horticulture, forestry, etc. — that the smile of approval has been extended and the most open-hearted endorsement given. These evidences of public approval build strong organizations, and strong organizations exert a sentiment of confidence in any business or enterprise. It is this assurance of security in the business venture that encourages many to efforts of industry and perseverance that result in success.

State associations that are properly representative of the various lines of production in the state deserve the encouragement and support of every interested citizen. Stock breeders should identify themselves with the association that represents their breed; likewise should all other interests find a home in their state associations. The agricultural producer, in whatever branch of industry engaged, should fall in line with his organized interest and help in the educational influence these associations are exerting on the public mind.

Fat Cattle Prices

As a general rule a short corn crop reduces the amount of live stock fed for market and raises the price of fat cattle. The same influences that elevate the price of corn are at work with respect to live stock finished on corn, or other fattening rations, particularly cattle. But there are certain conditions connected with the working out of the rule that many feeders overlook, which conditions tend toward a postponement of the legitimate gains in cattle prices that might be expected. In a season of a short crop immediately following a big crop, these dilatory conditions are aggravated very much by the old corn remaining in the hands of feeders. Many cattle feeders have been keenly disappointed this season because the fat cattle market has not made substantial gains, instead of remaining almost at a standstill, with many disheartening fluctuations, as it has done.

An exerienced stockman and feeder, whose viewpoint covers more than forty years in the business, in Illinois and later from a Kansas City base, says the course of the market this fall on fat cattle is no exception to the ordinary course in a short-crop season, but, on the contrary, is perfectly normal under the conditions. He said, in explaining:

When the crop is short, cattle feeders as a rule do not have much corn to feed, seldom sufficient for a long feed. The result is there are more short-fed cattle. The high price of corn calls for more fortitude in putting it into cattle than many cattle feeders possess, especially if the fat cattle market is sluggish and apparently without much promise. Accordingly, many feeders send their cattle to market, keeping up the receipts at market points and preventing expected advances. The long-fed contingent, lapping over from the previous season when there was plenty of corn, also tends to keep the market hopper full.

Later in the season the short-fed cattle become scarce, having been sent forward during the season of disappointing markets, and the price advances. Spring prices following a short crop are usually satisfactory. In other words, the beneficial effects of a short corn crop on cattle prices, the uplift resulting therefrom, is nearly always much more apparent at the latter end of the feeding season than at the near end.

From which conclusion it might be figured that cattle put on feed in December or January this year would have a good chance to become good property at the end of a short course in the feed lot. The chance for them to do so is greater if it is considered that by this time all the sap is out of the average steer and he is down to a bedrock point, ready to start putting on flesh at once under judicious feeding.

The western country has not for many years been favored with a milder, more open autumn season than that of 1913. Live stock on farm and range have not been disturbed in their grazing for a single day up to the last of November. This has been a great saving of feed, and stock of all kinds will go into the winter in much better condition than usual, except possibly in some districts seriously affected by the drouth of last August and September.

Keeping Better Sires

The need of increased interest in improved live stock is just as important and just as urgent now as it was ten years ago. There has been great progress made during this period in some lines of stock, in some localities. The tendency has been to better quality in a general way, yet there is not a close observance in breeding for the best results by all live stock owners and handlers.

There is still a tendency on the part of some live stock owners to experiment in cross breeding. This always results in tearing down, in destroying breed lines. The cross-bred, or half-breed, can never get any place in way of breed character. It is better than a scrub in its individuality and breeding, but its breed tendencies are to the creation of the scrub. This is more truly the case than when the ambition of the breeder of common stock is merely to breed up, to establish good herds by producing high grades. This is a worthy ambition, but it can be improved upon by buying the cheaper quality of pure-breds and breeding these for higher quality.

It is almost as cheap to get a start in pure-bred cattle, hogs, sheep or poultry as to buy the grades or animals of mixed blood. Pure-bred hogs are about as numerous over the country as grades. Of course, there is a great difference in the pure-bred herds.

It has been suggested that breeding clubs be organized in communities in order to cheapen the expense of breeding and to secure better service in the matter of well-bred animals. It is urged that many very fine breeding animals are sacrificed each year to the meat market that are only in their prime as sires, but have been used in one locality until there is danger of inbreeding. This is true; every observing stockman knows it. But until some system of interchange, advertising through an association, club or organized body for the purpose of co-operation in breeding, is established, the same old plan of disposal of good sires to the butcher wil continue.

A bull of good breeding quality has been transferred under the interchange club system of supply and remained serviceable until 10 years old. Other males of other breeds of animals may be carried, where satisfactory, equally as long. This kind of an organization would encourage the buying of better animals, the looking more closely into the breeding quality of these sires, as the produce of sire would be the key to his quality and to his desirability as a sire.

New Kind of Short Courses

Missouri announces that it has organized a new style of farmers' institutes. It extends from its university an invitation for farmers to organize local institutes covering a period of one week. This organization or institute club must consist of fifty farmers, who each pay a tuition fee of $1. When the local organization is effected they notify the director of the short-course extension department what subjects or branches they desire instruction on and the time of holding the institute or term of school is arranged for. From two to four lectures are given each day. Tickets of admission are issued to each person paying $1, the required membership fee, and no one but members is admitted.

It is claimed for this system of organization that a much greater benefit is derived by those participating than when the audience is made up of idle listeners who are not specially interested in the work. There has been no trouble so far in getting the required fifty members, and the work is one of intense interest to both pupil and teacher.

Plans for Fighting Insects

The state of Missouri, under the leadership of Prof. Haseman, has planned a campaign of warfare on the insect enemies of orchard, field and crop that promises to be more formidable than anything heretofore organized in that state. The professor has fortified himself with some statistical evidence in which he estimates the annual insect damage to the state of Missouri as being approximately $30,000,000. Prof. Haseman hopes, through the co-operation of farmers of the state, together with the aid of the orchard and nursery inspection laws, to materially reduce the amount of this annual loss.

This insect campaign is what every state should take up and most thoroughly prosecute by every available means that can be called into action. It is not alone a fight to protect the orchards, gardens and floral interests that such a campaign should be waged, but in the interest of the crops and forests as well. All states, to a greater or less extent, are infested with crop pests of one kind or another that can be checked, if not entirely obliterated, by a systematic, well planned and persistent course of depletion.

The passing of stringent and severe laws for the protection of the insect-destroying birds of the country has been for generations a recognized remedy for the great multitude of insect crop pests that are annually levying a burdensome toll upon the crops of the farm and without the least shadow of return for this heavy loss. The time is not far away when the farmer must appeal to the law-makers of his state for bird protection in the interest of his crops. In districts of country where the forest and field birds have become numerous there is little or no complaint of insect damage to crops. It is not a matter of sentiment alone that these birds be extended the most careful and strict protection from the hunter and careless slaughter, but one of economic saving of waste for the benefit of humanity.

Nebraska is coming to the front as a dairy state. At the recent National Dairy show in Chicago the butter entered by the butter-maker of the David Cole Creamery company of Omaha scored 95. The winning score was 96½ and was made by a Minnesota butter-maker. There were 551 entries and Nebraska beat 476 of them. Those scoring higher than the Nebraska firm were all from five of the older dairy states.

"Look Beyond the End of Your Nose"

grandfather used to say. A Florida fruit grower remarked that he had to go to California to learn that he had been wrong for twenty years. The potato growers of Maine get hints from Colorado; the apple men learn from the orange growers how to co-öperate. Here's where the national-farm-weekly idea comes in. If you want to get your long-distance lessons in money-making methods without spending carfare, look beyond the end of your nose and get the national-farm-weekly habit. The big National Farm Paper is *The Country Gentleman.*

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Bankers Buying Alfalfa Seed

To Be Sold at Cost to Co-operative Farmers

RECENTLY the bankers of Aberdeen, S. D., voted to set aside $7,000 to be used by the Better Farming Association of South Dakota at Aberdeen in the purchase of dry land alfalfa seed. The seed was secured from farmers living in the dry part of the state and will be sold at cost to the co-operative farmers of the association. The co-operation of the Aberdeen banks at this time will go a long way toward increasing the alfalfa acreage in this locality. It permits the farmers to get hardy, dry land seed at first cost.

Last season the Better Farming Association was instrumental in putting in about 2,500 acres of alfalfa in Brown county, about 75 per cent of which made a successful catch. The plan that has been adopted for the coming season it is estimated will more than double this acreage.

One car of the seed purchased by the Better Farming Association with money furnished by the Aberdeen banks was raised on dry land between the Bad and Cheyenne rivers, fifty miles west of the Missouri. The field is between twenty and twenty-five years old, and the original seed came from Russia. The flowers are varigated in color and the root system is spreading, which are indications of hardiness. This particular lot of seed has been recorded in the county and state record books as South Dakota Dry Land Alfalfa No. 1.

The second car was raised fifty miles further west and has been growing under arid conditions for about twenty years. This alfalfa has the spreading root system and is recorded as South Dakota Dry Land Alfalfa No. 2. The recorded alfalfa enables farmers in the future to secure additional amounts of seed from the same field.

If bankers in other localities would follow this lead, it would have a tremendous bearing on the alfalfa acreage in the United States. The past season was especially good for alfalfa seed production, and seed is plentiful for next year's planting. People everywhere are rapidly realizing the value of this most important crop and are planning upon increasing the acreage. The large seed supply is especially pleasing because it will materially assist farmers in securing seed.

Some of the southern states, too, have a big crop of alfalfa seed, even larger than was at first thought. The large supply will have a tendency to keep the prices down and there will be a temptation to send the southern seed north. In fact, much will be sold to a few northern seed men, and they will in turn pass it out to northern farmers.

If southern seed is sown on northern soil, many will be discouraged with alfalfa growing, and both the north and the south will suffer. In view of this the southern alfalfa farmers should see that their seed is sold to the south rather than to the north of them, and northern farmers should know the source of their seed and secure only that which is grown under hardy conditions. Too much attention cannot be given to this fact if permanent success with alfalfa is wanted. The Better Farming Association is also serving a good purpose in assisting the co-operative farmers in western South Dakota in finding a market for their alfalfa seed. The association has assisted in the selling of four carloads of alfalfa and before the season is through will find buyers for many more carloads.

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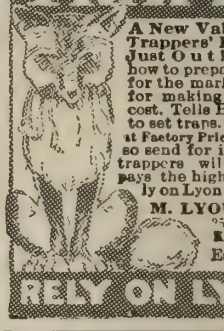

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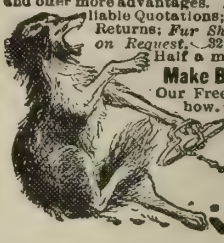

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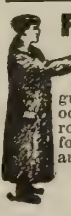

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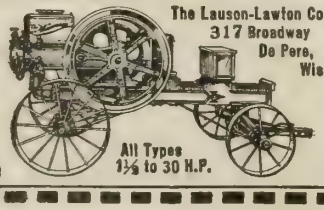

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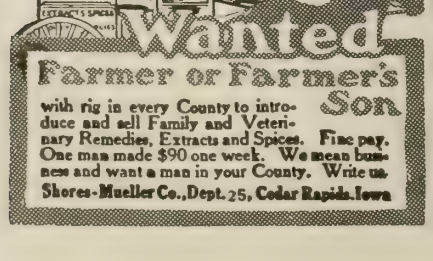

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See that all traps are well oiled and in prime working order before being set.

Use only the better grade of traps, as a poor trap may, by failing to hold an animal when caught, result in a loss that would have bought the whole season's supply of traps.

Keep a tough, coarse sack for carrying the traps in, as they are easier handled in this manner and one is not so apt to lose some of them as as with carrying them loosely in the hand.

Always place some leaves, grass or fine, dry dust under a trap when setting it. This guards against the trap freezing to the ground in case of dampness just before a hard freeze, the frosty dirt adhering to the metal jaws and holding them down when the trap is sprung.

It is best not to fasten a trap to a stake or large, heavy piece of timber. By stapling it to a light brush or clog that the animal can move slightly when captured, there is less danger of its pulling loose or breaking the trap. Attaching the trap to the small end of a light pole with several short limbs left on it is a fine plan, as the pole can be moved about, yet cannot be dragged very far nor at any great rate of speed, so that the trap will be somewhere in the neighborhood of where it was set. Wiring the trap to the weight with baling wire is a safer method than stapling it, and by lengthening the chain in this way the animal is not so apt to twist up and escape as he is with the short chain.

M. COVERDELL.

Missouri.

Canada cuts about two million cords of pulp wood annually, about half of which is exported for manufacture in the United States.

There are about thirty-seven pines native to the United States, of which twenty-five are western species and twelve eastern.

Much of the cork used throughout the world comes from Portugal, which harvests about 50,000 tons a year.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm

To a Rosebreast

Rosebreast, singing in the dark
From atop the maple tree,
Was the sunny day too short
For the joy that dwells in thee?
Other birds have gone to rest,
Each head tucked 'neath downy wing;
Why are you alone astir?
Why should you still madly sing?

Early in the dew-wet morn
Came your song, clear, mellow, sweet,
And it rang when noontide's hush
Settled on the village street;
Still you sing, when all the world
Sleeps, with daytime's duties done.
Is your joy so great that you
Voice it thus from sun to sun?

Teach me, rosebreast, your content!
Blessings greater far than thine,
Little rosy-breasted bird,
With the mellow tones, are mine.
Mine the deeper, richer joys,
With which human hearts are stirred.
I should then give thanks to God
Night and day, like thee, dear bird.

The Grosbeak

Do you know what "grosbeak" means? It means big bill. By this characteristic you may know any member of the grosbeak family, and there are many of them. The crested cardinal is a grosbeak; there is a blue grosbeak, a gray one, and two more, which are practically the same in habits and both live in the central western states—the black-headed and the rose-breasted. The black-headed grosbeak is orange colored, with black and white wings

Rose-Breasted Grosbeak

and black head. The rose-breasted is black and white, with black head, a triangular red splotch on his breast and red under his wings. Both these varieties have a beautiful song, something like the robin's. I have often seen a rose-breasted grosbeak at twilight sitting on top of a telephone pole singing. This seems to be their favorite song time, although they sing all during the day and often at midday and at night, when most of the other birds are silent.

The little rosebreast comes to us in the spring and stays until September, and he has earned the name of "potato bird" because he loves to eat potato bugs. Next to them he likes scale insects, tent caterpillars, canker worms, codling moths, army worms and chinch bugs. He eats a few peas and a little fruit now and then, by way of variation, but he is so timid that a scarecrow will drive him away. A mulberry tree will distract his attention from the other fruit at any time. There is no bird which destroys more injurious insects than the grosbeak.

Most of our brilliantly-colored birds have very plain wives. This is true of the grosbeak, whose mate is an unattractive creature, looking a good deal like a sparrow. She is not much of a house builder, her nest being carelessly and loosely woven. Both birds take turns hatching the eggs and sometimes, if you go very quietly, you may see the red breast of the father bird just showing above the rim of the nest, where he is keeping the speckled eggs warm while his wife gets some much needed exercise.

THE EDITOR.

(Prize Story)

The Duck's Dinner

By Walter Cheney, Aged 13, Turlock, Cal.

Harry, with his fishpole swinging in the breeze, stepped noiselessly down the bank of the creek. With him was Jackson, a boy living beside the creek. Harry lived a mile away.

"I'll catch more fish than you," he carelessly said, while he laid a cake up on the bank, which his grandmother had given him to take to his mother.

They threw their lines far out in the creek and waited and waited, but no trout were caught. Suddenly Jackson said that he thought he knew where there were trout, so both started on the run for the place. While they were running Jackson's ducks passed by the place where Harry had laid his cake.

Jackson was correct. There were plenty of trout where he had mentioned. He caught four and Harry caught three. When they returned to where Harry had left his cake they found what crumbs were left of the cake in the water and some in the sand. Jackson laughed and said that as long as his ducks had eaten the cake and his mother had just made him a cake he guessed she would not object to his giving it to Harry. They went to Jackson's house and got the cake, which Jackson's mother insisted on his taking, and he journeyed home.

(Honorable Mention)

The Bantam Hen

By Bertha Dickinson, Aged 12, Osceola, Neb.

I went to visit a little friend that lived in town. She gave me a white Bantam hen and I brought her home. She was sitting. The next day I visited a neighbor's and they gave me two geese eggs. I brought them home and made a nice nest for my little hen and put the two geese eggs and one hen egg under her. In three weeks the hen egg hatched. I put the little chick in the brooder with mamma's chicks. In four weeks one goose egg hatched. I put the gosling in a chick tray in the incubator when a week old, and it was too warm for it and it died. So little Bantam only had one chicken to pay her for her summer's work.

Additional Stories

Hazel Knox, Broken Bow, Neb.; Katherine McTaggart, Emerson, Neb.; Bertha Wobbe, Underwood, Ia.; Evangeline Wobbe, Underwood, Ia.; Lillian Schuster, Rudd, Ia.

Faithful Old Shep

Six years ago a sheep herder, according to a press account, came into the town of Anaconda, Mont., after a season on the range, bringing his dog with him. Shep waited outside the bank while his master went inside to cash a check. While inside the man was stricken with apoplexy, placed on a stretcher and taken to a hospital in an ambulance. Shep followed the ambulance to the hospital and waited outside for several days. The master died a few hours after reaching the hospital. Shep saw the funeral procession, but it was unusual, and he still waited. Then he remembered that his master had gone into the bank the last time he had actually seen him, so he went there and curled up on the front steps and waited.

For months he would look up expectantly every time someone came out of the building. He kept a constant vigil and has made the front of the bank his home for six years, only leaving long enough to get something to eat.

He grew old and deaf during his long wait. Each year President E. J. Bowman of the bank paid his tax to the city, but he still waited for the sheep herder who did not come out of the bank. For the last few months Shep had been stiffening with age so that it was an effort for him to walk. Recently a flying automobile struck him and broke his back.

BETTER POSITION
And Increased Salary as a Result of Eating Right Food

There is not only comfort in eating food that nourishes brain and body, but sometimes it helps a lot in increasing one's salary.

A Kans. school teacher tells an interesting experience. She says:

"About two years ago I was extremely miserable from a nervousness that had been coming on for some time. Any sudden noise was actually painful to me, and my nights were made miserable by horrible nightmare.

"I was losing flesh all the time and at last was obliged to give up the school I was teaching and go home.

"Mother put me to bed and sent for the doctor. I was so nervous the cotton sheets gave me a chill and they put me in woolens. The medicine I took did me no apparent good. Finally a neighbor suggested that Grape-Nuts might be good for me to eat. I had never heard of this food, but the name sounded good, so I decided to try it.

"I began to eat Grape-Nuts and soon found my reserve energy growing, so that in a short time I was filling a better position and drawing a larger salary than I had ever done before.

"As I see little children playing around me and enter into their games I wonder if I am the same teacher of whom two years ago the children spoke as 'ugly old thing.'

"Grape-Nuts food with cream has become a regular part of my diet, and I have not been sick a day in the past two years." Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter?. A new one appears from time to time. They are genuine, true, and full of human interest.

BOYLES SAYS:
I Guarantee the Position.

For 16 years I have trained young men and women for business success and then supplied the position. Not only that—I will guarantee a place to work for board while attending.

Get away from hard, manual labor and in a few months be competent to become an important cog in the big business world. Country boys of yesterday are today at the head of our biggest concerns. Country boys and girls have greater natural ability than they or their friends dream, and when trained, develop remarkably and rise rapidly.

I love to train young men and women from the country because invariably they are the best students and become the most proficient workers.

Of course, you have said "some time I'll go to a business college." Show your mettle now by deciding you will go this winter. Write today for my big, free, 116-page business book, crammed with valuable information and photos of Boyles' College and Omaha. It gives the names of 1,000 Boyles' graduates now holding important positions.

What you will be doing and how much you will be earning five years from today may depend on whether or not you write for my book today. Remember, the modern definition for success is "Opportunity plus Action." Send for the book today.

H. B. Boyles, Pres.,

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Prepare as Firemen, Brakemen, Electric Motormen and colored Train Porters. Standard railroads. Hundreds put to work $65 to $165 a month, without any experience; 500 more wanted. Uniforms and Passes arranged for. Enclose stamp for application blank. Name position you want.
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Give it to whom you will, you will find all the family looking for it. It is more than 52 issues brimming with the finest reading the world offers—it is an influence for all that is best in home and American life. Subscribe now and get the opening chapters of Homer Greene's great serial story, "The Albino."

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2. **The Companion Practical Home Calendar for 1914.**
3. **The 52 weekly issues of The Companion for 1914.**

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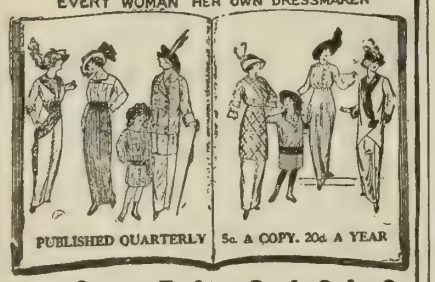

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The **Spring** Fashion Nember is ready **February 1.**

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The price is 5 cents a copy or 20 cents a year, **"EVERY WOMAN HER OWN DRESSMAKER"** tells how to make Coats, Waists, Skirts, Costumes, Aprons, Dressing Sacques, Underwear, Baby Clothes, Clothes for Boys and Girls, etc., etc. Every woman who uses patterns or does sewing at home should buy **"EVERY WOMAN HER OWN DRESSMAKER"** four times a year. Besides telling how to make clothes it illustrates and describes hundreds of the newest styles for Ladies, Misses and Children.

OUR SPECIAL OFFER—IF you use patterns, or if you order any pattern shown in this or any other issue of our magazine, we will send you the very latest issue of "EVERY WOMAN HER OWN DRESSMAKER" for 2c. Just send your address and 2c. to Pattern Department Twentieth Century Farmer, Omaha, Neb.

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This is a superior quality Violin that we absolutely guarantee. It has a splendid tone and is beautifully finished. We are large wholesalers importing our Violins direct from European makers, which is the reason we can sell this quality of Violin at so low a price. The outfit includes a good case, bow, chin rest, rosin, tuning pipe, extra strings, instruction book and Free Lessons (Correspondence Method). Your money back if not perfectly satisfied. Other outfits from $2.50 to $100. Also Cornets, Clarinets, Drums, Flutes, Accordions, Mandolins, Guitars, etc. Catalog Free.

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Be your own dressmaker. We make you competent in from four to six weeks. We secure positions for graduates. Write for particulars.

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The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6466—Ladies' Nightgown—This dainty nightgown is rather scant. It is made with two small tucks at each shoulder in front and with a shallow, pointed yoke in the back. The neck is a little open above the front closing. The bishop sleeves are a trifle full at the shoulder and also at the wrist. Muslin, cambric, batiste, crepe de chine, wash silk, outing flannel, etc., are used for these garments. The nightgown pattern No. 6466 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5⅛ yards of 36-inch material.

4853—Ladies' Apron—This apron can be made of linen, lawn or muslin and trimmed with hand embroidery and edging. The large pocket can be used or not, as preferred. The pattern 4853 is cut in one size and requires 1¼ yards of 27-inch or one yard of 36-inch material, 3¾ yards of edging, 1½ yards of ribbon.

5231—Billy 'Possum—Every child likes to have some kind of an animal toy, and here is an excellent pattern for making a Billy 'Possum. The 'possum is made with movable head and legs. Any kind of furry material can be used to make this 'possum. The pattern 5231 is cut in one size and requires ¼ yard of 44-inch material and ⅛ yard of 18-inch felt for the feet.

5838—Boys' Knickerbockers—Serge or cheviot can be used to make these knickerbockers. They can be made with or without a fly and finished with either legbands or elastics. The pattern 5838 is cut in sizes 4 to 14 years. Age 8 years requires 1⅜ yards of 36-inch material.

6327—Ladies' Two-Piece Skirt—This design shows an extremely pretty draped skirt for more dressy wear. The drapery is caught up on the left side under a broad, lapped seam; there is a corresponding seam down the back. Silk poplin will be much favored for these separate skirts this fall and winter. This design would be especially pretty for poplin and would be suitable for thin broadcloth, satin or any other supple stuff. The pattern No. 6327 is cut in sizes 22 to 30 inches waist measure. Medium size requires 2⅞ yards of 36-inch material.

6339—Girls' Dress—A cleverly designed little frock is shown here. The collar and cuffs show a touch of embroidery and an extremely pretty Roman sash with fringed ends belts the low waist. There is a pretty arrangement of buttons down the front of the blouse and on the skirt. The low shoulder line is a pretty point. This model would be pretty fashioned of some soft stuff; silk or cotton serge would be effective. The pattern No. 6339 is cut in sizes 4 to 12

(CONTINUED ON PAGE SEVENTEEN)

Of Interest to Our Women Readers

Homely Recipe

When you're feelin' kind o' lonely,
An' you're gettin' sort o' blue,
An' you think that life is only
A great blunder through an' through,
Don't rely on publications
Full o' philosophic dreams,
Or on novels or orations
Built on socialistic schemes.

If you're threatened with "conniptions"
Of a violence intense,
Just obtain a few prescriptions
From old Doctor Commonsense;
He'll advise a little laughter,
Just as much as life can spare,
To be followed quickly after
With some sunshine and fresh air.

Our Home Chat

A group of young people were returning from a short trip. They sat together in the day coach discussing the events of their outing in tones that were necessarily audible to the people across the aisle, especially during the many stops the local made. The people across the aisle were strangers and were paying no attention to them until the conversation turned to a bit of local gossip. The people discussed were apparently not known to the young people, who were merely repeating some very unjust hearsay gossip, but they were dear friends of the involuntary listeners across the aisle. These people endured the fragments of narrative, and the half-jesting, half-unkind comments that reached their ears as long as they could. Finally one of the women arose and crossed over to the young people.

"Please pardon me for interfering," she said, "but the people you are talking about are well known to us, and we are sorry that their story is so misunderstood. Let me explain it to you." She did so, while the young people listened in embarrassed silence. Whether she made them see the other side of the story or not she never knew. They thanked her stiffly and said very little during the rest of the trip. Now she wonders whether she ought to have kept still or whether she really did some good by interfering.

All the discomfort of the situation might have been saved if these young people had only remembered that it is not good taste to discuss personal matters in public. You never can tell who may be listening and what harm may be done. And, anyhow, what good does it do anyone to repeat "they-say" stories about strangers? THE EDITOR.

The Darker Side

Dear Editor of Home Chats: I have been interested in the letters written by farmers' wives on the merits of the farm. The trouble is, they present one side of the question only. Well, I would like to say a few words, and, what's more, I can speak from both sides of the question. As a girl I lived both on the farm and in town, and as a young woman I worked as "hired girl" for both farm and city wives, and since my marriage I have lived both in the country and city. In every instance I have found that the farmer's wife works harder, longer hours and gets less conveniences than the city housewife in the same circumstances. When I "worked out" I always had to work much harder and at less wages in the country than I did in town. Although the farmers were all well to do and in some cases wealthy, running water in the house, bath-room and other conveniences to lighten the work were extremely rare.

Since we were married my husband and I have lived in the country most of the time, because we both like country life, but not because the work is any easier by any means. While living in the city I enjoyed a nice, grassy lawn, borders of flowers, brick and cement walks and water right on the porch. Here in the country our circumstances are better, if anything, and, while there is more room for flowers and grass, our pigs and chickens prevent us from having them. Now I also have to go several rods for water to use in the house. This is the way most farmers' wives do. If they work hard when they are young, perhaps they will get a new house and a fenced yard and other conveniences when they are old and their children grown. When the wife needs these things to make her work easier is when the children are small and there is so much to do.

The farmer, on the other hand, gets his improved machinery when he needs it to help him in his work. I don't know whether the farmer is more selfish than the city man, but I do know he has to have many labor-saving machines to save himself steps in proportion to what his wife has. I am not asking for sympathy for the country woman. Most of them seem to have too much pride to confess they are worse off than their city sisters. MRS. A. M.

Nebraska.

Editor's Note—Taking it for granted that the farmer's wife has a harder life than the city woman, we wonder why the writer prefers to live in the country, which she confesses she does. It would seem that there must be compensations.

Sugar Plums

The sugar-plum tree, which seems to have heretofore existed only in song and story, has at last been discovered, and a few boxes of sugar plums made several little hearts happy last Christmas when Santa, in his hurry, missed that important item in filing the wee stockings.

Required—One pound of package dates, one cup of granulated sugar, one-half cup of sweet milk, flavoring, whole cloves and a few nut kernels. Remove stones and stems from dates; make a fondant of the sugar and milk, boiling till a spoonful stirred rapidly on a cold saucer turns white and sugars. Remove from fire, let partially cool, then stir till white and hard. Turn out on a platter and kneed smooth, working in a few drops of flavoring. Mound a piece of fondant around a nut kernel to form a center about the size of a pecan. Press the date meat firmly around this center till the white filing is covered. About two dates will be required for each covering. Roll gently between the palms to give shape, insert a large clove, head downward, in one end for a stem and roll the nut in fine granulated sugar. Pack at once in boxes lined with waxed paper to keep moist. A small coin or beauty pin, wrapped in waxed paper, may take the place of the nut kernel in the center of one of the plums and thus add a surprise to the box of sweetness.

***

Macaroni

Cook one cup of macaroni in salt water. Drain and add sprinkling of salt and paprika, butter the size of a walnut, one-third cup of cream, two well-beaten eggs and half cup of chopped oysters or chicken meat, previously cooked. Re-heat, stirring constantly, till egg is cooked.

Nebraska. DAISY CANNON.

Victor-Victrola IV, $15
Oak

Victor-Victrola VIII, $40
Oak.

Will there be a Victrola in your home this Christmas?

You can search the whole world over and not find another gift that will bring so much pleasure to every member of the family.

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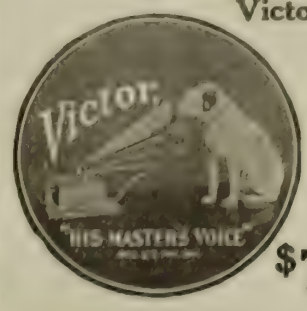
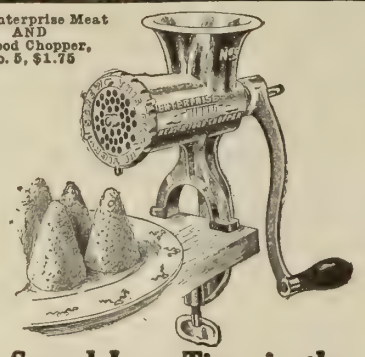


Always use Victor Machines with Victor Records and Victor Needles *the combination*. There is no other way to get the unequaled Victor tone.

$15 $25 $40 $50
$75 $100 $150 $200

Victor-Victrola X, $75
Mahogany or oak

Enterprise Meat AND Food Chopper, No. 5, $1.75



Spend Less Time in the Kitchen

Hours you spend preparing the meals can be reduced to minutes, and you can have dishes more tempting and of much greater variety, if you will let an

ENTERPRISE

Meat AND Food Chopper

help you. Or if you make sausage for yourselves or for sale, you will surely want this easy turning, fast cutting chopper. It is the one chopper that gives the chopping cut—does not squeeze, mangle or crush. It really CHOPS meat and other food into tender morsels delightful to the taste, making easy the preparation of the most flavorable and appetizing dishes. No other chopper is to be compared to this machine.

The **Enterprise Food Chopper** is a lower-priced machine that has proved very popular. Prices range from $1.25 to $2.25. At the price it has no equal.

Perhaps you do not realize what a great help these machines are. Then send 4c for "The Enterprising Housekeeper," a 200-recipe book that will relieve you of the worry of what to have on your table. Every recipe has been fully tested.

Ask your dealer to show you these machines.

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Dept. 58 Philadelphia, Pa.

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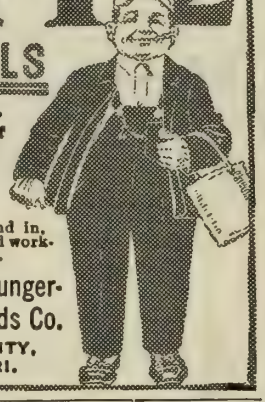
FITZ OVERALLS



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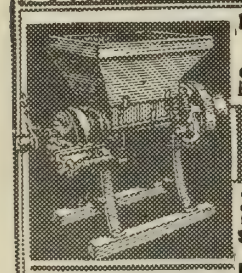

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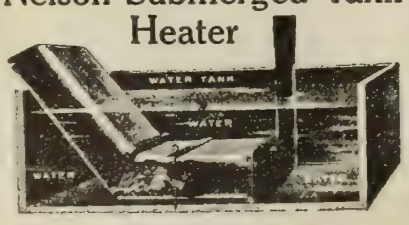

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Roosevelt in the Wilds of South America

By Frank G. Carpenter

WASHINGTON, Dec. 6.—By the time this letter is published ex-President Roosevelt will be about starting upon his expedition into the tropical interior of South America. He will have already visited the civilized sections of the three greatest countries of our sister continent, and will have delivered addresses in Argentina, Chile and Brazil. He will have traveled over the vast coffee plantations about Sao Paulo, will have ridden with the gauchos or cowboys over the pampas of Argentina, and will have hunted the wild American ostriches in the desert of Patagonia. He will have climbed the Andes, have crossed over into the progressive bull moose country of Chile, and have made his way by rail north and south through that shoe string republic. He will, in short, have seen the best in modern progress that South America has to offer, and will be ready for that part of the continent which today is practically as wild as it was when Juan de Solis first made his way up the Juan de Plata, and when Pinzon discovered the mouth of the Amazon.

Greatest River Basin

South America has the grandest river basins on earth, and it is in the basins of the two largest of them that Mr. Roosevelt is to travel. The whole eastern and central half of the continent is composed of enormous river valleys and plains and plateaus. The Orinoco river, beginning in Venezuela, is longer than from New York to Omaha. It flows north and its head waters are in Brazil, so near those of the Rio Negro that you can carry a canoe across from one stream to the other, and starting in at the Caribbean sea, cross Venezuela and Brazil and come out into the Atlantic ocean. The Rio Negro enters the Amazon a thousand miles from its mouth. It flows in just below the city of Manaos, and its black waters may there be seen moving along side by side with the yellow waters of the Amazon. They flow together for some miles before they mix, and then the black disappears. It is now fifteen years since I went 1,000 miles up the Amazon and entered the mouth of the Rio Negro. The latter is an immense stream, and at its mouth it seems as large as the Amazon itself.

There are high bluffs lining the banks and a little farther up the stream is a succession of lakes, some of which are from twenty to thirty miles wide. The waters of the Rio Negro are as black as your hat, while those of the Amazon are as yellow as those of the muddy Missouri. I remember that our steamer cut the joining of the waters, so that you could look down over one side of the vessel into a stream of pitch and on the other into one of pale gold.

Long Trip by Water

It is not far from the mouth of the Rio Negro that the Madeira flows into the Amazon, and one can go up that river during the rainy season about as far as from New Orleans to St. Louis. This is to the falls of San Antonio. By taking a boat around the falls he could go into the Beni and Mamore, two of the branches which reach to Bolivia, and by a short portage from the Mamore get into the Pilcomayo, which flows into the Parana system. I have seen the Pilcomayo where it enters the Paraguay river in the Gran Chaco, some distance above the Argentine boundary, and have traveled up the Paraguay almost to the plateau of Matto Grosso, where rises the Tapajos river, another tributary of the Amazon, which is about 1,200 miles long. I passed the mouth of the Tapajos when I traveled up the Amazon in 1898. It is about 560 miles from Para and about an equal distance from Manaos and the mouth of the Rio Negro.

A Beauty from the Amazon

How Roosevelt May Travel

It has not been reported as yet which of these courses ex-President Roosevelt will take in making his way from the Parana system to that of the Amazon. He might go up the Parana and Paraguay and enter the Pilcomayo, but it is more probable that he will travel up the Paraguay river to its source and thence trek across country and go into Tapajos and float down that stream for 1,200 miles into the mighty "Mother of Waters." He can go almost to the source of the Tapajos by the Parana system, and can reach Cuyaba, Brazil, which is not far from there, by stream. That town is just about as high above sea level as is the surface of Lake Superior, and there are comfortable steamers which go about 1,100 miles north from Buenos Aires to Asuncion, the capital of Paraguay, and smaller boats which run from there on to Cuyaba. Above Cuyaba the Paraguay narrows, but it can be navigated by canoes for a distance of 150 miles farther. I am told there are many rapids, however, and that portage will have to be made around some of them. The town of Diamantina is not far from Cuyaba, and it will probably be at that place that the Roosevelt party will cross to the head waters of the Tapajos.

How Roosevelt Will Travel in Upper Brazil

Valley of the Tapajos

The Tapajos has a branch, called the Arinos, which rises near there. Roosevelt and his party will go down the Arinos into the Alto-Tapajos and will have to carry their boats around the rapids and cataracts at Maranhao Grande, after which they can get large vessels which will take them down the broad and deep stream which leads from there into the Amazon at the town of Santarem.

The valley of the Tapajos is very picturesque. It has high bluffs along the lower rivers, but they disappear within a few miles of the Amazon, and one comes out, as it were, into a great flowing inland sea which extends from there to the ocean. A few miles above Santarem is the narrowest part of the lower Amazon. This is at the town of Obidos. I remember when I went up the great river that we were often out of sight of land until we reached Obidos, and that the channel there narrowed to about a mile. The waters below were peaceful and smooth flowing. At Obidos the great stream swept through with enormous force, and the captain told me the river at that point was 240 feet deep. When we stopped at Obidos we could not rely upon the ship's anchor to hold us, and our boat was tied by cable to the trees on the banks. Obidos is a rubber settlement, with cacao plantations nearby.

Difference in Travel

I envy ex-President Roosevelt his power to make a comfortable trip down the Tapajos, or perhaps by the Pilcomayo, into the Madeira. I have traveled somewhat in the interior of the Amazon basin and think it is quite as interesting as the highlands of Central Africa, through which region I went a year or so before ex-President Roosevelt and his expedition landed at Mombasa. I visited the same region in that country through which he traveled, but I did not have the great retinue, with mosquito-proof tents and doctors and scientists and comforts galore.

This expedition is to be a scientific one, and it will probably add greatly to our knowledge of the wilds of South America, and to the collection of the American Museum of Natural History, to which the beasts, birds and reptiles captured are to be given. He will have a chance to shoot tapir all the way from Paraguay to Brazil and will probably bring back many specimens of the collared peccary, which is found almost everywhere in South America. The peccary is a kind of wild hog, which when grown is about three feet in length. It is of a dark gray color and the collared variety has a white band extending across the chest from shoulder to shoulder. It goes about in herds or droves and is not difficult to shoot. We have some tapirs in Panama and they are found in many parts of the Amazon and Parana basins. I saw some during my travels in South America. They make me think of a cross between a hog and a pony. They are usually found in the forests and in the lowlands near the rivers. They like

to bathe and run for the water when attacked. They are not at all dangerous.

Pleasant Companions

And then the alligators and turtles. There are alligators almost everywhere in the Rio de la Plata system. I had a shot at a score or so during my trip up the Paraguay river, and I saw some on the Amazon, although that stream is so large that one only comes into sight of them when near the shore or on the banks. There are also sea porpoises in the Amazon and its branches. There are snakes of enormous size and all kinds of fishes, from the great cowfish to the sardine. Those rivers are the homes of big turtles, which lay vast quantities of eggs on the banks. The natives collect the eggs and stack them up in piles like the cannon balls in a navy yard. Some of the piles are twenty feet in diameter and three times as high as a man. Later the eggs are thrown into canoes and broken with sticks in order to make turtle-egg butter. When a canoe is half full of these broken eggs, water is poured in and the whole is left out in the heat of the tropical sun. After a short time the oily matter of the eggs rises to the surface, when it is skimmed off and clarified. It then looks like butter and is used as such by the Indians and some of the other natives. It is said that several hundred millions of turtle eggs are thus gathered every year in the Amazon basin.

Trip of the Parana

But come with me and let us take a trip up the Parana system from the mouth of the Rio de la Plata, between Uruguay and Argentina, and on through Paraguay to where former President Roosevelt will leave the river, in Matto Grosso, Brazil. We shall start at Buenos Aires. It is a city bigger than Philadelphia and it has as fine buildings as Chicago. Our steamer is a side-wheeler and it will take us more than 1,200 miles up the stream.

During our first day's voyage we steam past the mouth of the Uruguay river and then go into Parana. The word Parana means "the mother of the sea," and this river system drains a large part of eastern South America. We sail up it to where the Paraguay flows in, as far as from New York to Cleveland. This part of the stream is from one to three miles in width and it carries a great volume of water. It has the whole of the Paraguay system, as well as that of the upper Parana, which flows about 1,600 miles through Brazil before it reaches the mouth of the Paraguay. It is on one of the branches of this part of the Parana that lie the Niagara Falls of South America. They are far in the interior, but they can be reached, and it is probable that ex-President Roosevelt will go to them. The falls are wider than either the Zambesi falls or Niagara, and the river makes a leap which is thirty or forty feet more than that of Niagara Falls, and it is said that the spectacle is equally grand.

All the way up the Parana to the Paraguay we pass floating islands. The floods tear the vegetation away from the banks and great masses of grass and trees go floating down stream. Sometimes one sees an alligator lying on the shores of one of these islands, and wild animals are often carried on them out of the wilds into the regions of comparatively thick population.

Among the Floating Islands

This trip up the Parana takes one northward from the temperate zone, in which Argentina lies, and on into the tropics. The vegetation grows more dense as you go northwest. Great vines and lianas bind together the trees, and as the steamer moves along the banks you can see birds of brilliant plumage, including mocking toucans and shrieking parrots. There are plenty of monkeys almost everywhere in the wilds of Paraguay and Brazil, and so many alligators that I often mistook them for logs lying on the banks of the stream.

After entering the Paraguay you pass frequent orange groves, and at the towns there are piles of oranges lying on the ground near the wharves waiting to be loaded upon the steamers which will take them down to Buenos Aires. In Paraguay the oranges grow wild in the woods, though the trees are probably from seeds which have been dropped by birds.

Interesting Asuncion

Ex-President Roosevelt will undoubtedly stop at Asuncion, the capital of Paraguay. This is a most interesting city of about 80,000, lying right on the bank of the river. It is there that he will change to the smaller steamer which will carry him northward into Matto Grosso, and go on into the wilds. His trip as far as Cuyaba will be over the route traveled by Captain Thomas Page of our navy. He was the first man to take steam launch into that region, and it is now more than fifty years since he made his way from the Atlantic ocean for 2,700 miles up the Parana and Paraguay system. There are now little mail steamers leaving Asuncion twice a month for Cuyaba, and it is likely that Mr. Roosevelt will go north upon one of these.

He might enter the Pilcomayo, near Asuncion, and make his way up the highlands of Bolivia into the Amazon, but there are no steamers, and the upper portions of the river have not yet been explored. Indeed, it is safe to say that he will go north into Matto Grosso, and probably outfit for the wildest part of his trip at Cuyaba.

Work for the Camera

Some of the most interesting features of this journey will be the Indian tribes, of which Mr. Roosevelt may bring back many original photographs. The Gran Chaco, which lies on the western side of the river Paraguay, is inhabited almost altogether by savages, some of whom are practically unknown to ethnology. I was told that the Indians there often go naked from one year's end to the other, and that those of some tribes pull out all the hair on their bodies except that on the head. Indeed, it is said that there is one tribe which has done this for so many ages that it has become naturally hairless Its people can grow hair upon their heads only. I doubt this. Another tribe is the Tobas, who wear no clothes except when they come in the presence of white people. At home they often have a blanket about the waist, but they also go about as the sculptors say of their models in "the altogether."

A recent report from the Brazilian rubber region states that some of the Indians there are cannibals, and there are branches of the Amazon upon which the famous head hunters live. The latter Indians are not at all like the head hunters of Formosa and Borneo and such of our savages who inhabit the northern part of the Philippine islands. They are of a copper color, and have Indian features. They have a way of curing the heads which preserves them forever. The bones of the head are taken out and the skin then so shaped with the hand that it retains its features in life. It is dried and baked, and after this it is, so they claim, practically indestructible. I saw one of these heads in Panama City only two years ago, and I was offered one for $100 Mexican during my travels in South America in 1898.

Plugs as Ornaments

There are other Indians in Brazil who wear plugs as big around as the bottom of a tumbler in the lobes of the ears and in the skin of the lower lip, which are gradually stretched for that purpose. Only a small hole is made at first and a stem of gloss or wood is inserted Larger pieces of wood are put in from time to time until the skin and the holes grow into these horrible deformities. This tribe is known as the Botacudo.

The Indians of eastern South America are altogether different from those of the Andes. Their civilization at the time America was discovered compared with that of the Incas as the civilization of darkest Africa compares with that of the United States now. The Incas, after centuries of oppression and practical slavery, have degenerated into hewers of wood and drawers of water. The Indians of the Amazon and the Parana have remained stationary, and the most of the tribes are not much more advanced in this year, 1913, than they were in 1489, when the South American continent was discovered.

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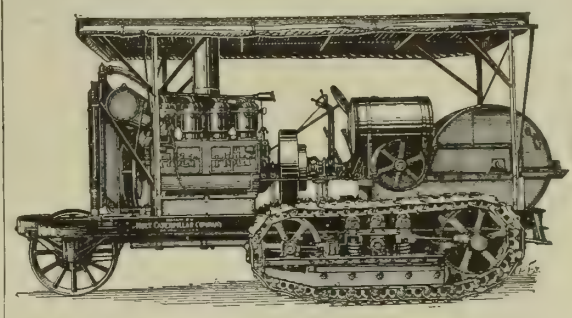
Pays to Keep Records

A record of the prices at which animals were sold at five leading Holstein-Friesian sales, kept by a member of the dairy department, University of Illinois, shows that 187 non-record cows placed at auction brought an average of $288 per head. At the same sales 171 cows with practically the same breeding, but possessing official records, brought $465 per head, making a difference of $177 per head in favor of the cow with official backing. One hundred and eighty-four heifers, whose dams had no official records, sold at an average price of $209 per head. One hundred and thirty-three heifers, whose dams possessed official records, sold at an average price of $341 per head, thus making $132 per head in favor of heifers from dams with official records. This shows conclusively the advantage of keeping official records of cows.



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When B. F. Yoakum, President of the San Francisco Railway Lines, found a Tractor was needed, he told his Mechanical Engineers to investigate all Tractors. They reported to him in favor of the Caterpillar. Mr. Yoakum is now one of our most enthusiastic owners.

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Mr. E. I. Dupont, President of the Dupont de Nemours Powder Company, owns two Holt Caterpillar Gas Tractors, which he is using to his entire satisfaction.

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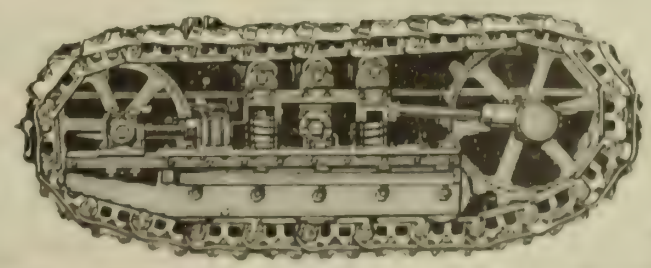

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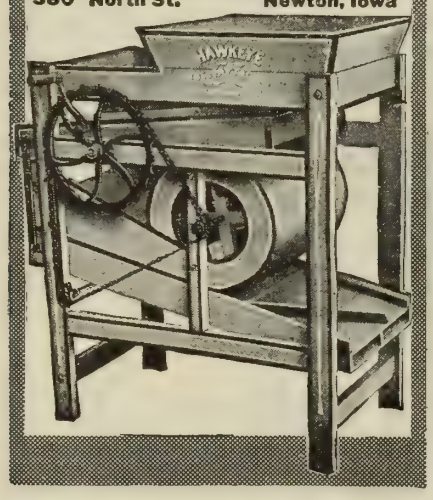

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Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

Silos and Their Value

A. H. B., DeWitt, Neb.: As a reader of your paper I have been very much interested in the timely articles on silos and their value and also their great service to the farmers of the state. By safeguarding their interests against deception and frauds that have been working the farmers to the limit, we believe it to be one of the most important matters that can be studied, for the reason that the silo is now considered by the most up-to-date stock and dairy farmers as a permanent part of the buildings on the farm, and as we review our experiences of the last three seasons it is clear that no states need silos more than Nebraska and Kansas, for the reason that pasture has not been good to exceed little more than ninety days. It is true, stock has been in the pasture, but when it does not furnish grass to keep up the flow of milk, it is a loss to the owner and an injury to the pasture.

We have filled a silo this season with corn that yielded about eight tons per acre of good silage, enough to feed a cow for eighteen months. We speak of what we have seen and what is commonly seen in this state. Our next neighbor would let his cattle try to live in the stalkfield and before spring they were walking skeletons, and with some loss by starvation. We believe the more general use of the silo will count more than any other one thing to increase the beef and meat supply that is constantly falling below the demand. We differ with very many statements that we often see in print regarding the value of cornstalks left in the field. We hold that the yearly loss of stock, if figured at its full value, would be more than the food value of the weather-beaten and frozen stalks. Even shock fodder, if kept until spring, is not usually valued at more than the time it takes to husk it.

Editor's Note—The value of the silo is indisputable, but it should not be over-emphasized. The value of silage as a feed is liable to the same exaggeration. It is a good feed, one of the best in the world when properly supplemented. Its greatest value may be seen at the time when pastures are short and burned. But, for economic reasons, no farmer should be satisfied with the silo. It saves and makes available only relatively a small part of the total corn crop. Every farmer should supplement his silo with shredded corn and thus prevent a large proportion of the waste, which amounts, in every state of the corn-growing belt, up to the millions of dollars that results from our present method of handling the corn crop.

Building Silo on an Iowa Farm

Spraying Hog Houses and Premises

E. F. M., Albuquerque, N. M.: Kindly advise, through the columns of your paper, the best disinfectant to use for spraying the hog houses and premises. Also, I see in your paper you advise feeding shelled corn instead of corn on the ear. Why? Is it better to feed on a floor than on dirt? In fattening hogs on corn, is there any economy in feeding shorts in swill at $1.75 per hundredweight?

Answer—Any of the recognized coal-tar dips will do for a disinfectant. There are any number of them on the market, like Kreso, Cresol, Jenoleum, Germozen, etc. It is better to use these dips in a little stronger solution than recommended by the manufacturers in order to be sure that the disinfection is effected.

It is better never to feed hogs on the ground, for the reason that they get too much infection from the infected soil and breathe too much dust, which gives them bad action and bad lung condition. It is not the best plan to feed on a floor, for the reason that it is not exactly sanitary to compel the hogs to pick out their food from the midst of their own excretions. It is better to feed in a trough, so constructed that the hog cannot get into it except with his snout and cannot root any feed out of the trough and waste it. For the reason that shelled corn may be distributed along the trough in such a way as to prevent a hog eating it too rapidly in great mouthfuls, it is better to feed shelled corn than ear corn.

If the hog grower has no clover or alfalfa to balance the corn ration, it would be well to feed shorts, but shorts at the price mentioned furnish less feed for the money than wheat ground when wheat is 90 cents a bushel.

Grinding Hog Feed

S. J. F., Saxton, Mo.: I have been feeding a few hogs on corn and oats, but, as feed is high and hog prices low, I would like to know if it pays to grind corn for hogs, and if so, should the cob be ground? And does it pay to grind alfalfa for hogs?

Answer—It is not necessary to grind the corn for your hogs; in fact, they will probably do better if you feed them the corn on the cob, or simply shelled, and let them do

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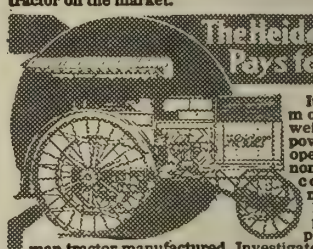

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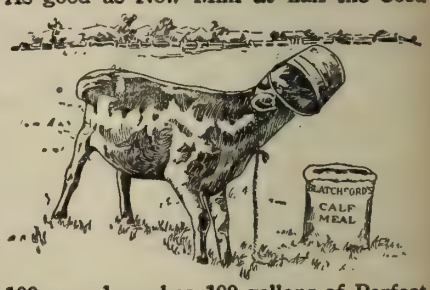

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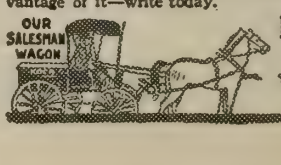

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their own grinding. For pigs, it is better to grind the corn and feed ground corn and alfalfa in the form of slop, thickening the slop as they grow older until it is like mush, then gradually putting them on an unground ration. The alfalfa for mature hogs should not be ground, but should be cut into short lengths. Third and fourth cuttings are better than the first two cuttings for hogs, as they are less stemmy. The leaf of the alfalfa is what is of value to the hog. In grinding corn for the pigs it should be ground very fine, and the cobs should not be ground with the corn.

Moths in Bee Hives

C. Van W., Omaha: I have a small apiary of bees, and moths are getting into the hives. Would like to know of a preventive of moths.

Answer—The moth is a common enemy of the bee, and constant watching is necessary to ward off its entrance to the hive. This is provided for by closing up the entrance by the use of small blocks about one inch square by three or four inches in length. A space of two inches is plenty to leave for the entrance of the bees. The moth never enters a hive with a strong colony, because the guard is so strong they do not allow intruders. When a hive is weakened from any cause, then the guard is not so numerous, and with such colonies the open space or door should be narrowed.

You should thoroughly clean all the moths and accumulated litter out of the hives and close up the entrance so only two or three bees can pass at a time. This should have been done in your case long before this, so the bees could have increased in strength and gathered some honey for the winter, as it is now so late you will have to feed them. It would be well to keep the working space inside the hive narrowed down so the bees will occupy it. This is done by moving the division board, and, as the bees multiply and get crowded for room, move the board back and put in another frame or two.

Breaking Draft Colts to Work

By H. J. Gramlich

AT WHAT age should the draft colt be broken to work? This is a question over which sentiment has waxed warm among horsemen from time immemorial, and one which will never be settled definitely, because some colts are ready for the harness sooner than others.

It is a fact that the young, developing colt has muscles, tendons and joints which must be toughened up gradually. A severe strain in the collar as a 2-year-old might start a puff or other blemish that would remain with the colt through life. On the other hand, with careful handling, medium heavy work will be beneficial to the colt.

Draft-bred colts are usually easily broken. In many cases about all the breaking amounts to is hitching the youngster beside a good, faithful old horse for a time or two. Such a colt soon learns to pull, and the owner is so well pleased with him that he tries to find work to keep him out of mischief. It is not long until the colt is being used regularly and doing all sorts of work.

This is not so bad with a 3-year-old that has been gradually toughened. His limbs are matured sufficiently so that work about the farm is not apt to strain him. With a 2-year-old this is liable to cause trouble. If he is broken in the spring and found to be a willing worker, it is a temptation to use him wherever a horse is needed. He may be started in light work, but it is not long until we see the hired man coming toward the elevator with fifty bushels of corn behind the colt and his mate.

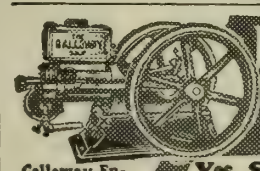
Several years ago, at the Nuckolls county (Nebraska) fair, a 2-year-old bay filly of Shire breeding was shown. She weighed about 1,100 pounds and represented a pretty good type of light drafter. Some little time before the fair she had been broken to drive single. The day preceding the show she had pulled a top buggy over eighteen miles of hard roads between her home and Nelson. Although absolutely sound before the trip, she had to be shown the next day with both hind ankles cocked badly forward and a filling on one hock in the bog spavin joint. Undoubtedly the long, unusual trip had proven too much for her.

Out in Seward county, Nebraska, there is an iron gray 2-year-old colt that has worked constantly since early last spring. He weighs 1,350 pounds now and is just about thirty months of age. He is the hard, flat-legged type, and the usage seems to have done him no damage up to date. He has been fourth horse right along since harvest and helped plow, harrow and drill in seventy acres of wheat. When seen recently he gave one the impression of being a horse of great vitality and endurance. Two factors probably kept his limbs from injury—one his natural quality, and the other the fact that he was started gradually and then kept constantly at it when once hardened up. Possibly his growth may be stunted somewhat, although he is of the extreme blocky or "Dutchman's" type, and had done most of his growing before passing his second natal day.

In general, we may say that it is a good plan to get the 2-year-old used to the collar, harness and bit, but not expect too much of him just because he is willing. His limbs are immature and may be easily injured while his spirits are high. If once injured he is apt to lack "pep" for the remainder of his working days. Light work, in reasonable amounts and properly administered, is the ideal.

Time often prevents a man from bothering with a 2-year-old in such a manner, and as a result the colt is not hitched up until the next year. The French make it a practice to break their stallion colts before they are 24 months old, in most cases. Many 2-year-old colts have been broken to work this fall. The short corn crop is giving most men more time for such things.

When communicating with advertisers on this page kindly state that you saw their advertisement in the Twentieth Century Farmer.



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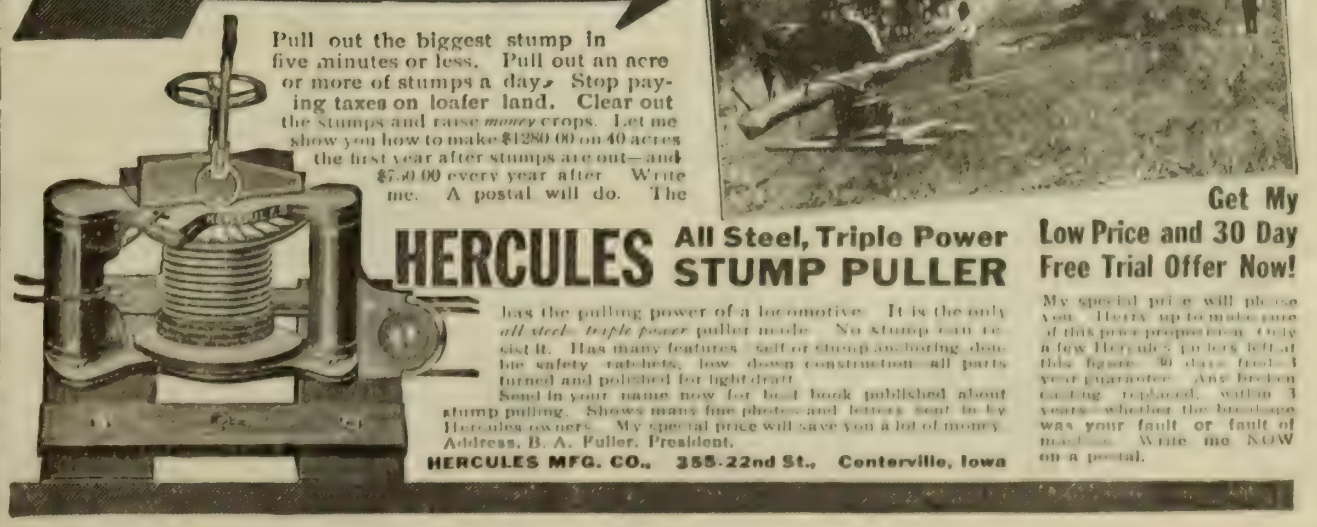

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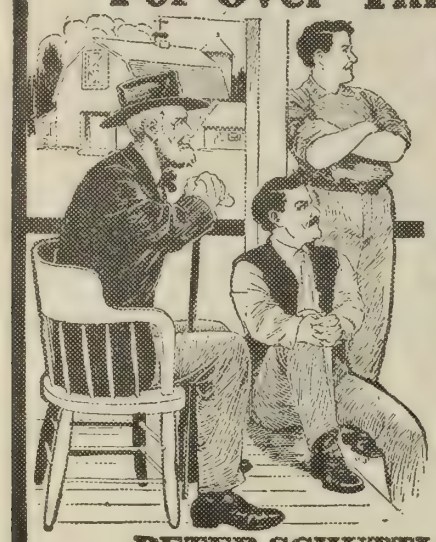

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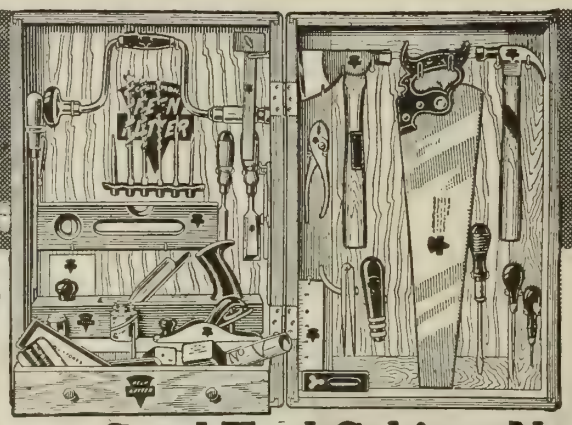

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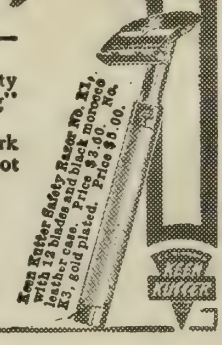

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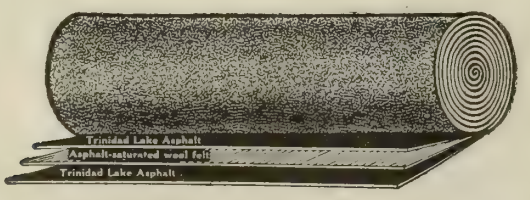

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Timely Items of Interest to Poultry Raisers and Fanciers

WHY does the American Poultry Association call itself the friend to poultry keepers, put by money each year from the proceeds of its organization, books, etc., then refuse to let the poultry keeper know the standard for his pure-bred fowls unless he buys their book. Eh?

***

The Narragansett turkey, sometimes called the Rhode Island turkey, is a descendant of the wild turkey, considered the delicacy of all bird life by the Narragansett Indians. While breeders have tried to keep it pure to the original stock, long domestic breeding has taken away much of its dark meat.

***

The Indian Runner duck is certainly a beautiful and hardy duck, and in many neighborhoods compares favorably in size with the Pekin, which has a habit of running down and getting smaller unless new blood is often introduced, which is seldom done, I find. Feed the Indian Runner well and it will beat the Pekin out of sight when laying time comes.

***

If you can manage charcoal in no other way for the hens, then let them have all the ashes from the stoves. They will soon show you how they relish the bits of charcoal in the ashes. They work over and over the clinkers you take from the coal stove and find health in them.

***

Be careful of ventilation on very cold nights. If the house be of reasonable size, you will need little ventilation, unless it is very tight. As a rule, enough air enters to insure health at night. Let them have the extra air through the day.

***

Don't forget that capons take on extra weight the last three weeks they are to live and pay you for all you stuff into them. It it should happen that you get an average of not more than eight pounds apiece, yet remember at this you are making good profit.

***

How often must one feed fowls through the day? Except in winter, the writer of this feeds but twice a day. In winter a warm mash of some kind is given the fowls at noon. To feed fowls but once a day is, in most cases, sheer old-time cruelty.

***

It worries one who knows better to read where one who pretends to know advises poultry keepers to feed chickens largely on wheat. I tell you this will never do. Better feed all corn than all wheat, all advice against to the contrary. Wheat-fed chickens in time grow weak,

***

Fifty bushels of corn is good value for an acre. At the end of the season the man who planted and tended may have realized $25 from it. Wouldn't it have brought twice that if put into chickens?

***

Rock Salt and Chickens

E. G., Yuma, Colo.: Will crushed rock salt kill chickens? Recently we lost seven out of a flock in one night, and previously had lost a hen. On both occasions they had access to salt. Symptoms were inability to stand up, drawing back of the head and gasping for breath. We opened some of them, but failed to find cause. If it was the salt, some died soon after taking it; others lived through the night and half the day. Is there any satisfactory method of curing or preserving dressed poultry for home use?

Answer—Any kind of salt will kill poultry, and kill them quick, if they eat enough of it. Salt is a drastic poison if taken in large quantity. As a rule chickens will not eat salt unless it is mixed with some kind of food, then no difference how small the amount of food and how large the amount of salt, they will greedily eat. Cases have been reported where fowls ate enough of salt unmixed to kill them, and if the salt be from the pork barrel they are nearly sure to pick at a pile of this. I once saw half of a large flock of chickens dead from eating cornmeal mixed heavily with salt, fed it by a child. These chickens refused their supper and died that night. I saw a large number die with the symptoms you describe after eating a lot of pickled meat scraps thrown out with the brine. Again, I have known chickens to die a lingering death from eating food salted just a little too heavily. Some poultry keepers salt all food fed the chickens. In this case the hurt comes on gradually. Rock salt left out for the cattle is seldom touched by chickens, though one can never be sure. A fowl picking at the salt by way of experiment might, as fowls of abnormal appetite often do, keep on picking until it got enough to kill it. Fowls of not abnormal appetite will often imitate. Enough might imitate this one to bring a big loss, as in this case.

I know of no way to preserve dressed poultry for home use any length of time except by keeping it frozen in a room into which light does not penetrate. This room must be kept at a temperature not higher than 32 degrees. The poultry must be, to keep well, put in cartons and set on racks through which the cold penetrates. But to get the best idea of how to prepare and insulate such a room it would be best for you to look through the cold-storage room of your nearest wholesale house in this line.

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You Can Earn a Good Living Raising Poultry

Cut living expenses—Increase your income. Thousands make money this way with

SUCCESSFUL INCUBATORS
SUCCESSFUL BROODERS
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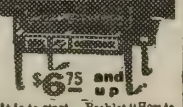
High-grade poultry—all leading varieties.



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Des Moines Incubator Co., 396 Second St., Des Moines, Ia.

Latest Book "Profitable Poultry," 123 pages practical facts. 180 beautiful pictures. Latest improved methods to raise poultry. All about world's famous Runner Ducks. 52 other varieties pure-bred poultry. This book, lowest prices, fowls, eggs, incubators, etc., only 5 cents.

BERRY'S POULTRY FARM, Box 80, Clarinda. Ia.

International Live Stock Show at Chicago

(CONTINUD FROM PAGE FIVE.)

race for popularity called the Hampshires. Though started as a bacon hog, they are rapidly assuming the lard type, and illustrate how easy it is for the lard feature to be introduced when corn is applied. The Hampshire is a popular hog and his tendency to take on flesh and get into the lard-making business and into the International show has added greatly to his popularity. The Tamworth is the next candidate for transformation, and by the application of plenty of corn and a little skillul breeding we hope to see this breed within a few generations of swine, lined up with the mortgage lifters, the lard type of hog.

Grand Champion Barrow

John Francis & Sons of New Lenox, Ill., have captured honors on their Poland barrows for so long a time that we are almost beginning to expect it each season. This year they received the grand championship on a 500-pound hog, shown at eighteen months of age. In talking of the hog, Mr. Francis related some interesting facts relative to his career. As a late May pig, he was considered too small for fall use and accordingly had been altered in August. Aside from a small white spot on his side, he was a typical Poland and as well bred as any of their best registered pigs. At this time, Mr. Francis states, he would have sold him for $25. He was grown out on a farm operated by a hired man, and this man must be given the credit for producing so remarkable a hog.

The rations fed this pig were the same as fed to all their fattening hogs—a bushel and a half basketful of shorts, a three-gallon pail of oilmeal and a molasses barrelful of water composed the slop. Besides this, shelled corn and bluegrass pasture. Mr. Francis prefers oilmeal to any of the other concentrates used in pork production.

His pen of three barrows were likewise good enough to win over all breeds and ages. Such honors mean much to the breeder and feeder.

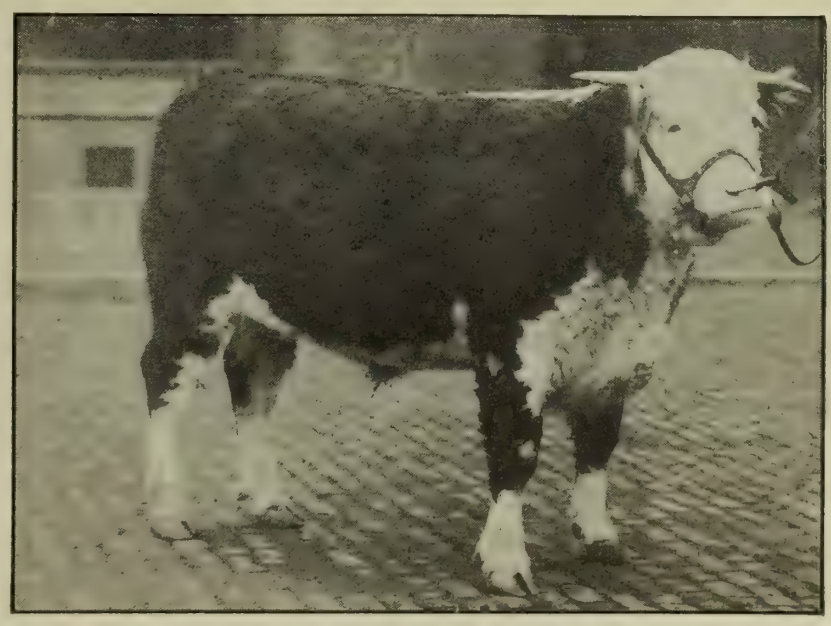
Carlot Hog Show

Of the thirty cars of hogs on display, a sifting committee would probably have considered six lots worthy of showing at the International. The balance would have been rated very low and would scarcely have topped the Omaha market on an ordinary day. Lack of uniformity existed in many a load. For instance, there would be chubby, matured looking and large, undeveloped pigs in the same load. Pigs of mixed breeding and colors predominated. About half the show was made up of grade Hampshires. A splendid load of 430-pound fourteen-month-old Poland-Chinas were shipped up from Texas by express and succeeded in winning the blue in their class over a smooth load of Berkshires. These Polands had been champions at the recent Fort Worth show. Three hundred and seventy-five dollars express charges did not prove sufficient weight to keep their hopeful owner at home. A choice load of Berkshires weighing about 300 pounds received the championship prize. These hogs were fed by E. D. King of Burlington, Kan., and were counted as good as any load ever seen at the show. The winning of the Texas hogs in their class forcibly impressed the fact that the Lone Star state can grow pork, as well as corn, as well as any other state in the Union.

General Observations

The stock show, in all its various departments and divisions, conveniently and attractively provided for the comfort of the animals and the observation of the visitors. The housing accommodations for the stock were all taken up, and the future development and growth of this enterprise suggested that more room must be provided, even before the show of 1914. The International Stock Show has an unlimited territory to draw from, and as local associations and shows will naturally come into existence, there is as naturally created in these the spirit of contest for larger and stronger competition. Thus the exhibitions of prize winners are started up the line towards the big shows, and eventually land at the place of last rest for fame—the International.

Grand Champion Steer, Which Came from Canada.



Bright Boy, Reserve Grand Champion Steer

Styles For Home Dressmaker

(CONTINUED FROM PAGE TEN)

years. Medium size requires 2½ yards of 36-inch material.

6020—Children's Night Drawers—Quite an original design for children's night drawers is here offered. The garment is made with a square yoke at the front, to which the body portion is gathered. There is a seam at front and a band accommodates the fastening at the back. There is a handkerchief pocket at the left side of the front. The usual materials are employed. The pattern No. 6020 is cut in sizes 1 to 9 years. Medium size requires 3¼ yards of 27-inch material or 2¼ yards of goods 36 inches wide.

5870—Girls' Sailor Dress—There is no more attractive frock for a small girl than the popular sailor dress, and in the model here presented we have a splendid design. The middy blouse can be worn inside or outside of the skirt. The plain skirt is attached to an underwaist. The pattern No. 5870 is cut in sizes 2 to 12 years. Medium size requires 4 yards of 36-inch material and ¾ of a yard of contrasting material, and for underwaist ½ yard of 36-inch material.

Our Cover Design

The pullet that appears on our cover page this week is one of the prize-winning White Wyandottes belonging to O. L. Bock of Council Bluffs, Ia.

Mid-Continental Poultry Show

The Mid-Continental Poultry Association will hold its first annual show in Lincoln, Neb., during Christmas week. It expects to have a large number of entries, including some very fine birds. Information may be obtained by addressing Paul P. Bliss, 3191 R street, Lincoln, Neb.

Iowa Sheep Breeders Meet

The thirty-first annual meeting of the Iowa Sheep Breeders' and Wool Growers' Association will be held at Ottumwa December 18 and 19. An interesting program is provided and many subjects of importance to those connected with the sheep industry will be taken up.

Sale Dates

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Friesian Cattle

February 3 and 4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher, Botna, Ia. Sale at South Omaha, Neb.

Hampshire Hogs

March 14, 1914—Roy Fisher, Winside, Neb. Sale at Wayne, Neb.

Duroc-Jerseys

February 2—E. H. Carpenter, Fontanelle, Neb.
February 3—Gus Krueger, Beemer, Neb.
February 4—Clarence Wallace, Wisner, Neb.
February 5—Robert Leisy, Wisner, Neb.
February 6—Henry Stuthman, Pilger, Neb.
February 9—O. E. Green, Genoa, Neb.
February 18—George W. Schwab, Clay Center, Neb.
February 21—E. E. and N. T. Youngs, Lexington, Neb.
February 26—J. J. Kane, Wisner, Neb.
February 25—Blackburn Bros., Royal, Neb.
February 27—O. C. Smith & Son, Kearney, Neb.
March 2—L. J. Kuzel, Clarkson, Neb.

Poland-Chinas

February 11—D. C. Lonergan, Florence, Neb.
February 24—Jacob Dietsch, Boone, Neb.
March 6—William Ferguson, Scribner, Neb.

Shorthorns

February 27—J. C. Hardman & Son, Valley, Neb.
March 11—E. H. Cosgrove, Farnam, Neb.
March 25—A. C. Shallenberger, Alma, Neb.

Clydesdale Horses

February 27—J. C. Hardman & Son, Valley, Neb.

Duroc Males for Sale

Henry Stuthman, the well known breeder of Duroc-Jerseys at Pilger, Neb., still has a few extra choice spring and fall Duroc-Jersey males that he is pricing well worth the money. In speaking of the spring boars, he says they are good, big, stretchy fellows, with good bone, and will weigh 200 pounds or better. These boars are bred in the purple, and he is closing them out at $25 a round. Here is an opportunity for any man who wants a first-class pig. Better send him your check at once if you want one. Kindly mention The Twentieth Century Farmer when writing.

How to Succeed on a Farm That Costs About $200

A man with a little money and a fair knowledge of farming and live stock, can go to Wyoming and secure from the U. S. Government 320 acres of good, level, tillable homestead land, practically free.

On it he can best raise alfalfa, corn for ensilage, field peas, millet and rye for hay. Also potatoes, sugar beets and other root crops. Then for $1.25 an acre he can take up 160 acres of grazing land adjoining.

So for about $200 he can get deed to 480 acres. Then he should have a few milk cows.

Don't you see what a clear chance this is to establish yourself in a wonderful country where there's a market for all the cream and produce you can raise?

The Burlington Railroad pays me to help you. No charge for my service. Write and ask for our free folder telling about these lands. D. Clem Deaver, 369 Q Bldg., Omaha, Neb.

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Other sizes at proportionately low prices. Terms to suit you. Address

BRADLEY, MERRIAM & SMITH, Council Bluffs, Iowa.

Tell Tomorrow's Weather

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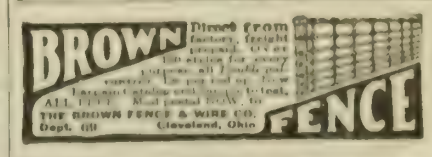

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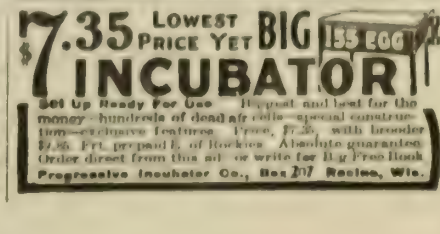

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A splendid lot of fall and spring males for sale, sired by Melina's Wonder, Crimson Wonder Select and Colonel Tippy. They are strictly right and worth the money. Henry Stuthman, Pilger, Neb.

POLAND-CHINA HOGS.

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Am offering for sale the three tried herd boars, Big Omaha, Metal Top, and Guy's Price Last. Every one a good one. Also a number of spring males. D. C. LONERGAN, Florence, Neb.

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25 head spring boars, all immuned. Sired by Blue Ribbon Hastings, Big Sensation and A Wonder Surprise. The real big kind, not fat, but in the best of breeding condition. Real herd headers. Everything guaranteed. Prices reasonable. W. J. EAVEY, GENEVA, NEB.

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Don't starve your hogs to remove worms; try this: Send for sample of our product, then select six growing pigs, feed them all the grain, oil meal, tankage and milk they can eat, then place before them in dry trough sample of Hog Potash and see how they eat it. Worms cannot live where it is fed regularly. Sold at prices of good salt. Send today for sample and descriptive circulars.

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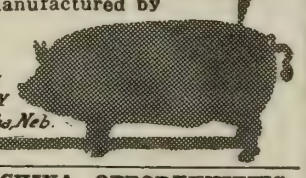

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BIG TYPE, BIG BONE POLANDS

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HOLSTEIN-FRIESIAN

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

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Everywhere the more progressive dairymen are alive to the necessity of using bred-for-production sires in order to bring up the butter-fat yield of their cows to a profitable figure.

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WINELAND FARM JERSEYS

Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.
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HORSES

America's Famed Horse Districts

This particular district, famed for Percherons. The Chandler herd noted for draftiness, substance and bone, is noted for turning the tide to American-bred Percherons. Possibly not French fat, but bigger frames, stronger vitality, better feet and legs. American users love this useful type and get them from my big bunch reg. studs, yearlings to fours. Write today. **FRED CHANDLER, Rt. 7, Chariton, Iowa.**

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Review of Live Stock Market

By A. C. Davenport

"WHAT is the matter with the cattle market?" That is the question that is agitating the minds of stockmen these days. It is not a difficult question to answer, but the answer is not satisfying, and unfortunately does not carry with it the suggestion of a remedy. After all it is really the remedy that stockmen want.

It has already been pointed out in these columns that the markets of the country have been suffering from unseasonable weather conditions. The soft weather that has prevailed in almost all sections of the country has undoubtedly greatly reduced the consuming demand and at the same time, by reason of the meat keeping poorly, has made buyers very cautious about taking on any great quantity of the product. It has been a hand-to-mouth market, and such a market always is unsatisfactory. As the public appetite does not crave beef during mild weather, the only remedy is a change to cold and snappy conditions, but the cattle trade evidently has little influence with the making of the weather, or it would have been changed some weeks ago.

Another solution of the question, "What is the matter with the cattle market?" can be found in the season of the year. Anyone who will take the trouble to go back and examine the files of market records for previous years will speedily discover that the market during the latter part of November and during the most of December is very apt to be unsatisfactory. This is especially true of the common to medium grades of beef steers. This year even the best long-fed cattle have suffered along with other kinds. Here again comes in the weather explanation. It is claimed by retailers that the weather is so warm that consumers are not taking kindly to fat beef, but the call is more urgent for the lighter cuts.

Cattle Market Still Weak

Consumers tell a somewhat different story. According to their explanation it is not so much a question of weather as it is of price. In other words, they claim that they would buy more freely if prices were lower.

Then there are the importations from Argentina to be reckoned with. Last week a consignment of 12,000 quarters of beef arrived at New York, that being the largest quantity of beef included in any one shipment thus far. The 12,000 quarters would be equivalent to 3,000 cattle, which would be no more than one day's run for some of the smaller markets. As has been pointed out several times before in these columns, the Argentina shipments of beef have not been large enough to cut any figure in trade so far as the actual supply and demand is concerned. However, they do have a sentimental effect upon the market and are used by packers to depress cattle values.

As an offset for the reduced consuming demand for beef there was a falling off in the receipts of live cattle at the six largest markets during November of 72,000 head. In other words the supply of cattle sent to market, after counting all the importations of live cattle from Mexico and Canada, still fell short of the receipts for the corresponding month of last year by 72,000 head.

Decline in Hogs

Receipts of hogs have been quite liberal for the last few weeks and the packers have beeen able to gradually force prices downward. The increase in receipts during the month of November amounted to 123,000 head at the six markets, but it is a very well known fact that this was due entirely to the premature marketing of pigs and light hogs, forced to market by reason of the high price of feed and the prevalence of cholera. To prove this assertion it would be only necessary to point to the fact that the average weight of hogs at leading markets averaged the lightest last month for a long term of years. If the receipts were to be figured in pounds of pork instead of by the head it would undoubtedly be found that there really had been a sharp falling off in receipts. Even after allowing for the recent large gains in receipts the total for the year is still 400,000 smaller than for the corresponding eleven months of last year, taking the six leading markets into consideration.

The decline on hogs has been the most marked on light weights, although heavy hogs have been pulled down a little. The trade as a whole has been in fairly good shape and prices at present writing are about where they were a year ago at this time. It will be remembered, however, that hogs during December last year broke down about a half dollar, so that with the opening of the new year the average of the market on the basis of Omaha was about $7.00, or a little above. The bears figured on getting the market down this year to about $7.00 by the opening of the winter packing season or soon after. They fell short of expectations, but should the run of light hogs and pigs continue as heavy during December as it was during November, it would surprise no one if they were able to touch the $7 mark by the first of the year.

Most operators on the market, however, are bulls when it comes to the hog trade. They are willing to concede that large receipts for the time being may give the packers an advantage that they will use to depress prices, but they firmly believe that hogs will be very much scarcer before 1914 is very far advanced, and that higher prices must eventually prevail.

Sheep Some Higher

Receipts of sheep during November were about on a par with last year, although some market points showed a sharp shrinkage. There has also been very little change in receipts for the eleven months, the total at the six markets showing a gain of only 41,000 as compared with last year. At the same time the demand has been good and the sheep market has been in very satisfactory condition. Last week everything moved freely, with prices at most points higher. The immediate future of the market looks a little doubtful as operators are anticipating a heavy increase in receipts, due to the prevailing high prices. Should the weather at the same time turn cold and stormy there would be a still further inducement for free shipments from the feed lots. While the market, as noted above, is in a good healthy condition at the present time, December is not a good month in which to flood the market and packers could hardly fail to take advantage of big runs to force present high prices to a lower level.

Live Stock Notes

Poland-China Boars of Merit

Attention is called in this issue to the change of advertisement of Mr. Fred Wille, the well known breeder of Poland-China hogs at Columbus, Neb. Mr. Wille still has a number of spring males for sale, and they are certainly the right kind. They are big, with plenty of bone, smooth, well balanced and are bred along the right line. These hogs have been grown with the idea of their future usefulness as breeders in view. They have not been pampered and will go out and make good in any herd if given ordinary treatment. We cheerfully recommend them to our readers, and trust that anyone wanting some of this kind will write Mr. Wille for further particulars, mentioning the Twentieth Century Farmer.

Herd Headers for Sale

Mr. D. C. Lonergan of Florence, Neb., is offering several tried herd boars for sale at this time. These boars are Big Omaha, Metal Top and Guy's Price Last. Everyone of them is a tried breeder and good enough to go to the head of any pure bred herd in the country. These boars have been used in Mr. Lonergan's herd, and this, in itself, should be a guarantee that they are right in every way. He also has a number of spring males of later farrow that he is pricing worth the money. It is a well known fact that Mr. Lonergan has one of the best herds in the country, east or west, and our readers may rest assured that anything he offers for sale will be just as represented. Better get in touch with him at once, mentioning the Twentieth Century Farmer.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, December 20, 1913 | Number 680

Prattle of the Youngsters

Good Enough for Him

Mother (upstairs)—Bobby, did you bring up a spoon for your medicine, as I asked you?

Bobby—I couldn't find a spoon, ma, so I brought up a fork.

Gentle Reminder

Johnnie was spending the afternoon at his aunt's and for some moments had been gazing out of the window in a painfully thoughtful sort of way.

"What makes you so serious, Johnnie, asked his aunt.

"Why, ma told me that I must remember not to ask for anything to eat, and I am trying to remember it."

Cocoanut Milk

One day the children in a city school were given a lesson about the cow. The next day a cocoanut was brought in for their inspection.

When the big nut came to Rosie Goldberg she happened to shake it and heard something inside.

"What's that?" she asked.

"That's milk."

Rosie took another look at the nut and asked: "Did the cow lay it?"

Very Young Fish

Mr. Brown took a day off and went down into the country to fish. He found a promising pond and fished for three hours without getting a single bite. A little farmer boy watched him most of the time. Finally, when Brown's patience was exhausted, he said to the boy: "Are there any fish in this pond at all?" "If there are any," the boy answered, "they must be awful small, sir, for there wasn't any water at all here until it rained yesterday."

As He Understood It

"The superintendent of a Sunday school repeated to the children the text: 'Arise, and take the young child and his mother, and flee into Egypt.'

"Then the superintendent showed a large picture illustrating this text in bright colors.

" 'Isn't the picture fine?' he said. 'Here is the mother. Here is the young child. There's Egypt in the distance. Isn't it fine?'

"The children, however, looked disappointed, and finally a little boy piped out:

" 'Teacher, where's the flea?' "

Business Instincts

Mary, aged 6, had not lived all her years in New York for nothing. Uncle came from the west to spend Christmas, and prodigally ordered for Mary a wonderful doll's house, fifteen rooms, four baths, ample grounds, no mosquitoes, etc.

Mamma called in Mary's playmates to celebrate the day. Before lunch time Mary had sublet three rooms and a bath on the second floor to Betty on a nine weeks' lease at 25 cents a week and a single room and bath to Eileen at 10 cents, no lease required. Moreover, she had contrived from her paint box a huge sign reading: "Apartments to let; apply to owner on premises."

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Nebraska Farmers' Congress

THE Nebraska Farmers' Congress met in Omaha December 9 to 12, with the largest and most representative gathering of farmers ever held in the state. The discussions were on subjects that are of vital interest to the men on the farm. The men in the congress came direct from the farm and knew what they were talking about.

One of the remarkable features of the congress was the fact that farmers came many miles and stayed through the entire four days.

On the closing day the resolutions committee made a unanimous report, and the congress adopted one of the strongest sets of resolutions ever passed by any organization in the interests of the farmers of the state. Next week we will print these resolutions in full, with a report of the congress.

Bright and Breezy

No Vegetarian

Coogan, the Customer—There's as much nourishment in a pint av peanuts as in two pounds av thot steak.

Grogan, the Butcher—But there's no gravy, an' nothin' for th' cat, an' no hash the next day!—Puck.

Up to Dobbin

A cultured daughter, home from boarding school, had just been driving the fat and antiquated family horse, from which all speed and spirit had departed some fifteen years before.

"Mamma," she called daintily—though in sudden alarm—"I can't leave Dobbin standing, can I?"

The matter-of-fact mother replied briskly: "You can—unless he prefers to sit."

Wages No Object

"Can't you get any work?" asked a woman of the tramp who had applied at the back door for food.

"Yes, ma'am," he replied. "I was offered a steady job by the man who lives down the road in that big white house."

"That's Mr. Oatseed. What was the work?"

"He wanted me to get up at 4 in the morning, milk seventeen cows, feed, water and rub down four horses, clean the stables and then chop wood until it was time to begin the day's work."

"What did he want to pay?"

"I dunno, ma'am. I didn't stop to ask."

Transients

A kind-hearted gentleman was walking through the back streets of an American town, when he came across a colored woman unmercifully beating a little boy. "Here," he said, seizing her by the arm, "you must not do that. What has he done, anyway?"

"Mustn't do that! What has he done?" ejaculated the enraged mother. "If you want to know, he's been and lef' de chicken house door open, an' all dem chickens got out."

"Well, that is not so serious," said the gentleman, soothingly; "chickens always come home to roost."

"Come home!" snorted the woman. "Dem chickens will all go home!"

Absent-Minded

Mrs. Smith had asked Mr. Smith more than fifty times, so she said, when he was going to varnish her kitchen oilcloth. Finally, in desperation, one Saturday afternoon he donned his overalls and went at it. Monday morning it had not dried a bit.

"Something is wrong with the varnish, Henry. Where did you put the can?"

"I set it back on the cellar shaft," he answered, absently, from the depths of a newspaper.

She came back into the room presently with the can and stood in front of him ominously quiet, he thought, so he looked up. She held the can toward him.

"Can't you read, Henry Smith? You varnished that kitchen oilcloth with pure Vermont maple syrup."—National Monthly.

The TWENTIETH CENTURY FARMER
A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

The Good and Bad Qualities of Feterita

Ripens Early and Makes Good Feed, but is Difficult to Harvest and Store

By A. C. Hartenbower

FETERITA'S rapid rise to fame has been little short of marvelous. Introduced with success into the southwest in 1906 from Alexandria, Egypt, by the office of foreign seed and plant introduction of the United States Department of Agriculture, it has spread over one state—Oklahoma—and has attracted consideration throughout the other states included in the grain sorghum belt—Kansas, Texas, New Mexico and Nebraska.

The plants of feterita are medium tall in height, from four to seven feet being the average extremes. The stalks are more slender than either standard black-hulled kafir or yellow milo. They have more leaves than milo, and, considering the height, fewer than kafir. There is more juice in the stems than in those of milo and the juice is sweeter. The heads, which average about nine inches long and seven inches in circumference at the center, are erect-growing. The kernels vary from white to bluish white in color and are quite strongly flattened. Various colors of glumes or hulls are found, pink, brown, black and red having been noted.

Difficulties in Harvesting

Feterita plants produce suckers at their bases and side branches come out from the nodes above the ground. This makes the crop difficult to harvest either for grain or fodder. Hand selection is almost a necessity in most cases in order to procure mature seed. The grain shatters somewhat more than yellow milo, and much more than standard black-hulled kafir when the crop is allowed to stand in the field after maturity. In time required for maturity feterita is, perhaps, a few days earlier than yellow milo and from two to three weeks earlier than kafir when these crops are grown under the same conditions. This makes feterita mature, then, in from ninety to 100 days.

Comparison with Dwarf Milo

The production per acre of feterita in the southwest has been variable. A report from the cereal station of the United States Department of Agriculture at Amarillo, Tex., shows the following comparative yields of feterita and dwarf milo for the period 1908 to 1912:

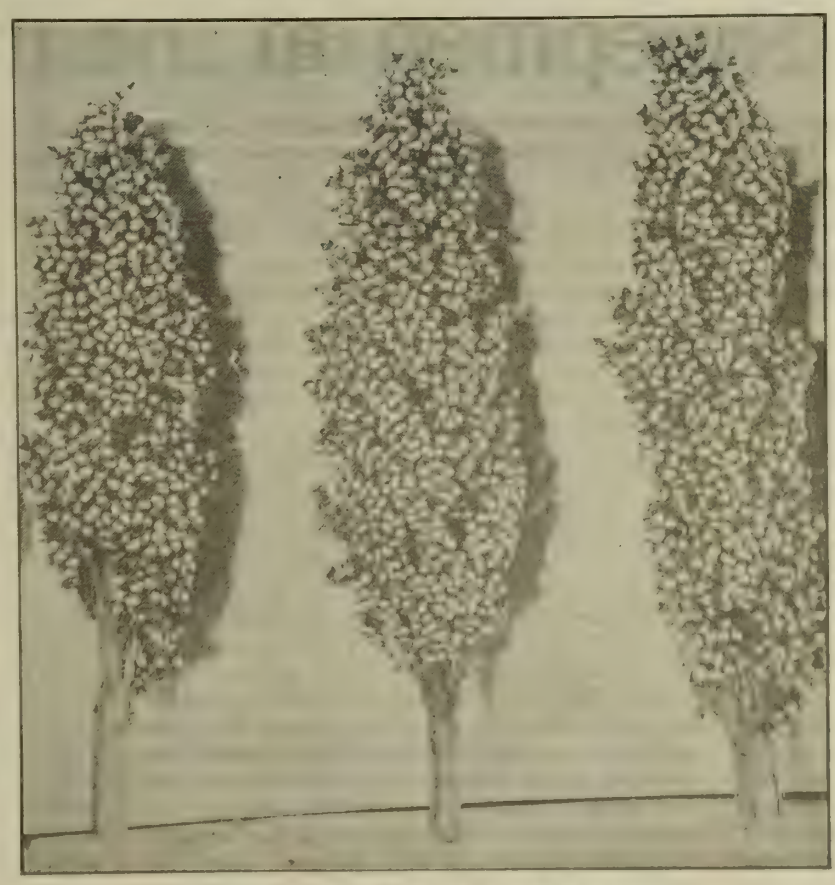
Year.	—Yield Per Acre, Bu.— Dwarf Milo.	Feterita
1908	11.3	10.2
1909	11.0	9.3
1910	19.9	14.7
1911	37.6	34.2
1912	22.6	22.9

Averaging, we find that the dwarf milo has given a yield of two bushels more grain per acre than the feterita in an average of five years, when both crops were grown under identical conditions. Owing to the extreme drouth which prevailed at the Amarillo station in 1913, all of the grain sorghum crops under test were for the greater part failures.

Evaded the Drouth of 1913

On the farm of the Oklahoma Experiment Station at Stillwater, feterita has given yields of grain which compared very favorably with the standard black-hulled kafir, the leading grain sorghum crop grown there. The yield of forage has never been large and the quality of the forage produced has been greatly inferior to the latter crop. At the Goodwell sub-station feterita has a given grain yield superior to both kafir and milo. Farmers over central Oklahoma in particular found feterita a generally more valuable crop than either kafir or milo in 1913. The past growing reason for crops was short, the rainfall during the last days of June and July and August being but little above one inch over that area. Feterita, with its earlier maturity than either kafir or milo, especially the former, had about finished its growth when the drouth came, while the kafir and milo, on the contrary, had not reached such an advanced stage of development, and consequently suffered far more injury than the feterita. This would seem to show that during the past season feterita did not prove more drouth resistant than kafir or milo, but that it succeeded in evading drouth. In previous years, when the rainfall has continued until later in the summer, few fields of feterita have out-yielded kafir in central Oklahoma, while thousands of fields of kafir have out-yielded feterita.

Feterita resembles milo much more than kafir in manner and habits of growth. In the east central part of the grain sorghum belt it appears to have made strong inroads upon milo, but as a matter of fact kafir is the one tried-out feed insurance grain sorghum crop for that section.



Three Typical Heads of Feterita

Not as Good as Kafir

The real value of feterita as a crop for the grain sorghum region is not fully determined. The chemical composition of feterita shows that it compares favorably with kafir and milo, having about 12 per cent of protein. The grains are soft, and live stock feeders report good returns from feeding it to hogs and other classes of live stock. Grinding before feeding is not as essential as with kafir. But the tendency of the feterita plants to stool and lodge very badly in heavy winds before maturity, and exceptionally so under the same conditions after maturity, and the strong tendency of the grain to shatter if allowed to over-ripen in the field, seriously affect its value as a grain crop. It is very difficult to keep feterita heads from heating when stored and when the grain is threshed. Owing to the uneven maturity of the heads coming from the production of suckers and side branches by the plants, heating is very common after threshing the grain. The inferior production of forage is an item that must be considered when the general farmer grows any crop. In the present state of improvement feterita does not meet the general requirements as well as the standard black-hulled kafir. Feterita is strongly recommended as a silage crop, or as a crop for hogging down in the fields, and for these uses it doubtless is equal, if not superior, to kafir and milo. When confined to these uses, feterita meets the requirements of the general farmer, and the acreage devoted to this crop will be gradually increased by those who are desirous of a crop meeting these requirements.

In trying a new crop it is always well not to go in too heavily. Feterita may be just the thing you want to raise, but don't plant too much of it until you are sure of this.

Winners in Boys' Acre Corn Contest

Jess J. Correll, Who Raised Eighty-Eight Bushels of Corn on an Acre

Two young Nebraska corn raisers are now on their way to Washington to see how our country is run. The winner in the corn-growing contest has his expenses paid and wins $160 besides. The second boy gets $60 and will pay his own expenses. Jess J. Correll, a 16-year-old boy from Frontier county raised eighty-eight bushels on his acre. Last year he raised 109 bushels.

Young Correll's parents live in Cambridge, but he has an uncle owning a farm in Frontier county, and to this uncle the lad applied for sufficient land to make the test. The uncle told the boy that he could pick any five acres of land on the farm he desired. Jess looked the farm over and selected a two-acre tract in a bend of the creek which two years ago had stood under water a portion of the summer, when there was plenty of rain. It was here that the prize was won, for the ground held the moisture of years before, and the end justified the wisdom of the lad. From this two acres he picked one acre in the center, and from this the eighty-eight bushels were grown and husked.

All of the work was done by the lad, as it is one of the requirements of the contest that the work must all be done by the boy entering the contest. In order that the award may be fair, an affidavit by three reputable citizens knowing the circumstances is required, and then an inspector is sent out by Prof. Pugsley, who makes a thorough investigation of the matter.

In the eastern division, Walter Pflug of Sarpy county, residing near Papillion, won the contest, growing eighty-four bushels.

Much of the success of this contest was due to the South Omaha Stock Yards company, which furnished most of the prize money.

Miss Peterson of the University of Nebraska extension department will accompany the boys to Washington, where they will meet representatives from the corn-growing contests of about thirty other states. They will be invited to call on the president, will visit the places of interest about Washington, and one evening will be spent as the guests of the secretary of agriculture at a banquet.

Walter Pflung, Winner in the Eastern Division, Raised Eighty-Four Bushels

Sheep and Sheepmen at the International

THE sheep show at the International at Chicago, November 29 to December 6, was in most respects the best sheep show ever held by this association. It was exceptionally good in quality in practically every breed represented. The breeds were by entries as follows: Shropshires, 123; Hampshires, fifty-four; Southdowns, thirty-one; Lincolns, thirty-six; Cotswolds, sixty-one; Dorsets, forty-five; Oxfords, thirty-five; Cheviots, fifty-nine; Leicesters, nineteen; Romneys, eight; Rambouillets, thirty-five; Exmoores, ten, and 381 entries in fat sheep classes of the various breeds. The entire entries represented more than 1,000 sheep, independent of the carlot displays, which represented the sheep-growing country from Pennsylvania on the east to Idaho on the west.

Idaho Firm Prominent in Carlot Classes

Knollin & Finch of Soda Springs, Idaho, were prominent in carlot classes, receiving the grand champion prize on a load of their range-bred Shropshire wether lambs. They also won several first prizes, indicating that the mutton sheep industry for the best prepared quality of sheep and lamb meat does not necessarily have to come from the feed lots of the corn belt states. This carload of lambs were bred and fed on their ranch at Soda Springs, Idaho. These grand champions of the 1913 International, and the sensation of the exhibit, were all May lambs dropped between May 10 and 20, and the product for the most part of pure-bred imported Shropshire rams.

The taste of corn is unknown to this lot of lambs. Ten days after their birth these championship winners were put out on their Idaho mountain range, with a range herd of 2,400 head. There they remained all summer under the care of a shepherd. When brought in from the mountain ranges to begin their preparation for show ring honors they averaged about sixty pounds, and were not in as good flesh as they might have been, due to a very wet summer in that section. The winners were not topped out of the entire Knollin & Finch flocks. It was the desire of the exhibitors to show only young lambs in order to avoid big weights on the finished product, hence the fifty head comprising the carload were selected only from the last sixty-five lambs dropped in the spring. These lambs were never off feed and have put on flesh and fat rapidly from the start of the feeding period, which was ninety days.

Started on Native Grass and Wilted Alfalfa

Upon being brought in from the mountain range the lambs were started on a small, native-grass pasture and fed alfalfa hay wilted for twelve hours before feeding. The grain ration consisted of one-quarter oats and three-quarters ground barley, to which a small quantity of linseed oil meal and Swedish turnips were added. The first ten days of the feeding period the lambs received one-fourth pound of grain per head per day, after which they were given one and a half pounds per head daily until the last three weeks, when an increase to two and one-fourth pounds was made, and that amount continued up to the time shown. They had about one and a half pounds of turnips per head daily throughout the feeding period. They were estimated to average between 102 and 105 pounds, or about forty-two to forty-five pounds per head more than when put on feed. The big gain in weight and the finish shown is testimony as to the value of the feeds used. Mr. Knollin expresses the belief that better results within a corresponding period could not have been made by any other feed or combination of feeds. All the feed used in the fattening of the lambs was grown on the range, with the exception of the linseed oil meal.

Six years ago three carloads of the Knollin & Finch lambs, fed by Dick Stone to make a test of Oxfords, Southdowns and grades, were exhibited there, the Southdowns then sweeping everything before them, taking the sweepstakes premium on carlots and standing at the head of the list in grades and crosses.

Sheepmen Are Optimistic

There is a very optimistic opinion expressed by sheepmen from all parts of the country. There is no special regret pronounced about the free wool legislation. The pure-bred sheepmen seem to take the situation logically and say that increased work in the sheep business must be done, better care given the flock, better sheep produced, and this in both mutton and wool. George McKerrow, one of the leading breeders, exhibitors and importers of mutton breeds of sheep, with headquarters at Pewaukee, Wis., says: "I find that the demand for sheep seems to be increasing rather than decreasing under the tariff agitation that we have had. The effect came with the first attack. It is now practically past and mutton is in strong demand, and buyers for mutton sheep are not afraid to chance going into the business. They will raise a larger fleece and more mutton on the same animal than they formerly did, and come out square or even a little better. Mutton is a strong factor now in sheep raising."

Mr. Finch of Knollin & Finch of Idaho expressed the opinion that there would be a little more attention paid to the mutton breeds of sheep on the range than formerly; that the fine-wool flocks would use more mutton rams and breed a larger sheep; that there has been this last season a strong demand for mutton-type rams; that their firm has been selling this class of ram lambs by the carload to the extent of more than 1,600 head, and that this demand has every evidence of holding out.

Mr. Cock of Bennett & Cock of Belle Fourche, western South Dakota, prominently identified in the range sheep industry in that section of the west, says that there has never been more interest manifest in the sheep business in their

part of the country, and the tendency is toward the wool sheep, with all the size of carcass they can attain. He says that the range sheepman can never get away from the merino, because of its natural flocking or herding tendencies. The range sheep, he asserts, must be an active, moving band in order to acquire the necessary feed to keep them thrifty and growing. His experience has taught him that the merino is an early riser, that as soon as daylight commences to throw a little ray of light on the sheep fold the merino will get onto its feet, stretch itself and start off to graze, while the mutton breeds will be slow to get up and listless about getting off the bedding ground.

Must Prove Success of Industry

E. L. Shaw of the bureau of animal industry, Department of Agriculture, Washington, in discussing the future of the sheep industry of this country, expressed the opinion that there will be considerable hesitancy on the part of persons who are not thoroughly familiar with the business in starting until those now in the business prove its success. The effect on wool prices has been experienced, even before the tariff law was repealed, and that no additional harm need be anticipated in this direction. Mr. Shaw thinks that the high prices of meats will encourage sheep feeding and thus increase the demand for sheep among farmers and feeders.

Dwight Lincoln of Ohio, the popular secretary of the National Rambouillet Merino Registering Association, is very optimistic on the sheep question and asserts that there is a big demand for his kind of sheep, and that new flocks will be started all over the range country because of the mutton demand that is called forth on account of high-priced beef and pork. He argues the superior healthfulness of mutton as a food product, that many persons can eat mutton that cannot eat pork on account of stomach ailments of one kind or another. But the great demand for the merino is on account of its herding qualities in large bands; on the range this feature is a necessity. Besides, that, the fine-wool lamb is the feeder's choice when he has once tested them out with the grade mutton breeds. That the foundation of the range flock must be based on the French merino, if success is to be attained, is the opinion of Secretary Lincoln.

Predicts Greater Demand for Mutton

H. L. Compton, one of the popular judges of mutton breeds of sheep, now located at Danville, Ky., in charge of the Linwood stock farm, says that he has no hesitancy in expressing his belief that within a very short time the demand for sheep to supply the mutton trade will be greatly above the producing ability of those now engaged in this work. Mr. Compton is also among those who entertain a very encouraging forecast for the flockmaster who sticks to the sheep and breeds for more wool and more mutton from the same carcass. He figures that two pounds more wool from the sheep would not be an extravagant demand, and should be acquired readily by a little careful breeding and feeding, and a little more mutton may be added to the size and growth of the carcass, and thus acquire a more profitable animal, and at no additional cost, and sacrifice nothing in the effort.

Within the Province of Sheepmen

The opinions herein expressed are all reasonable and within the province of the sheepman to bring about. That the sheep industry is going broke because of tariff tinkering, is absurd. Sheep are good money-making property in the hands of the man who knows how to handle them and is willing to give his time and attention to them. There is not an animal in existence so easily provided for as the sheep, nor one better able to pay back with interest all the attention that the careful flock owner is willing to contribute. It is to be hoped that the sheep owners will increase their efforts in the sheep industry and make the American supply of mutton equal to the home demand. No foreign country can compete with our home-grown mutton if our breeders and feeders set their aims to accomplish this purpose.

Sidelights on Big Stock Show at Chicago

JUDGING is a subject about which which much has been written. No two persons judge animals just the same way. A splendid example of this occurred in the fat steer show at Chicago. In placing pure-bred Shorthorn steers, the judges of breeding Shorthorns made the awards. In the 2-year-old class they placed an Illinois steer first over an Ames College beast. Both were deep reds, thickly covered and acceptable types. The Illinois steer carried his underline truer, while the Ames steer was much fuller in the lower quarter. The next day the foreign judge placed championships by ages. In the 2-year-olds all first and second prizes of each breed competed. The Angus was given the championship, while the Ames steer was made reserve over the Illinois steer which had defeated him the day previous. The judge seemed to consider the placing of the two Shorthorns quite easy. Both of these steers were good animals, yet when the best judges of the world cannot agree, what is the poor exhibitor going to use as his standard in selecting an up-to-date herd?

Students' Judging Contest

The annual students' judging contest created considerable interest on Saturday preceding the show. Thirteen agricultural colleges sent forth teams of five men each to participate, three of these being from Canadian provinces. Classes of Belgian and Percheron horses, Angus, Hereford and Shorthorn cattle, Berkshire, Poland-China and Duroc-Jersey hogs and Southdown and Shropshire sheep were judged. Four animals were used in each class. Committees of three judges passed on each kind of stock and heard the students give their reasons for placing the stock as they did. The committee failed to agree upon the placing of several classes, and thereby made it hard to grade the students' work and introduced the element of chance. Everything was done strictly on the square and there was an entire freedom from prejudice or suspicion. Most of the teams took trips in advance of the contest and visited live stock farms in various states. Irrespective of the contests, these trips are well worth the students' time and money, as it gives them a broad insight into the practical end of the stock business. Texas carried off the laurels, while Missouri rated second, Purdue third, Ohio fourth and Iowa fifth. This is the lowest placing Iowa has ever made since the inauguration of the contest, some twelve years ago. Nebraska ranked twelfth.

From Across the Water

August Tascheau of La Perche, Bernard, France, was an interested visitor at the International. He is counted the biggest breeder and dealer in La Perche. Many importers class his work in France as of the greatest importance in the upbuilding of the Percheron horse. It was from his stables that the famous Mark Coad shipment of 1885 was made for importation to Fremont, Neb. He owns many stallions which are used for stud service over the district. He stands his horses at from $3 to $5 for single service and secures an option on all stallion colts at weaning time. These colts are then put in small pasture lots and grown out. Mr. Tascheau has an oats roller, which he counts as an indispensable asset to the draft horse grower's equipment. His colts never suffer for want of feed, and he believes it is the only method if scale is to be obtained.

Many of the Percherons at the International had been brought from his stables, and there were others which he had seen shown at the Paris and district shows of last summer; consequently he was quite interested in seeing the American judges make their placements.

Nebraska Stock at Show

Samuel McKelvie, well known Poland breeder of Clay county, could not ward off the show fever as he had expected to, and consequently his presence at the hog show was quite noticeable all week. He reported an average yield in his county and but few stock on feed. He, too, was much disappointed in the carlot show of swine, but expressed his pleasure at the quality of stock on display in the exposition building.

Dr. J. D. Sprague of David City leaned on a rail beside the horse judges for two days and saw at close range the work they were doing. He has inspected many stallions in Nebraska and is much interested in horses of the right kind.

Roy Fisher of Winside succeeded in convincing the eastern plutocrats that Nebraska can grow as good hogs as any state in the union. His winning herd of Hampshires made a strong show in competition with the best herds of this popular breed to be found anywhere.

Messrs. North and Robinson, horse importers of Grand Island, watched the Percheron judging quite closely. They expressed surprise at the quality and size of the show.

Julius Wolfe, well known horse importer of Albion, and Joseph Rousselle of Seward found considerable delight in watching the mammoth horse show in progress.

Selecting Carlot Exhibits

The skill displayed in the selection of the animals for the carlot exhibits in this division of the big International Live Stock Show was a feature worthy of careful observation and study. This, however, is true of all live stock shows where the carlot exhibit is made a feature of display. The cattle division represents the strongest argument in favor of uniformity of color, size, type and finish when it comes to carload displays.

The advantage the solid colored animals have over the load of mixed colors is readily understood. It is only necessary to see these examples to be fully convinced of the force and argument that color carries. Color might be said to be the leading or governing qualification in carload exhibits. This may be illustrated by naming the Angus, the Galloway, Red Poll and the sorted-up colors of the Shorthorns—reds, whites and roans.

In loads of mixed colors the eye glances over each animal readily, comprising the load, and if there is an objectionable animal from any cause he is "spotted," as the saying goes, and you cannot thereafter look at the load without seeing this animal. If all are of one color, one must get the objectionable one in full view in order to expose his shortcomings. He may hide behind another of his own color and not become so prominent and, therefore, not so objectionable, to the average buyer.

The selection of the carlot of cattle to get them uniformly mated up so that they are as "like as eggs" is a matter of skill and ingenuity that counts very strongly with the judge that has this display to pass on. Animals closely mated in size, type, flesh and color are a strong combination of quality that is hard to get over. It is the reasonable proposition in the matter of arranging such a display, and exhibitors pretty generally observe it, since we see the Shorthorns quite frequently selected to mate as closely as possible in color, and the effect is convincing.

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It is well to be on the lookout for winter, especially in the favored district of the Missouri valley. Storms of unusual severity have visited the eastern Rocky mountain country and the eastern states, practically all of the country east of Chicago. Be prepared for bad weather at all times, now and during the winter season.

The live stock show season is now practically closed for 1913, and the energies of the breeders and feeders must be directed toward the prospects for 1914. The proper selection of the animal for exhibition is the vital feature of the show business. Study well your subject before you decide on the course of feeding and fitting. There are many features of animal conformation that feed and care will do wonders in changing and building up, but in the main the carcass foundation must be almost ideal if the animal can hope to be a leading prize winner.

Last September, at Fremont, Neb., the Twentieth Century Farmer and the Fremont Commercial Club united to put on one of the greatest power farming demonstrations the United States has ever seen. The interest aroused was so general and enthusiastic that it was resolved to make this demonstration a national and annual affair. Arrangements have been made for the coming year, and we are glad to announce that the date chosen is the third week in August, and Fremont is the place. Funds have been appropriated and plans are being made to make this demonstration of even more value to the farmer than the first one.

Christmas Tree Fad

When will this useless destruction of the evergreen tree cease? The custom of tree decoration in the celebration of the birth of Christ is responsible for the annual destruction of millions of the finest, thriftiest, most promising young trees for timber purposes that are grown in the forests of America. This fad, which has taken such a firm hold on the American people, is a growing evil that should be discouraged throughout the American homes. It is a fad that this country can ill afford at this time, when a timber famine in the United States is threatened, and the crying demand from forestry interests is tree protection, and improved forestry methods are being urged and proclaimed from every hilltop throughout the land.

These beautiful young trees that are sacrificed for the pleasing of the eye, the admiration of a day, are needed in supplying this nation with lumber and building timbers so essential in the carrying out of man's work. In every city, town and village throughout the country carloads of these young trees are disposed of each holiday season, and to no lasting purpose. This counts heavily against the work of re-foresting the country, a work which is being proclaimed and advocated with so much sentiment and seeming earnestness at all other seasons of the year. But when the Christmas slaughter of these choice young trees comes around scarcely a voice is raised against this abuse of tree life.

A citizen of Wilmette, a suburb of Chicago, who is opposed to the destruction of the evergreen tree, and who has abolished this feature of Christmas decoration in his home, introduced last Christmas a novelty that attracted the attention, curiosity and admiration of all his neighbors for blocks around. In his front lawn is growing a fine specimen of Norway spruce, which he decorated and had wired and lighted with many electric lights. It satisfied the home demand much more completely than if it had been the usual Christmas tree and afforded the neighbors no small amount of interest.

For Cleaner Farms

"Clean up on the farms! This is the slogan taken up by a group of counties in Indiana in an effort for better sanitation on the farm. This invigorating enterprise is the result of a study of the rural sanitary conditions of Indiana by its State Board of Health. Dr. J. N. Hurty, member of the State Board of Health, in an address recently delivered at Gary before the State Conference of Charities and Corrections, said:

"If every farmer in Indiana would commence the new year with a pure water supply, with sanitary sewage disposal, with a clean barn and barnyard, and would several times daily flood his home with the pure air which surrounds him, then it is safe to say that disease would be enormously lessened, efficiency would be raised, the duration of life would be increased, and happiness would be promoted on the farm. It is the unsanitary privy, the polluted well and the heaps of manure near the farm houses which drag down the average sanitary score," declared the doctor.

It is not uncommon to hear of towns and cities being severely criticized for their lack of sanitary observance, for their careless and filthy alleys and unsanitary sewerage and drainage for the carrying off of the waste that naturally accumulates about buildings and poorly kept stables and back streets, if not looked after by some authority to enforce ordinance or law.

Some farms are even worse than the alleys of the neglected town or city. The cause of disease—typhoid fever, diphtheria, etc.—is often traced to the water supply of the family where sewage is permitted to find its way to the source of this water supply. Vegetables and fruits stored under the living rooms of the home in the cellar, where they are kept all winter and into the spring, are allowed to decay more or less. Barnyards not kept clean, animals subjected to all manner of unsanitary pens, stables, troughs, feed boxes, watering accommodations and surroundings, generally tend to cause disease.

This system of investigation by the Indiana health board is in the line of reform that should be adopted and carried into execution by all states in the interests of the people. It is the first and greatest need to look after the sanitation and health of the citizens of the state that they be the better able to guard the health of the farm animals.

A system of scoring farms has been adopted by the Indiana health board and a comparison of conditions in the various counties is thereby obtained. The score was applied on a basis of 10 points each for perfect. The points scored were site, sanitary condition, house, cellar, ventilation, water supply, sewage disposal, sanitary aspect of barn, barnyard, pig pen, chicken coops, disposal of manure and health.

"Clean up on the farms" is an excellent text and should be taken under careful and thoughtful consideration by every community in every county and state.

A Chicago firm has sent out a letter to the creamery trade which is interesting to the milk producer. It announces that the recent reduction in the tariff, while not affecting the better grades, will materially affect the poorer grades of butter. It is therefore not only up to the creamery men, but to the milk producer as well, to see that the market is supplied with salable butter. There will be strong competition on under-grade butter, which will bring reduced prices, but no increased competition on the best grade.

We make a mistake now and then, and, while we don't wish trouble to anyone, it is a comfort to know that others make mistakes, too. In a recent issue of a southern farm paper we find articles sub-headed "Cow Talk" and "The Dairy Bull" under the heading "In the Poultry Yard." These animals appear to have driven the poultry out, for there is none on the page.

The Draft Horse Industry

The draft horse industry has never been in a more thrifty and prosperous condition of growth and development than at the present time, judging from the International show and the full classes at the state fairs of 1913, and the general demand for this class of horses over the agricultural districts of country. That this feeling and sentiment exists, notwithstanding the tendency of inventive genius to displace the horse as a power transmitter, is a matter of surprise to everyone.

The horse by nature is man's companion in labor and servitude and has been from the beginning of time. So close and profitable has been this association in labor that the prophesied dissolution of the alliance between horse and man should scarcely be given even the remotest thought. The tendency among horse breeders and horse raisers all over the world is to breed better animals. This is encouraged and stimulated by the tendency among horse raisers to own better horses. The disposition among those who choose to continue the use of the horse is to get size, quality and durability in the animal. The big horse has advantage in his weight when moving the heavy load, and this point is not overlooked when buying this class of horses.

The active, big horse, with sound legs and feet under him, will bring the producer a satisfactory price. It is this style of makeup of horse that is now in great demand, both as a horse of labor and as a stallion for breeding purposes. This is the class of horses that are now bringing good prices in all the horse markets of the world. Quality in the horse, no matter what class he belongs to, is more in demand today than in any past period in the horse history of the country. The little horse needs quality to recommend him or he is a hard piece of property to dispose of.

The supplanting of the horse by any kind of motor power need not cause any serious alarm among breeders, raisers or users of the power horse. It is the cheap, unsound, unserviceable horse that must go first, and should go, no matter what the competition in power supply may be. Horse breeders must not lose faith or confidence in the horse because power machines of various kinds are being run through the streets and over the public highways. This is but a very small part of the power demand, a very slight infringement upon the utility and service of the horse, and does not to any appreciable extent interfere with the big draft horse in his adaptability and convenience in transmitting economically and profitably the great trade and traffic of an agricultural and commercial character, which he is now so successfully employed in doing.

Farmers and horse raisers, let your aim and ambition be to breed better horses, of whatever distinct class you may fancy and select. Quality and durability for service will be the requirement of the use that in the future will be tightening down to a more exacting discrimination in purchase.

From Longhorn to Shorthorn

Twenty-five years ago today Texas was famous for its Longhorn cattle. They were bred there, shipped north to be fattened on our northern farms and ranches and from there sent to the big stock markets. Texas steers meant beef to the world at large. The Longhorn steer is a curiosity now. He will soon be as scarce as the buffalo. But the plains of Texas are still furnishing beef for our markets. Where the Longhorn once roamed in great, untamed herds, we now find carefully bred and tended Shorthorns, Herefords and all of the standard breeds of beef cattle. The cattle industry is as big a thing in Texas as it ever was, but in a different way. Conditions have changed, and Texas has changed to meet these conditions. When there was no longer a market for the Longhorn, the cattle men of Texas studied the market and started to raise what the market wanted. This is the secret of success in any line.

This year at the International Stock show at Chicago the young men from the agricultural college of Texas proved themselves to be better judges of fine stock than those from the colleges of any of the other states. These young men are accustomed to seeing the finest stock that can be raised. Texas knows what it wants to raise and it is raising that kind. The Texas stockman and the Texas student visited the stock show and saw the fine specimens of the various breeds, and they have gone home to use the knowledge they gained in improving their already fine animals. The rest of us will have to "go some" if we want to keep up with the pace Texas is setting.

Trees for the Dry Lands

There has been a great deal said about the planting of trees on the western prairie farm and on the still farther western desert, the dry lands of the arid and semi-arid country. This is a subject that cannot be exhausted. It has been due to this everlasting advice, "plant trees, plant trees," that the central western farm country is now so abundantly supplied with its beautiful shade trees, its magnificent groves of tall, vigorous forest trees towering above the landscape in every direction one casts the eye. There is no wooded landscape that excels the planted prairie farm grove in its grandeur and excellence, in its contrast to the far-reaching open view.

C. A. Scott, state forester of Kansas, urges the planting of the evergreen, especially arbor-vitae, for the western dry lands of Kansas and similar dry sections. It is claimed that these trees wil grow thirty to forty feet high in western Kansas and will attain a diameter of trunk from twelve to eighteen inches. This is a very encouraging report, since these trees are no hardier than many other varieties of the evergreen, pine or cedar.

It is a pretty generally conceded fact that the evergreen is a sure and successful grower all over the eastern Rocky mountain country. It is found in its native thrift and vigor of growth, reaching out into the Missouri valley, scattered practically all over Nebraska, Kansas, Oklahoma and the Dakotas. Its native tendencies have made it a sure grower all over the western prairie states. In replanting it has certain requirements, and when these are humored it is a sure grower.

The tree planting enterprise that Prof. C. A. Scott of the forestry department of the Kansas Agricultural College is about to introduce in the dry lands of western Kansas will no doubt be a success, and his arbor-vitae groves will be of lasting benefit and a thing of beauty on many treeless homes. The lesson to be taught is perseverance, and an application of this to conditions that nature has made.

Japan each year produces more than 20,000,000 bushels of rice, nearly 60,000,000 pounds of tea and more than 25,000,000 pounds of silk.

New Parcel Post Rates

Uncle Sam, through his servant, Postmaster General Burleson, is going to give us a New Year's present. He says that we have appreciated the parcel post. We are all willing to admit this, especially those of us who have frequent occasion to send parcels. Now we are going to have an addition to it. From and after January 1, 1914, we may send parcels in the first and second zones weighing as much as fifty pounds. The maximum weight for parcels sent beyond the second zone will be twenty instead of eleven pounds. Rates will be changed as follows:

Rates for the third zone will be reduced from 7 cents for the first pound and 5 cents for each additional pound to 6 cents for the first pound and 2 cents for each additional pound.

Rates for the fourth zone will be reduced from 8 cents for the first pound and 6 cents for each additional pound to 7 cents for the first pound and 4 cents for each additional pound.

Rates for the fifth zone will be reduced from 9 cents for the first pound and 7 cents for each additional pound to 8 cents for the first pound and 6 cents for each additional pound.

Rates for the sixth zone will be reduced from 10 cents for the first pound and 9 cents for each additional pound to 9 cents for the first pound and 8 cents for each additional pound.

Books, which have heretofore had a special rate, will now go by parcel post, the rule being as follows:

The rate of postage on parcels containing books weighing eight ounces or less shall be 1 cent for each two ounces or fractional thereof, and on those weighing in excess of eight ounces the zone parcel post rates shall apply.

This is to be effective March 16, 1914. This date is made to allow three months' grace to large firms having catalogues now in the process of preparation.

Of the 2,000,000 trees to be planted on the national forests of Montana and northern Idaho during the present fiscal year, one-half have been set out this fall and the rest will be put in next spring.

There's a present for You on Hewitt-Lea-Funck's Xmas Tree

If you are going to build house, barn or other building—or make repairs—there's a $50 to $500 present for you on this tree.

Send the coupon and get it

Hundreds of farmers and other folks living in the Northwest will enjoy a Merrier Christmas, because they saved $50 to $500 the past year by buying their lumber from Hewitt-Lea-Funck Company.

I. D. Johnson, of Falion, Mont., saved $327 through buying of us instead of his local dealer. A. M. Stern, of Regan, N. D., saved $250. A. D. Anderson, of Woonsocket, S. D., saved $150. Others of our customers saved big sums as you'll see at the left—and these are only a few of the hundreds of farmers who have made big savings by getting their lumber direct from us.

These letters show what you can save on lumber

Gentlemen:—
I will say that I am very highly pleased with the quality of your lumber. I find it better than I have been able to get at our lumber yards here, beside a great saving in cost. I think I saved between $125 to $150 on that bill. I shall try to order some shingles from you in next car you send to this place.
Thanking you for your prompt shipment, I remain,
L. H. WILLRODT,
CHAMBERLAIN, S. D. April 29th, 1913

Gentlemen:—
Lumber received. Everything alright. Am well pleased with it. It is better quality than I could get here in the same grades. Your sealed bid was $150 below our local dealer.
W. D. GANO
DANZIG, N. D., May 6th, 1913

Gentlemen:—
Have just got lumber unloaded. Am well pleased. Everyone that has seen it says it is the best car of lumber ever shipped into Cogswell.
I saved at least $150 by buying of you.
GEO. BROOKER
COGSWELL, N. D., May 23rd, 1913

Gentlemen:—
I have the lumber unloaded and checked, and found that everything was alright. The material is very good.
You saved us about $125 and a better grade of material. Thank you for the quality of material.
WM. O. BIBERDORF
WILLOW CITY, N. D., June 25th, 1913

Gentlemen:—
Inclosed find draft for $105 balance due you. All fine and dandy lumber. Better than I expected. Saved $250.
Will write more when I get time.
NELSAN SMITH
IMPERIAL, NEBR., August 23rd, 1913

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You pay profits to five middlemen when you buy lumber of the lumberman in your town—the lumber he sells you has been handled and sorted over four or five times. That's why his price is high and quality low.

The lumber we ship you comes straight from our own mills, supplied from our forests in the famous Puget Sound region. It's fresh, clean, fine-grained, beautiful material. We sell you at the wholesale price—lower than the local lumberman can even buy for. Not one middleman gets a profit.

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Even if you aren't ready for actual building send along your carpenter's bill of materials. Get our figures. They'll open your eyes. No charge or obligation for making complete estimate of prices delivered your station. We also have architects in our employ, who will gladly help you plan your buildings. At any rate, get our catalog and general price list. Mail the coupon today.

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We wish all of our customers and friends a Merry Christmas and a Happy New Year

Trapping in Water and on Land

By M. Coverdell

AQUATIC, or water-haunting animals, are more easily captured than those which live only on land, since they can be trapped by both land and water.

Beaver—These fur bearers are becoming so scarce in the territory covered by the Twentieth Century Farmer that no special instructions are given for taking them. However, where they are found, they may be trapped for around their dam and in paths leading away from it, the traps being secreted, as in trapping for other animals named below.

Otter—At the foot of an otter slide, or in the immediate vicinity, is a good place for taking this animal, secreting the trap in the water. Much the same methods are employed in taking the muskrat, although he may be trapped on land, baiting the trap with an apple, potato, carrot, etc. It is best, however, to trap in the water's edge, letting the weight of the trap drown the animal, to prevent its gnawing the leg off and escaping, a habit they often practice. The ring of the trap, placed on a slender pole, running into deep water, avoids the possibility of the animal gnawing itself to freedom, as it dives when captured, and the pole holding the trap in deep water, the animal strangles to death. A few inch-long limbs should be left on the pole to prevent the ring from going back up after it is pulled into deep water.

Mink—This animal also can be taken both on land and in water, and, while he is keen-scented and wary, one will have little trouble in taking him by using the things he is most fond of in baiting for him, chicken, rabbit, etc., being his favorite kinds of food. Provide these baits as fresh as possible. Place a piece of them on a stick, twelve to fifteen inches from the ground, setting a trap directly under the bait and covering with leaves, moss, fine dust, grass, etc. Set the trap at the mouth of hollow logs, with or without bait; in drifts along streams, hollow trees, bridges, culverts, hedge rows and under hay stacks. Some sort of live bait, a rabbit or fresh fish, placed in a hollow log, with a trap at either end, is an ideal set, and will capture almost every mink passing that way. Set the trap in edge of water, two or three inches under the surface, settling water-soaked leaves or thin mud over the pan of the trap, secreting the chain. If den is located, set trap only in "out" hole (smallest opening), as the animal likely will scent the trap if placed in the "in" hole (largest opening), and refuse to enter, but, once inside the den, will pass out at the "out" hole, thus making his capture easy. Build small pens, or "houses," leaving front part size of No. 1 trap, putting bait in back part of the pen, trap in front, secreting it and the chain. Toss leaves and grass over pen to make it appear natural.

Trapping on Land

Those animals which care only for sufficient water to drink include the opossum, skunk and civet cat in this section of the country.

The civet cat is properly a branch of the skunk family, being smaller in size, the white portions of it being in small spots, where the skunk's are in stripes. The opossum, too, seems to be somewhat related to the skunk, and it is not an uncommon thing for these to den together.

These animals should be trapped as soon as possible now, as they "den up" when the weather grows severely cold, and are not apt to move about again till spring, lying in their closed dens in a torpid or sleeping condition. When they do emerge at that time, however, it is a most propitious season for trapping them, as they are hungry from their long fast, and the breeding period also is at hand and they are very restless and prone to rove about.

Opossum — This animal haunts woods and hollows, living on any kind of flesh he can find, either fresh or otherwise, but, of course, preferring it fresh. He is easily taken by any of the methods mentioned previously in trapping water animals, with bait, the bait being hung on a stick and the trap set directly under it or placed in the pack part of a pen of sticks, the trap being set at the entrance of the pen. Under roots and in hollow logs are also fine places to trap for Mr. Opossum. Always cover traps well with fine dust, leaves, grass, etc., seeing that no sticks, pieces of bark or pebbles will be caught in the jaws of the trap when it is sprung.

Skunk—The civet cat also should be considered under this heading, as their haunts and food are practically the same as those of the skunk. They may be captured around steep bluffs, grassy hollows, bridges, haystacks and even under old houses. They, like the opossum, are easily taken; yet it is not advisable to trap any of them directly in the den where they live, as they become suspicious if one captures part of them, and the whole family will move to other quarters. It is better to set traps in their runways, somewhere in the neighborhood of the dens, secreting both chain and trap. Any of the above mentioned plans of baiting is also most effective in capturing Mr. Skunk, as he pays little or no attention to a trap if a fresh, enticing bait is placed within his reach. Along a hedge row is a fine place to trap for the skunk, the bait simply being tacked securely to a hedge, at a height of from ten to twelve inches above the trap.

Underground Waters of Southwestern Nebraska

TO MEET the needs of the residents of southwestern Nebraska, presented through Representative Silas R. Barton of the Fifth congressional district, the United States Geological Survey recently detailed N. H. Darton to make a preliminary investigation of the underground water supply of the region available for irrigation. It is said that in general the rainfall of this region is adequate for crop growing, but in dry seasons additional water is needed, and at all times irrigation would be of material advantage. Recently a number of pumping plants have been installed for raising water from shallow wells along the Platte and Republican valleys, and the running expenses have been so moderate and results so satisfactory that many additional plants are projected. The two most important factors to be considered are the volume of water available and the area in which it can be obtained. The underground conditions in the Platte valley were investigated by Mr. Darton in 1896 and the results stated in a report with a detailed map, issued as Water-Supply and Irrigation Paper No. 12. The supply of this publication is now exhausted, but copies of it may be found in many libraries.

Good Supply of Underground Water

The valleys of the Platte and Republican rivers in western Nebraska contain wide bottom lands underlain by a thick deposit of sand and gravel carrying a large amount of water. This water rises within ten to thirty feet of the surface in much of the area, the distance varying locally with the height of the land above the river and the nature of the deposits. The flats have an average width of nearly ten miles along the Platte river from Kearney to North Platte, and the area of bottom land is greater from Kearney eastward. The flats along the Republican river are much narrower, but include a large acreage of level land in which water is not far below the surface. In both valleys there is in reality a gradual rise on either side from the river bank, although the land appears nearly level.

Table-Lands Also Underlain

On each side of both valleys are extensive table-lands of moderate height capped by sand and gravel in a widespread sheet of considerable thickness. The lower part of this material contains considerable water, which in most of the area lies from 125 to 175 feet below the surface. Water cannot be pumped from such a depth for profitable irrigation of field crops, but in places it can be made to pay for orchards and gardens. The line of demarcation between the area with deep water and that with shallow water is well defined, for in greater part the highlands rise abruptly from the river flats. The principal pumping plants in the Platte valley are south and east of Kearney, on the bottom lands. They are all of recent installation, but some were in operation last summer with most satisfactory results. The water surface is from twelve to twenty-five feet deep and the larger pumps have yielded 1,000 gallons a minute with only a moderate reduction in height of water and no perceptible effect on the main inflow. Similar conditions exist in the Republican valley. Two miles south of McCook a pumping plant has been installed by the commissioners of Red Willow county. It is run by electricity and yields nearly 1,000 gallons a minute, with slight reduction of water level at first, but without further effect on the supply even during a long run. The well is eighty-eight feet deep and the water rises within twenty feet of the surface.

Volume of Underground Water

The total volume of water in the river deposits of southwestern Nebraska is difficult to estimate, but as the beds are thick and consist largely of coarse materials, the amount is very great. The main underflow travels laterally from the valley slopes, and there is a large yearly increment from the rainfall. The annual rainfall is nearly sufficient in volume for irrigation of the cultivatable valley lands without reducing the existing water plane materially except in places where pumping plants are placed very close together. Most of the land of the river bottoms is level, so that ditching is easy, but in some areas the soil is porous and the grade so slight that it will doubtless be difficult to carry the water any great distance.

The water under the uplands between the valleys has not been utilized for irrigation except at a few ranches where windmills raise enough to irrigate small gardens or orchards. The volume is much less than in the valleys and varies somewhat from place to place.

Cream Separator and Engine

The farmer has found that the cream separator increases the efficiency of his farm, and the cost of the machine is soon realized in the increased earnings from his herd, no matter whether it be large or small.

In handling cream separators sight should not be lost of the fact that while they were originally hand machines, few are manufactured today that do not readily lend themselves to operation by some other form of power. In the majority of cases this is that generated by the gasoline engine.

It should be evident to the farmer that the operation of a separator by his engine will increase the efficiency of his engine and cut down the cost of operation. There is no question but that more efficient operation may be had by the application of gasoline engine power. The operation of a cream separator, to obtain the best results, should be speedy and steady. Hand power does not give the speed, nor is it steady enough to bring the best results, and very frequently separators which are operated for a considerable time under these unfavorable conditions show a great decrease in efficiency and a reduction is noted in the profits from the cream.—Farm Engineering.

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm

A Christmas Legend

By ALICE JEAN CLEATOR

There is a little legend
Which Orient nations tell,
That when the earth is joyous
With song of Christmas bell,
Unseen the Christ-Child wanders
Among the suffering dumb
And brings them joyful tidings
Of kinder years to come

For was He not once sheltered
With cattle of the stall?
And does He not remember
Earth's helpless creatures all?
And did the Star not beckon
Above them on that night,
Instead of o'er a palace
Aflame with gorgeous light?

The Editor's Corner

Christmas time is here at last—the holiday toward which you have been looking forward ever since school began at least, if not since last Fourth of July. May each and all of you have a happy time, with the presents you most want, a nice fat goose or turkey and all the proper trimmings for your dinner, and last, but not least, pleasant visits with the grandparents, the aunts, uncles and cousins with whom you always spend this holiday or who spend it with you. A very merry Christmas to you all!

***

We are glad to announce a new member of our honor department. Bertha Hayes wins the prize this week for a second time. No doubt you all remember her pretty little fairy story last April, "A Fairy, a Kitty, a Boy." She seems to have a particular talent for writing fairy stories. Now, don't think that this means you should all write fairy stories. Write what you can write best about, no matter what type of story it happens to be. The stories are unusually good this week, more than one of them being good enough for a prize. THE EDITOR.

Story Contest Rules

Book will be given for best story.

Stories must be original and not over 200 words.

Write with ink, on one side of paper only.

Write plainly at top of story your name, age, address and the title of the story.

No one over 16 years of age may contribute.

Send stories to Story Department, Twentieth Century Farmer, Omaha, Neb.

(Prize Story)

Santa Claus and Zora

By Bertha E. Hayes, Aged 14, Fayetteville, Ark.

It was the day before Christmas, clear and cold. Zora, a little black-haired fairy, smiled gleefully as, after a good deed, she flew back to fairyland. Of course, she was invisible, like all fairies. As she neared a chasm of ice she thought she heard laughter, and saw small figures hiding behind piles of snow. She flew up and peered into the chasm. There she saw a fat and very jolly looking black imp. You must know the imps are very mean to the fairies. The imps are for bad, the fairies for good. This imp Zora saw was in chains and his mouth was full of snow, so he could not answer Zora's question, "What are you chained for?"

Zora had no time to question more, for, hearing laughter, she turned and saw that the whole band of imps had sprung out from behind the snow, where they had hidden.

"Fool!" they cried. "That imp is a traitor. We are going to let him starve!"

"Oh!" cried the fairy. "Let me take him to my sisters' home. Though you treat us cruelly, I cannot have any of you suffer." That was the spirit of the fairies—sweet, kind and forgiving.

But the imps cried, "No, no!" And the fairy saw that she could not get the captive imp by persuasion. She knew her wand could prevail over the imps' wands, but she first tried by gentleness. She drew her wand from beneath her crimson robe, and the imps flew far away. Before her wand they were powerless.

With her wand Zora broke the chains that bound the imp, and what did he do but burst out into merry laughter as he spit the snow from his mouth.

"Oh, ho, ho!" he laughed, "Oh, ho, ho! I'm not an imp; I'm Santa. The imps, with their wands, made me look like an imp. They captured me. Kind fairy, perchance you may make me look like my old self?"

Zora turned him at once into fat, jolly Santa, and she could not help laughing, too, for Santa, as we know, is irresistible.

"Yes," Santa cried, "they thought they would not let me deliver my presents this year, but they got fooled!"

Zora and Santa found Santa Claus' bag of presents by a pile of snow and then they parted, smiling and jolly.

"Goodbye," called Zora.

"Goodbye," sang Santa.

And now remember, when you see your fat stocking this Christmas, how very near you came to not getting it at all.

(Honorable Mention)

The Cover Design

By Astrid Sorenson, Aged 15, Lindsay, Neb.

"Oof-f!" These sounds I heard one day when I was sitting by the table reading. I looked around and what do you think I saw and heard? Well, here it is:

The same voice I had heard before now said, "Oof-f-f! Isn't this lots of fun? Now watch me!" And out from the cover design of the

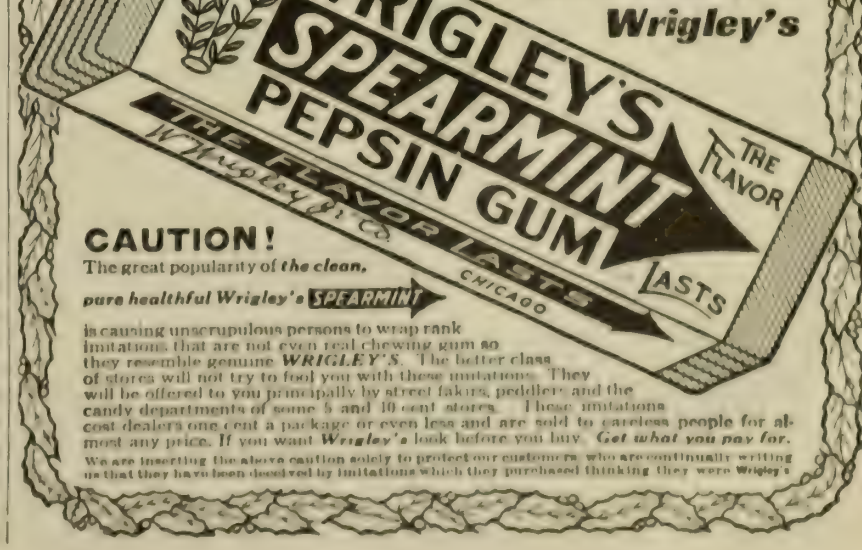
(CONTINUED ON PAGE TWELVE.)

Picture Contest No. 9

Write a verse of four lines about this picture. Each of the two children writing the best verse about this picture will receive a book as a prize. Make your verse bright and original. Put yourself in the children's places and think what you would say and do if you were there. Write plainly, giving your name, age and address. Remember that neatness, spelling, punctuation and the age of the writer are all given consideration, as well as the quality of the verse, in awarding the prizes. Verses must be addressed to Picture Contest Editor, Twentieth Century Farmer, Omaha, and must reach this office not later than January 21. The winners in the present contest will be announced in the next issue.

We Buy It By The Box
—for Christmas!
—for 85 cents!

The clean, pure, healthful
WRIGLEY'S SPEARMINT
can now be had of most any dealer for 85 cents a box of twenty packages. Get this long-lasting goody that helps digest other goodies. It costs less than a cent a stick by the box!
Be SURE it's Wrigley's

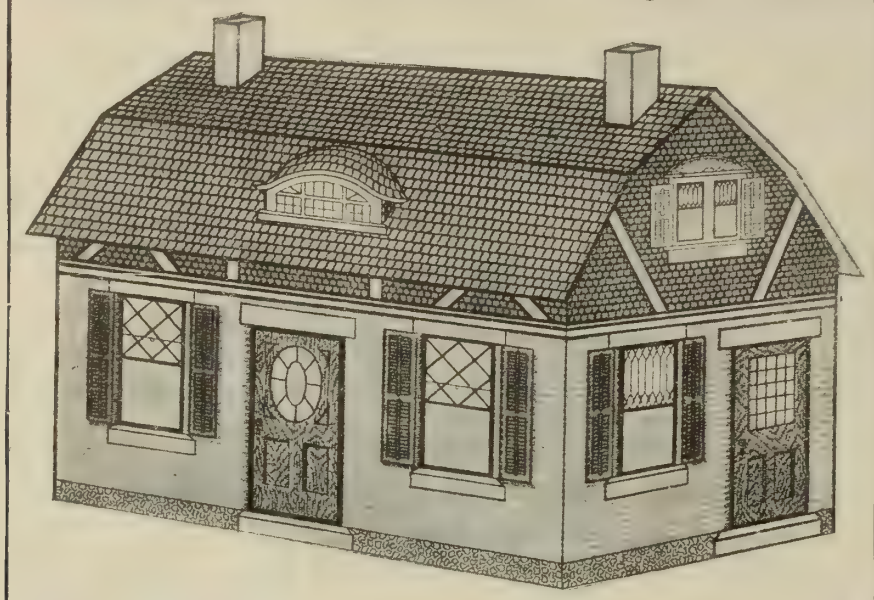


CAUTION!
The great popularity of the clean, pure healthful Wrigley's SPEARMINT is causing unscrupulous persons to wrap rank imitations that are not even real chewing gum so they resemble genuine WRIGLEY'S. The better class of stores will not try to fool you with these imitations. They will be offered to you principally by street fakirs, peddlers and the candy departments of some 5 and 10 cent stores. These imitations cost dealers one cent a package or even less and are sold to careless people for almost any price. If you want Wrigley's look before you buy. Get what you pay for.
We are inserting the above caution solely to protect our customers, who are continually writing us that they have been deceived by imitations which they purchased thinking they were Wrigley's

For All Little Girls Who Love Dolls

Sent to Any "Little Mother" Free

Swinging Doors *Brass Knobs* *Isinglass Windows*



18 Inches High *Removable Roof* *Five Colors*

Regular Price $1.50

This Is Twentieth Century Farmer's Gift to the Children

THE FIRST toy was a doll. Enshrined in every woman's heart the love of dolls persists and never fades. In the lower drawer of the old bureau the "first" doll is usually found treasured above all childish toys.

YOUR little girl, your niece, your sister or little neighbor will go wild over this house. It is exactly like a real house and is built to last for years and years. Heretofore all good doll houses have cost a lot of money, but here at last is a perfect treasure of a house offered ENTIRELY FREE.

ONE YEAR'S subscription to Twentieth Century Farmer costs just $1.50—and to everyone sending a year's subscription we will send, postage paid, one of these doll houses.

SEND the name of the person to whom the paper is to go and the name of the little girl to whom the house is to go. And please act at once, as Christmas mails are slow.

ADDRESS

Twentieth Century Farmer

OMAHA, NEBRASKA

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6319—Ladies' Dress—A novel style, with coat blouse, which also has the drop shoulder and an open front, with a handsome collar. The two-piece skirt may have either the high or the normal waistline. This style is suitable for linen, gingham, silk, crepe and serge or lightweight woolens. The pattern No. 6319 is cut in sizes 34 to 42 inches bust measure. Medium size requires 5⅞ yards of 36-inch material.

6464—Boys' Blouse—This plain blouse is the leading favorite for boys. The fronts are plain, with the regulation box plait for the closing. The back is also plain, with a small, applied yoke, which can be used or not, as preferred. The plain shirt sleeves end in a straight cuff at the wrist, while the turnover collar may be detachable or not. The pattern No. 6464 is cut in sizes 4, 6, 8, 10 and 12 years. Medium size requires 1⅞ yards of 36-inch material.

4773—Dolls' Set—A little girl is sure to like a new dress for her doll, and the set herewith pictured provides for a neat frock and long cape. Any bit of dress material left from the gowns of members of the family will generally answer for dolly's outfit, and if there is a piece of bright-colored serge for the cape it will be sure to please the little girl. The pattern 4773 is cut in sizes for dolls from 14 to 26 inches in length. For an 18-inch doll it will require for the dress ¾ yard of 44-inch material, and for the cape ½ yard of 36-inch material.

6340—Children's Dress—A pretty design, which may be as plain or as dressy as one desires, is shown in this illustration. The contrasting yoke and the smart little tabs holding the sash may be omitted if one wishes an extremely plain little dress. These add greatly to the effect, however, when a more dressy appearance is desired. Body of the dress and sleeve are cut in one, and there are pretty, turned-back cuffs. Figured crepe is used here, but the design is suitable for any material. The pattern No. 6340 is cut in sizes 2 to 8 years. Medium size requires 2½ yards of 36-inch material.

6445—Girls' Cape—A cape is a handy garment, especially to wear over a sweater or to cover a party dress. This model can be made in either of two lengths and is provided with a hood that can be lined with some bright color and used or not, as desired. Plush, velveteen, fur cloth, cheviot, satin and other materials are used for these capes, which should be warmly interlined. The pattern No. 6445 is cut in sizes 2, 4, 6, 8,

(CONTINUED ON PAGE TWELVE.)

Of Interest to Our Women Readers

A Song for Christmas

'hant me a rhyme of Christmas;
Sing me a jovial song,
And, though it is filled with laughter,
Let it be pure and strong.

Sing of the hearts brimmed over
With the story of the day—
Of the echo of childish voices
That will not die away—

Of the blare of the tasseled bugle,
And the timeless clatter and beat
Of the drum that throbs to muster
Squadrons of scampering feet.

But, oh, let your voice fall fainter,
Till, blent with a minor tone,
You temper your song with the beauty
Of the pity Christ hath shown.

And sing me one verse for the voiceless;
And yet, ere the song be done,
A verse for the ears that hear not,
And a verse for the sightless one.

For, though it be time for singing
A merry Christmas glee,
Let a low, sweet voice of pathos
Run through the melody.

—James Whitcomb Riley.

Our Home Chat

Just now the Christmas spirit is in the air. We are all filled with the joy of giving. We have planned gifts for our family circle and our dearest friends (I hope none of us have included mere acquaintances, who will be embarrassed by our gifts), and we are so carried away by the joy of it all that we are not satisfied until our "peace on earth, good will to men" spirit has spilled over on those less fortunate than ourselves. Christmas is the time of all others when we are likely to forget ourselves and live for others, when the unfortunate and unhappy of our communities are made to feel that there may be such a thing as the brotherhood of man. The only regrettable thing about the whole affair is that it is so temporary. After Christmas day is over we feel this buoyant holiday spirit gradually oozing away from day to day, until by the time the new year has fairly commenced it has often left us entirely and we are ourselves again, sometimes a little crosser and more uncharitable for having been keyed up to our best for several days. Every year we resolve to hold on to this Christmas spirit, but we seldom do; at least that is true of most of us.

***

Don't fail to read Mrs. Kristenson's remarks about children's headaches. It is true, as I know from bitter personal experience, that headaches and many other physically painful experiences come from defective vision, or eyes that do not work together. An old lady of my acquaintance once told me the story of her unhappy childhood. She was the only girl in a family of several bright boys. She never could see what the teacher wrote on the board and, childlike, was ashamed to say so, and, failing to answer the teacher's questions about what was written there, she was supposed to be stupid. It was difficult for her to see the print in her books, and trying so hard made her squint. She was not pretty anyhow and the squint did not improve her. Her father was ashamed of her because she was stupid and homely, and this made her self-conscious. She begged for glasses, but they were unusual for children at that time, and her father was afraid she would be laughed at and would not allow her to have them. Finally, when she was 16, she had saved enough money to buy them for herself and went on a visit to Boston, the nearest town, and got them. She said she felt like a different person when she had worn them for a while. Her story of her childhood, shut off from the world by a defect that was almost total blindness, the raging headaches she had each night after the day at school, the harshness of her father and the superior attitude of the other school children, who despised her for being stupid and unattractive, all made a very pathetic story, which was, unfortunately, true. And this misery might have been prevented by the purchase of a pair of glasses. THE EDITOR.

Children's Headaches

I've heard several mothers say their children complained often of headaches, and shall feel repaid for my pains if this note arouses even a few to a more studied investigation of causes for child headache.

Sometimes lack of pure air in sleeping rooms causes a dull, morning ache. Cold air is not necessarily pure. After the first cold snap, when the housecleaning is all done, some people do not again open the windows of the sleeping rooms, for they believe opening the door out into the adjoining living room is sufficient ventilation. It is not.

Defective eyesight causes headache. Strong front lights in school or poor light, or an incorrect manner of leaning over books to read them, as well as reading by twilight or by a distant lamp; also piano practice with insufficient light—all these things tend to produce headache by injury to the eyes.

Too frequent lunching upon heavy food, such as pie and cake, is harmful. Some children, under stimulus of strong coffee, sit up very late and rise with headaches, caused by nervous exhaustion. Nasal catarrh, as well as other diseases, cause such aches. Make careful investigation before dosing your child.

MRS. WILBUR KRISTENSON.

Hard Working, but Happy

I have read with interest the letters from the farmers' wives in regard to the woman's work on the farm. It is, indeed, a good thing to live on the farm—your own eggs, your own chickens, meat, milk and butter, all fresh and good. But does not this alone represent a good deal of extra work that the town housewife does not do, besides the care of the children and of the home? Many even help in the fields, help do the milking, besides the care of the milk and cream and making butter for market. Then there is the cooking and baking for the extra men—shellers, threshers, corn huskers, and most always a hired man. This also means extra beds to make up and extra washing and ironing, for all will agree that there are more towels, bedding and table linen used. As a rule one family in each school district must board a teacher during the school year.

But we farm women do not ask for pity, and I do not think we need it. I think we are as happy and contented as the average town people.

One who has lived in town as well as on the farm. MRS. J. B.

Nebraska.

Sweet Potato Dishes

Pudding—To every cup of boiled and sifted sweet potato add one egg, well beaten; one and a half cupsful of sweet milk, and sweeten to taste. Flavor with nutmeg. Set the baking dish in a pan holding an inch of water. Bake in a moderately hot oven. When the pudding is firm it is ready to serve. Use orange or lemon sauce if desired.

Puff—Boil and mash the desired amount of sweet potato. Season with sugar, butter, salt and pepper to taste; beat until light. Fill cups two-thirds full, brush over the top with beaten egg. Bake in a quick oven.

Escalloped—Peel the sweet potatoes, boil until half done. Take from the water, slice crosswise and cover the bottom of baking dish thickly. Upon this layer drop small pieces of butter and sprinkle with sugar and a little cinnamon. Add another layer of potatoes and season. Continue until the dish is full, if you wish so many. Before putting in the oven pour in a half cupful of boiling water, or more if the pan is full. MRS. GILBERT.

Home Experiment Station

To the Twentieth Century Farmer: We enjoy the Twentieth Century Farmer very much and feel that much can be learned from its pages. We have what we call the "experiment station"; that is, we have gone ahead and raised things other people had no faith in trying to raise; here we have tame currants, both red and white; apple trees, and this year we had five different kinds of apples; tame gooseberries, compass cherries, tame plums, elderberries, juneberries, asparagus (of my own sowing of seed nine years ago, and I sow seed every year lately), lots of pieplant and several kinds of forest trees. Three kinds of forest trees I have raised from seed and one kind has borne seed now for two years.

I like fancy work, quilt making, etc., as well as any of the sisters, and have been credited in years past with doing very nice work in these lines, but good physicians several years ago told me I had weak lungs and advised me to be out of doors as much as possible, so I have let embroidery go and do all sorts of work out of doors. I am known as the "successful poultry woman." I have helped break all our young horses, and we do it with love and kindness. Have worked in the garden and hayfield, helped break wild cows to milk, etc. Hoping this will not tire you all out, I remain,

MRS. C. S. W.

Cherry County, Nebraska.

The average length of life, it is stated, rose from twenty-one and one-fourth years in the sixteenth century to forty and one-half years in the nineteenth century.

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Timely Items of Interest to Poultry Raisers and Fanciers

THE three winter months have started on their cold, northward way. Unless all signs fail—from the late blooming of dandelions to the prognosis of the first three days of December, we are to have an open, warm winter, and that means more eggs on the farm, and the earlier set hens and incubators.

However, our seasons have a fashion of evening up lost time through the year, and when spring should be here we might be merely coming into January expectation of deep cold. No matter when the cold comes, we must be prepared to comfortably house the fowls.

Where the flock is large it keeps itself warmer than does the small flock under any situation, and we find it easier to keep such a flock comfortable, even though the housing may not be so good. A house with many windows or an extensive glass front is a cold house, and this fact of itself often helps shut off the winter egg yield. Glass fronts facing south, southwest, southeast, bring in heat when the sun shines, but the trouble is they let out heat when the days and nights are very cold, unless some porous material is hung, especially at night between these windows and the roosts. Muslin is best material for this, as it helps keep out the cold and yet allows the moisture the flock is continually throwing off at night to pass out.

More often than not it is this moisture in tight houses that nips or entirely freezes the combs. Unless the roof is perfectly tight, and a shingle roof is never that, the roosting fowls should have a canopy of some kind stretched between their heads and this roof. Get it high enough above the heads that moisture has free chance to circulate out. Chickens with frozen combs are poor winter egg producers, if they produce any at all.

***

In cold weather chickens should not be allowed to sit about on damp floors, or floors through which wind finds its way up. A fowl with wet feet soon loses vitality, and an icy wind blowing underneath upon its feet means fowls frozen to death, or nearly so, right in daytime. If its feet keep warm there is a chance for it. The scratching floors must be kept dry. Remember that it costs something to house poultry and do it right. The housing may be rough and ugly, but it must be sufficiently dry and wind-proof, except as you ventilate, and in very cold weather, all advice to the contrary, you want to be careful about that ventilation method. It takes a small amount only, not as great as some yet argue.

***

For those who feed scientifically for eggs, and want the genuine egg food to do it with, here is an excellent formula for the scratching ration: One hundred pounds of corn and wheat each, sixty pounds of oats, twenty pounds of kaffir corn, twenty pounds of barley, twenty-five pounds of beef scrap; for the mash, 100 pounds each of cornmeal, bran and ground oats, eighty pounds middlings and twenty-five pounds of beef scrap. There is nothing better than either, although for the mash one could, for a not too large flock, keep a big pot, into which you throw all table scraps, bits of cabbage and other vegetable leaves and bits of meat. After boiling this stuff, then stirring in bran, cornmeal or any meal that is handiest for you to get, you will have just as good a mash feed as any fowl might want. Even potato and apple parings, salted slightly and boiled tender in this pot, make a relish that takes off the winter constipating effect of all dry stuff. This mash should be fed daily. If you don't want to bother with it, or go to any special trouble with your chickens, then don't expect them to create miracles of laying for you.

Feed at regular hours, guard against frozen feet and combs. See that plenty of warmed water is always at hand, though you take out the teakettle three or more times a day to warm it up. Give the fowls something to exercise for, and the flock will repay you not only in more eggs, but strongly fertile eggs for the early spring incubations, which are so often a failure because the flock has had to weather through just anyway.

IDA M. SHEPLER.

Improving the Flock

Poultry breeders just at this time of the year are buying young, new breeding stock with which to improve their flocks. Many flocks, otherwise excellent, are underweight and over-weight birds are added to bring up the average weight. Many flocks are off in color, or shape, or head points, or egg production, and new stock, strong in the lacking essentials, are necessary to build up the best possible strain.

One season is not sufficient to bring about big improvements in any flock. It requires persistent, tireless studying, adding new birds and mating to perfect your strain.

Be on the alert for the advertisements of breeders of your particular breed. Write a half dozen or more of them which appeal to you. Tell them the points in which you wish new birds particularly strong. Don't buy a cheap bird. If you lack experience in mating up a breeding pen, send the advertisers a complete description of the strong and weak points in your flock and let them select the bird or birds you need.

Don't be satisfied with your flock. Make it show an improvement each year.

Our Young People

(CONTINUED FROM PAGE NINE.)

Twentieth Century Farmer of November 29, 1913, ran one of the little pigs I had looked at before, but then it was just a lifeless picture. And now six or seven more pigs jumped out on the table and down on the floor. I was very much surprised and asked the pigs where they came from.

"Oh," answered one of them, "we came with the Twentieth Century Farmer from Omaha, of course!"

"Well, I don't care to have pigs in here, so you will have to go out in the pig pen," I said.

"You had better talk to our boss about that. He is standing right there," said the small pigs, and they showed me in what direction their boss was standing. And the pigs danced around and played, as you will often see pigs doing when they feel well. I turned around and saw the young man, whom I had also seen in the picture before, feeding his pigs (I guess all of you saw him, too), standing on the floor on the right side of the table. He had the paper in his hand. I was just going to tell him to get his pigs out of the room when—

"Look at her, sleeping!" And I awoke and saw my sister standing by me, and the pigs and the man were nowhere to be seen, and I found out that I had fallen asleep with my head on the table and the Twentieth Century Farmer, which I had just been reading, in my hand.

The Bluejay

By Paul Eaton, Aged 11, Crofton, Neb.

About four years ago I lived on a farm about ten miles from Crofton. The barn was down a hill from the house. Not very far from the barn was a large corncrib. In the spring the squirrels would come to the crib and take corn. After a few days I thought I would catch one of them, so in the evening I put a small trap in the crib. The next morning I went to see if there was anything in the trap. When I came near the crib I heard a bluejay screaming with all his might. As I went into the crib there was the bluejay in the trap. My brother wanted to kill him, but I said to let him go, and so he did. I guess he was glad to be free once more.

Additional Stories

Ethel Dollarhide, Wolbach, Neb.; Katheryn Haughn, Fremont, Neb.; Esther Lawrence, Silver Lake, Kan.; Glenn Westervelt, Hallowell, Kan.; Roy Henry, Shenandoah, Ia.; Mabel Kling, Carson, N. M.

Styles for Home Dressmaker

(CONTINUED FROM PAGE TEN.)

10 and 12 years. Medium size requires 2½ yards of 44-inch material.

6459—Ladies' Brassiere—The Brassiere, or bust supporter, is indispensable with the low-cut corset now worn. It serves both comfort and looks. This design is the regulation one, made with a short yoke in front, below which the material is fitted by darts. In the back the two sections cross over and are held by a single bottom at the shoulder. Strong muslin, embroidery and batiste and lace combined are used for this garment. The pattern No. 6459 is cut in sizes 34 to 42 inches bust measure. Medium size requires ¾ yard of 36-inch material.

5990—Ladies' Apron—This design is a combination sewing apron and work bag. It can be made of linen, lawn or muslin and trimmed with hand embroidery. The pattern 5990 is cut in one size and requires one yard of 20 or 27-inch material and 6½ yards of ribbon.

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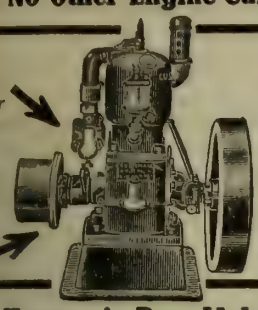

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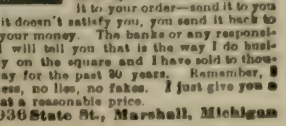

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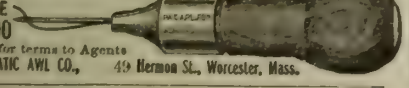

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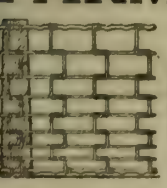

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C. E. BROOKS, 1936 State St., Marshall, Michigan

Nan's Christmas Inspiration

By Winifred Fales

WHEN funds are low on the farm it takes some thought and ingenuity to devise a Christmas celebration that will pass muster with four younger brothers and sisters accustomed to the holiday glitter and glamor of a big city.

It was the Allendale's first winter on the Kinkaid homestead on the Nebraska prairies, and the season of peace and good will was close at hand. Bob and Bruce had already used every available scrap of paper in sending letters up chimney to Santa Claus, disclosing their desires in the matter of air rifles and toy railroads with a wealth of detail that admitted of no misunderstanding, and the 6-year-old twins, Beth and Doris, were bubbling over with gleeful anticipations of unlimited playthings and sugar plums. Nan, the eldest, sighed as she recalled the exciting mysteries and lavish abundance of past Christmases (in the years before darling mother died and father lost his money), and a little wrinkle of perplexity furrowed her pretty forehead as she pondered the problem.

Then an idea popped into her head—a whole battalion of ideas, to be accurate—and a smile chased away the frown as she sat down to work out the suddenly conceived plan for a "real farm Christmas."

When the four juniors had been safely tucked up for the night Nan brought an armful of corn, two cornstalks and some cotton and twine into the cozy living room. In response to father's astonished look of inquiry she dimpled with mischief.

"What would Christmas be without dolls?" was the clue she flung him, and, with a smile of comprehension, he returned to his book to await developments.

Nan proceeded to form a ball of cotton around the short stem of an ear of corn. Then she folded a husk back over it, tied a string tightly around the husk and stem just below the ball, and marked the features on one side with a small brush dipped in shoe blacking. Then a second husk, taken from another ear, was doubled over the "head" at right angles to the first, the edges caught together behind, and, behold! a fetching bonnet. A short piece of cornstalk was next tied firmly crosswise of the cob to represent arms, and a number of husks folded over the shoulders and tied at the waistline with twine. A skirt was then formed of a fringe of overlapping corn husks, and a girdle of braided husks tied about the waist. When three dolls each had been completed for the twins and placed in a row for inspection before being hidden away, father laughed till he had to wipe his eyes, and christened them "the Misses Corndodger" and the "Corncob Triplets" on the spot.

That was the first of a series of triumphs. Father caught the festive spirit and turned out some marvelous gourd cradles with wooden rockers, which Nan fitted with tiny sheets and pillows and gay patchwork counterpanes. He built a pair of bird-feeding platforms for the boys, and between whiles picked out the meats of hickory nuts to fill the cunning bags Nan made by cutting off the big ends of carefully blown egg shells, gluing strips of silk around the openings and gathering up the tops with drawstrings.

Next was evolved a wonderful potato circus. Truly amazing bears, elephants, lions, hippopotami and other rare and costly beasts were materialized from big and little tubers, with the aid of toothpicks, sticks, shoe buttons and yarn. Paper doll riders were mounted on potato horses, and the clown was a particularly corpulent potato, with a knob at one end that formed the head, gorgeously costumed in scarlet cambric, with a peaked paper cap. Father lettered an advertising poster, describing the extraordinary and unparalleled features of the "Greatest Show" in the most alliterative language at his command, and printed two dozen tickets. When the circus was complete he whittled out some fascinating windmill toys in the shape of funny little men that turned their heads and whirled their arms whenever the wind blew. Not to be outdone, Nan traded eggs for yarn at the little store fourteen miles away, and induced a neighbor to teach her to knit mittens, a small pair for each of the four youngsters, and—on the sly—a big, warm pair for father.

On Christmas eve the tree was brought in, a tree that father had traveled miles to get, and the juniors were permitted to sit up an hour past bedtime to help trim it with yards and yards of strung popcorn of their own raising, and apples that were polished until they shone like mirrors. When at last the quartet had reluctantly departed, the smaller gifts were hung upon the branches and the larger ones arranged on the floor. As a finishing touch each mitten was filled with home-made goodies, wrapped in waxed paper, and hung on the tree like a cornucopia. Then the conspirators did a jubilant little dance around the table, and, with a last, lingering look at their handiwork, crept noiselessly upstairs.

Pandemonium broke loose about daybreak next morning. Bob and Bruce stole on tiptoe into father's room and flung themselves, with blood-curdling yells, on his unconscious form, explaining between whoops that he was a paleface captive and must accompany them instantly to their camp downstairs. Nan was simultaneously besieged by the twins, and all six made hasty toilettes and scampered pell-mell down to the living room, where the arch plotters lighted the big lamp and a row of candles set forth on the mantel and breathlessly awaited the verdict.

Their fears proved entirely groundless. There was momentary silence while eight shining eyes surveyed the tree from top to base, and then the house echoed to an approving shout that was balm to their anxious hearts.

Watching the four rapturous faces as the twins settled themselves with their corncob families to enjoy the "grand, gorgeous, glittering spectacle" of the circus as it paraded under the direction of "Professor Bobbo" and the "Peerless Brucetti," Nan leaned over father's chair and pressed her cheek caressingly against his. "I guess there's always a way if we only hunt for it," she whispered happily.

Egg Storage Economy

Placing of fresh eggs in cold storage during the spring for use in the fall is just as honest and unquestionable an undertaking and quite as much to be praised as putting fresh corn stover in the silo for winter succulence, or the canning of fresh fruit for the family use, says James G. Halpin, head of the poultry department of the College of Agriculture of the University of Wisconsin.

About 15 per cent of the egg crop, or 10,000,000 cases of thirty dozen each, worth about $64,000,000, annually goes into cold storage. The cost of storing is approximately 3.5 cents per dozen. If these eggs are in good condition before they go into storage, and thereafter are properly handled, they are sure to remain in good condition for several months.

All eggs that have made any decided progress toward spoiling are candled out when received at the storage house, and the eggs are also candled when they leave the storage. When needed, the storage eggs should be taken out in small lots and kept in a cool place until used.

Shelter for Ducks and Geese

Ducks and geese will stand rather low temperatures if they are sheltered from the wind and snow, and the floor is well bedded with clean, dry straw. They should be given their liberty whenever they choose to go outside. Their shelter should open toward the south. A house of this style is a splendid shelter for ducks and geese and costs very little to build. The ducks and geese run together in the house except at feeding time, when the ducks are fed at a separate trough. Experiment Station, Crookston, Minn.

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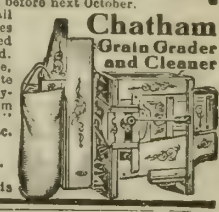

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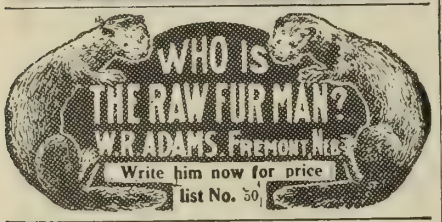

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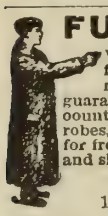

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Can Uncle Sam Wipe Out Moro Slavery?

By Frank G. Carpenter

WASHINGTON, Dec. 13—The government is again having trouble with our Mohammedan cousins. The Moros in places are up in arms against the new laws, and are openly and secretly fighting the regulations as to slavery. There is no doubt that slavery exists not only in the Moro country, but also here and there in other parts of the islands, and it will be a long time before it can be wiped out. I do not mean peonage, or debt bondage. That is common in all the farming localities. I mean actual slavery, such as existed when we took hold of the islands. I traveled through Mindanao and the Sulu archipelago when we were just beginning to pacify that part of the Philippines. I then found slaves everywhere, and once had a chance to buy four likely Mohammedan children for $50. The owner was a Filipino woman, who lived several hundred miles west of Zamboanga, at Davao, under the shadow of Mount Apo. She had the little ones brought for me out into the sunlight and I made a photograph of them. There were three boys and a girl ranging in ages from 9 to 12 years. The girl was the oldest, and, as is common in tropical countries, at that age she was almost ready for marriage. She was half naked, her only garment being a wide strip of dirty cotton wrapped around her waist and falling to her knees. As I looked at her, her fat old mistress seductively said: "Mucha buena," or very good. She told me such a girl ought to be worth $25 of any man's money and seemed surprised that I did not jump at the bargain.

Low Figure for Girls

Dean Worcester says he was offered slave girls on the island of Tawi Tawi for fifteen bushels of rice, and that on many of the islands he could buy girls of 15 for $3 apiece. A captain of the army told me how he had recently bought a slave girl for $10 and given her her freedom. This sale was made out of pity. The captain, who was engaged to a very pretty girl in the United States, sympathized with the female slave, who, although in love with a young man of her village, was about to be sold into the harem of an old Moro chieftain. The girl said she would rather die than submit, and the captain bought her and gave her to the man of her choice.

Another man whom I know, an officer of our army, saved a slave girl from death. She had angered her master, who was one of the Dattos, and had run off from the harem and thrown herself at the feet of the officer, saying the Datto had threatened to kill her. The officer made the Datto promise to spare her life, to agree to bring her once a week to his quarters to show that she was still living. This was done for several weeks and then the girl disappeared. Whether the Datto killed her or sold her to one of her friends was never known.

Divorce Comes Very Easy

A few years ago the sultan of Sulu got up a new code of laws which he sent to Manila for approval. Many of them related to slavery and to the treatment of the women of the harem. Our government does not like to be mixed up in religious matters, and according to the treaties we allow the Moros to worship practically as they please. By the Mohamedan religion every follower of the prophet has the right to four wives, and all he has to do, if he wishes to change, is to say to such of his wives as he does not like three times:

"I divorce you! I divorce you! I divorce you!"

This means that they must go and not return, and he can fill up the quota with a fresh assortment. According to this code the relations between the Moros and the slaves were plainly laid down. It was provided that if a slave laid his hand upon a free married woman with any improper intention he should be the property of the woman's husband, and also that if a free man laid his hand upon a married slave woman he should be fined $100. If the slave woman informed as to the outrage the fine was to be divided between her and the state, but if it was detected by others the whole fine went to the state.

Some Practices of Masters

Another clause in the code provides as to the sale of slaves and others as to debt slavery. Among the latter regulations was one that if a man could not pay his debts his family should belong to the debtor until paid, but that this slavery could not last more than three years. A third law related as to runaway slaves and others to stolen slaves and crimes committed by slaves.

The code was turned down by our government, but it shows that the Moros still regard slavery as a divine right, notwithstanding their American rulers.

Two Moro $10 Brides

I met many of the dattos during my stay in the Philippines and I saw something of their wives and slaves. The women are not veiled, as in other Mohammedan countries, and both wives and slaves go about bare faced. I was told that a datto was considered rich according to the number of slaves he owned, and that children were stolen from other tribes to be kept as slaves. Some of the dattos were notorious for their cruelty in regard to their slaves. I met an old villain named Utto, who gave unheard-of punishments for minor offenses. Slaves who ran away from him were often punished by cutting the tendons below the knee, so that they could walk only with difficulty and could be easily caught if they tried again to escape. This man had a slave girl whom he disliked. He bound her over a place swarming with red ants and she was bitten to death. Utto had a man tied naked to the trunk of a tree, where he was roasted by the sun during the day and eaten by mosquitoes at night. This torment was terrible. And a calf brought in by our soldiers for slaughter and left tied that way died in one day.

Utto had also stocks in which he left people to die. One of our officers found a Moro dead in the stocks. He was lying there, no one having dared to remove the corpse.

Ingenious Ways of Torture

Some of the above instances I give on the authority of a Jesuit priest who was traveling among the Moros just about the time we took hold of the islands. He wrote about them to one of the generals of the United States army and the latter included them in his report to the government. This man described other punishments meted out by the chiefs of these Mohammedan Moros. He says they had one way of tantalizing their enemies. They would tie a man in the river where the tides came in in such a way that he could just escape drowning by standing on his tiptoes and thus keep the water from entering his nostrils and mouth. At times of extraordinary tides such men were drowned.

One of our American officials says that he saw a Moro in Jolo who always wore a bandage over his mouth. This was to hide from public view its deformity, which had been caused, not by nature, but by a datto to whom he had spoken disrespectfully. The datto ordered that the man's mouth be split and opened to the edges of the jawbones. This was done with a kris and it was then left to heal. Strange to say, the man lived.

Difficulties in the Way

It is strange that slavery cannot be put down in the Philippines. The Spaniards attempted it 300 years ago, and there have always been laws against it. One reason for the trouble with the Moros is that it is hard to distinguish between the wife and the slave. The Moros believe that they have the right to as many wives as they can support and, as I have said, the Koran gives them four. Frequently the chiefs have but one real wife and the rest are slaves whose children do not inherit rank or titles. Some of these wives are right good looking. I remember seeing the favorite of Datto Mandi's harem at Zamboanga. The Datto was almost 50 years of age, but this girl was 18, and she would have been a beauty almost anywhere. She was tall for a Moro, as plump as a partridge and of a rich mahogany brown. She had fine eyes and large, sensual lips. She was dressed in a kimona when I saw her and the datto stood beside her while I made a photograph of the two.

I asked something as to the customs of marriage and was told it was largely a question of bargain and sale. The husband pays for his bride, and at the time we took hold of the Sulus the average price for a good-looking girl was $10 in silver, a water buffalo worth about $15, and 500 pieces of rice cake, worth 1 cent each. Of the money paid $2 went to the girl and the rest to her parents.

More Marriage Ceremony

The Moro marriage ceremonies usually take place at the house of the bride. They are performed by a priest, who asks the man if he takes the woman for his wife. Of course, he says yes. The same question is then put to the woman, but she is supposed to let her relatives reply for her. After this the groom presses his thumb, which has been blessed by the priest, against the forehead of the bride. He then mixes up a chew of betel nut for her and throws it down at her feet. She pretends not to notice it, but one of her friends picks it up and gives it to her, and later on she chews it in secret. After this comes a wedding feast and then the family of the groom leaves and the husband and wife start married life. The wife has but few rights which her husband is bound to respect, but he has to live with her, and if he stays away for more than three months at a time she can demand a divorce.

Strength of Mohammedanism

The Mohemmedans of the Philippines number about 250,000 and they are just about one-thousandth part of the Mohammedan population of the world. Few people have any idea of the extent of this religion. There are about 250,000,000 followers of the prophet. Mohammedanism is the principal faith in a great part of Asia and Africa, and it has millions of adherents in Europe. There are 600,000 Mohammedans in Austria-Hungary and almost 4,000,000 in Russia. Rumania has 50,000 and the Balkan states, which have been creating so much trouble lately, have almost three-quarters

of a million. There are 3,000,000 followers of the prophet in European Turkey, and in all Europe there are about as many Mohammedans as Jews, and between 8,000,000 and 9,000,000.

China is generally looked upon as a Confucian and Buddhistic country. Nevertheless there are something like 20,000,000 Mohammedans in the republic and its dependencies, and there are 10,000,000 Mohammedans who live north of the Yangtse river. Many of the people in Mongolia are Mohammedans, and there are 200,000 Mohammedans in Peking. During a trip which I once made to the great wall of China I had a muleteer who was a Mohammedan. He got down on his knees five times a day to say his prayers. He always prayed facing the southwest, where Mecca lay, and he bowed again and again every time the sun rose and set. There are Mohammedan mosques in many of the Chinese cities.

Majestic Mosque at Delhi

The most of the Malays are Mohammedans, and there are millions who follow the prophet in Java and in the other islands of the Dutch Eeast Indies. As to India, it has more Mohammedans than there are people in the whole German empire. It has far more than Turkey, and there are certain provinces in which the Mohammedans are the controlling class. The largest and most beautiful mosques in the world are at Delhi and Agra, in northern India. The big mosque is at Delhi, not far from the place where the new government buildings of the British capital are to be erected. This mosque covers acres. It took 5,000 men, working six years, to build it, and it has as many steps as the capitol at Washinton. I shall never forget my visit to it, and how I was there shown a relic which was pointed out as the most precious object in all Hindustan. I was made to take off my shoes before I could see the relic, and in my stocking feet I was led through corridor after corridor until I came to a great chest which contained a nest of locked boxes. These were opened one after another, and at the last, in a little glass casket, on a green velvet cushion, was displayed a hair which I was assured came from Mohammed's mustache. The hair was as red as that of my own head, and the priest told me that Mohammed had red hair and a red beard. It is for this reason that many Mohammedans dye their hair and whiskers to a bright red. They want to pass their way into heaven by having beards of the same color as Mohammed. Indeed, it seemed to me that I was treated with respect in the mosque on account of the red color of my own moustache.

Beautiful Taj Mahal

The most beautiful mosque in the world is the Taj Mahal, at Agra. It was built by the same man who erected the Jamma Musjid, the mosque I have just described. The Taj Mahal is not so large, but it was far more costly and its wonderful workmanship is still the admiration of the world. The building stands upon a mosaic platform of black and white marble covering about two acres, at the corners of which are high marble towers in which the Mohammedan priests stand morning and evening and shout out the calls to prayer. The mosque itself, which is also a tomb, is of the purest white marble, ending in a bubble-like dome that seems to float in the air over it. Its doors are of lacework of the purest white marble, and the interior contains enough of this marble lacework to build a fence around the grounds of the White House at Washington. It is a strange commentary upon the wonders of true love that this $15,000,000 building was built by a Mohammedan sultan in honor of his wife. The sultan's name was Shah Jehan. He had over 100 wives, but he was especially fond of only one, and when she died he erected this building to her memory. He drafted the unbelievers among his subjects and set them to work upon it. There were 20,000 laborers, and it is said that it took them seventeen years to complete the construction. They got only their food for their pay.

Holy City of Mecca

Going westward from India one finds many Mohammedans in Persia and in Asia Minor, and especially in Arabia. It is now possible to go to Mecca, in Central Arabia, where Mohammed was born, by railroad, and in the same way you can visit Medina, where his bones rest in a coffin which is supposed to be suspended half way between the floor and the roof by invisible strings. Hundreds of thousands of Mohammedans make pilgrimmages to Mecca and Medina every year, and from now there will be a large accession to the number by these new railroads. When I was at Khartum, in the Sudan, 1,000 miles or so south of the Mediterranean sea, I was told that they were running pilgrim trains from that country to the Red sea in order to accommodate the worshipers who wished to cross from Port Sudan to Jeddah, in Arabia, and thence go on to Mecca. There will be an enormous traffic from Asia Minor to Mecca. The road runs through Damascus and along the edges of Palestine, and people will come from European and Asiatic Turkey to go by rail to worship at the tomb of Mohammed.

Datto Utti, Who Sentenced a Slave Girl to Be Bitten to Death by Ants

Tomb of Eve

Speaking of Jeddah, that place until now has been the chief Arabian starting point of these Mohammedan pilgrimages. It lies half way up the coast of the Red sea and within a few days walk of Mecca. Outside the town, under a mosque, is the spot where Eve is said to be buried, and not far in the interior is a mountain which the Mohammedans say was Adam's home after he was cast out of Paradise. They think the Garden of Eden was in heaven and say that when Adam and Eve were thrust forth they dropped down to earth. Adam landed on a mountain in Ceylon and crossed to the mainland of Asia upon the chain of islands which lie between it and Hindustan, the chain being known to this day as Adam's bridge. Eve was dropped down at Jeddah, and Adam for his sin spent 200 years in looking for her. At last the two came together in Arabia and they lived at Jeddah until they died. Eve's tomb is 400 feet long. I suppose she filled it, for "there were giants in those days."

Billions in Africa

I have seen a good deal of the Mohammedans of Africa. They are found by the millions in Egypt, and, indeed, the greater part of northern Africa is inhabited by them. Among the most fanatical are those of Morocco, the most of whom acknowledge no allegiance to Turkey nor to the sultan of Constantinople, although he claims to be the head of the Mohammedan world. There are Mohammedans throughout the Sahara desert, and I found millions of them in Algeria and Tunisia. I traveled among them in Tripoli, where the people are also fanatical, and saw something of them in Zanzibar and parts of South Africa.

The Egyptians are almost altogether Mohammedans, and some of the finest mosques of the world are in Cairo. There is one which is made of alabaster, on the edge of a court in which is a great alabaster fountain, where the worshipers bathe their feet and hands before they go in to pray.

Mosque at Jerusalem

Another fine mosque is in Jerusalem. It stands on the site of Solomon's temple, and it is impossible to enter it without a permit from the Mohammedan governor of the holy city. In that mosque is the rock upon which Abraham built his altar upon which he was about to sacrifice Isaac when the angel of the Lord called out to him to withhold his hand. The mosque is called the Dome of the Dock, and the Mohammedans say that the Angel Gabriel will stand there when he blows his last trumpet. Then all the people of the world will come to Jerusalem, and Jehovah, sitting upon his throne upon this rock, will separate the sheep from the goats. Some Mohammedans say that the whole human race will have to walk a tight rope or thin wire which will then be stretched across the valley of Jehosophat, and at one end of this Mohammed will sit. As the people go over the righteous will be upheld by the angels from falling. They will cross to the Mount of Olives and thence go to heaven. The wicked will be unsupported. They will slip off into the valley and descend straight to hell.

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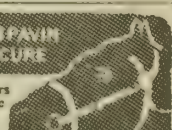

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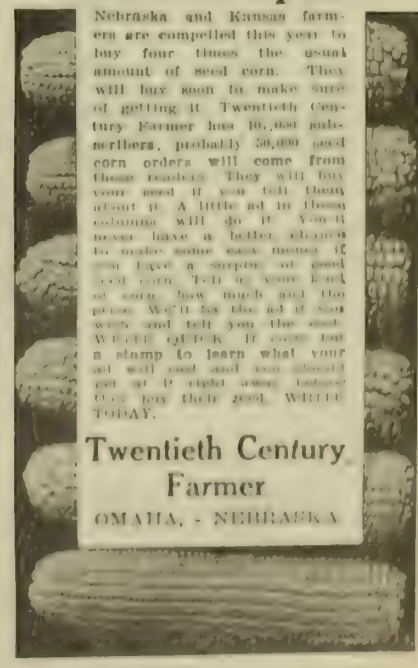

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Balanced Ration for Hogs

H. B. H., Texas: I noticed in my Twentieth Century Farmer the pictures of two pigs. One was fed on corn only and the other on a balanced ration. I have five pigs and I feed them on shorts, chops and bran all mixed together, and I want to know if this is what you would call a balanced ration?

Answer—What is called a balanced ration is one in which there is a proper amount of nitrogenous material to balance the non-nitrogenous material fed. In your case, the bran and shorts are nitrogenous materials. If your pigs are confined in a pen, they should be fed about two parts of the corn to one of the bran and shorts. If it is possible to secure alfalfa, it would be well to give them some, and corn on the cob or shelled might be fed to them with advantage.

Cultivating Ginseng

A. W. K., Colorado: Being a subscriber to your paper, I am going to take the liberty of requesting you to write a little article on the possibilities of ginseng if it were properly cultivated in this neck of the woods. It used to grow wild where I came from up in Minnesota and made good pin money for us kids. I should think if it were properly cared for it would be a paying proposition. What do you know of it? I hope you will not consider this request out of reason.

Answer—Ginseng is grown in quite large quantities in this country for export to China, where it is used as a medicine. It brings a very good price, but is a crop requiring great patience, as the roots are not useful until 5 years old. It may be grown either from seed or cuttings. The usual method is to buy young plants of 2 years old, as they are best transplanted at that time. If seed is used, it may be put in the ground, where it will remain until a year from the following spring before coming up, or it may be kept moist by placing in a box filled with moist sand. It must not be allowed to dry out or it will mildew and spoil. In either case, it will not germinate for eighteen months after ripening. Plant in May, after danger of frost is past. A rich soil, inclining toward a sandy loam, is best. The seeds should be planted one-half to one inch deep, in rows a foot apart and with six or eight inches between the plants. Very little cultivation is needed beyond keeping the beds weeded. The most important thing in ginseng cultivation is to see that it has plenty of shade. It is necessary to build an arbor or other covering over the bed, as ginseng is a forest plant and cannot stand the direct rays of the sun. The 5-year-old roots should be harvested in October, carefully cleaned and dried. If not disposed of at once, they should be stored in a clean, dry place. Mice are very fond of ginseng, both root and seed, and are the only known pest that attacks it. Our opinion would be that the time and money required to go into the business of raising ginseng might be better expended on some more practical crop.

Sheep in Western Nebraska

A. J. C., Stella, Neb.: I would like to make an inquiry through the columns of the Twentieth Century Farmer as to Dundy county, Nebraska, as a place to breed and raise sheep for market. Can they be raised there with any success? What breed is the most suited to that country? Can a forage crop be raised to winter them on? If so, what is the best forage crop to raise?

Answer—This inquiry is a very natural and comprehensive one for the sheep prospector to make. The basis of success in any live stock producing and developing industry must depend upon the resources of the land in its ability to furnish the feed to carry the stock through the feeding and grazing seasons. Southwestern Nebraska has proven a useful district in these essential respects. It is a hard-soil land district generally and is recognized as a good wild grass country. This, of course, is an important factor in any live stock industry, especially sheep growing. There have been a number of flocks of sheep handled successfully in Dundy and adjoining counties.

The second important qualification is winter feed. Western Nebraska is an alfalfa district; that is, alfalfa can be produced on any land that is put in a good state of cultivation before seeding to alfalfa. Alfalfa hay is the best winter feed to be had for wintering sheep. This applies to both old and young sheep. It is a good plan to have other varieties of cultivated feed crops for the sheep during the feeding season. There is no animal that appreciates a change of feed more than the sheep, and that seems to thrive faster on this change.

All the sorghums, kafir corn, milo maize and sweet corn have been grown for sheep, and under average conditions have made good yields for feed. These crops, sown a little thicker than for cattle, produce a fine feed, and it is readily consumed by sheep. Sorghum sown broadcast, one and one-fourth bushels of seed to the acre, produces good feed for sheep, and, fed in conjunction with alfalfa hay, forms a good winter feed either for stock sheep or sheep that are being grain fed for the fat market. If the stand is not thick enough to keep all the growth fine enough for the sheep to eat up clean, this refuse is readily picked up by cattle and horses. All western Nebraska is good soil and climate for these forage crops and usually produces large yields per acre from June to September.

Corn and oats are not every-year certainties, but as a feed crop corn has generally proven profitable, planted for fodder purposes, and in case it ears favorably the corn is no drawback and is accepted as just that much ahead. Oats make an excellent sheep feed, cut and fed in the sheaf without threshing. Macaroni wheat has been successfully raised by many western Nebraska farmers and large yields secured. It has been coarse ground and fed to hogs and sheep with satisfactory results, and as a feed is endorsed by those who have practiced its use. The United States Department of Agriculture, in a bulletin issued May 2, 1913, says: "The advantage most often claimed for durum or macaroni wheat is its drouth resistance. Having been grown for many centuries subject to severe drouths, it has developed those qualities which make it admirably fitted for such conditions. Durum wheat owes its value for areas of low rainfall to its rapid, vigorous growth, early maturity, resistance to drouth and disease and resulting productiveness."

The silo is a factor in the solution of the crop utility of southwestern Nebraska that would seem to place the feed question beyond a doubt, as these heavy-growthed forage crops can be taken to the silo in case of any serious weather disaster, as the drouth does not affect these crops usually until the latter part of the crop development.

The resources for sheep feeding seem abundant to justify a personal investigation of the outlook for the industry outlined by the inquiry. This section of country would seem to offer as good prospects for sheep growing as any other grazing industry, and in the opinion of some who have investigated they give the flock industry the preference.

As to breed of sheep best suited for such an enterprise as you suggest, it is very difficult to advise you. The basis of such a flock, in our judgment, should be of the large type merino ewe, these crossed with rams of some of the mutton breeds. The success of such crosses has been generally satisfactory, where the best types of both ewe and ram have been used and the care given that all flock enterprises demand. The mutton feature must be held in mind as the prime factor in this undertaking, and the herding or flocking quality must not be lost sight of, and this is the very prominent characteristic of the merino.

Sold Cows Before Sale

"An Iowa paper reports the demand for Holstein cows for dairy purposes so strong that the local County Breeders' association has been obliged to abandon the consignment sale it planned to hold this month because enough cattle could not be found to offer. And this fairly illustrates the situation all over the country," says the Holstein-Friesian Register. "Still, there are breeders who complain that sales are slow and difficult. There can be but one reason for this condition, providing they have reasonably well-bred and productive stock: They do not advertise. Even people with the best to offer have to advertise in order to sell advantageously."

Writing Advertisements that Sell

By John Y. Beaty

DID you ever read an advertisement that left you with no more information than you had before reading it? There are such—yes, and a lot of them, too. So many advertisers seem to have the idea that all they need to do is to put their name before the buyers and they will flock to purchase what they have for sale.

There is little attraction for the buyer in a name, especially in such a name as Skinner and a few other misleading names. What the buyer wants to know is what is for sale and what the qualities of it are. In writing an advertisement list all of the points you think are important—answer all the questions a prospective buyer would ask if he were at your farm to see the goods. You won't need to publish all this, but pick out the most attractive one and use that as the headline.

For the sake of illustration, let us take the Holstein herd of an Indiana breeder. This man had ten heifers to sell and he outlined the important points about his herd something as follows:

Bull from a heavy milking family.
Three cows in the advanced registry.
Five cows with records of more than 8,000 pounds milk.
Milk selling at 10 cents per quart.
Six cows with a net profit of $75 each last year.
Heifers well marked.
Heifers for sale at $100 each.
Herd has won prizes at fifteen fairs.
Each heifer for sale from cows with record of over 7,000 pounds milk.

With all these facts before him, he questioned himself something like this. "Now, if I were going to buy some Holstein heifers, which one of those points would appeal to me most?"

The marking of the heifers was not so important as the milking qualities, so he eliminated that at once. The price at which he sold his milk had nothing to do with the value of the cows in the herd, it was largely a matter of his method of marketing.

"Bull from a heavy milking family" seemed a little general and so that was crossed off.

Three cows were in the advanced registry, but it happened that none of them was mother of the calves for sale—he wanted to keep the calves from the advanced registry cows himself.

The price did not look particularly attractive, in fact he thought it might seem rather high if he knew nothing more than that about the heifers.

The herd had won prizes at fifteen fairs, but that was really no proof of the milking value of the heifers for sale. The prizes won and the names of the shows might have been of some value, but it was too long a story to tell all of that.

"Five cows with records of more than 8,000 pounds of milk" sounded very attractive. If he could buy more cows of that type he would like to get them himself. Also the information as to the net profit of six cows was very interesting and furnished some proof of the type of herd from which the heifers were for sale.

But of all the points, the one which read "Each heifer for sale from cows with records of over 7,000 pounds of milk" was most attractive because it told something definite about the heifers that could be purchased and that something was very good, indeed. So that is the heading that was chosen for the headline of the advertisement. Of course, as stated, it was too long, so it was necessary to condense it. The object was to say the same thing in fewer words. The result of the study on this point was this line: "Holstein Heifers from 7,000 Pound Cows." That told the interesting story and told it so briefly that a reader could comprehend at a glance.

Now this is just a hypothetical case. These particular facts are really the composite experiences of a number of men. Several who have worked along similar lines have been known to me and the results of their advertising is what I want you to note for then you will remember the lesson better

A Jersey breeder worked up an ad in a similar way—had a headline that arose and struck you in the face, so to speak. In order to have some comparative figures I persuaded him to run the same ad in two issues of the same paper with the change that in one ad it would not be indicated that there was any stock for sale. The same good things were told about the herd in both, but in one the stock to be sold was mentioned. This was tried in several different papers at the same time and the results were identical and positive in all cases.

The ads that told what was for sale brought a number of inquiries and made several sales, while the ads that did not say what was for sale brought no inquiries nor sales.

This is the second point, then—tell what you have for sale.

If you have a headline that makes every reader stop and think, and if you tell him what you have for sale, you may make a sale or two, but the success of your ad will be more assured if you tell more about your stock—the stock you have for sale—in the body of the ad.

In the list of points already given are a number of points worth mentioning in the body of the ad. The fact that the sire of the heifers is from a heavy milking family is worth telling. If the family is one that will be recognized by name as a heavy milking family, it will be better to name it—it is more definite.

The fact that three cows in the herd are in the advanced registry indicates that the owner is building up a high class herd, and one would naturally suppose that the heifers he had to sell were much better than those from a herd of a man who was not interested in the higher records of his cows.

The records and net profits of cows in the herd would appeal in the same way as the statement that three were in the advanced registry.

The heifers' marking is worth mentioning if there is room. Some men would be particularly interested in that. The price, too, might be mentioned after you felt that you had said enough to convince the buyer that he must have your heifers at any price. Mentioning the price is a convenience to both buyer and seller. It often saves an extra letter for both, but, as a rule, the price has little selling value. Only a few men will buy a high class heifer because of the low price.

Now constructing the ad on the principles just discussed we have it something as follows:

Holstein Heifers from 7,000-lb. Cows

Ten heifers, each from a cow giving more than 7,000 pounds milk a year. Three cows in the herd are in the advanced registry—five have records of more than 8,000 pounds milk per year—six cows made a net profit of $75 each last year. Each heifer is well marked and well developed. Price $100 each.

JOHN DOE, - - Spencer, Indiana

To sum up, remember these points:

1. Use a head line that tells the most valuable point of the stock offered—and tells what that stock is.
2. Make it plain what you have to sell.
3. Give as many good points about the stock as can be put into small space.

Sale Dates

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Friesian Cattle

February 3 and 4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher, Botna, Ia. Sale at South Omaha, Neb.

Hampshire Hogs

March 14, 1914—Roy Fisher, Winside, Neb. Sale at Wayne, Neb.

Duroc-Jerseys

February 2—E. H. Carpenter, Fontanelle, Neb.
February 3—Gus Krueger, Beemer, Neb.
February 4—Clarence Wallace, Wisner, Neb.
February 5—Robert Leisy, Wisner, Neb.
February 6—Henry Stuthman, Pilger, Neb.
February 9—O. E. Green, Genoa, Neb.
February 18—George W. Schwab, Clay Center, Neb.
February 21—E. E. and N. T. Youngs, Lexington, Neb.
February 26—J. J. Kane, Wisner, Neb.
February 27—Blackburn Bros., Royal, Neb.
February 27—O. G. Smith & Son, Kearney, Neb.
March 2—L. J. Kuzel, Clarkson, Neb.

Poland-Chinas

February 11—D. C. Lonergan, Florence, Neb.
February 24—Jacob Dietsch, Boone, Neb.
March 6—William Ferguson, Scribner, Neb.

Shorthorns

February 27—J. C. Hardman & Son, Valley, Neb.
March 11—E. H. Cosgrove, Farnam, Neb.
March 25—A. C. Shallenberger, Alma, Neb.

Clydesdale Horses

February 27—J. C. Hardman & Son, Valley, Neb.

Marketing a Load of Poland-China Hogs

The above picture shows a little scene that was enacted last winter on the farm of a friend and reader of the Twentieth Century Farmer. These ten wagons each contained a load of Poland-China hogs in fine market condition

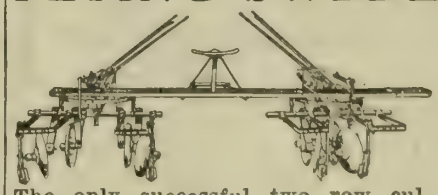
DE LAVAL CREAM SEPARATORS

MAKE FALL AND WINTER DAIRYING MORE PROFITABLE

There is surely no reason to delay the purchase of a separator or to continue the use of an inferior one. A De Laval Machine will save its cost by spring, and may be bought on such liberal terms if desired as to actually pay for itself meanwhile.

The De Laval Separator Co.
New York Chicago San Francisco

FLYING SWEDE



The only successful two row cultivator built

25,000 Now in Use

Send for free illustrated catalog. Write today.

Marvin C. Van Derveer
Council Bluffs, Ia.

Nelson Submerged Tank Heater

Note construction: No heating going to waste. All passing under the water. Indispensable to all farmers. Pays for itself in 2 months with 2 cows. Burns straw, corn cobs, all rubbish, coal and wood. Ashes removed in a few seconds without disturbing the Heater. Heats water with half the amount of fuel usually required. Let us send you a Heater on two weeks free trial, just as we have to thousands of others. This heater is now in use in thirty states and Canada. If not sold by your dealer, do not neglect sending for catalog and price, now while it is fresh in your mind. A postal will bring our catalogue and testimonials free of charge.

NELSON MFG CO.,
40 Wall Street, Deerfield, Wis.

OUR TRAPPER'S FRIEND AND GUIDE FREE

MODERN TRAPPING METHOD—This Guide is as different from other guides as automobiles are different from old time stage coaches. It is unexpected. Guide is FREE with this fact. If you return this advertisement and answer question. Have you written us before? ——SQUARE DEAL FUR HOUSE Weill Bros. & Co. Dept. B 42 Ft. Wayne, Ind.

BROWN FENCE

Direct from factory, freight prepaid. Over 150 styles for every purpose all Double galvanized. The gate real on fence. Write today for Catalog and Samples—it's free. ALL FREE. Mail postal NOW to THE BROWN FENCE & WIRE CO. Dept. 69 Cleveland, Ohio

POLAND-CHINA HOGS.

HERD HEADERS FOR SALE

Am offering for sale the three tried herd boars, Big Omaha, Metal Top, and Guy's Price Last. Every one a good one. Also a number of spring males. D. C. LONERGAN, Florence, Neb.

POLAND-CHINA BOARS AND YOUNG SHORTHORN BULLS.

Hogs are fine specimens of the heavy, big boned type, sired by Long Boy 3d and guaranteed satisfactory. Bulls are dark colored and from heavy milking dams. G. W. Fuerstein, Fremont, Neb.

BLUE RIBBON POLANDS.

25 head spring boars, all immuned. Sired by Blue Ribbon Hastings, Big Sensation and A Wonder Surprise. The real big kind, not fat, but in the best of breeding condition. Real herd headers. Everything guaranteed. Prices reasonable. W. J. EAVEY, GENEVA, NEB.

POLAND-CHINA OPPORTUNITIES

Big, smooth, heavy boned, easy feeders. Spring males, by the noted **Wayside Jumbo.** Write me. I have what you want.

FRED WILLE, Columbus, Neb.

DUROC-JERSEY HOGS

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.

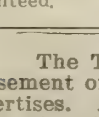
GEO. W. SCHWAB, Clay Center, Neb.

Alfalfa Lawn Durocs

A splendid lot of fall and spring males for sale, sired by Melina's Wonder, Crimson Wonder Select and Colonel Tippy. They are strictly right and worth the money. Henry Stuthman, Pilger, Neb.

JERSEY CATTLE

Buy Jerseys



Dollar for dollar invested, the Jersey will earn back the amount paid for her quicker than other breeds because her product brings a higher price per quart or per pound. For the home she is unsurpassed, and her low cost of keep makes her most desirable. Write now for Jersey facts. No charge.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

WINELAND FARM JERSEYS

Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.

H. C. YOUNG, Lincoln, Neb.

HOLSTEIN-FRIESIAN

Purebred Registered
HOLSTEIN CATTLE

The Capital, Topeka, Kansas, June 16, said: "When Maid Henry, the famous 13-year-old Holstein owned by the Kansas Agricultural College, was working so hard for the record of 19,600 pounds of milk and 835 pounds of butter in a year's time, dairymen prophesied that the Maid would be ruined. But Maid Henry returns to show that she is some cow even after breaking a record. She has a 114 pound male calf, born just the other day to prove it."

Send for FREE Illustrated Descriptive Booklets.

Holstein-Friesian Asso., F. L. Houghton, Sec'y. Box 179. Brattleboro, Vt.

Review of Live Stock Market

By A. C. Davenport

LIVE stock markets of the country so far as cattle are concerned are in the grip of the holiday season dullness. During the last week changes of importance were few and far between, the trade as a rule running along in a rut with dullness a leading feature. Prices fluctuated somewhat, but final results were not large, although in most cases on the side of a lower range of values. This is nothing new or strange, but is, with few exceptions, the regular program at this season of the year. There have been a few years when the cattle trade in December was good, but those years seldom come around.

Packers at all points during December always want a few good to choice beeves for the holiday trade, but the demand is always limited, buyers knowing from previous experience that the holiday season is a time when beef is ignored by the great majority of people in favor of poultry. Common to medium grades of cattle always suffer neglect in December, and if the country is unwise enough to throw many cattle of that description on to the market prices invariably break sharply.

In addition to the holiday season, the cattle market has suffered through the absence of stimulating weather. It is so well known as to be almost trite that consumers do not crave any great quantity of beef during mild winter weather. Then, too, as pointed out a week ago in these columns, the arrival of beef from Argentina has not helped matters at all. However, in the interest of truth it must be admitted that even in the absence of foreign importations and the mild weather the market would undoubtedly have been dull and uninteresting just the same, as that is the normal condition to be expected at this season of the year.

Short-Fed Cattle Demanded

Stockmen are beginning to talk that heavy and long-fed cattle are pretty well run out of the country and that the supply will be pretty much exhausted by the first of the year. According to their ideas, the market from now on must depend very largely upon short-fed cattle for its supply of beef. This condition, it is claimed, will predominate for the next three months, although it is to be expected that there will be a few heavy long-fed steers that will be held over on account of the unsatisfactory prices now prevailing for that kind. It is possibly just as well that big, fleshy steers are not in large supply, as the consuming public appears to demand the light cuts which have the least waste. Heavy cattle have sold to such poor advantage this fall that feeders are not likely to hold their cattle for such a long feed another season. The further fact that corn is high will have a still further tendency to induce short feeding.

Advocates of the reduction or removal of the tariff on cattle and beef have been disappointed that the retail price of beef has not been reduced. On the contrary, it is claimed that prices are in most parts of the country just about as high as they were before the tariff law went into effect and before the price of live cattle in the United States declined. In other words, the cost of living, so far as beef is concerned, has not been reduced to any appreciable extent. On the other hand, eastern stockmen are noting a falling off in receipts of Canadian cattle, for the very good reason that prices in Canada have advanced to such an extent that growers there can do better by marketing their cattle at home. Whatever other effects the tariff may have had, it has certainly tended to help the Canadians to better prices for their cattle. At the same time, free cattle from Canada and free beef from Argentina are being used as a club in the hands of the packers to pound the price on American cattle.

No great change in the cattle market is anticipated for the next two or three weeks. Prices are very likely to fluctuate to a considerable extent, but no one anticipates any great permanent change in market conditions.

Light Hogs Still Coming

Hogs have been coming forward very freely at some market points, but the trade has continued in a good, healthy condition. Prices during the week have shifted up and down, but as a rule the changes have been within a narrow range of prices and the markets of the country are not much different from what they were a week ago. Packers have bought even on days of large receipts quite freely. There continues a very large influx at most market points of light hogs and pigs, thus proving the truth of the reports from the country that cholera is still raging and that growers in a great many cases are unwilling to take chances with the disease by holding their stock. As the weeks go by and this condition continues the predictions for a short supply in the spring become more certain.

The success met with in many localities in vaccinating pigs against cholera has created a good buying demand for stock pigs, with the result that pigs are selling very much better as compared to the price of mature hogs than was the case at the beginning of the season. Hog men are very sanguine as to the good that will eventually be accomplished through the use of serum for the prevention of cholera. Splendid results in the vaccination of hogs have been accomplished on a large scale at the South Omaha Stock Yards.

Sheep Selling Well

The market on fat sheep and lambs has been in a surprisingly good condition thus far during the month of December. While receipts at most points have been liberal, the consuming demand has been very brisk and high prices have been maintained. Shippers have been more than pleased with the results of their sheep-feeding operations. Weather throughout the sheep-feeding season to date has been most auspicious and sheep and lambs have taken on flesh very rapidly, which has helped to make up in part for the high price of feed. Operators on the market have been afraid that the coming of very cold and rough weather would start an avalanche of sheep to market that would break prices down. Thus far, however, the weather has been all that could be desired and there has been no sign of feeders becoming panicky. On the contrary, they are shipping sparingly in spite of high prices. There is little doubt in the minds of stockmen that there will be a demand sufficient to take care of all the sheep now on feed at satisfactory prices before the coming of grassers, if the country will only continue shipping moderately and steadily throughout the season.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.

DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

HORSES

America's Famed Horse Districts

This particular district, famed for Percherons. The Chandler herd noted for draftiness, substance and bone, is noted for turning the tide to American-bred Percherons. Possibly not French fat, but bigger frames, stronger vitality, better feet and legs. American users love this useful type and get them from my big bunch reg. studs, yearlings to fours. Write today. **FRED CHANDLER, Bt. 7, Chariton, Iowa.**

POLAND-CHINA HOGS

IMMUNE POLAND-CHINA GILTS

We have a splendid lot of spring gilts for sale, sired by Blue Valley and Blue Valley's Orange by Big Orange. They have been given the double treatment and are immune from disease, and all bred for early spring farrow. Satisfaction guaranteed.

THOMAS P. WALKER & SON, Alexandria, Neb.

The Twentieth Century Farmer will not knowingly publish an advertisement of an unreliable firm, nor one which does not do exactly as it advertises. Any subscriber who finds that an advertiser does not do as he promises in his advertisement will confer a favor by sending us his claim for adjustment or collection.

Walker Says:

"I am clear sold out of boars, could have sold as many more if I had them, and every customer was well pleased. Now, go right after the selling of those gilts, as you are the only paper I am using on them at present. **You have done fine on the boars.** Thos. F. Walker & Son., Alexandria, Neb., Dec. 11, 1913."

The significant part is the last six words. It means something to those breeders who are on the alert for evidences of live stock papers with the "pull." Write for rates.

Twentieth Century Farmer
Live Stock Department,
Omaha, Neb.

Live Stock Notes

Po'and-China Males for Sale

W. J. Eavey of Geneva, Neb., still has a number of very choice Poland-China spring males for sale. These young boars are sired by Blue Ribbon Hastings, Big Sensation and A Wonder Surprise. They are the big, smooth, heavy-boned kind, and are not loaded with fat, but in just good breeding condition. These boars are being priced worth the money and anyone wanting something of this kind had better get in touch with Mr. Eavey at once, mentioning the Twentieth Century Farmer.

Duroc-Jersey Boar for Sale

W. G. Unitt of Seward, Neb., is offering for sale his principal herd boar. This boar is being sold for no fault, but simply because Mr. Unitt cannot use him longer on account of having so much of his get in the herd. He is a Colonel-Crimson Wonder-bred hog, and a good one. He is a good breeder and guaranteed to be right in every way. This boar is immune. If he is not just as represented you can return him and get your money back, plus the cost of shipping. Write Mr. Unitt for further information, mentioning the Twentieth Century Farmer.

Jerseys for Sale

H. C. Young, the well known breeder of Jersey cattle at Lincoln, Neb., has a number of mighty choice things to offer for sale at this time in the way of matured cows and several choice young bulls. Among the females are fifteen head of cows with yearly authenticated tests. These cows are not only producers, but of the very best dairy and show ring type—winners of many prizes. It is seldom that you have a chance to buy fifteen register-merit cows all from one herd, but on account of shortage of feed and lack of barn room will sell these cows, the tops of the best herd in the middle west. These cows have never been offered for sale before to anyone at any price. Here are their records, together with age at beginning of test:

Champion Lad's Beauty 204774—Age, 7 years; amount of milk, 10,623 pounds; amount of butter, 625 pounds.

Ett Ann Y 248818—Age, 3 years; amount of milk, 8,641 pounds; amount of butter, 595 pounds.

Gay Lad's Girl 209035—Age, 4; amount of milk, 11,009 pounds; amount of butter, 567 pounds.

Miss Fern Vexer 203036—Age, 8 years; amount of milk, 10,965 pounds; amount of butter, 557 pounds.

Jamont's Beauty Girl 242600—Age, 3 years; amount of milk, 9,265 pounds; amount of butter, 546 pounds.

Park's Do Do 234884—Age, 7 years; amount of milk, 10,978 pounds; amount of butter, 543 pounds.

Etta's Kate Y 237861—Age, 3 years; amount of milk, 9,885 pounds; amount of butter, 502 pounds.

Eminent's Grace 229296—Age, 2 years; amount of milk, 8,154 pounds; amount of butter, 464 pounds.

Marigold's Butterfly 250105 — Age, 2 years; amount of milk, 6,855 pounds; amount of butter, 447 pounds.

Jamont's Trilby Y 257038—Age, 2 years; amount of milk, 7,495 pounds; amount of butter, 407 pounds.

Rose Tulip's Sultanna 232566—Age, 2 years; amount of milk, 6,997 pounds; amount of butter, 389 pounds.

Jamont's Goldy Y 273761—Age, 2 years; amount of milk, 5,499 pounds; amount of butter, 356 pounds.

Jamont's Kitty Y 267339—Age, 2 years; amount of milk, 5,393 pounds; amount of butter, 340 pounds.

Gold Stream's Pet 234354—Age, 2 years; amount of milk, 5,531 pounds; amount of butter, 335 pounds.

Jamont's Betty W 264096—Age, 2 years; amount of milk, 5,199 pounds; amount of butter, 328 pounds.

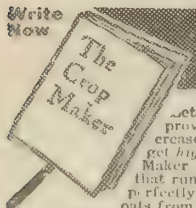
For further particulars write Mr. H. C. Young, Lincoln, Neb., mentioning The Twentieth Century Farmer.

TWENTIETH CENTURY FARMER

A·MAGAZINE·FOR·THE·MEN·AND·WOMEN·OF·THE·FARM·

Five Cents the Copy | Omaha, December 27, 1913 | Number 681

Write Now



Get This Free Book!

Let us send it to you at once and prove to you how you can increase your crops each year and get *higher prices* by using the Crop Maker Fanning Mill the only one that runs on *Roller Bearings* that perfectly separates oats from wheat, oats from barley tame oats from wild. This great machine perfectly grades corn and cleans all grass seed. The

Crop Maker Roller Bearing Fanning Mill

is light, smooth running, easily operated, will last a lifetime. Before you sell or plant a bushel of seed investigate our 30-day Free Trial offer. Our bed rock factory prices—*direct to you*—will put money in your pocket. We will absolutely prove to you that the Crop Maker is the fanning mill you ought to have.

Write now for the **Free Book**

Address

St. Paul Fanning Mill Co.

Station 8 St. Paul, Minn.

"Good to the last drop"

Blatchford's Calf Meal

As good as New Milk at half the Cost.

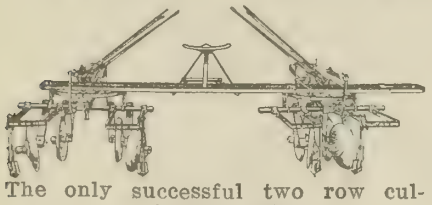
100 pounds makes 100 gallons of Perfect Milk Substitute.

Send for pamphlet, **"How to Raise Calves Cheaply and Successfully Without Milk."**

At your Dealers or

Nebraska Seed Co., OMAHA NEB.,

FLYING SWEDE



The only successful two row cultivator built

25,000 Now in Use

Send for free illustrated catalog. Write today.

Marvin C. Van Derveer

Council Bluffs, Ia.

OUR TRAPPER'S FRIEND AND GUIDE FREE

MODERN TRAPPING METHODS—This GUIDE is as different from other guides as automobiles are different from old time stage coaches. It is unequaled. Guide is FREE, while they last, if you return this advertisement and anwer question. Have you written us before?——SQUARE DEAL FUR HOUSE

Well Bros. & Co., Dept. B 43, Ft. Wayne, Ind.

OATS FREE

One package of Jones' Record Abundance

C. S. JONES SEED CO., Box 793 N, Sioux Falls, S. D.

Deafness

Perfect hearing is now being restored in every condition of deafness or defective hearing from causes such as Catarrhal Deafness, Relaxed or Sunken Drums, Thickened Drums, Roaring and Hissing Sounds, Perforated, Wholly or Partially Destroyed Drums, Discharge from Ears, etc.

Wilson Common-Sense Ear Drums

"Little Wireless Phones for the Ears" require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable.

Write *today* for our 168 page FREE book on DEAFNESS, giving you full particulars and testimonials.

WILSON EAR DRUM CO., Incorporated

566 Inter-Southern Bldg. LOUISVILLE, KY.

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Nebraska State Board of Agriculture

IN STATEMENTS given to the daily press by Secretary Mellor and also in press notices sent out from the $5,000 publicity department of the Nebraska State Board of Agriculture, it is evident they are trying to divert the attention of the public from the real issues in the question under discussion, "Should the Nebraska State Board of Agriculture Be Reorganized?" By request from the program committee, the editor of the Twentieth Century Farmer delivered an address before the Nebraska Farmers' Congress, in which he discussed the plan of organization and how it is being worked by those in control. From the reports in the daily press and what has been sent out by the State Fair publicity bureau, it is evident that there is a misunderstanding of the real reasons why the State Board of Agriculture should be reorganized.

We believe that the kind of a state board of agriculture we have in Nebraska vitally affects the interests of the farmer. There is a wide difference between a state fair board and a state board of agriculture. We will try to make the difference clear to our readers in our next issue.

The Farmers' Congress considered this of so much importance that it passed resolutions asking that a committee be appointed, representing each of the agricultural and live stock associations of the state, to consider the question of whether the State Board of Agriculture could be so reorganized that it would better serve the interests of the farmer.

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A MAGAZINE FOR THE MEN AND WOMEN OF THE FARM

Meeting of Nebraska Farmers' Congress

Organized Agriculture Expresses Opinions on Matters of State and National Importance

THE Nebraska Farmers' Congress has passed the experimental stage. It no longer has to contend for growth or development in membership. It is no longer a prospect, but a reality. It has demonstrated to the farmers of the state that it has been created for a purpose, and that this purpose is the bettering of the conditions of humanity in general, and the moulding of thought within the scope of its direct influence in particular, that must ultimately result in better laws, better regulations in the interests of trade between the two important factors of population, the producer and the consumer.

The Nebraska Farmers' Congress is a select body from the best representative citizens of the state, but not selected by any other power or authority than that of gravitation, the natural drifting-together tendency of thought that brings the fertility of mind power into action upon those things which most interest the people in the various avocations of life. The progressive farmer — the reading farmer, the farmer who has combined business methods with a study of the trade relationships of the commercial world—is now finding his way into the channels of organized agriculture through some of the state associations representing the farmers' interests.

Unprejudiced Consideration Given

There is no independent training influence for the enlightenment of the farmer that will exceed the Farmers' Congress from the viewpoint of education. The recent Nebraska Farmers' Congress held at Omaha December 9 to 13 verifies this statement in its attendance, in its high standard of intelligence, in its independence and disposition to justice in eveny discussion that came before it. No jury or arbitration board could have taken up the various subjects and propositions that came before this body and discussed them more fairly, without bias or prejudice, than did this congress, and give them such endorsement as in justice they seemed to merit.

The subjects were of the greatest interest and were vigorously and intelligently discussed by both selected speakers and the audience, which seemed to be packed with a spirit of contention that was bent on drawing out every feature of support or opposition that could consistently be presented. Some of the more important subjects discussed were "Rural Credits," "Economy in State Government," "Rural High Schools," "University Consolidation," "Reorganization of the State Agricultural Board," "Torrens Title Registration," "Tax Amendment," and "Co-operative Organizations."

State University Consolidation

State University consolidation was consistently discussed by Ross L. Hammond of Fremont in a carefully prepared paper, and so completely did he cover the ground of argument that has been used by both sides that he was accorded a very strong endorsement, and it was believed that his fair and impartial presentation of the subject made many votes for the state farm location. This was followed by Regents Copeland, Whitmore and Haller, who voiced the sentiment expressed in Mr. Hammond's address. The regents emphasized the fact that the sentiment for removal is gaining as time passes; that the further investigation extends the stronger the evidence becomes that removal is the cheapest and best for the state. The audience, so far as it could be ascertained, was unanimously in favor of the state farm location, and this was one of the best representative bodies ever convened in the state for farmer representation, as they came from all parts of the state and were men of stability and influence.

Rural School Questions

The subject, "Does the Rural School Meet the Needs of the Country People?" was introduced by W. H. Campbell of Clarks, Neb. He said that it was hard for the country boy to go to high school because of its location in the city or town. On account of this fact, very few country boys ever got as far as the university or college of agriculture, because a high school diploma was required for entrance. And yet, he said, about 70 per cent of the expenses of these institutions is paid by the farmers.

Officers, Committees and Resolutions

The officers of the Farmers' Congress for the coming year are: George Coupland of Elgin, president; Arthur H. Shultz of Scribner, first vice president; Frank Tannehill of Norfolk, second vice president, and J. B. Grinnell of Papillion, third vice president. W. S. Delano was re-elected secretary. George C. Junkin of Smithfield was elected treasurer. The permanent legislative committee was appointed as follows: Frank G. Odell of Omaha, C. H. Gustafson of Mead, Charles Graff of Bancroft, William Straub of Lincoln and George C. Junkin of Smithfield. The number of delegates to the National Farmers' Congress was increased from one to two. W. S. Delano of Lincoln and J. D. Riem of Broken Bow were chosen as the delegates.

The following resolutions were unanimously adopted:

Rural Credits

We note the recommendation of the president of the United States that congress pass such legislation as shall provide an adequate system of credit for the farmer to be commensurate with his resources and operate for the reduction of interest rates to a level with those given to other business enterprises.

While this congress commends the patriotic recommendation of the president, we believe that the farmers of the country are not yet sufficiently informed on this subject, nor sufficiently represented at Washington to bring to the attention of congress the information and influence which is being exerted by the powerful banking interests toward similar ends.

We believe that the subject of rural credits has its proper foundation in the local community, and that it is a legitimate subject of state rather than of federal legislation, until it has been developed satisfactorily in its preliminary stages.

We therefore express our conviction that federal legislation upon this subject at this time is untimely and may possibly operate to defeat the ends it is designed to serve, and we call upon our representatives in the senate and house of representatives to proceed with due caution and decline to act upon such measures as are or may be proposed until they shall have been submitted to representative farmers' organizations for their approval or rejection.

Economy in State Government

We believe that the taxpayers of Nebraska are unnecessarily burdened with a multiplication of boards, commissions and useless employes, which hamper efficiency and extravagantly increase the expenses of state government. This congress calls upon the State Board of Control to recommend to the coming session of the legislature such measures as will tend toward the elimination of useless office-holders and the promotion of economy and efficiency in the administration of public affairs.

Rural High Schools

Whereas, There is a general feeling that the present system of public schools is not meeting the needs of the rural community, and that in order to give our rural youth a high school education under the present system the joy and comfort of home and the community life of the rural people are more or less impaired, therefore be it

Resolved, That we favor keeping our boys and girls at home in a pure and wholesome environment until they shall have completed the common and high school courses; that we favor a more practical education that will fit them for greater usefulness in life; that to meet these conditions in a satisfactory manner we favor the rural high school, located at a central point in the two or more districts forming the high school union; that the rural high school may teach either two or more of the high school grades, and that we favor the elimination of non-essential subjects in our courses of study and the substitution of those more practical and useful; that we favor securing not less than a five-acre plot of ground in connection with the rural high school for buildings and demonstrations.

Resolved, That the president of this congress appoint a permanent commission of one at large and one from each of the six congressional districts of the state, with general powers to advise and co-operate with the commission appointed by the governor of Nebraska to suggest revision of the school laws.

University Consolidation

Whereas, The individual voter has little opportunity to study for himself at first hand the issues involved in the proposed removal of the State University, therefore be it

Resolved, That this congress would welcome the advice of a commission of representatives of state universities and agricultural colleges to investigate and report upon the educational, social, moral and economic advantages or disadvantages of consolidating all the colleges of the State university on the state farm campus.

Resolved, That the congress commends the wisdom of the legislature of Nebraska in mak

ing a levy for state university grounds and buildings.

Reorganizing Agricultural Board

Whereas, The question, "Should the State Board of Agriculture Be Reorganized?" has been presented to this congress; therefore be it

Resolved, That this congress requests the Nebraska State Board of Agriculture, the State Horticultural Society, the Nebraska Improved Live Stock Breeders' Association, and each of the auxiliary associations incorporated under the Nebraska Improved Live Stock Breeders' Association, to each appoint a representative, who, with a like representative from this congress, shall constitute a committee to consider whether through reorganization of the State Board of Agriculture it may better serve the agricultural interests of the state; the findings of this joint committee to be reported back to their respective organizations, together with proposed changes and recommendations as to the manner in which the changes may be effected.

Torrens Title Registration

We favor the adoption of the Torrens system of registering title to real estate, under which the state guarantees the validity of titles so registered.

Tax Amendment

We favor the adoption of the pending amendment to the constitution of Nebraska giving to the people the power to make laws providing for uniform and progressive taxation.

Co-operative Organizations

Whereas, There is a law upon the statute books of Nebraska providing for the incorporation of co-operative associations with small shares of stock, and,

Whereas, The attorney general of Nebraska has recently decided that no association can be incorporated with less than $100 shares; therefore be it

Resolved, That the laws of Nebraska should be so amended as to make it lawful to incorporate co-operative associations with shares of par value less than $100 each.

Acknowledging Courtesies

The thanks of this congress are due, and hereby most heartily extended to the Commercial Club, the business interests and the people of Omaha for the cordial reception they have given us, the assembled representatives of the 130,000 farmers of the state, as well as for substantial assistance rendered in making the arrangements for this session.

We take a just pride in the city of Omaha, the great and rapidly growing metropolitan city of our state, and we believe that the most cordial co-operation between the business interests of Omaha and the farmers of the state will continue to be greatly to the advantage of both.

Which---Veterinarians Or Hog Growers?

Statement of the Issues Involved in the Fight to Control the Use of Hog Cholera Serum in Nebraska

WE FEEL it our duty again to call to the attention of the farmers of Nebraska the rules and regulations which the State Veterinary Society is asking the State Live Stock Sanitary Board to adopt. In an editorial printed in this paper two weeks ago entitled "A Word to Hog Growers," we asked them to get busy if they did not want the veterinarians to control the hog cholera serum business of the state. Scores of letters have been written by farmers and hog breeders protesting against the adoption of these rules and regulations, and several county agricultural societies have adopted protesting resolutions.

While the farmers have been busy, so have the veterinarians. Members of the Veterinary Society have been besieging individual members of the Sanitary Board, trying to convince them that they should pay no attention to the protests, but adopt the rules asked by the Veterinary Society.

A committee from the Veterinary Society attended the Nebraska Farmers' Congress and tried to get this organization to pass a resolution endorsing these rules and regulations. The veterinarians were given a hearing before the resolutions committee, but the matter got no farther.

The Rules, with Comment

To give our readers a better understanding of the issues involved, we print the rules, with comments, as follows:

1. After January 1, 1914, no person will be authorized or appointed to do inspecting or testing of live stock for interstate shipment who is not a member, in good standing, of the Nebraska State Veterinary Medical Association. Everyone so commissioned will be required to take an oath of office.

The adoption of this rule would make the Nebraska State Veterinary Medical Association, which is a voluntary organiation, a legal state association, as under the act of the legislature creating the Sanitary Board any rules or regulations adopted by it become law. By the adoption of this rule the board would surrender its right to appoint any veterinarian who is not a member of the Veterinary Association. The principal argument used by the veterinarians favoring this rule is that it will give them an opportunity to clean house and get rid of objectionable members. No objections can be made to requiring that inspectors should be graduate and licensed veterinarians, but to require that they shall belong to a private organization is un-American.

Requirements for Permits

2. Manufacturers and distributers of veterinary biological products that are administered, offered for sale or exchange within the state of Nebraska must possess an uncanceled license issued by the United States bureau of animal industry, in accordance with B. A. I. order No. 196, and a permit from the Live Stock Sanitary Board of the state of Nebraska.

This rule would be a protection to the hog growers. It is the same regulation required by the government for interstate shipment. At present there is no regulation of this kind governing shipments and sales within the state.

3. Every manufacturer or distributer of veterinary biological products which are to be administered, offered for sale or exchange within the state of Nebraska must be licensed by the B. A. I. of the United States Department of Agriculture, as specified in the B. A. I. order No. 196, and must have a veterinarian in charge that is a graduate of a recognized veterinary college, and if the manufacturer or distributer practices administration or demonstration of his biological products within the state, the veterinarian in charge must be registered with the State Board of Veterinary Medicine.

This rule is similar to No. 2, and is also a protection to the farmer.

Controlling Use of Serum

4. No person who is not a registered veterinarian in this state shall be allowed to administer or demonstrate the use of such vaccines, viruses or any disease-producing biological products that may be dangerous in transmitting or spreading any infectious or contagious disease, without first obtaining special individual permits from the State Live Stock Sanitary Board.

The adoption of this rule would give the Nebraska Veterinary Medical Association a monopoly on the use of the hog cholera virus and serum. Since the discovery of this preventive remedy every effort has been put forth by veterinarians and others throughout the hog-growing states to commercialize the manufacture and use of hog cholera virus and serum. It is due to the integrity and manhood of Dr. Dorset, the discoverer of this remedy, and Dr. Niles, his associate, that it is patented in the name of the people of the United States. If these men had yielded to self-interests, they could easily have had it patented in the name of some individual. If this had been done, it would have cost the farmers of the United States millions of dollars. Instead of this, today we have a state plant manufacturing virus and serum, which is sold at cost to the farmer. This rule would prevent farmers from using virus and serum on their own hogs.

Sale of Products

5. Every sale of anthrax vaccine, mallein, hog cholera virus, veterinary tuberculin, and anti-rabie serum in the state of Nebraska by any manufacturer, jobber, wholesale or retail druggist, or any other person, shall be reported to the state veterinarian immediately, giving name and address of purchaser and date of sale.

This provision would be of some protection to the farmer, but we are not sure as to whether it would be worth the expense and labor involved in its administration.

6. By the term veterinary biological products herein used is meant: Vaccines, bacterins, serums, viruses, antitoxins, bacterial cultures, or any disease-producing micro-organism and its products used in veterinary medicine.

Views of the Swine Growers

F. C. Crocker, president of the Nebraska State Swine Breeders' Association and also a member of the State Sanitary Board, during the last five years has been the official representative of the swine breeders. He has written his views on this question, which we are glad to reproduce. This is what Mr. Crocker has to say:

I feel it is doing an injustice to no one to make public at this time some of the policies the live stock interests have been promoting.

The eradication of hog cholera is a question of great economic importance to the live stock industry of the state. After the discovery of the serum treatment, five years ago, the swine breeders of Nebraska asked the state legislature for $5,000 to be appropriated to our agricultural college for the purpose of preparing this serum and selling it to the swine growers of the state at cost of production. At this time the college did not ask for this appropriation. The college made a very creditable showing the first two years on this small sum. Three years ago the swine breeders again secured a much larger appropriation for this work, after they had met most active opposition to the appropriation from private commercial interests.

At the last session of our legislature, aside from the appropriations for the maintenance of the state serum plant, the stock men asked for and were granted a fund of $15,000 to pay a part of the cost of manufacture of the serum, and swine growers are now buying serum at less than it costs to produce it. The state is turning out more serum than any state plant in the United States.

The agricultural college may do efficient work in the preparation of serum, but this does not eradicate cholera. Diphtheria antitoxin or smallpox vaccine prepared for these human ailments do not control the diseases unless co-operation with the proper health officers is given to restrict the spread of these diseases. Prompt treatment when hog cholera first appears in a community is more essential for the eradication of this disease than even the distribution of large amounts of serum. There must be some authoritative regulation over this branch of work. This authority naturally falls to the State Veterinary Live Stock Sanitary Board in any state. For the best regulated service, this branch of the work must be done by a department separate from the college, yet working in the most sincere co-operation with it.

In times past the state veterinarian in this state, as in many others, held his office by appointment, and his services were at an end with each outgoing administration, without the advice of anyone as to his qualifications. There has always been rivalry among veterinarians for the appointment of this place. At times in the past this department has been conducted as much in the interest of the veterinary practitioner as it has been for the benefit of the live stock industry. To make the most satisfactory progress toward the eradication of hog cholera, it became necessary to make some very radical changes in the state veterinary department.

A Live Stock Board of Health

Live stock men construed the law that passed our last legislature creating a live stock sanitary board to take over the state veterinary department. This in reality is a live stock "board of health." This was done to secure

better service for the live stock industry from this department. The policies of the stockmen were placed before the law-makers, and the plan had their approval. The bill became a law. The maintenance fund for the state veterinarian was doubled and placed at the disposal of the new sanitary board.

The best method at this time for the eradication of hog cholera is for the board to employ competent men to go into the field, at no expense to the farmer, and advise him how to control cholera in his community, and how to use serum. If the farmer sees the state is interested in his welfare, and the veterinarians are not robbing him, he will treat his hogs. This is the only method that will terminate in the eradication of this disease.

As to the attempt of the veterinary profession to get control of the application of serum, this is only an incident of the many obstacles the live stock interests have had to overcome in their fight for the eradication of hog cholera in Nebraska. We cannot regard the selfish interests of the veterinary profession when dealing with one of the greatest resources of the state.

The veterinarian who is trying to get control of the application of serum by state regulation is not the one that is seeking the eradication of cholera in the territory in which he practices. The generous protection he pretends to be offering the swine grower does not cover up a selfish motive for handling the serum, or his desire to get all the practice he can when the cholera spreads.

Crocker Suggests Three Rules

Our Sanitary Board means to do the right thing. There are, however, members of the veterinary profession constantly asking of members of the board some special recognition or some special privilege for themselves or their profession. In line with the points at issue, we feel that the following rules will give the live stock interests the best service:

First—That the state serum and virus be sold to swine growers only. (This means it is to be sent C. O. D. direct to the farmer. Iowa, after having some trouble with the veterinarians, passed this kind of a law. This does not bar the farmer employing a veterinarian, if he so chooses, to apply the serum).

Second—That the Live Stock Sanitary Board shall employ at once competent men for field work, to apply the serum where their services are most needed, without charge to the swine growers for such services.

Third—Any qualified veterinarian shall be authorized to do inspecting or testing of live stock for interstate shipment. All such inspection or testing shall be done according to the rules of the Live Stock Sanitary Board, or the license of the veterinarian not conforming to the rules of the board shall be revoked. Such rules to limit charges for inspection and specify work to be done.

Up to the Individual Farmer

In the foregoing we have tried to put the matter squarely before our readers. No one can read this without having an opinion. If you are opposed to the rules and regulations asked for by the State Veterinary Association, you should let it be known. If you do not believe in giving the veterinarians the power they ask, it is your duty to write to each member of the Sanitary Board. If, on the other hand, you believe that the veterinarians are right, the same obligation rests upon you to let the members of the board know which side you are on. Write promptly. This matter is to be acted upon at an early date. Following are the names and addresses of the members of the Sanitary Board:

J. H. Bulla, South Omaha Live Stock Exchange.

Dr. J. A. Burg, Pender, Neb.

Dr. J. H. Prichard, Falls City, Neb.

Alex Burr, Pullman, Neb.

F. C. Crocker, Filley, Neb.

Honest Veterinarians Need Not Fear

The wise thing for the veterinarians to do is to co-operate with the live stock men. While farmers as a rule are opposed to monopolies, they are mighty glad to have a reliable, first-class veterinarian handy when their farm animals are dangerously sick. The veterinarians of standing in their profession, and who are on the square with their patrons, need have no fear.

Judging Bone and Quality of Horses

IN JUDGING draft horses much importance is placed upon the amount of bone below the knee and hock. Popular demand calls for the heavy-boned specimen. Other things being equal, the buyer will increase his price in proportion to the amount of bone a horse carries.

Yet it is quite doubtful if the amount of bone has as much to do with a horse's wearing powers as does the quality of bone. There are many horses of comparatively light bone which have withstood hard work for many years without becoming blemished. Usually these horses carried an abundance of quality and their bone was of a dense, ivory nature.

By quality in a horse we mean endurance, for instance, a horse that possesses an abundance of quality is one with clean joints, flat limbs and hoofs of good texture. Such a horse is sometimes said to be made of steel. In other words, he wears well. In the horse lacking quality we find large, meaty joints, round cannons and brittle hoofs. He may measure considerably more bone below the knee and hock than the first horse, but will probably become blemished more quickly.

Light-Boned Mare of the Quality Kind

A Heavy-Boned, Coarse-Jointed Gelding of Shire Breeding, 5 Years of Age—Dapples Almost Invisible and Flea Bitten About the Face

Only recently the writer noticed an Omaha coal-wagon horse of abundant quality, but shy of bone and draftiness. He was of coach breeding, although weighing 1,700 pounds. He looked out of proportion, being somewhat leggy and lacking in muscle and bone down in his limbs. His hoofs were well shapen, of good substance and well preserved. He had seen much hard service, yet he was practically free from puffs or blemishes of any kind.

Beside him was a much better draft-type horse of the same weight. This horse was built closer to the ground, carried ample muscle in arms, gaskins and quarters, and a large bone below. He was quite hairy-legged and gave evidence of Shire blood in his breeding. While he filled requirements in many respects, yet he fell woefully short in others. His legs were bruised and puffed, both hocks had become boggy, and his hoofs had become brittle and badly chipped where the shoe nails had been driven. A tapeline would have found at least an inch more bone below the knee than the first horse described, yet the lighter-boned one had stood the test the better of the two.

The amount of bone necessary depends upon the kind of horse. Clydesdale breeders have as their standard ten and one-half inches around the small part of the cannon bone below the knee and twelve inches below the hock—these measurements, of course, for mature horses. There are many pure-bred Percheron mares which would not measure over eight and a half inches below the knee, while others excell the Clydesdale standards. The writer personally has measured 9-month-old grade Shire colts that exceeded ten inches below the knee.

The average draft horse carries too small a bone to look well proportioned. Buyers insist on bone, urging that it is an indication of ruggedness. That is probably why a Shire stallion crossed with the average light-boned mare will beget a colt which commands bids from the city purchaser.

The heavy hair on some horses' legs is often deceptive. A tape drawn tightly may reveal much less bone than there looks to be. The hair helps make the legs appear heavier and stronger, yet it actually serves but little purpose in most classes of horses. If one of these so-called feathery-legged horses carries the bush all on the back edge of the limb, and it is of a fine, silky texture, we may reasonably expect a horse of quality, whereas the horse with a coarse, wiry feather generally carries the coarseness into his joints, feet and bone.

Providing the horse's limbs are placed squarely and strongly under his body, and the bone is of good quality, we may expect a certain amount of resistance to blemishes, even though the bone be rather light. It is well, however, to get a heavy-boned horse, with quality, and then a combination is secured which is bound to wear well. Generally speaking, the heavier the bone the less quality there is evident, and vice versa. This holds in nearly everything—namely, if you try to secure size only, you are likely to sacrifice quality.

H. J. GRAMLICH.

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The seventh annual convention of the American Society of Engineers meets at the Great Northern hotel in Chicago December 29 to 31.

A big "three-in-one" farm products show—corn, apples and home-cured meats—will be held at the same time of the Nebraska Organized Agriculture meetings, January 19 to 23, in the Lincoln Auditorium. Corn, apples and pork make a good combination.

The Agricultural College of California is giving some lecture courses for the information of rural ministers. They say that the ministers in rural communities should know more about the temporal problems confronting their parishioners in order to better understand their spiritual needs. Over 1,000 rural ministers were expected to attend these meetings at the university farm.

Every year a great deal of money is spent by our government on the forestry service department. Most of us do not realize what this department is doing with all this money. According to recent reports, there were over 1,100 forest fires in California alone this year, and these were kept down to an average of a little over twenty acres per fire. Lightning during one storm caused over twenty of these fires in one forest. When we remember the tales of the terrible forest fires encountered by the early settlers, and when we look back over even the past few years and consider the loss of life and property from this cause, during dry years especially, it would appear as if this money were being well expended.

How Farmers Can Get Corn

The Twentieth Century Farmer is receiving inquiries from farmers in some districts where there is a shortage of corn, asking how to get corn by direct shipment. The following is a sample of the letters received:

> Owing to the drouth the past summer, this corner of the world is practically without corn. Owing to the organization of the grain elevators over the state, it is impossible at present to buy corn cheaper than the Omaha market, plus transportation. There are many herds of breeding stock, especially hogs, being sent to market. This looks to me a very bad thing for the country, and it seems to me if corn could be bought first hand and started direct for this country, it could be placed here just as cheaply as it could be taken to Omaha. Now, as a favor, I wish to ask you to inform me, if you can, of a few farmers' elevators in a section of Nebraska, say about 100 or 125 miles west of Omaha, where they had a crop.

The answer to the foregoing is to buy through some farmers' co-operative elevator company. Thus you will be able to buy from the nearest elevator to your shipping point without paying any extra freight charges for shipping this corn to market and shipping back to your home railroad point.

The Farmers' Educational and Co-operative Union of America is prepared to do this. This organization now has approximately 4,000,000 active members, has state organizations in twenty-three states and local unions in thirty-three states. Farmers in sections where there is no local organization can get information by writing O. F. Dornblaser, secretary, Cleburne, Tex.

The union has between 6,000 and 7,000 members in Nebraska. The first state convention was held at Fremont December 9 and 10, at which the following officers were elected: President, C. H. Gustafson, Mead; secretary-treasurer, D. R. Ellis, Creighton; state organizer, O. E. Wood, Lincoln; directors, Carl E. Slatt, Edgar; Peter Hansen, Hardy; Walter Halsecross, Hooper. By writing to any of the officers of this organization you can find out where the co-operative elevator nearest to you is located.

One of the purposes of this editorial is to direct the attention of the farmers of Nebraska to the fact that the Farmers' Educational and Co-operative Union of America is organized for the purpose of helping the farmer to market his product, reaching the consumer in the most direct way possible. It is so organized that it helps the man with a small farm or who is a renter, as well as the larger land owner.

It is rather a serious proposition with most farmers to give up a herd of hogs or cattle after they have spent years in developing and breeding them up to a desirable standard. The disposition with many farmers and stock raisers thus situated is to buy corn by the carload and thus feed through their choice breeding stock to next spring.

Denver Stock Show

The National Western Stock Show to be held at Denver, Colo., January 19 to 24, 1914, is by all odds the greatest show ever held west of the Missouri river. It is not only great as a breeders' show of both range-bred and farm-bred stock of every variety of animal common to farm and range, but it is great from the standpoint of pure-bred registered animals. The best blood of the best herds and flocks of America have been culled for foundation stock; not alone this, but many premium winners have been imported from foreign countries in order to get such advantage as this class of breeders may possess.

This extraordinary effort to acquire quality has been the contention of hundreds of western breeders for the last twenty years, and the progress made has been phenomenal when compared with the advancement made in the eastern and middle states during the same period. The western breeder, as a general rule, does not allow a few dollars in price, or a hundred dollars, to stand between him and his ideal animal when he finds what he wants. Some of the highest-priced animals sold from the best herds and flocks of the United States have gone onto the western range to head breeding herds. Thus the progress has been rapid in the transformation of the old Texas longhorns to the white-faces and reds and roans and blacks of the other standard breeds of beef cattle.

This is more fully established in the quality of the carlot feeding cattle that are each year shown at the Denver exposition. Without fear of contradiction, we challenge any show in America, or the entire world for that matter, to produce a display of feeder cattle in quality and numbers that are equal to those found each year at the National Western Live Stock Show held at Denver.

This stock show is probably doing a greater educational work leading up to the improvement of live stock, especially in the lines of beef cattle and sheep for mutton purposes, than any other stock show. It deals almost entirely from an educational point of view with the range cattle breeder and sheep breeder. This is the source from which the great herds and flocks come that are each year depended upon to fill the feed lots of the corn-belt states. It is this show that influences the sales of thousands of pure-bred bulls and rams from the eastern breeding farms to go onto the range for the improvement of the beef and mutton qualities of these animals.

What of the Wheat Prospect

The reported acreage of winter wheat sown during the autumn of 1913 over all the winter wheat states is quite encouraging for a large crop in 1914. From the states and districts where the corn crop suffered serious damage from the dry weather of last summer there is reported a very largely increased acreage in wheat. Corn ground in many instances was cleared of the fodder, and this converted into silage or shocked for feed, and wheat sown in the corn stubble. The increased acreage of wheat, thus influenced, is estimated roughly as being from one-fourth to one-third above that of the crop of 1913.

Already predictions of over-production and low prices for wheat next year are heard. There is little need for alarm that the countries of the world will ever be troubled with over-production. That time has passed. Diversified farming, with a rapidly increasing demand for food and foodstuffs, and the contending hindrance and embarrassments that crop growing must always encounter, are sufficient to warrant the best efforts of the agriculturist in prosecuting to the fullest extent the growing of all our standard crops adapted to the feeding of man and beast.

There is no evidence that the world is going to be over-fed, or that there will be a great surplus that must be disposed of at prices that would indicate a sacrifice of labor and investment in its production. On the contrary, the signs of the times rather point to a higher level in the values of the food products for humanity. Wheat is the conceded great bread crop for the feeding of mankind. Its demand is not going to be lessened to any appreciable extent by substitutes of any kind. The demand for wheat to feed the people of the world will increase, and substitutes will be used only as circumstances and conditions may influence under the particular stress of demand.

It is too early to forecast what the harvest will be for 1914. The basis of the wheat crop outlook is only partially fixed as relates to the crop of the United States, and this may be said to have not yet passed the first milestone on the road to the ripened grain, the finished harvest of the wheat in the shock. A good beginning is always a cheerful aspect in any enterprise influenced by man or nature, and the present first three months of the winter wheat crop could scarcely be improved on over a very large area of the wheat-growing country.

An agricultural expert has been advising the farmers in the vicinity of Spokane, Wash., to invest in bees. He says that they are allowing valuable by-products to go to waste. The sweet clover, which grows wild; the alfalfa fields, the fruit blossoms, all furnish a product that only the bees can utilize. You remember the story of the city girl, who, on being served honey on the farm, remarked, "Oh, I see, you keep a bee!" In the words of the city girl, the expert is advising each farmer to "keep a bee."

Our Young People : A Department Devoted to the Interests of the Boys and Girls of the Farm

The Brown Thrush

There's a merry brown thrush sitting up
in the tree.
He's singing to me! He's singing to me!
And what does he say, little girl, little
boy?
"Oh, the world's running over with joy!
Don't you hear? Don't you see?
Hush! Look in my tree!
For I am as happy, as happy can be!"

And the brown thrush keeps singing,
"A nest, do you see?
And five eggs hid by me in the juniper
tree?
Don't meddle, don't touch, little girl,
little boy,
Or the world will lose some of its joy.
Now I'm glad; now I'm free!
And I always shall be,
If you never bring sorrow to me."

The Brown Thrasher

Many people confuse the thrasher with the thrush on account of his color, so that the common name of the thrasher is "brown thrush." As a matter of fact, he does not belong to the thrush family at all, but to the mocking-bird family, and is a cousin of the catbird and the wren. He is called a thrasher from the way he thrashes his long tail about.

These birds are shy, but very friendly, and like to build close to your house, seeming to be deeply interested in all your movements. One summer the robins, thrushes and thrashers were so numerous near my home that the trees on the lawn were full of their nests. They grew so tame they would hop along after us when we worked in the garden, almost taking the worms our of our hands. There was one thrasher especially that used to sit on a post near the kitchen window and watch us as we worked, pouring out his beautiful song from time to time as if giving us thanks for our protection of himself and friends.

The thrashers build a bulky nest in the lower branches of a tree or in a bush, and there are usually four eggs, speckled like the parents' breasts. There are two families a year, luckily, for the thrasher, with his low-built nest, suffers greatly from the cruel depredations of cats. Have you ever seen the poor little birds fluttering about their nest, uttering their pitiful cries after a cat has stolen their babies?

One bird lover watched a pair of thrashers for many days, counting the trips they made to feed their young, and figured out that during the summer this one family must have eaten over 50,000 insects. They eat but little fruit, and that mostly wild, and no grain but the waste that is scattered in harvesting. Do they not deserve to be protected from their enemies, the cats?

THE EDITOR.

(Prize Story)

Martin School Menagerie

By Marguerite Barry, Aged 13, Achison, Kan.

At the Martin school Friday, November 21, of this year, the teachers and pupils gave an entertainment for friends and patrons of the school. The larger boys built stands so we could sell candy, popcorn, peanuts and flowers. The candy, popcorn and flowers were donated.

The children brought their pets. Some of them were dogs and cats of all colors, birds, pigeons, ferrets, guinea pigs, guinea fowl, and bantam and fancy chickens; and the funniest thing was a half-grown cow. Everyone thought it a funny thing to see a cow at school. Near each animal was a name for it, so over the calf they had, "Straight descendant of the cow that jumped over the moon."

The Brown Thrasher

The shows were in two rooms—the birds and chickens in one and the dogs and other animals in the other. It cost 5 cents admission to each room. There was a cat that sat up and did all kinds of tricks.

They sent invitations to patrons and friends, and the invitations were in rhyme, which would be too long to write. The money we made was spent buying a Victrola for the school. We made $42 clear cash, and we had a great time. We will give entertainments now and then to buy records.

(Honorable Mention)

A Snake Story

By Eliza Hansen, Aged 9, Ceresco, Neb.

One day last summer we went to see my sister. She lives by Stevens' creek, near Lincoln. In the afternoon, while we were sitting on the porch, mamma noticed a little bird sitting in a tree in the front yard scolding. We all went to see what was the matter. And what do you think we saw? Down in a hollow place in the tree the bird had built a nest, and down in the nest there lay a snake all curled up. He had been sucking the bird's eggs. My

(CONTINUED ON PAGE NINE)

Awards in Picture Contest No. 8

One hundred and twenty-one answers have been received in the picture contest this month. That certainly shows some interest on your part. There were ever so many good ones between which we had a hard time deciding as to which should receive the prizes, and even after that it was hard to decide which others should be printed. Neatness and observance of the rules counted for a great deal this time on this account, and spelling and punctuation had often to be called in to help decide. Ever so many boys wrote verses this time. They are not writing many stories, but they seem to like the verses, and they do well with them.

(First Prize)

By Vern Haslett, Aged 10, Eskridge, Kan.

Oh, Tommy had a little cat;
Its name was Tabby Gray,
And when he went to milk his cow
His cat was in the way.

(Second Prize)

By Elsie Lowrimore, Aged 10, Hartford, Ark.

Bill milks the good old cow with glee,
With pussy-cat upon his knee.
If the cow should kick poor Bill,
All his good, sweet milk would spill.

By Hazel Mosier, Aged 6, Columbus, Kan.

The old black cow
Is nice and fat,
And Harry waits
To feed his cat.

By Mary E. Parks, Aged 10, Sioux City, Ia.

Beauty is the family cow,
And Trixy is the cat;
Willie is the little boy
That keeps the kitty fat.

By A. Vernon Kelly, Aged 9, Great Bend, Kan.

This is a significant picture,
So I will give you a little lecture;
This cat, with fur as soft as silk,
Is waiting for her pan of milk.

By Herbert Johnson, Aged 10, Mead, Neb.

Richard, being a city lad,
Visiting his cousin's dad,
Was very anxious to learn how
To feed a cat and milk a cow.

By Vern Dollarhide, Aged 10, Wolbach, Neb.

Bobbie has his chores all done,
And is sitting in the sun;
With his pets he has his fun
After all his chores are done.

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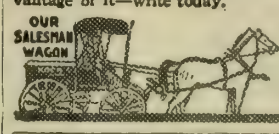

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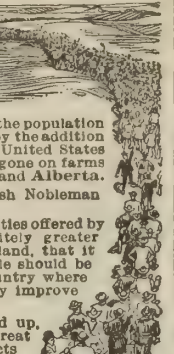

Immigration figures show that the population of Canada increased during 1913, by the addition of 400,000 new settlers from the United States and Europe. Most of these have gone on farms in Manitoba, Saskatchewan and Alberta.

Lord William Percy, an English Nobleman says:

"The possibilities and opportunities offered by the Canadian West are so infinitely greater than those which exist in England, that it seems absurd to think that people should be impeded from coming to the country where they can most easily and certainly improve their position."

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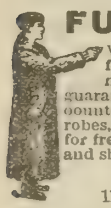

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Of Interest to Our Women Readers

Golden Wedding

"Dear love," he said, that morning long ago,
"Where life may lead the wisest cannot know,
Or through what changing weather.
If I could choose, no cloud should dim the sky."
She smiled, "What matter where the road may lie,
So we two walk together?"

"Dear heart," he said, when they had journeyed far,
And the calm radiance of the evening star
Above the hills was shining,
"The road was rough, and life, the master, taught
Lessons with bitter wisdom sometimes fraught,
Beyond our hearts' divining.
"Yet good has sometimes come from seeming ill,
And love unchanging led us safely still
Through storms and sunny weather."
She smiled, "What matter though the road was rough,
The lessons bitter? This was joy enough,
That we have walked together."

—Emily Huntington Miller.

Our Home Chat

Mrs. Lonesome Wyoming has started something—something in which I think you will all be interested and about which I hope you will write. Two letters are published in this issue giving experiences in promoting sociability. When this country was young and farmers' families lived so far apart that not even the smoke from the nearest neighbor's chimney was visible on the horizon, there was good excuse for being lonesome. Now there are few, if any, localities in which each woman has not some neighbor near enough for a visit now and then, and usually there are several whose homes are within visiting distance. As Mrs. Millar says in her letter, the trouble is often with ourselves that we are lonesome. We are afraid we may be considered meddlesome and treated coldly if we try to be friendly. This is a form of self-consciousness and is hard to overcome, but it can be done, and there is nothing that will help everyone concerned as much as starting a neighborhood club.

If you are afraid to start anything yourself, there is a place, for the Nebraska women at least, where you can get assistance. Personally, I believe in people doing things by themselves and for themselves, but if there is no one who wishes to take the responsibility of leadership, one can apply to the university state farm. They are mainly interested in the establishment of domestic science clubs, by which we mean clubs interested in housekeeping and sewing, and are glad to send out programs for consideration. Mrs. E. R. Davisson, who has charge of this work, is a most charming woman and deeply interested in this work. She will come out and help any community in Nebraska in the establishment of a woman's club, if you will write her. She has been making a study of the various rural women's clubs throughout the state and can give you some good advice, based on the experience of others. If you have a club already started, she will be glad to help you make it more interesting, if you need her help. THE EDITOR.

Making Happy Farm Homes

These discussions on farm home life are very interesting, especially if we can give any new suggestions to remedy the faults of the same and to extend the new ideas. I have always thought that we women are responsible in a great degree for our own happiness in our own home life when we first enter the married state, whether we live in the country or the city. In the first place, if girls could only be taught to look into the home lives of the men they are going to marry, instead of seeming so afraid they would die old maids if they didn't take up with the first fellow that came along, they would avoid much future unhappiness. One cannot always have a chance to observe how a man treats his mother and sisters, nor can one always discriminate between the good and bad, but after a woman is married she can make a stand for her rights and privileges and have them. I think this old world is growing better instead of worse, and that most men treat their wives as helpmeets, which is as it should be, but there are still exceptions, even in our state. Lately I have been canvassing for one of our county papers and occasionally come to a house where the wife says she has wanted to take the paper for a long time, but George says there is no use in taking anything but a daily, and George holds the pocketbook.

I remember hearing one of my neighbors tell how, when a child, and when the country was new, she went to a friend's house to get a small dish of buttermilk, which she supposed she would be welcome to, as the friend had several cows. She visited a short time and then stated her errand, saying she wished to make some biscuits for tea. Her friend hesitated and then said: "Well, I would like to let you have a little, but Harrison is down in the field and you would have to wait till he came home, for he might not like it if I did not ask him first." Do you wonder that there are militant suffragettes in the world?

So, I say, when you marry always do your part well, but don't think because you have married a man that he is master of your mind, body or soul, or even your share of the money. Work together, respect each other's rights and wishes and defer to his judgment when necessary. In fact, do as Nancy Havens says she does, and that other wives do in their sunny southern homes—be equal partners with your husbands, and we will not hear so much about the oppression of wives.

To the lonesome farmer's wife the editor has given good advice. Perhaps the fault lies partly with her. Sometimes one has to go more than half way to get the habit of sociability started. Sometimes a party given to all around—an informal one where young and old can go together—will do the work. In our neighborhood we have good times in that way. Whole families are invited, old people and babies. Everyone takes something to eat, and the hostess generally furnishes coffee or ice cream or something suitable to the occasion. Games are played by old and young; we have guessing contests; bills of fare are given out with odd names for the refreshments, from which each must select his order. Why cannot two or three ladies start a thimble club and bring their sewing or sew for someone who needs sewing done. I think our lack of society rests with ourselves many times. We do not wish to be forward and make all the advances and we hold ourselves aloof, and others do the same. Sociability has advanced 50 per cent in our neighborhood in the last few years, for the reason that some of us have drawn the others out.

If there is a district school in your neighborhood, become acquainted with the teacher, and together you can plan many things. Spelling matches and socials in a small way interest the school teacher, who may be as lonesome as the farmers' wives, and willing to help break the monotony. If you keep your ears and eyes open, there may be many chances to creep into your neighbors' hearts, sister. Hoping you may all tell your experiences in search of a social time, I will sign myself,

Michigan. MADGE MILLAR.

Mrs. Lonesome Answered

Kind Editor—Having just finished reading the letter of "Mrs. Lonesome" of Wyoming, and having had a similar experience, felt as if I could sympathize with her and make a suggestion which might be of help.

I have lived within two miles of Salina, Kan., for four years, and during the first three years five ladies called on me. I can count fifteen farm houses from my home, the farthest being a mile and one-half distant, and seventeen women belong to them, yet only five called during that time. No one seemed to know many of the neighbors.

Fortunately, there was a new family moved in, and the woman complained of the neighbors being rather selfish, so different from the people in Ohio, from which state she had come. A sister living near her thought it would be a good plan to invite these neighbors in and have them meet the lonely sister and get acquainted with each other. The plan worked fine. There were about eighteen ladies present. We had a good time together, and before we left we organized a club which we named the "Social Neighbors," to meet once a month. We work at our fancy work and have music and recitations, and the hostess serves light refreshments. It is just in the afternoon. We certainly do have a nice time and can scarcely wait for the next meeting. We often slip around in the evening between times to give a surprise by celebrating a birthday or something of the kind. I am not lonely any more, as I am called up often by one of my neighbors and we talk over the phone. MRS. A. J. F.

Kansas.

And now for those New Year resolutions! Of course, we are all going to make them again this year. But are we going to keep them?

Styles for Home Dressmaker

All Patterns on This Page Ten Cents Each

Description of Patterns

6468—Ladies' Kitchen Apron—This is a plain and practical apron, the front panel fitted in to the figure and forming a bib and tabs over the shoulder. The sides end at the waist and are gathered, while the large pockets are stitched into the side front seams. Gingham, calico, brilliantine and all wash materials are suitable for this apron. The pattern 6468 is cut in sizes 34, 38 and 42 inches bust measure. Medium size requires 4½ yards of 27 or 36-inch material.

5972—Girls' Dress—This attractive frock may be made with long or short sleeves and with plaited or gathered skirt. It closes at the front and is quite a simple model to carry out. The sailor collar is a nice feature, and this may be made of self material or of contrasting goods, as preferred. The garment is very pretty in cream serge, navy blue mohair or plain or striped serge. The pattern 5972 is cut in sizes 6 to 12 years. Medium size will require 3¼ yards of 36-inch material and ⅜ of a yard of 27-inch contrasting goods.

6460—Child's Apron—The smock design is always nice for little girls, especially when they attend school, as it entirely protects the dress underneath. This garment is quite plain and is high in the neck, where there is a small collar. Two pockets are placed in front, and sash ties fasten back the apron from the side seams. The sleeves are of bishop pattern. The apron pattern No. 6460 is cut in sizes 2, 4, 6, 8, 10 and 12 years. Medium size requires 3½ yards of 27-inch material.

5852—Ladies' Skirt—This skirt can be used to complete a coat suit or it can be worn with separate shirt-waists. It is cut in five gores and closes at the front. Serge, cheviot or broadcloth can be used to make this skirt. The pattern 5852 is cut in sizes 22 to 30 inches waist measure. Medium size requires 3¾ yards of 36-inch material.

6452—Child's Night Drawers—In cold weather night drawers are the best garment for all children, and even in warm weather they are the best for many. In this model there is a seam down the front, a center back closing and an opening across the waist in the back. The sleeves are comfortably full and the garment is provided with feet. Canton flannel, outing flannel, albatross and muslin are suitable materials. Pattern No. 6452 is cut in sizes 2, 4, 6, 8, 10 and 12 years. Medium size requires 4⅝ yards of 27-inch material.

6035—Ladies' Apron—Lawn, muslin or dotted swiss can be used to make this apron with the bib, bretelles and ruffle of embroidered edging. The apron fastens with string ties in the back. The pattern 6035 is cut in one size and requires one yard of 36-inch material and 2¼ yards of 11-inch-wide edging.

6355—Children's Dress—Linen, gingham or cashmere can be used to make this dress, with the collar and cuffs of contrasting material. The closing is at the front. The pattern provides a pair of bloomers, which are attached to an underwaist. The pattern 6355 is cut in sizes 2, 4 and 6 years. Age 4 years requires for the dress and bloomers three yards of 36-inch material; the underwaist requires ⅝ yard of 36-inch material.

When ordering be very sure to write your name and address in full and to give the number and size of each pattern you want. When ordering for children give number and age. Address Pattern Department, Twentieth Century Farmer.

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Our Young People

(CONTINUED FROM PAGE SEVEN)

brother-in-law lifted it out with a stick and killed it. I like birds better than snakes. This is a true story.

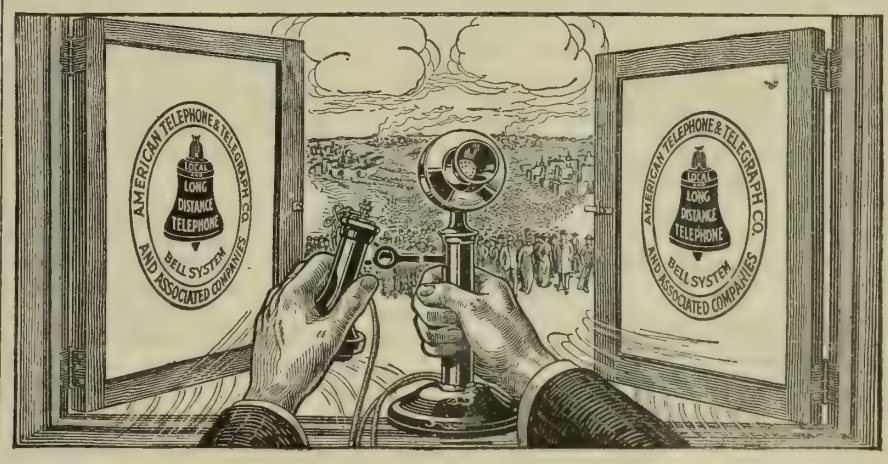
Circus Day

By Clarinda Faith Brower, Aged 10, Augusta, Kan.

One warm day my sister Rose and I drove downtown. We drove our Shetland pony, Belle. When we got to town there was a circus there, and the clown band was playing "Home, Sweet Home." All at once Belle began to dance down the street. We supposed she was afraid of the band, but she liked to hear the music. We saw the parade and animals and went to four shows. We started home at 5 o'clock. We certainly had a good time, and I think Belle did, for she did not want to go home.

Additional Stories

Hazel Muirhead, Bradshaw, Neb.; Joy Miller, Moulton, Neb.; Hazel Burcham, Lincoln, Neb.; Helen Finch, North Loup, Neb.; Carolyn Kull, Lincoln, Neb.; Nina Adama, Linscott, Neb.; Gertrude Storm, Sundance, Wyo.; Adle Peterson, Rawlins, Wyo.; Georgia Simpson, Canadian, Tex.; Agnes Eisenmenger, Sherburn, Minn.; Lucile Tash, Walla Walla, Wash.; Lenora Lyons, Minidoka, Idaho.



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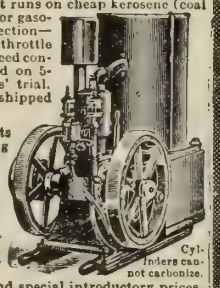

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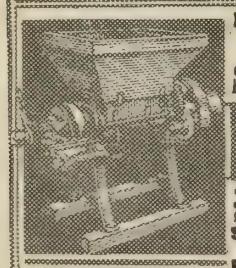

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The Boyhood of Our Savior

WASHINGTON, Dec. 20 — Come with me this bright Sunday morning, only a few days before Christmas, for a walk in the footsteps of Jesus the child. During my several trips to Palestine I have spent many weeks in traveling over the country, taking pictures and making notes of the places. I have visited Bethlehem, where our Savior was born, and have lived for days in Nazareth, where his boyhood was spent. I have gone over much of the road that Joseph and Mary traveled when they carried the child into Egypt, and have crossed the mountains of Samaria from Galilee to Jerusalem, where He went as a boy of 12 and was found teaching the doctrine in Solomon's temple.

Scene of Temptation

I have even climbed the hills and gone into the wilderness where our Lord was tempted of the devil after those forty days of hunger and thirst, and at Capernaum I saw the recently excavated marble synagogue where some of His first preaching was done. I have climbed to the top of the hill above the Sea of Galilee, where He delivered the sermon on the mount, and have picked flowers from the rolling green sward below, where the miracle of the loaves and fishes occurred. Not far from that place, on the opposite side of the water, may be seen a steep hill down which the swine ran when our Savior had cast the devils out of the man and they entered them. I have been in Bethany, where lived Mary and Martha, and have sat under the trees in the Garden of Gethsemane, where Christ spent that night of terrible agony before He was betrayed by Judas with a kiss. I have also seen the various places which the several authorities have picked out as the scene of the crucifixion. In this letter, however, I shall write only of the places associated with Jesus, the child.

Many Places Unchanged

Many of the localities are about the same as they were when our Savior was alive. Some have been covered with churches and convents, but the warring sects of Christians have not been able to change the bright sky. Nature is the same now as it was then. The same flowers bloom and the same birds sing, and besides it is not so long, after all. Jesus was born in Bethlehem only 1,913 years ago. Do you know what that means? The ordinary lifetime of a man is not much more than was that of our Savior. He lived thirty-three years. It would only take fifty-eight such lifetimes to cover the period between now and the birth of Christ. Every one of us knows fifty-eight men who are 33 years of age. Bunch their lives together and you have all the time between now and the beginning of the Christian era. Each of us has a relative who is, perhaps, 65 years old. The lives of thirty such men would, if patched together, reach back to the days of King Herod.

Start from Bethlehem

We shall start on our travels at Bethlehem. It is a little town situated in the mountains about 2,500 feet above the sea and within forty miles of the Mediterranean. It is about fourteen miles from the Dead Sea and not very far from where the sandy wastes of the Arabian desert begin. The country is limestone. The greater part of it is covered with rocks, with patches of green showing out

Kind of Priests Who Fight Over Birth Place of the Savior

of the stone. Here and there the rocks have been gathered together and you see pastures and fields. The field upon which the shepherds lay and watched their flocks when the star appeared is from a quarter to a half mile from the town proper. It lies far below it, and the shepherds had to climb to get to the stable where Jesus was born.

The holy city of Jerusalem is at the north a distance of about seven miles. I have ridden it on horseback in less than an hour. My last trip between the two places was made in a carriage and a boy on a donkey galloped beside us almost all the way. The road has been macadamized. It is uphill and down, but the most of it is so smooth that with a good motor car you could easily make the distance from Jerusalem in twenty minutes and have enough time to put in a new tire on the way. The Wise Men from the east probably came over that road. They are supposed to have ridden on camels, and if they had the racing variety they probably reached Bethlehem in less than an hour after leaving King Herod, who, you may remember, was anxious to know all about where Christ should be born.

Bethlehem Family of Today

Journey in the Spring

My last trip to Bethlehem was made in the spring. The hills were dotted with olive groves and their leaves shone like frosted silver under the bright Palestine sun. The fields between the rocks were covered with grass as green as that of old Ireland and I could see the shepherds watching their flocks of white sheep and black goats here and there.

At one place I stopped and photographed a shepherd with a lamb in his arms, and at others I saw women and children who might have been a part of the Holy Family. I met Abraham, Isaac and Jacob in the long-bearded sheiks who were walking toward Jerusalem and an old turbaned Syrian who rode a donkey made me wonder whether his long-eared beast would not soon open its mouth and speak. Away off at the north I was shown the site of the town of Mizpah, where Saul was anointed king while he was out hunting his father's asses and I passed within a few miles of the spot where David slew the mighty Goliah.

It was between Jerusalem and Bethlehem that Boaz had his farm when Ruth got her job in the wheat fields and finally married her master. At one place along the way is the tomb of Rachael, the wife of Jacob, who is said to have died there when she gave birth to Benjamin.

Bethlehem of Today

Climbing the hill and coming into the town, you find yourself in a maze of box-like one, two and three-story houses. They are made of limestone and they stand close to the edges of the winding streets, which are here and there arched over to shut out the sun. The town has about 10,000 or 15,000 inhabitants and is probably ten times as large as it was when Christ was born. Its chief source of revenue comes from the Christian religion and the fact that Christ was born there. There are thousands of tourists who visit the birthplace of the Savior every year and the chief business of the Bethlehemites is in making rosaries, crosses and articles of wood and mother-of-pearl for sale to the pilgrims, and also for shipment abroad. It has a great mother-of-pearl industry, and what is known as pearl waste is imported from the United States to be made into such things. Shells are carved and sold to tourists in Jerusalem and elsewhere, and the Palestine beads, which are so largely used as rosaries both by Mohammedans and Christians, are made there. These beads are filed and ground out of oyster shells until they come to the desired size. Holes are then drilled in them and they are smoothed by shaking them about in crockery vessels with a little water. After this they are treated to weak solution of nitric acid and polished and are then strung on cords of silk or wire. Crosses and hearts are made of mother-of-pearl and sometimes a little image of the Savior is attached to the rosary. Much of this work is done by women and girls, who receive from 12 to 25 cents a day. It is estimated that the total production of such wares sells for in the neighborhood of $200,000 a year, and that something like $30,000 worth are annually shipped to the United States.

Stable Opposite Saloon

The Bethlehem of today is a little city, and the stable which is shown as the birthplace of the Savior is opposite a saloon under a great church, where the different sects of Christians fight over the right to pray in certain places. One part of the building is controlled by the Armenians, another by the Greeks, and there are Mohammedans on hand to keep the worshipers in order. They fight as to the right to take care of the birthplace of Jesus, and not long ago a controversy arose as to the right to clean one of the windows. Both the Armenians and Greeks were quarreling over it, when the Mohammedan government came in and forbade either sect touching it. Therefore, that window is unwashed to this day.

The stable is under the church. You reach it by a winding staircase, and go-

ing down come into a cave about twelve feet wide and forty feet long. This room is floored with marble, and thirty-two lamps burn day and night within it. There is a star set in the marble pavement, and there is an inscription over it stating that on that spot the Virgin Mary gave birth to Christ. This star is held down by nails. About a year ago the Armenian who had the right to clean it was working away when he knocked off the head of one of the nails. This caused a great commotion. The Greeks, Latins and Armenians began to fight over it, and the governor of Jerusalem, to settle the dispute, called in a blacksmith to drill out the old nail and put in a new one. The blacksmith was a Latin, and the Greek and Armenians would not let him go to work because they did not want any Latin marking the birthplace of the Savior. In order to settle the trouble the governor called in a gypsy who had no religious standing whatever, and he replaced the nail without opposition.

Just Such a Stable

While in this grotto under the church I tried in vain to imagine the scenes of Christ's birth. The decorations were out of all keeping with the place, and the warring Christians prevented reverent thought. Besides, there was a marble floor, the decorated walls and the lamps. I got a better idea by going into some of the actual stables which are in use in Palestine today, and which are just about the same now as they were 1,900 years ago. I remember one such stable near Jerusalem. It was a cave, with a floor of rough stone. The cave was divided into chambers or stalls which opened into a sort of a court, and in these chambers were donkeys, camels and horses. There were men and women sleeping on the floors of the courts, with the animals eating out of their stone boxes or mangers about them. The people had no bedclothing except their blankets, and they ate their meals on the floor. It was on such a floor that Mary had to lie, because there was no room at the inn, and the manger in which the baby Christ lay was probably a hollowed-out stone box, such as those in which the donkeys were eating. Within this stable I saw a Bedouin woman with a sleeping baby on her knee. She had just been feeding the child and her breast peeped out between the folds of her coarse rough gown. Her arms were bare to the shoulders and there were bracelets upon her wrists. Her face was as sweet as that of any madonna I have ever seen upon canvas, and her baby, still in its swaddling clothes, looked as pure and as innocent as the most famous representation of Christ.

It was in a stable like that that the Wise Men knelt and presented their gifts It was there that the shepherds were led by the star, and it was there that Our Redeemer first saw the light of this world.

No Place to Hide

Bethlehem was so small that it must have been difficult to hide the infant Christ from the men sent by King Herod to search for him, and it is no wonder that Joseph and Mary took the Holy Child and fled with him to Egypt.

The most of the pictures painted in illustration of this journey represent Mary with the Child in her arms, on a donkey, with Joseph walking beside it. This, in all probability, was the method of travel. They must have taken the road to Hebron and passed near the Cave of Machpelah, where Abraham and Sarah, Isaac and Rebekah, and Jacob and Leah were buried, and from there gone on into Arabia, crossing the Isthmus of Suez somewhere near Ismalia, and making their way through old Goshen to the site of the present city of Cairo. The Scriptures give no record of their travels, but there are traditions in Egypt which state that they went out to the Pyramids, and which even fix upon a certain tree under which Mary and the baby Jesus were said to have slept. This tree is not far from the obelisk of Heliopolis. It is about five miles from Cario, and the ground upon which it stands is a private farm of the present khedive. The tree is an old sycamore, gnarled with the age of many years and scarred with the names of tourists. A fence has been built around it to keep it away from the relic hunters, and when I photographed it I had to bribe one of the khedive's servants to allow me to do so. There was an orange orchard nearby, and after taking the picture I sat in the shade of the sycamore outside the fence and wondered whether Mary and Joseph had not perhaps thus quenched their thirst in that same place, now more than nineteen centuries ago. As I went on to the obelisk I saw a young woman of perhaps 17, who had a baby in her arms. She must have been of about the age of Mary when Christ was born.

Scenes of Christ's Boyhood

But let us go back to the Holy Land and see something of the village where Christ spent His boyhood, and indeed almost the whole of His life until He began to preach, after He was baptized of John. We have gone back to Judea and have traveled across Samaria to the mountains of Galilee. We are now about sixty-miles north of Jerusalem and sixty-seven miles from Bethlehem, where Jesus was born. We are in a little nest in the mountains inside a quaint town, the houses of which cover the sides of the hills. The houses are great stone boxes of one and two stories. The most of them have flat roofs and some are surrounded by gardens. The country about is covered with grass and flowers. There are fruit trees almost everywhere and especially orchards of olives and figs.

Scenes in Nazareth

This is the town of Nazareth, which stands on the same site as the home of Joseph and Mary. The place has now about 12,000 people; and, like most of the holy spots of Palestine, it has many convents and churches. It was here that Joseph worked at the carpenter trade and here the boy Jesus played about with His fellows as the little Nazarenes do today. It was here that Jesus came after He had been baptized in the Jordan, and here He preached in the synagogue when the Nazarenes cried out: "Is not this Joseph's son?" and in their anger were about to throw him from the brow of the hill whereon the city was built, but He, passing through the midst of them, went His way. That hill is still shown to tourists. It is about a mile and a half from the town. In the middle of Nazareth is a fountain or spring which supplies the water for the community. The women go to the spring and carry the water in jars on their heads to their houses. Mary undoubtedly used that spring for her family water supply, and the boy Jesus must have drunk there.

The surroundings of Nazareth are beautiful. I doubt whether there is more beautiful scenery to be found in England or Scotland, or even in the Blue Ridge mountains of Virginia, for which God has done much. One can stand in the city or near it and look out over the plain of Esdraelon, and by climbing the hills can see Mount Carmel, where Elijah hid the prophets and later slew the false prophets of Baal. It is only a few hours' ride in a carriage from Nazareth over the hill to the Sea of Galilee, where the Nazarene boys even now sometimes go fishing.

On the Way to Jerusalem

It was from Nazareth that Joseph and Mary went every year to Jerusalem. They tramped over the hills of Galilee, across the Plain of Esdraelon, and then climbed the mountains of Samaria. There is a regular trail, a part of which has lately been turned into a macadamized road. Such trips were usually made in large companies, and when I crossed Samaria, a short time ago, I met scores of these people from Galilee on their way to Jerusalem. The parties consisted of men, women and children, most of whom were on foot. Now and then one found a woman riding a donkey, with her husband trudging beside her, and sometimes whole families on donkeys. It was in one of such parties that Jesus went to Jerusalem when He was about 12 years of age. He was then thought to be old enough to take care of Himself, for the Bible relates that when they departed Jesus tarried behind in Jerusalem, and Joseph and His mother knew not of it. They had already gone a day's journey before He was missed and they then turned back to find Him. It was only after three days that He was discovered in the temple sitting in the midst of the doctors, both hearing them and asking them questions.

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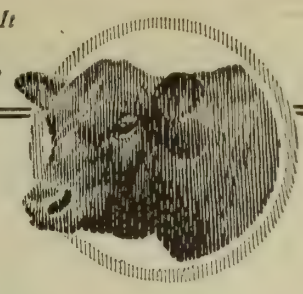
Your Father Read It
Are YOU Reading It?



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Timely Items of Interest to Poultry Raisers and Fanciers

Poultry in Town

A Reader: I have room in my city back lot for a small poultry yard. I do not have time myself to look after a few hens, although I might spare an hour now and then helping the boy clean up. We have a boy of 10 who has been chicken crazy since he was large enough to run after a wee chick if given the chance. He wants to raise chickens, but I fear what the neighbors each side may say at their noise. If I conclude to let him try his hand, and make a little money for his own, for I would encourage him by buying the eggs and chickens for sale, what would you advise, bantams or large-size hens, and what kind makes least noise and crows least?

Answer—Let me reply by telling the experience of a little boy I knew. This boy seldom went to the country in poultry raising time without coming home carrying some baby chicks in a pasteboard box. At last his father was compelled to fix a little yard for the "peeps," as the boy called them. Next the yard was enlarged, and a small "ready-built" poultry house was bought. Ten hens of a large size were allowed the boy, but the one rooster he kept was condemned by neighbors on account of his noise, so the boy must get rid of the rooster. He did this, and stopped the noise complained about. After this he kept his flock of hens, but never kept a rooster with them old enough to crow. In the spring he bought eggs from a farmer woman, and from these raised chickens to a fryable age, saving some of the nicest pullets for his next year hens. Your boy can run his little chicken park as this boy did. I would buy hens of a large, lazy breed, Cochin or Brahma preferred, though any of the larger breeds will do, and are not as hens noisy at all. If you buy him Bantams the chicks he raises to sell you for broilers or frys will be a disappointment to him.

Preparing for the Show

A Subscriber: Will you give me a few pointers on the usual mode of preparing birds for show? Is one allowed to take out an odd-colored feather in an otherwise perfect bird? In washing a white fowl are you allowed to put bluing in the rinse water? Isn't it unsafe to wash fowls in winter?

Answer—It is dangerous if you do not fix everything in readiness and guard against giving the bird a chill. You must wash the bird in a heated room. Wash the feathers well with warm, soapy water, then rinse through clear, warm water until you know all of the soap is out of the feathers. The bluing is added to the last water if the chickens be white, but the bluing must be of the very best and the tiniest bit put into this last rinse water, merely enough to take off the extreme yellow tinge, but not enough to show that bluing has been used. The feathers then are carefully dried by rubbing through and through them with dry towels, after which the washed chicken must be placed near a heated stove or furnace. If the fowl has no more than an off feather or two, then pull them out. The new feather coming in the place of a white or black one pulled out is quite likely to come in the right color for the breed. Polish the beaks and toes with a flannel cloth; rub the feathers down with a silk handkerchief often. This brings out the gloss to the surface. Have the birds in good condition and docile.

A Strange Disease

A Subscriber: Would like to know what is the matter with my pullets. They go blind, but seem to be hearty for a while, then they seem to get partly paralyzed, tuck their heads under their wings and try to walk backward. They run to the corncrib and eat what they want. There is grass in plenty, and good water is given; this contains Germozone. What can I do to stop the trouble?

Answer—I know of nothing in the actual disease line that is epidemic resembling the trouble you describe. Chickens go blind in roup and chickenpox, but not in the way you imply these are doing. The blindness and paralysis indicate a complete poison that, working on the circulation, is hurting the brain and nerves. Chickens eaten up with worms will show paralysis, and chickens eaten up with lice will often go blind and reel backward before death, but I judge you have investigated the matter of these two troubles.

This poison you must try to discover. It is something they have access to, and may be the corn. If they are eating too much corn, this might be the whole trouble, especially if there be any smut on the corn, or decaying ear ends. Get them away from the corn and give them all around a good physic of Epsom salts. Instead of Germozone put fifteen drops of nux vomica to each pint of drinking water and keep this up several days, letting them have pure drinking water two or three times a day with this.

Sprouted Oats

Sprouted oats is the ideal winter green for the poultry flock. They are altogether nutritious. They contain much water, and this is exactly what the fowls need in winter more than summer, and especially the laying hen. Clover, alfalfa, mangels, cabbage, even potatoes, raw and cut into small bits, are fine winter greens, but never the equal of sprouted oats. How to sprout them in winter is a problem to some poultry keepers who would like to feed them, as pens of laying hens fed sprouted oats show better egg yield than those fed other green stuff. Oats placed in shallow pans an inch or two in depth, kept covered with dampened cloths and kept in a warm cellar, will sprout. A cabinet, which you can make or buy all ready, with its seven drawers, one for each day's feeding, can be kept in a warm room in the house and made to do duty in winter. When the oats have sprouted you have a cake of green stuff to cut up, upper part green, lower part a mass of tender rootlets. Nothing its equal for Biddy.

IDA M. SHEPLER.

Our Readers' Exchange

This department is for the use of our readers. Let us hear from you. Give us your experience, ask questions, say what you think, whether or not you agree with the editor. All communications must be signed, not necessarily for publication, but for the use of the editor.

So-Called Cornstalk Disease

C. W., Silver Creek, Neb.: I have read with interest your article in regard to the so-called cornstalk disease, which we always hear much of at this season of the year. And yet I have for years been somewhat skeptical as to there being such a thing as cornstalk disease, for the reason, perhaps, that, while I have been running cattle in stalks for more than forty years, I have never lost an animal when I thought cornstalks had anything to do with it. I have always been of the opinion that the trouble came from keeping the cattle in the stalks too long at the beginning. It has been my custom to go myself with my herd the first few times. As the cattle entered the stalks I would at once get my eye on some old cow and watch her carefully until she had found and eaten about half a dozen ears, which would generally take about fifteen minutes, and then they would all be driven out and have no more stalks for the day. The next day the operation would be repeated, and then perhaps on that or the next day I would put them in at night in a similar manner. The time of leaving the cattle in the stalks would be gradually increased for ten days or two weeks, and after that no limit put on them. If there was little or no corn left on the stalks, I still would not leave them more than fifteen or twenty minutes at first. I doubt very much if any more cattle would die of "cornstalk disease" if every farmer would adopt my plan. Of course, I am always careful that the cattle have plenty of water.

It was with a sense of deep regret that I learned of the death of Prof. Hunt.

Direct Cream Shipments Again

S. C. B., Gibbon, Neb.: I note in a late issue of the Twentieth Century Farmer some discussion of the direct method of shipping cream, and coincide with the views editorially expressed. The direct shipment of cream from producer to manufacturer should be encouraged in every possible manner in our state. It will have a tendency to the production of a better quality of cream; it will have a tendency to an increased volume, larger dairy herds; it increases competition or opens up to the producer larger opportunities for competition; it materially lessens the expense of delivery of the cream from producer to manufacturer.

The argument of the Trade Exhibit in the Twentieth Century Farmer is the old, old parcel post argument, which is, and always was, founded on pure personal aggrandizement or individual selfishness.

Editor's Note—We are glad to publish this endorsement of the position of this paper on the direct shipment of cream from producer to manufacturer. It is especially gratifying because the writer has done as much as any one man in the state to build up the dairy industry. The uneconomic method of paying the expense of from three to five receiving stations in one town must ultimately be done away with.

Hog Grower Commends Us

T. B. B., Boone, Neb.: As a stock grower, I want to commend the Twentieth Century Farmer for the just and fearless stand it has taken in the December 6 issue, on page 6, in the article entitled "A Word to Hog Growers." Our legislature, in passing the law creating the Nebraska Live Stock Sanitary Board, took great pains to make up this board, or a majority of it, of the practical live stock men. If we as hog raisers are not interested in something that is good for the hog industry, we certainly could not expect to have a professional veterinary organized body, working for their fees, work for our interests, and, as thousands of stockmen know, many of our best practical veterinarians, a great number of whom are stockmen, do not belong to or have anything to do with this self-organized body. It has been proven in other states that it is very unsatisfactory and unsafe to place a body of individuals to make or administer laws that might place their salaries and fees ahead of the stock growers' interests.

If the hog cholera serum proves to be of any benefit, why should the hog grower be prevented from treating his own herds? And, further, why should not the hog grower be the judge? It is his money at stake. The veterinary association never furnishes him any money to do business on, and we don't think it necessary for him to belong to that honorable body in order to know whether his hogs live or die.

I think the Twentieth Century Farmer should have the hearty approval of all stock growers in giving them an opportunity to express themselves in this, a very important matter.

I raise and sell on the Omaha market from $4,000 to $8,000 worth of hogs a year. Hence I feel quite interested in the hog proposition, as well as horses.

Editor's Note—Letters like this from readers make an editor feel that his work is worth while. We are in a position to know even better than the hog raiser and farmer what an effort has been and is being made to commercialize the hog cholera serum business. It would be a dangerous thing to allow the control of the manufacture and use of this preventive remedy to become commercialized. This letter is one of many that have been written expressing the same opinion since the publication of our editorial.

POLAND-CHINA HOGS.

HERD HEADERS FOR SALE

Am offering for sale the three tried herd boars, Big Omaha, Metal Top, and Guy's Price Last. Every one a good one. Also a number of spring males. D. C. LONERGAN, Florence, Neb.

BLUE RIBBON POLANDS.

25 head spring boars, all immuned. Sired by Blue Ribbon Hastings, Big Sensation and A Wonder Surprise. The real big kind, not fat, but in the best of breeding condition. Real herd headers. Everything guaranteed. Prices reasonable. W. J. EAVEY, GENEVA, NEB.

POLAND-CHINA OPPORTUNITIES

Big, smooth, heavy boned, easy feeders. Spring males, by the noted **Wayside Jumbo.** Write me. I have what you want.

FRED WILLE, Columbus, Neb.

DUROC-JERSEY HOGS

SCHWAB'S DUROC-JERSEYS

A choice lot of spring and fall boars for sale; sired by Buddy K 4th, Wide Awake, Gold Bond, W. L. B.'s Perfection, Cremo and others. Also bred sows. Priced worth the money.

GEO. W. SCHWAB, Clay Center, Neb.

Alfalfa Lawn Durocs

A splendid lot of fall and spring males for sale, sired by Melina's Wonder, Crimson Wonder Select and Colonel Tippy. They are strictly right and worth the money. Henry Stuthman, Pilger, Neb.

Nebraska's Greatest Industry

The South Omaha Live Stock Market

The World's Largest Feeder Sheep Market. Received, for year ending November 30th, 1913, 3,205,174 head of sheep, or on increase of 11% over last year. Best prices coupled with unlimited demand and unexcelled service did it.

New concrete and steel constructed hog division enlarge the facilities in this department, affording the hog shipper unsurpassed accomodations. 2,548,264 hogs received for year ending November 30th.

Most modern and commodious cattle division, paved with concrete and brick enable consignments to be displayed to best possible selling advantage.

New horse barn, costing approximately $150,000, constructed of concrete, brick and steel, with accomodations for 800 horses, just completed. Well lighted, sanitary and modern in every sense of the word.

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O. H. C. Best Hog Oiler

THE POST THAT USES CRUDE OIL

Automatic in action, perfect in results, economical. Cannot get out of order. Requires no attention, except to fill when empty. Will not clog up when used by muddy hogs. **The Only Post With Five Rubbing Parts** for the hogs to oil themselves on. Ask your Implement or Hardware Dealer or write for special 20 days' trial.

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The successful dairyman has judgment, business ability and courage. Cutting down expenses is not enough. He must know how to invest.

Apply business methods to your farm, keep a record of the net profit from each cow and you'll soon convince yourself of the economy of putting your money into efficient milkers.

You'll find one good Holstein will do the work of two, perhaps three, ordinary cows. You save greatly on feed, and divide the expense of housing and labor by two or three.

Send for FREE Illustrated Descriptive Booklets.

Holstein-Friesian Asso., F. L. Houghton, Sec'y. Box 179. Brattleboro, Vt.

BARGAIN DAY ON CUTS

You can buy any cut in The Twentieth Century Farmer for 8 cents per square inch, cash with order—not less than 75 cents for any one cut. It is advisable to write at once, as we have only one of each kind. Address,

TWENTIETH CENTURY FARMER,
Omaha, Neb.

GRAIN BELT BRAND
Vegetable Hog Potash

Don't starve your hogs to remove worms; try this: Send for sample of our product, then select six growing pigs, feed them all the grain, oil meal, tankage and milk they can eat, then place before them in dry trough sample of Hog Potash and see how they eat it. Worms cannot live where it is fed regularly. Sold at prices of good salt. Send today for sample and descriptive circulars.

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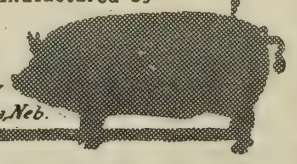

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SEED CORN Standard varieties. Early picked, hung seed.
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RED POLLS

Bulls and heifers for sale. Prices reasonable. Quality the best. Satisfaction guaranteed. Write your wants or call.
W. F. SCHWAB, Clay Center, Neb.

JERSEY CATTLE

WINELAND FARM JERSEYS

Bulls of serviceable age for sale, sired by Duke Raleigh by Noble of Oakland. Also a number of choice heifers bred to freshen soon. I can suit you in both quality and price.
H. C. YOUNG. Lincoln, Neb.

FRIESLAND FARM HOLSTEINS

We have several good sons of Kalmuck Skylark Johanna and of King Segis Lyons for sale. They are from good A. R. O. dams. Can spare a few good females.
DR. B. B. DAVIS, 200 Bee Bldg., Omaha, Neb.

HORSES

America's Famed Horse Districts

This particular district, famed for Percherons. The Chandler herd noted for draftiness, substance and bone, is noted for turning the tide to American-bred Percherons. Possibly not French fat, but bigger frames, stronger vitality, better feet and legs. American users love this useful type and get them from my big bunch reg. studs, yearlings to fours. Write today. **FRED CHANDLER, Rt. 7, Chariton, Iowa.**

POLAND-CHINA HOGS

IMMUNE POLAND-CHINA GILTS

We have a splendid lot of spring gilts for sale, sired by Blue Valley and Blue Valley's Orange by Big Orange. They have been given the double treatment and are immune from disease, and all bred for early spring farrow. Satisfaction guaranteed.
THOMAS F. WALKER & SON, Alexandria, Neb.

Review of Live Stock Market

By A. C. Davenport

LAST week failed to bring any satisfaction to feeders of cattle. That such proved to be the case was no surprise to the trade in general, as no one was looking for a good market under existing conditions. As is well understood by the cattle trade, the demand for beef during December is never any too brisk and is limited to a considerable extent to the better grades. It, therefore, follows that to have a good market in December receipts of all kinds of cattle must be moderate, with the common and medium to pretty decent kinds in especially light supply. Unfortunately for the good of the selling interests, just the opposite conditions have prevailed. Receipts of all kinds of cattle have been large throughout the month, with the medium grades of half-fat steers especially abundant.

Under such conditions as have prevailed in the cattle trade it is not surprising that the market has been unsatfactory throughout the month to date, with a prospect that it will continue so until the close. Packers have had more of the common to medium grades offered to them than they have had use for and they have naturally taken advantage of this to pound the market. Thus while a few good to very choice Christmas steers and heifers commanded strong prices at all points last week, the great, big bulk of all the cattle coming forward sold sharply lower, declines amounting at most points to 10@25c.

The whole trouble has been that the country seems to lack confidence in the future of the market and is in a panic to sell its half-fat beeves regardless of whether the market is in condition to absorb them or not. This panicy condition among cattle feeders has been the bane of the market all the fall and is at the bottom of the unsatisfactory conditions prevailing in the trade, being in large part responsible for the losses suffered by owners.

Early in the season the country seemed to be overconfident, so much so that it rushed into the market and bought freely of feeding cattle at extravagantly high prices. Then before these cattle were finished for market, and before the market was ready to take them, the country seemed to lose all the confidence that it ever had and was just as eager to sell as it was earlier in the season to buy.

It is coming to be the regular thing to urge upon growers the production of baby beef. Operators at the market centers believe that if the country will more generally fatten baby beef the rapidity with which such beef can be turned out will to a certain extent offset the actual shortage of cattle in the country. The experiment stations in many cases are advocating the same policy on the ground that baby beef can be made more economically and hence with greater profit to the producer than beef made by fattening older cattle.

Packers Bought All Hogs Offered

Hogs have shown no new developments of any material interest. The trade has followed the well worn channels pointed out before in these columns and promises to continue in the even tenure of its way for some little time to come. There are, however, some signs that point toward changes in the future, just straws that show which way the wind blows. One of these was quite noticeable last week. Receipts of hogs were very heavy at all points and under the conditions that have prevailed since October packers might have been expected to have borne down on the market with all their strength, sending prices to a decidedly lower level. On the contrary, while they would pound the market to some extent it was very noticeable that they bought the hogs with surprising freedom, cleaning up the big runs in short order. It does not require any prolonged process of figuring to arrive at the conclusion that the packers evidently consider the hogs worth the money or they would not have bought with such freedom, and that they have given up all ideas of there being any great reduction in current prices. To be sure it was only a straw waving in the breeze, but it gave the bulls renewed courage. As a matter of fact most everyone has been of the opinion that hogs would be very much higher towards spring, but some of the more confident bulls are now beginning to predict that prices will be advancing sooner than expected by the more conservative element.

Lower Sheep Prices Expected

Sheep and lambs were in liberal supply at the big market centers last week, running way ahead of the record for the corresponding week of last year. The consuming demand was very good, but in the face of the large receipts buyers forced a sharp decline, lambs showing a loss of 25@50c in many instances. There has, however, been no great change in general conditions. As a rule operators on the market expect to see good lambs continue for some little time selling around $7.50 and on up to $8.00 on the basis of Omaha, but they do not expect them to go much above that for some time to come. On the contrary heavy receipts are liable to bring about at least a temporary break most any time.

Packers are expecting to be compelled to meet with considerable competition from Australian mutton. This mutton so it is claimed, is put up with a great deal of care, being sacked and delivered in the best of condition. White it is admitted that Australian meat cannot compete with the best American-fed mutton, packers say that there is no question but what it will come into strong competition with the medium grades of American stock. Taking that as a basis, some sheep men have figured it out that there will be a wide range between the medium and good to choice grades of fat sheep and lambs. Thus, while some expect to see the best lambs sell high, they are also anticipating rather unsatisfactory prices for the less desirable kinds. Another thing that would tend in the same direction is the fact that the wool market does not promise to be high enough to encourage speculators to buy the common to medium grades of lambs and hold them to be shorn and fattened for the later market.

Sale Dates

Hereford Cattle

April 15 and 16, 1914—Breeders' Combination sale at South Omaha, W. N. Rogers, McCook, Neb., manager.

Holstein-Friesian Cattle

February 3 and 4—H. C. Glissman, Station B, Omaha, Neb. Sale at South Omaha.

Aberdeen-Angus Cattle

April 1 and 2, 1914—Charles Escher, Botna, Ia. Sale at South Omaha, Neb.

Hampshire Hogs

March 14, 1914—Roy Fisher, Winside, Neb. Sale at Wayne, Neb.

Duroc-Jerseys

February 2—E. H. Carpenter, Fontanelle, Neb.
February 3—Gus Krueger, Beemer, Neb.
February 4—Clarence Wallace, Wisner, Neb.
February 5—Robert Leisy, Wisner, Neb.
February 6—Henry Stuthman, Pilger, Neb.
February 9—O. E. Green, Genoa, Neb.
February 18—George W. Schwab, Clay Center, Neb.
February 21—E. E. and N. T. Youngs, Lexington, Neb.
February 26—J. J. Kane, Wisner, Neb.
February 27—Blackburn Bros., Royal, Neb.
February 27—O. G. Smith & Son, Kearney, Neb.
March 2—L. J. Kuzel, Clarkson, Neb.

Poland-Chinas

February 11—D. C. Lonergan, Florence, Neb.
February 24—Jacob Dietsch, Boone, Neb.
March 6—William Ferguson, Scribner, Neb.

Shorthorns

February 27—J. C. Hardman & Son, Valley, Neb.
March 11—E. H. Cosgrove, Farnam, Neb.
March 25—A. C. Shallenberger, Alma, Neb.

Clydesdale Horses

February 27—J. C. Hardman & Son, Valley, Neb.

POULTRY

Baby Chicks

BABY CHICKS—TEN VARIETIES—Annual incubator capacity, 100,000. Eggs or hatching from vigorous, farm-ranged birds. Write your wants. Maplewood Farm, Exeter, Neb.

Ducks

FAWN AND WHITE RUNNERS, $5 per trio. Also Scotch Collie pups. James Walters, Glidden, Iowa.

Langshans

FOR BLACK LANGSHAN COCKERELS try Jake Hetrick, Wahoo, Neb.

FOR SALE — PURE-BRED WHITE Langshan cockerels, $2 and $2.50 each. Henry Neidig, Madison, Neb.

FULL-BLOOD BLACK LANGSHAN cockerels for sale. C. C. Cunningham, Kennard, Neb.

CHOICE BLACK LANGSHANS—MAE Curtis, Lyons, Neb.

Leghorns

SINGLE-COMB BROWN, BUFF, White Leghorns, Rocks, Reds, Wyandotte and Orpington cockerels for sale. Best for the price. Write L. P. Harris, College View, Neb.

ROSE-COMB BROWN LEGHORN cockerels. Otto Frahm, Fort Calhoun, Neb

SINGLE-COMB BROWN LEGHORN cockerels. No better birds in the state of Minnesota; $3 each. M. L. Hawes, Granada, Minn.

MY ENTIRE FLOCK CHOICE ROSE-comb White Leghorn cockerels, $1 each; hens, $8; pullets, $10 dozen. Kaveney Bros., Linwood, Neb.

50 SINGLE-COMB BROWN LEGHORN cockerels, scoring from 90 to 96, $2 each. Hawkeye View Farms, Selma, Iowa.

Orpingtons

SINGLE-COMB BUFF ORPINGTONS, Indian Runner ducks. Peter Brehm, Harvard, Neb.

KELLERSTRESS WHITE ORPINGton cockerels from $1.50 up to $5 during December. Jos. F. Jirovec, Clarkson, Neb.

CRYSTAL WHITE ORPINGTONS—25 great cockerels, $3 to $7; excellent pullets, $2; a grand pen of prize winners, $15; another, $12.50. All fine, large-boned birds. Absolute satisfaction guaranteed. W. E. Wright, Aurora, Neb.

BUFF ORPINGTON COCKERELS — Prize-winning stock, bigger and better. Catalogue free. Frank Lewis, Gibbon, Neb.

Plymouth Rocks

PARTRIDGE PLYMOUTH ROCKS for sale. A. G. Burbank, Cordova, Neb.

WHITE ROCK COCKERELS, EXTRA large, $1.50 each. Mrs. George Hellbusch, Belgrade, Neb.

BARRED ROCK COCKERELS, $1 each. Iver S. Johnson, Stanton, Neb.

BUFF ROCKS, YEARLINGS — ONE exhibition cock, $10; two cocks, excellent breeders, $5 each; five hens, exhibition breeders, $2 each. Scott Covalt, Council Bluffs, Ia.

Pea Fowls

PEA FOWLS FOR SALE IN TRIOS. Frank Jackson, Pawnee, Neb.

Turkeys

MAMMOTH BRONZE TURKEYS—Both sexes, big-boned birds; Light Brahma cockerels, good ones. Frank A. Jobst, Bedford, Ia.

WHITE HOLLAND TURKEYS, White Pekin ducks, White Guineas, Single-Comb Brown Leghorn hens and cockerels. Address [illegible] Edward E. Dreier, Selma, Ia.

FOR SALE: HENS, $3.00; TOMS, $4.00. Mrs. M. C. Kelly, Greenwood, Neb.

WHITE HOLLAND TURKEY TOMS, $3, hens, $2.50. Black and White Langshans. Mrs. J. W. Johnson, Loup City, Neb.

Wyandottes

THREE HUNDRED WHITE WYANdotte cockerels from the best blood in America. Large, vigorous, pure white birds. Oscar L. Bock, Council Bluffs, Ia.

BUFF WYANDOTTE COCKERELS, large-boned, $2. Mrs. Chas. Hough, Weston, Ia.

CHOICE ROSE-COMB WHITE WYandotte cockerels. Price, $1.50. Mrs. Belle Goodrich, Enon, Mo.

LANDS

Arkansas

387-ACRE RICH CREEK BOTTOM farm; 80 cultivation, balance timbered—$15 acre. Sessions Co., Winthrop, Ark.

California

WE HAVE LOCATED IN THE LAST two years over fifteen families of satisfied Nebraska and Iowa farmers, and sold others who will soon move on our lands in the heart of the Sacramento valley. Their names on application. Do you want good land for dairying, poultry, alfalfa, small grains or oranges, peaches, pears and grapes? Some choice tracts still left at farm land prices and on attractive terms. Reference, this paper. W. T. Smith Co., 815 City National Bank, Omaha, Neb.

IF YOU ARE LOOKING FOR A good farm in San Joaquin Valley of 30 acres. Write James W. Hake, Owner, Le Grand, Cal.

Farms Wanted

SELL YOUR PROPERTY QUICKLY for cash. No matter where located. Particulars free. Real Estate Salesman Co., Dept. 87, Lincoln, Neb.

FARMS WANTED—We have direct buyers. Don't pay commissions. Write, describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 69 Palace Bldg., Minneapolis, Minn.

Government Lands

GOVERNMENT FARMS FREE—OUR official 112-page book, "Vacant Government Lands," describes every acre in every county in U. S. How secured free. 1913 diagrams and tables. All about irrigated farms. Price, 25 cents, postpaid. Webb Publishing Co., Dept. 36, St. Paul, Minn.

Iowa

90-ACRE STOCK FARM NEAR COUNcil Bluffs at $75 per acre; new house of two rooms, 16x24; good barn; good well of water; outbuildings. This is rolling upland; one-half can be cultivated and balance good pasture. On Lime Kiln road; 200,000 people just north of it. Fine for dairy. Terms reasonable. Day & Hess Co., Sole Agents, 123 Pearl St., Council Bluffs, Ia.

300-ACRE STOCK AND DAIRY FARM near Council Bluffs at $60 per acre; 45 acres in corn, 14 acres alfalfa; good orchard; 5-room house, barns, cribs, garage, windmill, chicken house, hog pens; all well fenced; running water in pasture. More can be put under cultivation. This is the best stock and dairy farm proposition on the market. Terms reasonable. Day & Hess Co., Sole Agents, 123 Pearl St., Council Bluffs, Ia.

Minnesota

100 CHOICE FARMS IN THE GARden spot of southern Minnesota, where corn is king. Price, $60 per acre and up. Prices advancing rapidly. Come now. Free list. The Paffrath-Schmit company, Springfield, Minn.

Nebraska

FOR SALE — QUARTER SECTION, Red Willow county, Nebraska; fine, smooth piece of land; all in wheat; six miles to McCook, two miles to elevator. Price, $2,200; $1,000 down, balance at 6 per cent. B. W. Manville, Owner, 536 Ave. B, East, Hutchinson, Kan.

New York

$12.00 BUYS 26 ACRES 25 MILES from Buffalo; rich clay loam soil; 20 acres level, 60 acres timber; buildings worth $7,000. Including 32 Holsteins, team, fodder, tools. Easy terms. C. J. Ellis, Farmers Bank, Springville, N. Y.

North Dakota

NORTH DAKOTA LAND—A FAIRest offer [illegible] 160 acres [illegible] 120 and [illegible] acre cash, balance [illegible] per cent to [illegible] Good [illegible] and [illegible] Falls, [illegible] and [illegible] L. McDonald, Towner, N. D. (T. C. F.)

South Dakota

1,700-ACRE SOUTH DAKOTA RANCH [illegible] price to settle [illegible] South 15th St., Lincoln, Neb.

Washington

DO YOU WANT ALFALFA LAND, corn land, timothy land, wheat land situated in one of the most ideal sections of Puget Sound? Fine range for live stock; ideal climate. Write L. L. Work, Oroville, Wash.

LANDS

Wyoming

WRITE TO OWNER EIGHTY ACRES Wyoming land. Terms. Box 286, Greybull, Wyo.

Western Lands

CHOICE FRUIT AND POULTRY ranches for sale in western states and British Columbia—any size, from 5 acres up—monthly, yearly or all cash payments. No irrigation needed. Price, $50 to $150 per acre. Actual government reports show that ranchers making from $400 to $2,000 per bearing acre. Come and see. I have sold to over 500 people in eighteen months. Send for the Kootenay Magazine, price 50 cents, but free to readers of this paper if you state your nationality, amount you have to invest and one reference. Beautiful mountain lake 85 miles long, never freezes; no rainy season, no crop-killing frosts, no severe storms, drouths or cyclones. Plenty of work in mills, mines and on ranches for laboring men; wages the best. I live there myself. Write me personally. Fred L. Harris, Pres. International Fruit and Farm Lands Co. (Inc., $500,000), Globe Bldg., Minneapolis, Minn.

HELP WANTED

WORKING FOREMEN WANTED for half-section corn and alfalfa farms—one in North and one in South Dakota. Farms are operated for demonstration purposes, but must be handled economically. Good buildings and equipment. Write fully of experience; state least salary you would start with. J. G. Haney, Grand Forks, N. D. Box 476.

WANTED—TRUSTWORTHY FARMER boy desiring to earn money for college education, willing to work, leave home and learn salesmanship under personal training and guarantee. Address French-American Art Co., 7 E. Washington Ave., Council Bluffs, Iowa.

THE AUTOMOBILE BUSINESS PAYS $25 to $50 weekly. We teach you how. Write for our free catalogue. Lincoln Auto School, 2352 O St., Lincoln, Neb.

WANTED—A MAN TO SOLICIT SUBscriptions for The Twentieth Century Farmer; salary, $42 a week. Address Circulation Manager, The Twentieth Century Farmer, Omaha, Neb.

GOVERNMENT FARMERS WANTED —Make $125 monthly. Free living quarters. Write Ozment, 39-F, St. Louis, Mo.

MEN AND WOMEN OVER 18—GET government jobs, $65 to $150 month. Parcel post and income tax mean hundreds of postoffice, railway mail and internal revenue appointments. Write immediately for free list of positions now available. Franklin Institute, Dept. B-94, Rochester, N. Y.

AGENTS — NOVELTY KNIVES AND razors are lightning sellers; 100 per cent profit; exclusive territory; goods guaranteed. Novelty Cutlery Co., 218 Bar St., Canton, O.

SALESMEN FOR HIGH-CLASS TObacco factory; experience unnecessary; good pay and promotion for steady workers. Complete instructions sent you. Piedmont Tobacco Co., Box T-27, Danville, Va.

WANTED — IN EVERY LOCALITY, reliable Farmer agents to sell to stock raisers an established line of blood-to tonics, worm powders, dips and disinfectants. Liberal commission paid. Men who at this season of the year have time at their disposal can make good wages at the start and after [illegible] complete outfitting given; [illegible] experienced [illegible] manufacturers, 151 Lincoln St., Chicago, Ill.

MEN FOR ELECTRIC RAILWAY [illegible] and conductors; five [illegible] hour day; [illegible] necessary; no strikes. State age. Address [illegible] Farmer, Omaha.

COMMISSION MERCHANTS

[illegible] WE PAY THE HIGHEST [illegible] dozen, and solicit [illegible] to [illegible] other [illegible] of [illegible] quick [illegible] [illegible] cent market price. Write for quotations [illegible]

SCHOOLS

FOR SALE AT A DISCOUNT [illegible] unfinished [illegible] in Omaha [illegible] Business College, [illegible] either [illegible] a business [illegible] Apply at office of Twentieth Century Farmer, Omaha.

LIVE STOCK

Holstein Calves

BEAUTIFULLY MARKED HOLstein calves, either sex, $20 each, crated for shipment. Edgewood Farm, Whitewater, Wis.

HOLSTEINS — WE HAVE A FEW nicely marked, high-grade Holstein calves, either sex. Write for information and prices. Crossdale Stock Farm, Sextonville, Wis.

Mulefoot Hogs

250 BIG-TYPE HOGS—JOHN DUNLAP, Williamsport, Ohio.

MAGAZINES

FREE FOR SIX MONTHS—MY SPEcial offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to anyone who has been getting poorer while the rich richer. It demonstrates the real earning power of money and shows how anyone, no matter how poor, can acquire riches. Investing for profit is the only progressive financial journal published. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 472, 28 W. Jackson Blvd., Chicago.

RICE

PURE FOOD FROM PRODUCER TO consumer—50 pounds unpolished, whole rice, correctly milled, with all the heart left on, and 6 one-gallon cans pure, home-made, ribbon cane syrup, with all the sugar left in, $7.50 delivered prepaid east of the Rockies. Rice and syrup guaranteed to reach you in good condition. Please remit by money order or bank draft. J. Edw. Cabaniss, Box 25, Katy, Texas.

SUBSCRIPTION PROPOSITION

SOMETHING WORTH WHILE FOR every member of every farmer's family—liberal cash payment for every new subscription and for every renewal received at this office. This is no premium offer; it is spot cash, and a good, liberal sum at that. Write for particulars. Address Circulation Manager, Twentieth Century Farmer, Omaha.

SEEDS

ALFALFA SEED DIRECT FOR farmers; price and sample. Write J. L. Maxson, Buffalo Gap, S. D.

HELIANTI — THE NEW WONDER plant, the great combination vegetable, as a money maker it's a wonder. Circulars free. W. A. Vaughan Supply House, Box 324, Winslow, Ariz.

PATENTS

PATENT YOUR IDEAS; THEY MAY bring you wealth; 64-page Patent Book free. Fitzgerald & Co., Dept. L, Washington, D. C. Established 1880.

IDEAS WANTED — MANUFACTURers are writing for patents procured through me; 3 books with list 200 inventions wanted sent free. Advice free. I get patent or no fee. R. B. Owen, 75 Owen Bldg., Washington, D. C.

LUMBER

WHOLESALE LUMBER—[illegible] and [illegible] direct [illegible] per cent [illegible] [illegible] [illegible] J. E. McKee, Anadarko, Okl.

FOR SALE MISCELLANEOUS

[illegible] Journal, [illegible]

Imagine Bred Gilts for Sale

[illegible] cholera. The [illegible] Valley, Blue [illegible] the famous [illegible] [illegible] [illegible] the Imagine [illegible]

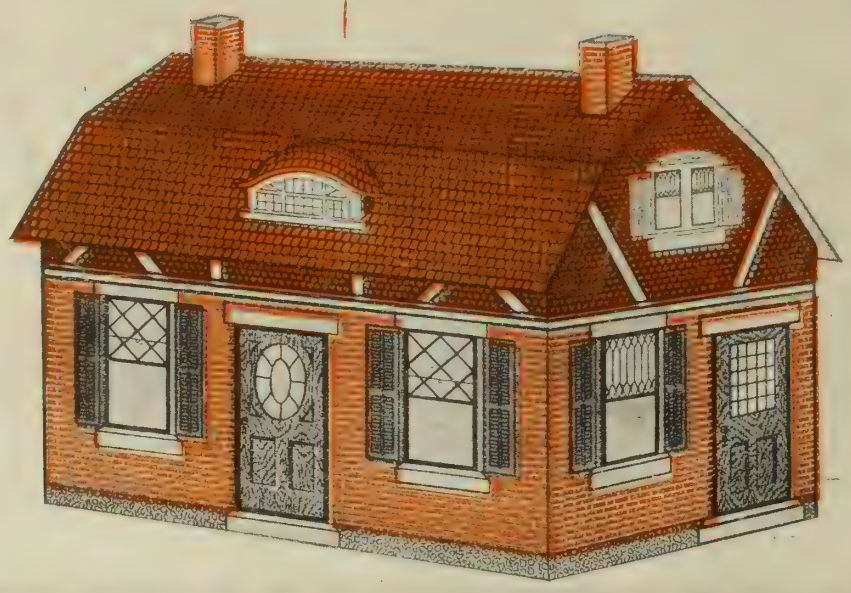
A home for dolly without one cent of cost

No Little Girl Need Be Without a Real Home for Her Doll

Made of heavy cardboard with reinforced joints.

Red shingled roof with two chimneys, green blinds.

Beautifully lithographed in 6 colors.



This house is over 17 inches high and 18 inches long

Swinging doors with brass knobs.

Windows of isinglass.

Removable roof so dolls and furniture can be arranged within.

Every little girl received a doll for Christmas
Here is your chance to get her a real home free

THINK of having a beautiful home as described above, for the exclusive use of your dollies—large enough to hold your entire doll family. Now, all little girls should insist that father, mother or your big brother should get you this charming doll house. HOW TO GET IT—Send $1.50 to renew your subscription to this paper for another year and doll house will be mailed free and postpaid, or send us the name of someone who does not take the Twentieth Century Farmer, and a $1.50 to pay for a year's subscription, and the doll house will come to you entirely free.

A Home for Dolly

Think of how nice it will be to put your dollies safely away in this big doll mansion. Looks just like a brick house. Artistically designed, green window shutters, two chimneys, real windows and real brass knobs on the doors.

Date .....

TWENTIETH CENTURY FARMER,
Omaha, Nebraska.

Gentlemen:

Enclosed please find $1.50 to pay for a subscription to your farm paper one year. Send the paper to

Name .....

Address .....

It is understood that if the paper and doll house are not entirely satisfactory you will return my money on requ[illegible]

SOUND BY
HMV

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